Constructive Solutions in Achieving Sustainable Development Objectives

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Abstract

The 2030 Agenda for sustainable development adopted by the UN aims to encourage the efficient use of resources, by focusing on the modern technologies for protecting the environment during the farming process. World agriculture is under increasing pressure as a result of a complex of mutually reinforcing factors: the upward trend of world population, the inefficient use of scared resources, the lack of concrete solutions that make agricultural production more efficient without affecting the environment. Food security has become a global priority, thereby, achieving the SDO's objectives will depend on the ability of nations to meet current challenges: climate change, biodiversity degradation, desertification or rural abandonment. Among the measures unanimously accepted as the basis of the global sustainable development strategy, we find: stimulating investments in agriculture in all developing countries, namely creating jobs and providing decent incomes (especially for young farmers), giving real support to small farmers by facilitating both partnerships and access to resources.

Key words: agriculture, SDO, investments, farmers, environment, resources
J.E.L. Classification: Q 01

1. Introduction

Despite the significant impact of technological progress on both agricultural productivity and global hunger reduction, currently 1 out of 9 people are undernourished and about 2 billion have nutrition problems, lacking the necessary nutritional value. Globally, access to resources is unevenly distributed, and this is why international organizations have adopted resolutions (UN 2030 Agenda, together with the Paris Climate Change Agreement COP21) in which they set major goals to fight inequities. By efficiently monitoring the production methods and the generated results in agriculture, also the management and environment protection systems along the entire distribution chain, an ultrasound of the current situation will be made as a premise for elaborating future strategies. The concrete measures applied today will generate the context of future generations. But what are these concrete measures that can make the difference between gloomy predictions and optimistic visions? This paper will outline some of the solutions upon which agricultural specialists agree to challenge in order to ensure food security. The fragile balance between needs -expressed by demand- and the resources -transposed into the offer- can be ensured through a unitary strategy that focuses on supporting the small farmer, through policies designed to facilitate the financing of the agricultural sector and also by creating new jobs, ensuring an attractive payment system for the small farmers and their employees, increasing accessibility to modern production methods which improve both labor productivity and return on investment. Developing public-private partnerships could be the cure solution for implementing many programs that, beyond the funding hurdle, would be useful to the final consumer, responding to market needs. Considering the actual context, there are plenty of indicators regarding global development which need to be improved in the years to come, to achieve the GDO's, as we can analyze in the table 1:

Table no. 1: Relevant indicators of global development

Global objective	Global Indicators	Relevant information and data	Year
Food Security	Population undernourished	11% (down with 2% comparing with the data collected between 2010 and 2012)	2014-2016
Income	Population living < $1.90/ day (purchasing power parity)	This is a MDG indicator. 10.7% - compared with 12.4% in 2012, and 35% in 1990 (The World Bank Report, 2016)	2013
Water and sanitation	Population without access to an improved drinking water source	Globally, 1 in 10 people lack access to water- 10%. It is estimated that 663 million people are affected. (World Health Organization Report, 2015, p.15)	2015
	Access to sanitation	Between 1990 and 2015, the use of improved sanitation rose from 54% to 68%. The global target was established at 77%, so it was missed with 700 million people. ((World Health Organization Report, 2015, p.20) 1/3 of the world population lack access to a toilet (2.4 billion people). As incredible as it may sound, there are more people around the world owning a cell phone than people with access to a toilet!	2015
Health care	Population without regular access to affordable essential medicines	81% of developing countries have an updated EML – Essential Medicines List, in order to measure the access of their citizens to it. The rest of 19% need to establish or update the one they have. ¾ of the world's population lacks access to proper pain relief treatment, while almost 5.5 billion people have no access to medicines. In low and middle income countries (LMIC), availability averages of medicines are: 42% in public sector and 72% in private sector (Vandam, 2016, p.4)	2015
Education	Children not enrolled in primary and lower secondary school	Worldwide, a total of 121 million children and adolescents (61 million aged between 6 and 11 years old and 60 million aged between 12 and 14) aren't enrolled in school. This total is constant since since 2007. 78 million of these children live in GPE countries.(UIS GEM Report, 2016, p.2	School year ending in 2014
Energy	Population lacking access to electricity	According to WEO, in 2016 approximatively 1.2 billion people, meaning 16% of the global population – did not have access to electricity, with 15 million less than the data collected in 2015.	
Gender equality	Employment gap between women and men in waged work (excluding agriculture)	According to Eurostat, in EU 28 (in 2015) women's gross hourly earnings were on average 16.3 % below those of men. In the euro area, the gap was smaller: 16.8%. Across member states, the gender pay gap varied from 5.5 % in Italy and Luxembourg to 26.9 % in Estonia. Globally, in 2016, the average progress on closing the gender gap stands at a score of 0.683—meaning an average gap of 31.7% remains to be closed worldwide across the four Index dimensions in order to achieve universal gender parity (World Economic Forum Statistics)	2015 2016

