

EXTENSIVE PLANTATIONS, GMOs AND BIOFUELS IN EASTERN EUROPE: FOOD SECURITY AND SAFETY AT STAKE

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Food security and food safety are two different and important concepts that have always been at the centre of every country's concerns. They are both taken into growing consideration by all governments of the world, especially in sight of rising food prices and increasingly unpredictable weather events. Eastern Europe is no exception along this pattern and the political representatives of the area are committed to face the challenge represented by the consequences of the two concepts. In fact eastern Europe is a region that enjoys large allotments of fertile land and is traditionally tied to agriculture. These are characteristics that are able to bring the nations in the area considered to the forefront of the upcoming economic opportunities which are clearly visible in the short term in the agricultural sector. We will analyze three of them: the GM crops, the intensive and industrialized plantations and the production of bio-fuels.

On one hand, food security can be understood as the need of a nation to have a sufficient amount of commodities to feed its population in every season of the year and under all weather conditions. This has been one of the major worries experienced by humankind throughout its history and has been overcome for only in the last forty years in western Europe. On the other hand, food safety can be intended as the qualitative, nourishing properties and healthiness of the food at hand for the people living in a country or a region. This notion is of particular importance nowadays more than in the past because of the progressive depletion of food quality experienced by the European society after the industrialization of food-production and the rising level of pollution in the environment as a whole. Both of these ideas must be inscribed in a long-run time-line: they must be valid in the present as well as in the future, with a realistic certainty that they will be reliable with improved or unchanged characteristics regardless of unplanned social and natural phenomenon. Food security and safety will be at risk in eastern Europe if some of the latest developments in finance and international economy will prevail over health and environment oriented agriculture. Considering this, we will take into account some of the main challenges for the years ahead in this sector, which are soon likely to become major economic features in the region. As we said above, these are GMOs, extensive plantations and bio-fuels. All of them are generally supported by the national governments, even though exist significant differences in the willingness to give the green light to such projects among the east European executives and civil societies.

GMOs

The GM crops are increasingly seen in eastern Europe as a way to augment the agricultural output and to overcome the various plants diseases or bad weather conditions. The regulating role of the European Commission is preventing a

widespread use of this bio-technology, but a number of GM organisms have been already legalized and cultivated in Romania and some other countries in the region. Moreover other east European states that are still outside the European Union, are free to engage in the experimentation of GMOs on open fields for human and animal consumption. Given the powerful lobbying action on these governments by the biotech companies and the need to reinforce agriculture as an economic sector in states like Ukraine and Belorussia, there is a high probability to see this technology applied on a large scale in the near term. If this trend will be put into practice, two main problems connected respectively to food security and safety will arise. On the side of food security, the copyright laws that are applied to GM crops oblige the farmers to buy GM seeds from a multinational every season, binding the reproduction of species under patent to a payment. This can lead to a loss of independence in cultivating crops (therefore lessening food security) and in distributing it fairly to the population. Instead, with the use of transgenic kind of crops that are able to reproduce freely, the risk is to contaminate the other natural plantations with cross-pollination. This situation will reduce biodiversity, impoverish the national stock of vegetables and harvest and damage the natural and traditional sources of food supply. In these cases, food sovereignty in the region might be hit by the contracts signed between farmers and biotech companies. Food sovereignty can be harmed also following the uncontrollable dissemination of GMOs in the region. In fact this bio-technology can forcefully limit the capacity of farmers to choose what to plant due to tainting (unavoidable with open field cultivations) which can take place inside a country as well as across the national borders. A further element regarding GMOs, which can attempt at food security of the region, are the patent laws. After a contamination case, it will be impossible to divide the two kinds of plants, thus the owner corporation of the copyrighted GMO that is responsible for contamination could ask for compensation or prohibit the commercialization of the resulting product. On a

large scale this tendency can hardly hit farmers and rural communities, both with regard to their income and to their freedom to diversify the agricultural output.

On the side of food safety, the use of GMOs cannot rule out any risk for human and animal health. Serious doubts are pointed out by some researchers on how the food obtained through gene modification interacts with human body in the medium and long-run. Besides the checks on the effects of GM crops on the environment (contamination) and population (food) are often handed over to the companies themselves, rising strong reservations on the fairness of the tests. In addition, the possible repercussions of GMOs on health can be caused by imported transgenic goods (livestock and crops) which are legally bought in the EU and in all of eastern Europe. In any case, beyond these remarks, the unknown medium and long term consequences on natural cultivations and human health are threatening the ability of eastern European states to guarantee food supplies in spite of outside elements and to warrant the safety of what animals and humans eat.

Extensive plantations

Extensive plantations cultivated with industrial techniques and chemical agents were present in eastern Europe since the soviet period, but the efficiency of this kind of farming was heavily lacking. Nowadays foreign investments and economic reforms have led to an higher level of production, increasing the overall agricultural output. Anyway many of the problems caused by the industrial agriculture model on food security and safety are still present in those countries.

