CAP AND NATIONAL POLITICS ROLE IN INTEGRATING THE AGRICULTURE IN THE CIRCULAR ECONOMY

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***Abstract**: The concept of circular economy (CE) has become a widely debated one both amidst academics and in the ranks of practitioners and policy-makers. It is being promoted as an alternative to today economics as it focuses on the reduction of waste and on a rational and well-balanced use of natural resources. This is of interest as we are dealing at the European level with the concept of green transition (GT) that would affect also the agriculture. The purpose of this paper is to show the challenges at the national level on the how the GT and the CE would impact the national agriculture. Of interest also is to analyze how to use the Common Agricultural Policy (CAP) in order to support this transition. The paper would analyze the key relevant papers on CE and GT as well as the peculiarities of the Romanian agriculture. The purpose would be to present the current situation and the tools and policy solutions that can be adopted for implementing the concept of CE in the Romanian agriculture as well as the role that the CAP have in this process.*

***Key words:** circular economy; common agricultural policy; European Union; recycle.*

INTRODUCTION

There is an increased interest in both the academic world and the world of practitioners to have an orderly transition from the current day extensive practice to a more sustainable approach given the pressures of the increased demand for food due to population increase, inefficient resource allocation and environmental challenges [6].

For that purposes the agricultural sector has experimented with various models of production meant to provide both higher results and lower consumption of resources and a more green approach as regards the production per se. Often these type of activities used an assessment based on the life cycle in order to evaluate the impact. This model helps having a better understanding of the things ahead and of the opportunities and challenges. One such example, in the pig farms from Spain, for instance, is the transition from a linear economy model "summarised as "take-make-dispose", in which connection between raw materials and wastes is missing" to a circular economy approach where we have for instance (i) the economic valorisation of main co-products and (ii) the optimisation of fodder production by the use of both local ingredients and pig slurry (from farm) as organic fertiliser during the cultivation of fodder ingredients" [8]. This example helps us see the main advantages of having a circular economy approach and how it can help reduce pollution and promoting a healthier environment.

In the recent years have also been developed research projects that try to provide advanced knowledge on what the circular economy is and how it can be implemented in the agricultural sector, thus providing the much-needed knowledge for all the actors involved. One such project of interest is the *AgroCycle Project*, a Horizon 2020 financed project, led by University College Dublin with a total of 26 partners, addressing the implementation of the circular economy principles in the agricultural sector. [11]

Figure 1. AgroCycle innovations in the agricultural production chain
Source: Toop (2017) [12]

At the European level the first forays into the area of circular economy can be formally traced to 2014 *Communication Towards a circular economy: A zero waste programme for Europe* who spoke about the need to go from "a 'take-make-consume and dispose' pattern of growth — a linear model" toward a circular economy that keeps "the added value in products for as long as possible and eliminates waste" [15]. This shows that the transition from old to new is needed in order to eliminate the waste of resources.

This beginning would be supplemented by later additional legislative additions and in March 2020 we have seen a new Circular economy action that "targets how products are designed, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible". The purpose of these initiatives is lower the pressure on natural resources; to generate sustainable growth and jobs; to reach EU's 2050 climate neutrality target and to stop the loss of diversity [16].

There are various definitions of the circular economy. One of the definition in use at the European Union level, used by the paper, is: "(…) model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended" [17]. That definition provides a series of important references for the general audience and the experts. First is all states that the circular economy is an accepted model and provides the main characteristics of this model and its specific actions while stipulates that this is a long-term process and not a short one.