	Representation gap between women and men in national parliaments	According to Inter-Parliamentary Union, only 23.3% (Lower House: 23.4% and Senate: 22.8%) of all national parliamentarians were women as of 1st of March 2017, an increase with 12% from 11.3% in 1995. So the gap is still important and it should be reduced in order to meet the GDOs.	1st of March 2017

Source: Adapted and updated starting from Raworth, K., 2015

Reducing the waste phenomenon, while enhancing resource consumption and protecting natural habitats, eradicating illegal deforestation, responsible water use, or using renewable energy will help increase agriculture's ability to respond to global food demand. Food security and sustainable agriculture have become priorities on the sustainable development agenda precisely as a result of the establishment and assumption of SDGs. They gradually address all the vulnerabilities that contemporary society faces, strong economic principles through which countries will manage to end poverty, protect the planet, and ensure prosperity for all their citizens. Specifically, the United Nations is pursuing the following goals: eradication of poverty and hunger (first two objectives) good health and well-being, education and gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water and on land (objective number 14 and 15) peace, justice and strong institutions and last but not least, the 17th objective, partnership in reaching mutual goals. Through a fruitful collaboration among the main actors: governments, civil society, economic agents and simple citizens, each of the 17 objectives aims to reach their precise targets over the next 15 years.

2. Concrete measures for sustainable agriculture

Ensuring food security as a primary goal for the safety of future generations can't be done in the absence of a global strategy based on the common pillars set by the 17 sustainable development objectives. Concrete measures and unitary actions are required to generate a steady change in the consumption rate of limited natural resources, caused by the consumerist habits of states (mainly developed countries, where food waste levels along the entire distribution chain reaches alarming odds). The concern of many debates and analyzes, the identification of concrete solutions that generate productivity while protecting the environment, ensuring decent incomes for small farmers and thus transforming agriculture into an attractive sector - especially for young people - is starting to work.

2.1 Focusing on the solutions for developing agricultural sector

There are five major priorities regarding the most useful solutions that could generate the global development of the agricultural sector: sustainable development by increasing investment in this sector, especially in developing countries; focusing financial support towards small farmers; Promoting smart nutrition by identifying innovative agricultural and food systems; Efficient resource consumption and environmental protection by eliminating the main damaging factors: habitat destruction, abusive deforestation and biodiversity degradation; The implementation of mutual and rapid communication systems for farmers and also, really useful, implementing a crop insurance system, so that the economic risks generated by climate change are minimized. The effectiveness of the measures outlined above will be bolstered by its implementation as part of a strategy. Thus, the results will become consistent only through an integrated approach, covering the whole range of farmers' needs. Next, I will thoroughly present the significant aspects of the solutions presented.

