

CIRCULAR ECONOMY AND SUSTAINABLE RURAL DEVELOPMENT. THEORY AND BEST PRACTICE: A CHALLENGE FOR ROMANIA

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Abstract

The implementation of the Sustainable Development Strategy through the Sustainable Development Goals 2015-2030 needs take into consideration the EU' package from December 2015 concerning the achievement of the Circular Economy under the vision of the 3R - Recycle, Reuse, Reduce.

The concept of Circular Economy has started to develop in response to the crisis of the traditional model and the need to deal with limited resources.

A key role in the pursuit and implementation of circular economy is taken by investments in innovation and technologies that enhance the scraps of industrial and / or agricultural sectors. This can lead not only to a reduction of waste and hence environmental impacts but also in net savings for businesses of up to 604 billion Euros throughout the European Union, in line with the global framework (Sustainable Development Goals 2015 -2030).

The paper try to demonstrate through an inductive model, several tables, figures and our analysis that the success of the Strategy of Sustainable Development depend, in the next years, by the application of the best practices of the Circular Economy.

Keywords: Sustainable Development Strategy, Rural Development, Circular Economy, Sustainable Development Goals, Sustainable Agriculture.

1. INTRODUCTION

The current economic model, based on the strong industrialization of the production systems and thus on the indiscriminate exploitation of resources, brought heavy environmental and social impacts. In recent years, there has been unprecedented growth in the demand for these resources, whose supply has proved to be subject to significant limitations.

The concept of Circular Economy has started to develop in response to the crisis of the traditional model and the need to deal with limited resources.

2. LITERATURE REVIEW

The circular economy is an economy designed for "self-regenerating": the bio-based materials are intended to fall into the biosphere, and the "technical" source materials are designed to operate within a flow that provides the minimum loss quality. It is a kind of economy that aims to be based on renewable energy sources, to minimize, to trace and eliminate the use of toxic substances and to eliminate the production of waste or waste by careful design. (Iraldo F., Bruschi I., 2014) The circular economy is, therefore, a viable alternative to a traditional linear economy, based on hyperproduction and based on the wastes: that is currently produced with frenzied pace, using the well for more limited periods (shrinking product life cycles materials) and grow the waste, even the most recyclable. (UCi, 2015)

The circular economy could be an industrial economy that relies on the “restorative capacity of natural resources” (Bastein et al., 2013) and the aim of this economy is to minimise until eliminate the waste, utilises renewable sources of energy and phase out the use of harmful substances (Ellen MacArthur Foundation, 2012).

Fostering the uptake of the circular economy concept in businesses and in policymaking too requires analysis of the potential opportunities and benefits that a circular economy approach could yield first for businesses and then for economies. (Rizos, 2015)

The new economy has instead as main objective to make the most of the resources, and then be recycled and reused. In this vision the refusal becomes resource, which must be valued and that has to feed the system of production and consumption, going to reduce the demand for more raw materials. Importantly, this model has its roots in the past: think of the good traditional farming practices, characterized by a recirculation of the resources that were reused. Development of circular economy to the Europe 2020 strategy aims to pursue the green economy. (Consiglio Nazionale della Green Economy, 2015)

3. THEORY AND BEST PRACTICES

3.1 The Era of Sustainable Development

After 30 years of the launch of the concept of Sustainable Development (WECD, 1987) the model it's clearly designed. Are so far the time after the publication of the Our Common Future when many skeptics don't have been convinced about the driving force and innovative change (Ruttan V., 1998) and gives the demand if SD is poetry, politics or science.