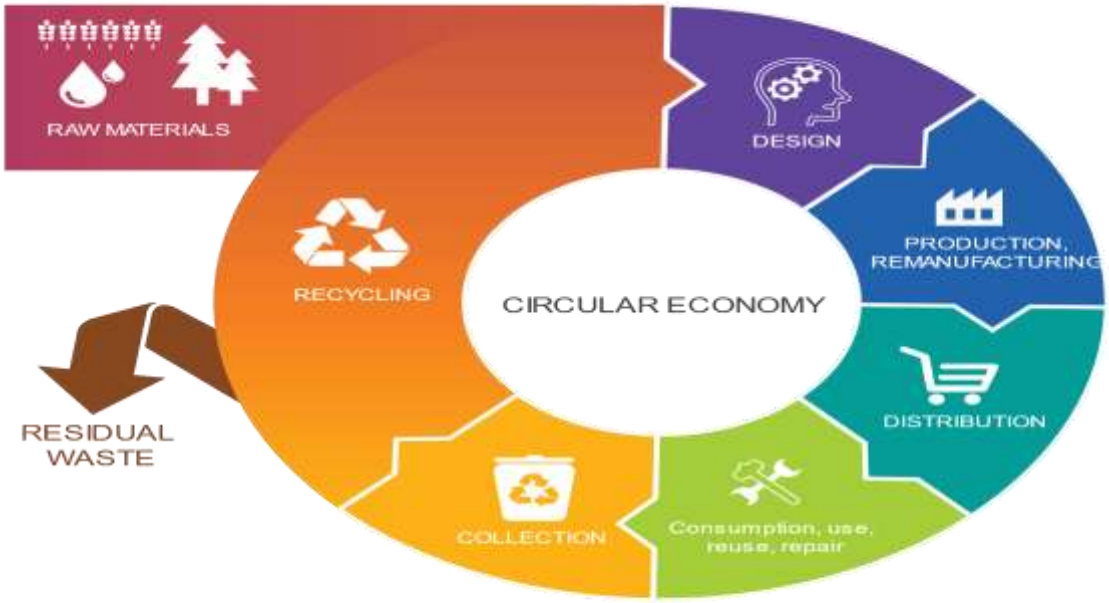

Figure 2. Circular economy representation

Source: European Parliament (2021), Circular economy: definition, importance and benefits

In the case of the agricultural sector, a series of authors have identified the main characteristics of the circular economy:

- Producing agricultural goods with a minimal amount of external inputs
- Closing nutrient loops and reducing negative outputs to the environment
- Valorising agri-food wastes [14].

Applying this concept to the agricultural sector is an important aspect given the fact the agricultural resources are not infinite but they are that rather finite unless properly managed.

MATERIALS AND METHODS

The paper is based on the literature review of the publications on circular economy and on the EU documents on circular economy initiatives. The literature review would allow to the current evolutions at EU level and how the CAP is involved. A series of references would be made to the Romanian case.

RESEARCH RESULTS

Circular economy has a series of important environmental, economic and social advantages that makes it of outmost importance on all the levels of the agricultural sector. For instance, from the point of view of agriculture, the environmental aspects are of most importance, such as reducing virgin material and energy input; reducing wastes and emissions or they are CO2 neutral fuels [7].