2.2 The need for increased investment in the agricultural sector

It is well-known that the gaps in development between states can't be met in the absence of consistent investment. Developing countries will be able to recover economic gaps by allocating additional funds to sectors with growth potential, including the agricultural sector. Public and private investment, both from domestic and external sources, must be channeled to the agricultural sector, so that production capacity is maximized. Unfortunately, recent trends in government spending are downward. Between 2001 and 2013, the agricultural orientation index, (share of agriculture in government spending divided by the share of the sector in GDP) declined with 32.5%, from 0.37 to 0.25. Except for the period between 2006 and 2008, when this index rose as a result of the food price crisis, the fall of agricultural spending has negatively influenced the agricultural index. (United Nation Report, 2016). With a well-developed strategy, with medium and long-term funding programs to encourage small farmers, providing them with access to modern technologies and sustainable farming techniques, improved results will be easily reached. Faced with the many current challenges, such as: increasingly aggressive climate change, price volatility, rural abandonment or desertification, the main alternative is agroecology. However, the reconciliation of the environment with agriculture can't be done without the development of small and medium farms, with an intensive diversification of their activity. Invariably, the goal of better funding is to produce high-quality food in sufficient quantities by permanently connecting farmers to market signals. Within the European Union, on the basis of the Common Agricultural Policy, Member States are encouraged to identify new methods of supporting agricultural sector. Although subsidies for farmers are not allowed, access to European grants and private public partnerships can generate outstanding results. Within the framework of constructive partnerships between the Government and the primary industries, intensive research activities (which support innovation) can be funded. In some very clear exceptions (supporting small businesses, promoting entrepreneurship, research, development and innovation, regional development, providing venture capital, job creation, protection of the environment), EU rules prohibit state aid (regardless of the type of aid: subsidies, loan guarantees, tax or interest exemptions) because it distorts competition. In the long term, innovation programs will generate superior agricultural output. Respecting the principles of sustainable agriculture, by implementing the latest innovations, farmers are able to increase the efficiency of chemical fertilizers by up to 50% and reduce nutrient losses considerably. Through intelligent funding of research and development programs, it is possible to achieve outstanding results also in terms of quality of food products. One such example is the New Zealand program, identifying a new and improved type of lamb. The program is called Omega Lamb and its goal is to meet a premium consumer demand: a much healthier lamb consumption with a high omega 3 fatty acid content. Granting responsible funding to projects that comply with environmental protection requirements, by conditioning the grant, will produce a paradigm shift in the mentality of farmers. A good example of success in this respect is Cadastro ambiental rural, a program from Brazil that has granted one-year temporary pardon to those who have illegally stolen. In this way about 400 million hectares have been verified and recorded, while about 4 million rural properties have realized the importance and effects that the lack of environmental protection can generate.

2.3 Small farmers, DNA of sustainable development

Invariably, the small farmer plays an essential role in the precise fulfillment of sustainable development objectives. The farmer and the problems he faces, starting with the lack of funding, with the difficult access to resources: seeds, modern techniques of ecological production, know-how for accessing non-reimbursable funds (funds needed to ensure both product quality and competitiveness), must represent the center of sustainable development policies. An essential role in maintaining food security is to ensure financial comfort for those who depend on the efficiency of the sector. Thus, raising farmers' incomes, sustaining productivity growth and trade liberalization are vital food security objectives, in the medium to long term. Intensive production is a challenge for small farmers, especially in the context of restrictive environmental protection. That

is why reaching the break-even point, as a small farmer, is more of a challenge and bankruptcy can become a reality for many. Thus, careful monitoring of sustainable land use at local level is required, as well as introducing the concept of precision farming. The management of agricultural land is based on natural variation, soil specificity, and not the administrative division of land. Increasing production can be achieved simultaneously with conservation and restoration of natural resources: water, air, soil fertility, biodiversity. However, the tension between farmers and international bodies, regarding the efficiency of cross-system services, is well-known. Thus, farmers are constantly demanding the reduction of environmental protection criteria, considering this will help in rising their profit margin. In reality, things are exactly the opposite, because the costs of restoring the affected land are significantly higher than those associated with prevention. Thus, farmers should be encouraged to return to eco-friendly farming practices as studies have shown superior crop yields. Increasing productivity, with firm respect for quality criteria, is largely determined by access to modern production methods. At the same time, increasing the attractiveness of the agricultural sector depends on the increase in income generated by this activity. In this sense, the liberalization of markets could be a determining factor in reducing price volatility.