The SDS present nowadays four paradigms and for that it's possible to affirm that it have a scientific approach. The four paradigms are: the direct relation between development and environment, the multi-criterial approach, the inter and intra-generational approach, the measurability (Pearce. D.W, & Oth, 1996)(Sachs J., 2015). Consequently it's acceptable by all at the world level that current we are in the Era of Sustainable Development .It's is changed also the consciousness of the approach by the policymakers and civil societies. Thanks at the role played by the UN we are passed from the vision of the Our Common Future to the Future we want (UN Rio+20, 2012) and Transforming our World (UNGAS, 2015). This title have the message that each people around the world don't must delegate at the policymakers or a the Central Government the really implementation of the Strategy but take the opportunity to be actor directly. The 17 Sustainable Development Goals and the 167 targets (UNGASS, 2015) for 2030 are a big challenge to achieve a true economic democracy where the local populations (Local Community) are the creator of the own destiny. The Local Community consequently have the duty to built for the future generations the Era of Sustainable Development.

3.2 The theory of Circular Economy

Circular Economy is a concept that starting from the '60 years of the last Century more or less in parallel of the setting up of the Sustainable development concept that starting with the UN Conference of Stockolm concerning the problematics put in the international debate by the Limits of Development of the Club of Rome.

In a synthetic manner the Circular Economy signify the abandoning of the vision of the linear economy and to consider in particularly for each product the Cycle of Life where derive the implementation of the innovative types of production using preventive evaluation as the Life Cycle Assessment.(see the Fig 1 and 2)



Fig. 1-Theoretical linear economy scheme

Source: Our Elaboration

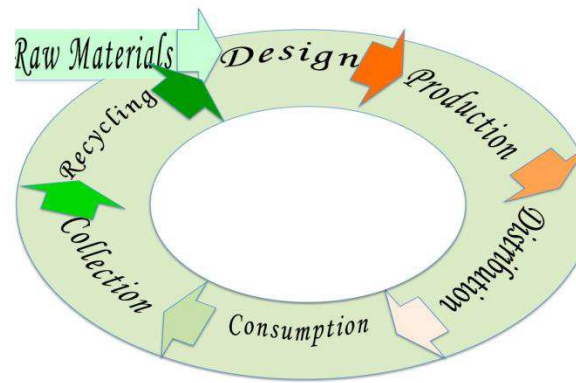


Fig. 2- Theoretical circular economy scheme

Source: Our Elaboration

This new model of development configuring a wonderful example of fusion between tradition and innovation, organizational activities and full circular character life where the 3R (reduce, reuse, recycle) make possible the recovery of lifestyles especially toward of Well Being option. These aspect confirm that the Circular Economy is in fact a best practice for the affirmation of two (between 17) of the main important SDG 2015-2030; the number 3- Ensure healthy lives and promote well-being for all at all ages and the number 12-Ensure sustainable consumption and production patterns that are the pillar of the principles of the Well-being for all and for all age and for the implementation of the Circular Economy (A.Ciani&Oth, 2015).

3.3 The best practices and role in the agricultural sector and rural ares.

The agricultural sector follow in the history the era of the hunter man from around 12000 year ago. In the main part of the millenniums and centuries toward the current era the agriculture was characterized as the activity strictly linked with the equilibrate relation with the territory and environment. After the industrial revolution also the agriculture was touched more and more by the productivity approach and the introduction of the managerial forms based on the large use of the technical capital produced by the industrial sector more and more dedicate at the farming system. The agricultural sector losses gradually the character of the close system of economy toward an open system.

This was and is a good way to guarantee in an economy where the scarcity regarded only the capital and innovation the improvement of the quality of the rural employment. But after starting the economic analysis of Cecil Pigou, Pareto and the same John Maynard Keynes that take in consideration the effect of the externalities in the production activities the question of the model development at the world level acquired more and more the high consideration at the international level to achieve in the Era of the Sustainability a pillar role about the implementation of the Circular Economy.

In the past time in the production item but in the mainly part of the life in the rural areas each action was linked with the Circular Economy behaviour.

The use of the livestock waste after treatment, the use of the herbs for fodder of the marginal surfaces of the farms, the production of the main part of tools, as basket of different form and dimension, with the wood or other three or bush, the eating of the spontaneous herbs, the multi-utilization of some animals as the pork, represent some concrete samples of the linkage between agriculture and Circular Economy.