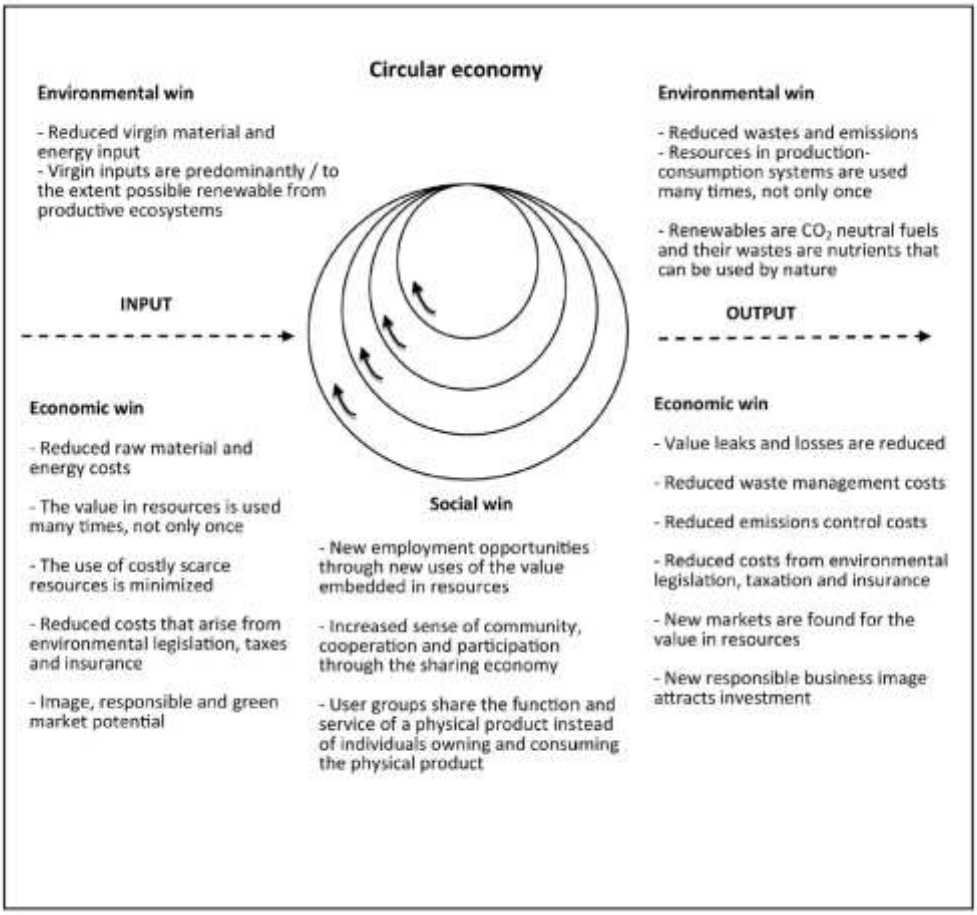

Figure 3. Circular economy for sustainable development. The win-win-win potential of circular economy.

Source: Korhonen (2018) [7]

A series of authors identified the main principles of the circular economy as well as its relevance for the agricultural system. "The CE is based on three principles: the preservation and improvement of natural capital, the optimization of resource efficiency and the promotion of the efficiency of the system. The application of a CE strategy in agriculture seeks to reduce the use of external consumables in agricultural production, to close the nutrient cycles, minimize waste and recover agri-food residues." [2]

The European Union as well as Romania's agriculture are affected by the issues of climate change and dwindling natural resources. There are issues such as water shortage, pollution, non-compliance with the objectives to reduce the Carbon emissions and so on. These issues are of concerns and where addressed by including mention to the agriculture in the 2019 *Communication The European Green Deal*: "**European farmers and fishermen are key to managing the transition**. The Farm to Fork Strategy will strengthen their efforts to tackle climate change, protect the environment and preserve biodiversity" [11]. What is also important is that it underlines the main stakeholders of interest: farmers and fishermen. Without their support any action to implement the circular economy is doomed to fail.

This is becoming more obvious if we analyse the EC intentions in for instance the *2020 Communication A Farm to Fork Strategy* on the need "to reduce the environmental and climate footprint of the EU food system and strengthen its resilience, ensure food security in the face of climate change and biodiversity loss and lead a global transition

towards competitive sustainability from farm to fork and tapping into new opportunities". There is also the intention to promote the "circular bio-based economy" who "is still a largely untapped potential for farmers and their cooperatives" [18].

This is in line with a 2018 *Communication* which stated: "the transition to a circular economy is a tremendous opportunity to transform our economy and make it more sustainable, contribute to climate goals and the preservation of the world's resources, create local jobs and generate competitive advantages for Europe in a world that is undergoing profound changes" [20]. This transition may represent our generation opportunity to make a difference and a change for the better. If anything this process would require a whole-of-society approach and a joint effort of all the stakeholders as the challenges laying ahead are very important yet the benefits outweigh any risk.

The CAP is being directly linked with the circular economy in a *2017 Communication on the Future of Food and Farming* that mentions the fact that the CAP should continue "stepping up its response to these challenges (…) harnessing the potential of the Energy Union, the circular economy and the bio economy while bolstering environmental care and fighting and adapting to climate change" [21] The main idea that it comes up is that the in the future CAP can no longer ignore the circular economy and that any future plans must take it into consideration.

There is still yet not enough evidences to show that the future CAP would provide enough elements to ensure that the EU agriculture is truly a part of the circular economy, besides some rather general affirmations. Yet there is still time: "Due to ongoing negotiations (…), the provisional start date of the proposed CAP reform has been pushed back to 1 January 2023." [22] This delay may spark the hope of future increased link with the circular economy yet things are to be done.

Yet everything is not all good and straightforward and there are still issues that hinder the full development of the circular economy, both economic and technical/scientific ones.