3. The role of CAP in ensuring food security

Under the leadership of Jean Paul Junker, the European Commission has placed a particular emphasis on protecting the environment by officially assuming environment friendly principles, in different documents adopted in the last years: the 17 GDOs, the Common Agricultural Policy, Paris Agreement under UN Framework Convention on Climate Change. The implementation of the CAP aims to ensure food security by encouraging the development of markets based on the principle of superior production in qualitative and quantitative terms, with an efficient consumption of resources. The whole strategy underlying the CAP is based on 3 principles: a) Ensuring the necessary food for the entire Europe, in both quantity and quality (safe food –by focusing on the implementation of traceability); b) Sustainable management of natural resources; c) Balanced development;

Around other 3 key objectives, complementary goals such as combating extreme poverty in rural areas, promoting research and innovation in agriculture, improving nutrition quality and eradicating hunger are being pursued. Among the suggested solutions we find crop diversification and permanent pasture maintenance, with an important role in water management, soil erosion, biodiversity and environmental and natural landscape conservation. The European farmer is thus obliged to become familiar with the compliance of a whole set of environmental rules, while respecting also quality standards. Why are these rules so important to acknowledge? In the EU the agro-food sector provides no less than 44 million jobs. The implementation of CAP aims at ensuring the food security of the entire continent, but the new challenges of the modern world must be taken into account. It is therefore necessary to restructure the CAP by introducing new objectives: sustainability and biodiversity. Increasing the profitability of the agricultural sector by improving competitiveness, by diversifying and sustaining rural entrepreneurship, will help to improve CAP results by generating new jobs and ensuring decent incomes for those involved. Equally, we must not abandon the classic objectives set in 2013. All this principles continue to be current: viable production, sustainable management of resources, balanced development. These are objectives whose implementation horizon is set for the coming years, as the cancellation of cleavages between different regions does not depend exclusively on the capacity to modernize the agricultural sector, but rather on the interconnection of different economic aspects such as the development of infrastructure and the degree of development that the business environment mages to reach - especially in rural areas. Investing in innovation and research in each of the less-favored regions will allow a gap recovery, a developmental uniformity. With a reform of the CAP payments system, farmers can be conditioned by the use of organic production to receive 30% of direct payments. At the same time, there are proposals for the possibility of introducing an additional criterion: farmers' commitment contracts, beyond the production unit criteria (number of hectares, number of animals held). These commitments would be set in the long run and would

reward farmers to encourage them to deliver public goods through compliance with the 17 ODDs. As such, a considerable increase in the budget associated with the implementation of the CAP could be imminent, given the complexity of modern challenges.

4. Conclusions

Current challenges require global coordination, thus international bodies play a fundamental role in drawing up common principles of sustainable development. Responsibility for ensuring food security is immense and the pressure between growing needs and depleted resources must be balanced by a joint effort and by measures to develop agriculture. At the molecular level, the small farmer can be supported so that his production respects both the environment and food quality criteria. The struggle against waste and the fair distribution of resources can annihilate the hunger phenomenon, yet worryingly developed for the level of technology and modernization that mankind today has access to. Solutions exist (as we have presented in this paper) and as expected, they are more about efficient fund management, prioritizing funding for programs that respect the drastic set of sustainable development criteria and putting the small farmer needs in the central point of the strategies. Also, there is an urgent need for a mutual political will and a concerted effort among states, the correlation of economic policies, the reform of the common agricultural policy at European level, in a word: adapting to the new challenges of this millennium.

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