

**LEVEL OF INVESTMENT IN ROMANIAN AGRICULTURE FOR  
SUSTAINABLE DEVELOPMENT**

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***Abstract:** The steering pivot element of agricultural development depends on the direction of its investment decision for overall economic growth, The study critically identifies and analyses the potential level of investment in Romanian agriculture for sustainable development. Using the descriptive statistics, the micro-economic indicators of investment and their sprouting impact on the economic growth of Romanian agriculture were examined. The total country sector investments have been estimated from 2010-2020, farming and farmer's investment in agricultural activities is positive at a mean average growth of about 4.59% and quite lower compared to major investment in manufacturing Industries for machines, buildings, agri-food products, and other assets as evidenced by the Gross Capital Formation 24.5%, which is the half average of European Union - 28 for living standard. The total value addition of investment sectors of the country at different levels indicates 89.72% against Gross Domestic Products and the production accounts for agriculture by Share is 4.03% in 2021 slightly down compared to 4.4% in 2019. The finding of the micro-economic variable indicators shows that the value of imports exceeds the exports of goods and services by -5.73%, indicating the negative external balance and insignificant contribution of economic investment, especially in the agriculture production sector of Romania's reserve 2021. Despite the critical challenges of urbanization due to migration and changes in consumption patterns, the variables have statistical significance by the value at different levels, Implying that Investment decisions in modern agricultural machines, irrigation facilities, Greenhouses, land improvement, access to working capital as a variable indicator can increase the sector contribution to improve production growth vis-a-vis demand requirements for food security, income generation, and poverty escape at the micro-level and will lead to a major improvement shift in the value of an agricultural investment context for sustainable macroeconomic development.*

**Key words:** investment, agriculture, sustainable development, economic-growth

**INTRODUCTION**

Agricultural investment drives a key economic decision that cannot be overemphasized because of the global economic challenges that are unprecedented, affecting the sustainability of food and agriculture and the livelihoods of millions of smallholder farmers globally [3]. Facilitation of multi-disciplinary approaches to unleash its potential need holistic assessment and evaluation of the whole domestic agricultural system in an underdeveloped and developing economy like Romania. The investment in micro and macroeconomic indicators reflects the level and movements of efficiency of economic activity and has a sprouting impact on economic growth despite being underdeveloped in Romanian agriculture [9, 11]. Currently, an evaluation of agriculture production is an absolute development sector possibility, though the threshold of EU average level is attained or compared to rest of the continents like Germany and France until 2040, therefore, it can adeptly be achieved through a functional development of agricultural research, level of land consolidation, irrigation activities, and financing of agriculture holdings [1, 2, 4, 7] as the national reserve is poorly exploited.

The value of agricultural production account for all the natural resources including livestock and crop products. The total country sector investments have been estimated from 2010-2020 in figure 1b, farming and farmer's investment in agricultural activities is positive at a mean average of about 4.59% and quite lower compared to major investment in manufacturing Industries for machines, buildings, agri-food products, and other assets as evidenced by the Gross Capital Formation of 24.5%, which is the half average of European Union-28 for living standard. In an investigation on the impact of investment in agriculture on the level of GDP conducted by [9], the author found that; investment in agriculture has a positive and medium impact and is a determinant for economic growth in rural communities of Romania.

The total value addition of investment sectors of the country at different levels indicates 89.72% against Gross Domestic Products and the production accounts for agriculture by Share is 4.03% in 2021 slightly down compared to 4.4% in 2019. But According to Petre et al. (2020) [10] the level of investment and the value-added to agricultural production, the investment was statistically significant, implying that, an increase in the investment level by \$1 influenced a significant growth in the level of agricultural production by \$0.74 as found by the author. Tămășilă et al. (2018) [13] account for a relationship between investment and cash flow of the Romanian agricultural sector, the result indicates the positive significance of the cash flow on investment decision of the next period of account. Implying that, positive liquidity flows influence investment decisions in the agricultural sector. In the same direction, fixed assets investment enhances the cash flow level for the succeeding period, but does not generate flow series as anticipated.

The finding of the micro-economic variable indicators estimated shows that the value of imports exceeds the exports of goods and services by -5.73%, indicating the negative external balance and insignificant contribution of economic investment, especially in the agriculture production sector of Romania's reserve in 2021. indicate that the size of the agricultural market has a significant positive effect, but agricultural imports hurt the flow of foreign investment. Finding from an investigation revealed that, such results are less conclusive if only conventions investment dynamics in place of investment level in an empirical analysis [13].