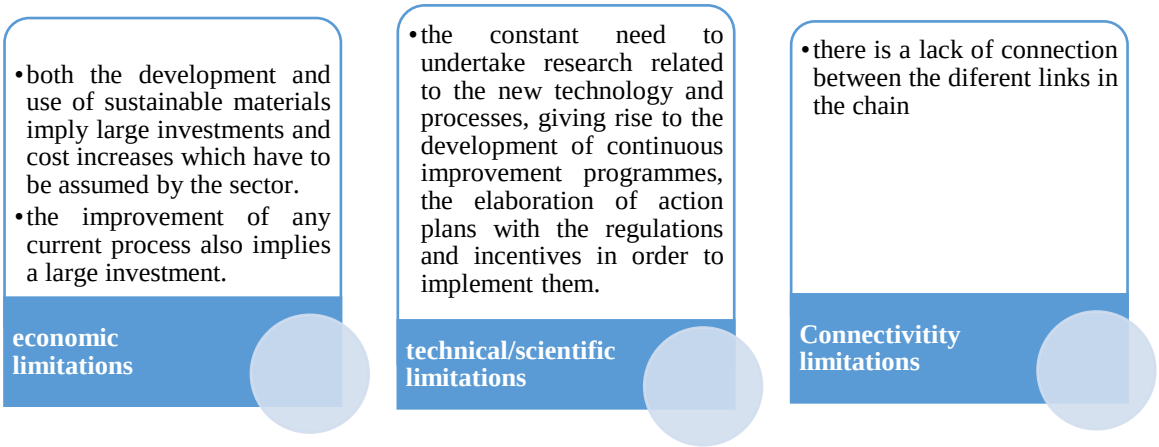

Figure 4. Limitations of the circular economy.
Source: Aznar-Sánchez (2020) [1]

Having this in mind we need to correlate the current status of development of the Romanian agriculture with that of the other Member States. The 2018 warning issued by a

series of Romanian experts still stands: "A reform of the CAP can take place, but it is desirable to reduce the funds for the least developed countries by as little as possible (including Romania, which also has an important agricultural sector); it should be stressed that the present CAP does not ensure equity between Member States;" [3] If this is the case of lack of equity that pushing up for more reforms, circular economy being one of the them may be the key for catch-up and improving the current status.

Romania is also paying attention to the question of circular economy. A 2018 study spoke about the need to have first the necessary legislative provisions in place in order to advance further: "Promoting a national plan on sustainable production and consumption, which can be achieved by itself or in close connection with the national plan for the circular economy." [10].

This would be materialised in the official documents as the current governing programme speaks about the need to have a National Strategy for Circular Economy, yet without many references specific to the agricultural sector [23]. The current official documents are still scarce when referencing to circular economy but the situation may change in the future.

CONCLUSIONS

There is a strong incentive to have a reduced ecological impact of the agricultural system, while reducing the costs of production and providing healthy food for the European citizens. Despite the allure of the circular economy as a silver bullet that may help achieve these objectives the transformation of the agricultural system into a circular economy has not yet become very advanced. This transformational process requires an active collaboration from both the European and national authorities as well as a continuous effort in behalf of all the actors involved. We need to have a coordinated action plan at all levels.

Unfortunately it seems that even the current and future CAP policies are not yet fully dedicated to the implementation of the circular economy practices. Yet the pressure faced by the fight against climate change would eventually lead to a greater synergy between them.

There is a lot of space for an efficient use of the CAP and national agricultural policies in order to support the implementation of the circular economy, especially in areas such education, investment, developing short supplies chains or promoting the cooperation between relevant stakeholders.

If Romania develops its know-how it can become also a promoter in the regions of the circular economy approach in the agriculture: "Romania can also focus on agriculture, but only on innovative activities, such as environment monitoring and promotion of high value-added activities: research, bio production, new products embedding know-how. "[4].

Also although is not the main topic of this article there is also the compelling need to mention that even if the European Unions is not yet full invested in promoting the circular economy principles in the agriculture this is not the case in other areas of the world. For instance, many scholars in China are studying the implementation of the circular economy in this country as a way to promote sustainable agriculture. "The agriculture connects closely with the natural ecosystem, which puts agricultural economic system to the harmonious process of the material circulation in the natural ecosystem. It provides the way of development of circular economy in agriculture. Circular economy is the road to achieve the harmonious development between economy and environment." [5]

A similar development takes place into the Latin American states as the circular economy principles are being applied also in areas related to the use of biofuel production for instance in order to protect the environment and obtain positive results for all the

stakeholders involved. "In a scenario of limiting capital, this study proposes a set of initiatives that underpin the synergies between agriculture and bioenergy. The proposed strategy is based on the principle of circular economy, such that the production of biodiesel from microalgae shows greater public profitability, is more environmentally friendly and has a greater interaction with other productive sectors. […] Therefore, we can conclude that synergic strategies like the one analyzed in this study are economically feasible and may have a promising future." [13]

Africa is also no longer a continent where the circular economy principles applied in agriculture remain only at the theoretical level. Already an active research activity is underway with a focus of one of the continent most important production – the palm oil production, as studies and practical experiments are under way in order to sustain this process [9].

In the end is this author belief, based upon the literature review and today trends that the combination of environmental pressure, increase of the ecological conscience of the citizens and the need for a more efficient use of resources and of shorter supply chains would prove to be decisive in promoting the circular economy into the agricultural sector both at the EU and the national level.

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