TWIN TRANSFORMATION IN AGRICULTURE

INTERVIEW WITH ERKAN AKTAŞ

Interview by Tarsus Ticaret ve Sanayi Odasi

CASE STUDY: AGRICULTURE AND CIRCULAR ECONOMY

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Erkan Aktaş is a faculty member at Mersin University, Faculty of Economics and Administrative Sciences, Department of Economics. His areas of expertise are agricultural economics, environmental economics, rural development and rural transformation. Although he has an agricultural background, he adopted a multidisciplinary approach in his academic life by also doing a master's degree in economics. He shifted direction. Currently - he says - we see that multidisciplinary studies are becoming more prominent; global climate change, the crises experienced in agriculture and food in particular, have brought our work in this area to the forefront even more.

HOW CAN THE CE APPROACH BE APPLIED TO REDUCE CARBON EMISSIONS IN THE AGRICULTURAL SECTOR? WHAT SPECIFIC SOLUTIONS, PARTICULARLY RELATED TO WASTE REUSE AND RECYCLING, DO YOU SUGGEST?

Now, it should be said that, unfortunately, with the rapid increase in mechanisation in agriculture, fossil fuel use has also started to increase rapidly in agriculture. Of course, industrial agriculture too. With the introduction of industrial agriculture into our lives we have faced more technology-intensive production. This situation has increased fossil fuel consumption and therefore carbon emissions in industry as well as in agriculture. Of course, serious problems await us with increasing carbon emissions. It is also necessary to state what kind of processes await us and what we should do. The main issue is: especially with the spread of industrial agriculture, the increase in chemical inputs and the rapid developments in agricultural technologies, the introduction of genetically modified organisms (GMO) and special seed technologies into our lives, causes serious problems in terms of food safety. We are also faced with problems caused by agriculture. While climate change affects the agricultural sector the most, if the necessary changes are not made in the agricultural sector, this situation will increase the effects of climate change even more. Therefore, serious problems await us in this area.

WHAT ARE THE MAIN SOURCES OF CARBON EMISSIONS IN THE AGRICULTURAL SECTOR AND WHAT ARE THE MOST EFFECTIVE METHODS TO REDUCE THESE EMISSIONS?

The main problem: With the rapidly increasing mechanisation in agriculture, we see that industrial agriculture has gained an important place in our lives. Another important issue is access to water. The ease of access to water has significantly increased the water consumption of products. This situation causes the water footprint of the products to grow every day. This increase leads to the depletion of water resources. In addition, a fundamental problem emerges with global climate change, drought and water shortages caused by drought. This situation causes serious problems in the production of products that require a lot of water. That is why the fundamental issue that needs to be done is this: In order to use limited water resources efficiently, limited irrigation systems need to be expanded. In addition, serious steps must be taken in terms of water management of dams and preventing water loss. Technological solutions that reduce evaporation need to be developed and implemented for dams and irrigation channels. So, water shortage is a fundamental problem. Therefore, we need to turn to methods that use water more efficiently, such as drip irrigation systems, and focus on products with low water consumption. If we can achieve this, the agricultural sector can better protect itself against global climate change. Otherwise, of course, it should be said that agricultural waste products should also be evaluated in terms of circular economy. Some of these can be used in the energy sector, while others can be re-evaluated. For example, we do this in compost fertiliser. Some agricultural products in particular are re-evaluated and made useful. For example, these wastes can be turned into fertiliser and recycled into the soil. Thus, the soil can gain a more nutritious and more organic structure.

HOW CAN THE INTEGRATION OF CLIMATE-SMART AGRICULTURAL TECHNOLOGIES AND CE PRINCIPLES MOST EFFECTIVELY INCREASE SUSTAINABILITY IN FOOD PRODUCTION?

In fact, we can summarise it as follows: A concept called ‘twin transformation’ has emerged recently. This includes both digital transformation and green transformation. The agricultural sector also needs to use digital transformation and green transformation together. So, we need to direct this process in agriculture towards a more environmentally friendly and sustainable agriculture, especially with green transformation. We can achieve this by integrating digital transformation into the agricultural sector and effectively using technologies in agriculture with green transformation. Actually, when we say green transformation, we mean the following: With green transformation, a new paradigm is needed. We need to take serious measures against excessive chemical use in agriculture. We need to take serious measures regarding water restrictions and take careful and strategic steps regarding product preferences. While doing all these, we should make this process more effective, especially by integrating technological support and digital transformation. We should start by raising the awareness of the producer and the consumer on this issue. We can increase our work in this direction.

WHAT ROLE CAN THE INTEGRATION OF FORESTRY AND AGRICULTURE SECTORS, WITHIN THE PRINCIPLES OF THE CE, PLAY IN THE FIGHT AGAINST CLIMATE CHANGE?

First of all, we always emphasise this: our forests are very important to us. In fact, green transformation starts with protecting our natural forest areas. We should clearly state this point. A society that cannot protect its forests cannot take steps in green transformation anyway. In that case, our first priority should be to protect these points that are side by side with agriculture. Perhaps acting together to protect our forests should be the most important part of the green transformation. Because the imminent drought caused by climate change, as well as extreme meteorological events, have increased rapidly in the world and Turkey in recent years.

HOW CAN YOU REDUCE FLOODS AND DROUGHT?

You can achieve this by keeping your vegetation intact and protecting green areas. Increasing forest areas is very important in this respect. In recent years, forest areas have been increasing in Turkey, but forest cover is decreasing. Forests are important carbon sink areas, especially in the global fight against climate change. In order to protect these areas, we need to avoid damaging the quality of the forest. Turkey and the world should not see forests as a source of fuel or raw materials for other sectors. I think steps should be taken and awareness should be raised at this point.