The technical efficiency of farmers could be amplified by 53% improved use of their obtainable production resources, considering the current state of technology to attain the greatest productivity [14]. Despite the critical challenges of urbanization due to migration and changes in consumption patterns, the variables have statistical significance by the value at different levels, Implying that Investment decisions in modern agricultural machines, irrigation facilities, Greenhouses, land improvement, access to working capital as a variable indicator can increase the sector contribution to improving productivity growth. Therefore, addressing challenges and opportunity realizations regarding changing economy, socioeconomic behavior and climate change need vital research to support the producers and other investors in agricultural and rural sectors for sustainable development objectives.

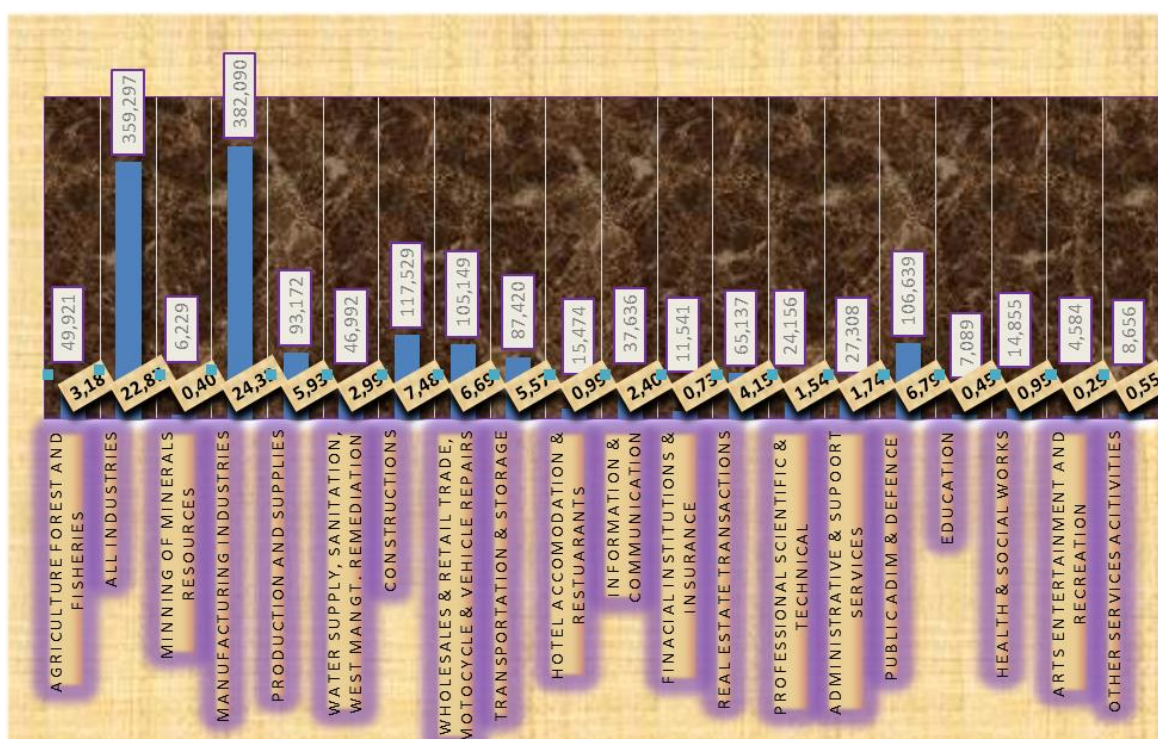
## **MATERIALS AND METHODS**

The study critically identifies and analyses the dynamics of investment level in Romanian agriculture for sustainable development. The descriptive statistics were used microeconomic indicators of statistical data obtained from the National Institute of Statistics Romania. A nexus between the country variables of investment activities was obtained for micro and macro economy analyzed using an MS excel package.

## RESEARCH RESULTS

The Romania population was estimated according to [15] to be about 20 million persons which shows an increase from 19,328,838.00 million in the year 2020. The country has a total area of about 238,000 sqm, with agricultural potential, about 15 million ha of land greater than 9 million ha of arable land, owing almost EU's one-third of the total economic future witnessed as greater and speedy growth in Europe recently [7].