With the avoiding to go-back completely at the hold style of life and hold management in the farming and rural areas style of life could be very important to combine the tradition with the innovation triggering a virtuous circuit of best practice that permit us to implement in a sustainable way the Circular Economy.

4. RESULTS AND DISCUSSION

The circular economy, resulting from the transition of the management of resources from the “**cradle to grave**” to that from the “**cradle to cradle**”, with a progressive minimization of waste in production through eco innovation and adoption of new business models.

In the circular economy systems products retain their value added on as long as possible and there are no waste. When a product reaches the end of the life cycle, the resources remain within the economic system, so that it can be reused several times for production purposes and thus create new value. To move to a circular economy need to make changes within the production system: research and design new types of easily recyclable materials, reusable and biodegradable, devise the recovery and recycling of existing products and creating environmentally friendly production methods.

According to estimates prepared by the European Commission, for each percentage point reduction in the consumption of virgin raw materials, with policies and resource efficiency measures, you could create 100 to 200 thousand jobs. It

means creating widespread employment in the territory that goes from the management and waste collection, management and processing of materials for recycling, up to the production of secondary raw materials and to manufacture that requires new skills. Circular economy also means prevention and waste minimization, with the involvement of all sectors along the entire production chain. Minimization, until the elimination, waste covers all sectors along the whole supply chain, but it is of particular note in the agro-food sector. The European Parliament, in its proposal for a resolution, highlights the direct economic impact of their food waste on businesses and consumers, due to the costs associated with the disposal of waste and the consequent economic losses.

The circular economy is closely linked to agriculture and today is a topic of great current international political and economic agenda, especially in view of the high population growth performance over recent years and it is estimated that in 2050 will lead to a population of 10 billion people, resulting in an increase of the needs of the world population: this is one of the main challenges to be faced in the near future. (GENITRON, 2015)

Modern agriculture has applied the standard linear economy: takes, disposable. It needs outside of continuous inputs of raw materials, which is being exhausted, and produces wastes that have no proper place and end up polluting the seas and rivers. An agricultural system thus conceived is not sustainable and therefore destined to collapse, especially under increasing demographic pressure. Modern agriculture, also, with the use of chemical fertilizers that lack valuable organic elements, favors the loss of soil organic substance, which in turn leads to soil erosion, which becomes increasingly more fragile, and promotes flooding and increasingly widespread landslides in our country. Because of erosion are lost worldwide each year 24 billion tons of soil, which nature can replenish each year only for a hundredth part, which means that nature will take 100 years to recover what man is drawing each year.

One answer to these problems can come from agriculture cyclical, that the possibility of recovering the resources reclaimed from the ground but still in circulation (waste, waste) rather than import them from outside. The remaining resources are available to the waste resulting agro-food industries, from civil waste and manure from the stables, only organic substances derived from the processing and consumption of agricultural products. Recover these substances creates sustainable agriculture that does not need, if not in part, external resources (chemical fertilizer), preserves soil fertility thanks to a rebuilt biodiversity, and also allows you to find a proper use for scraps and organic waste.

5. CONCLUSIONS

A key role in the pursuit and implementation of circular economy is taken by investments in innovation and technologies that enhance the scraps of industrial and / or agricultural sectors. This can lead not only to a reduction of waste and hence environmental impacts but also in net savings for businesses of up to 604 billion Euros throughout the European Union, in line with the global framework (Sustainable Development Goals 2015 -2030).

The paper try to demonstrate trough a inductive model, figures and their analysis that the success of the Strategy of Sustainable Development depend, in the next years, by the application of the best practices of the Circular Economy. The agricultural sector special in Romania could be transformed by the nowadays weakness in the strong point for the future innovative development of the Country. This to achieve the target of the harmonization of the model of development in a very innovative identity way represented by the Smart Communities and Smart Lands

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