The total country sector investments from 2010-2020 and the sensitivity of each sector to the general economic contribution were determined as shown in Figure 1. The findings reveal that the entire manufacturing industry occupies the first by 56.51% level of investment which includes the activities of production and supplies, processing, and extractions of all kinds of different goods and services available to consumers, this implies a positive and significant increase from the 36.09% reported by [10], the second position on investment is construction firms which account for about 7.48%, recorded decreases against the 11.41% in 2018, marketing activities of wholesales and retails trade, motorcycle, and vehicle repairs are about 6.70% as well as administration and defense amount to 6.78%, being the third positions of economic investment in Romania. the transportation and storages 5.57%, real estate transactions 4.15% transactions level. Agriculture as the activity by both crop and livestock is the 6<sup>th</sup> position at an investment level of 3.18% with a far low level of investment compared to the previously recorded finance and insurance as part of the lower minimum level of about 0.73% only after education with 0.45% respectively as in Figure 1.

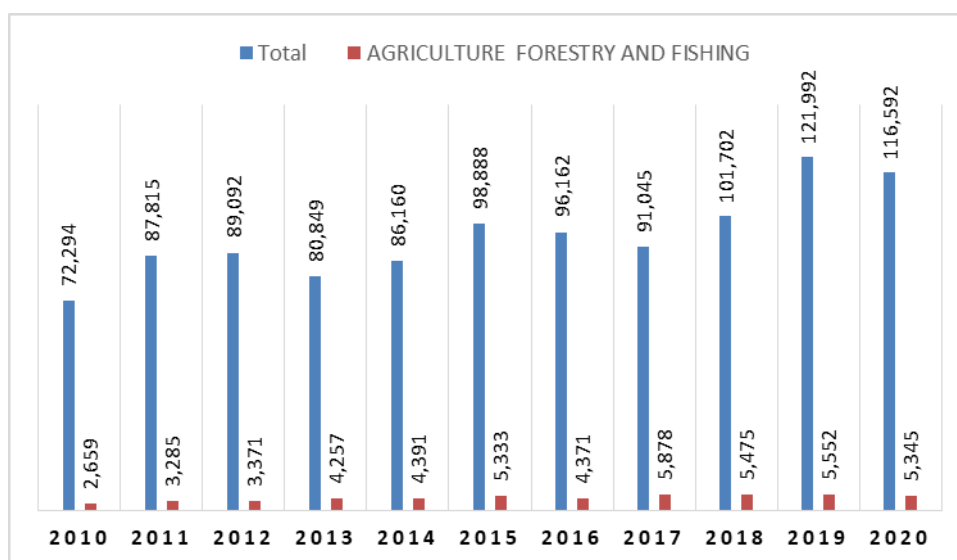


**Figure 1. Percentage Share and Net Investment Value (Million Lei) in Romania in 2010-2020**

Farm investment in agricultural activities is positive at a mean average of about 3.18% a great decline in cumulative performance from about 4.63% in 2018 and a prediction of 4% in the period 2020–2040 as asserted by [7,10] and quite lower compared to major investment in manufacturing industries, constructions and buildings, market trade, and other assets as evidenced by the Gross Capital Formation 24.5%, which is the half

average of European Union - 28 for living standard. The low level of gross value addition recorded (€527) per ha over 2019 can be increased. Its recent finding estimates (€1,479) per ha in the 2040 year surpassing the prediction levels for other examined nations. the progress of middle consumption value relative to an area unit in Romania [7].

A dynamic nexus between the level of agricultural sector investment and total economic investment in other sectors were examined in Figure 2. The Romanian agricultural activities of its sector and sub-sector record an increasing mean average growth rate of 4.59%, being the second-highest in growth rate per annum and slightly lower compared to the 2018 relative index as agreed with the findings [9, 13]. Romania is headed to reach a value of (€2,317) per ha of agricultural production by the 2040 year, a value below the record of Germany and France but closer to the EU average level per ha investment [7]. The development level of sustainable agriculture in evolving nations like Romania needs vital multi-disciplinary approaches by stakeholders to unleash producers' potential on investment and holistic assessment and evaluation of the whole economic sector transformation with major priority in agricultural production. Small scale holders are of great value with about 84% of the farm landholdings of less than 3.6 ha and have always been active and cultivate about 75% of agricultural land, and provide major food, despite the poorest population in the world.



**Figure 2. The Dynamic nexus of the Agricultural Sector and Total Investment in the Romanian Economy (Million Lei) in 2010-2020**

Owing to the rock-hard increase of Romanian economic growth among EU countries, the GDP growth is majorly on private consumption raised by wage increase and fiscal relaxations agitates by price vulnerabilities due to trade deficit during 2016 and the proceeding year have increased robust development of the industrial production and services. These have hitten past economic expansion of over 5.5% during post crises period as reported by Erste Group Research, but decline in 2021 to 4.59% as this finding reveals. A large portion of such developmental growth is now observed in the sector of medium and large value added economy which is worldwide exported through external trades for agrifood products such as wheat, corn, and sunflowers, and other products to about 6.2 billion euros, competing favorably with black Sea grain exporter countries [12,16]. As a result of consumption and demand, the increase in imports of agri-food products emanates fiscal incentives reductions from 24-9 percent and followed by a general decrease from 24-19 percent by value added tax [16].

Recently, Romania's Food Agenda is branded by the discrepancy in the supply of agricultural products, the final consumption expenditure in 2021 was 929,981.2 million Lei and remarkably increase from the previous years, but to a deficient structure for average income families, and improved import dependency of rudimentary foods desirable for daily consumption. From the Table 1, the value of imports exceeds the exports of goods and services by -5.73% for the three years (2019-2021), indicating the negative external balance and insignificant contribution of livelihood economic investment, especially in the agriculture production sector of Romania's reserve 2021 that can better improve human well-being and job creation.

**Table 1.****Gross Domestic Product Economic Recourses Evaluation (Million Lei) in 2019-2021**

Romanian Economic Recourse Uses	2019	2020	2021
Gross Domestic Product	1,055,297	1,057,158	1,175,777
Final Consumption	848,812	844,945	929,981
Actual Individual Consumption of Households	745,344	731,493	815,146
Final Consumption Expenditure of Households	652,695	637,123	717,549
Final Consumption Expenditure of Non-Profit Institutions Serving Households	9,220	9,551	10,204
Individual Final Consumption Expenditure of General Government	83,428	84,818	87,392
Collective Final Consumption Expenditure of General Government	103,468	113,452	114,835
Gross Fixed Capital Formation	235,156	252,139	287,948
Change In Inventories	12,292	3,443	22,143
External Balance of Goods and Services	-43,261	-48,317	-67,321
Exports of Goods and Services	427,383	392,761	476,107
Exports of Goods	299,255	277,839	345,009
Exports of Services	128,128	114,922	131,098
Imports of Goods and Services	470,644	441,078	543,429
Imports of Goods	383,424	371,067	457,622
Imports of Services	87,220	70,010	85,807
Statistical Discrepancy	2,296	4,946	3,026
Total Gross Value Added	954,361	959,705	1,054,912

Source: NIS, 2022, TEMPO\_CON104H\_1\_4\_2022

The total value addition of investment sectors of the country at different levels indicates 89.72% against Gross Domestic Products and the production accounts for agriculture by share is 4.03% in 2021 slightly down compared to 4.4% in 2019. Nevertheless, the performance of the investments in Romanian agriculture level is still underdeveloped compared to many other potentials countries, it was proposed by 2040 that the agricultural output value will reach £1.508 per ha following stronger economic countries with leading outputs (Germany £3,474 per ha, France £2,663 per ha and EU £2,426 per ha) [7]. Unfortunately, the farm size of less than 4ha characterized subsistence in nature as a third after Malter and Cyprus and remains uncomparable with modern commercialization farming of greater than 10ha on average [5].

Financial credit inclusive to cover the actors in the agricultural sector and farmers is very important. Investment in financial and Insurance institutions is insignificant at 0.73% only. Access and credit mobilization mechanisms will loosen the challenge of traditional finance services and expand the farmer's passion for more agricultural production [8]. The investment will help for improving production, more income

generation, and stimulate entrepreneurial behavior that adds to livelihood standards, and sustainable economic development.

The sustainability and new innovative technologies in agriculture require a consistent balance of the complex system to attain the expected productivity, thereby ensuring food security and income generation. The national program for 2014-2020 in Romania aids a lot of investment allocation of about €8.13 Billion adding to the national budget for rural areas development beyond modern farming which prescribes the agricultural value chain actors as great beneficiaries.

### CONCLUSIONS

The Agricultural investment will help farmers to improve production, and income and stimulate entrepreneur behavior that adds a significant living standard of livelihood, and sustainable economic development in Romania.

Despite the critical challenges of urbanization due to migration and changes in consumption patterns, the variables have statistical significance by value at different levels and agricultural sector growth rate of 4.59% per year, Implying that Investment decisions in modern agricultural machines, irrigation facilities, Greenhouses, land improvement, will lead to a major improvement shift in the value chain of an agricultural investment context for sustainable macroeconomic development and food security.

Romanian Investment in financial and insurance institutions is insignificant at 0.73% only, the access and credit mobilization, using digitalization mechanism will loosen the challenge of traditional finance services. Financial credit inclusive to cover the actors in the agricultural sector and farmers is very important. access to working capital as a variable indicator can increase the sector contribution to improve production growth via demand requirements for, income generation, and poverty escape at the micro-level.

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