On the side of food security the troubles may come from the depletion of earth, which is overexploited. The intensive cultivations have a impoverishing effect on the land

used and with the passing of years is getting poorer and is losing its fertility. Then there is the problem of chemical agents (herbicides and pesticides) dropped in excessive quantity on the plantations to enhance their productivity. The GM crops are slowly harming the fertility of land and making the fields where they are planted less productive. Moreover many essential species of insects (like bees) are disappearing as a consequence of poisoning from pesticides and herbicides. The irreplaceable functions carried out by insects (such as the pollination of fruit trees and flowers) are responsible (directly or indirectly) for the subsistence of the majority of the food items we eat today. This vital role (for nature, animals and human life) is already at risk in many countries of western Europe and the eastern part of the continent is quickly going down this path. In addition, industrialized plantations need to be irrigated with an high extent of water while the former is getting less available in every country every year. The combined effect of these factors is similar as above: spoiling the natural balance of earth, reducing the quality of ground, the availability of water for human and natural use and polluting the remaining water with the pesticides which percolate through the ground and to rivers. In the long term the land cultivated in this way will have a lessened capacity to produce as before, plummeting the capacity of the governments of the area to answer to the food security challenges looming on the horizon.

Another problem for food security is represented by the phenomenon called "land grabbing". In the last five years, large allotments of productive land in eastern Europe have been bought (or rented for many years) by sovereign funds belonging to middle eastern and Asian states. They are ready to cultivate wheat, vegetables and other items on enormous plantations with a comparatively little compensation provided to the owner (private or public). The goal is to achieve food security for the renter: to secure commodities to satisfy the domestic demand in case of sudden price shocks, in

case of limited extension of land at home or in the event of extreme weather conditions (such as droughts or floods) that might jeopardise the domestic harvest. Fertile and extended land has become a useful asset, which is gladly rented out by countries without the necessary capital to develop vast industrialized plantations. In this way, considerable parts of the territory of east European nations are sold for a long period of time to foreign financial actors. By supporting this strategy these states will lose the control over growing portions of their reserves of food and will open the way to much higher food prices in case of urgent need at home. Different from the export oriented agriculture, in this case it is the very property of land that is taken away from the nations and the people concerned. The change in interests privileged by the new foreign and institutional owners can hurt the food security of the area in an unpredictable way.

The food safety problems which arise through extensive plantations and industrial agriculture are already visible, although not precisely measurable, in eastern Europe. The abundant use of chemical agents, recognized as bad for health over time, is responsible for causing various diseases through the substances that remain in fruits, wheat, vegetables and other crops after the harvesting. It is impossible to check out all the abuses in this sector, but even considering the standard level of chemicals legally recognized it is possible to say that they are to blame for more than one serious illness. In this way the safety of food cannot be assured to people. Since increasing productivity of land through chemical substances is one of the priorities in the agricultural policies of eastern European states, it is predictable that food safety will be more and more marginalized, depriving in the future the population of those countries of the - already deteriorated - right to eat healthy food in the future.

Bio-fuels

The cultivation of crops with the intention of producing bio-fuels is a recent trend in Europe. Eastern Europe in particular has taken the road to this kind of fuel production; this is due to the availability and accessibility of vast fields on which to plant maize and other crops in order to convert them in “biological” gasoline. There are two main elements behind the growth of bio-fuels production around the world. The first one is the growing price of ordinary fuels (derived from oil) and the upcoming decrease in the extraction of oil worldwide. The need to find an alternative to the traditional fuel supplies pushes forward the research and manufacturing of different kinds of energy, more easily detectable and obtainable. The second reason for the spreading of bio-fuels in eastern Europe is the specific request made by the European Commission to reduce the emissions of greenhouse gases by 20% (compared to 1990) within 2020. In fact, inside this measure there is the possibility to achieve part of this goal through the replacement of normal fuel with bio-fuel. A new market open for the east European countries, which have the characteristics fit to grow on large extensions otherwise almost useless crops (Ukraine and Poland are the best examples). Eastern Europe can now compete with other world suppliers (like Indonesia) for the western Europe bio-fuel market as well as producing for their own internal consumption. Anyway the extensive plantations of sugar cane, maize etc. are stealing precious land to small and medium farmers with the aim of furthering non alimentary production. The development of this new market will surely increase prices of food hitting hard the food security in the region.

The bio-fuels will also have consequences for food safety because they will favour the other two elements cited above (industrial agriculture and GMOs). To augment the output of bio-fuels the use of GMOs is more than probable since in this case the doubts existing for food oriented production will fall. At the same time industrial and

intensive plantations will be more urgent to restore the food output lost with the land converted to bio-fuels crops.

The three components highlighted (GMOs, extensive plantations and bio-fuels) can greatly weaken east European food security and food safety in the medium and long term. What is more climate change and its increasingly hard consequences on weather and thus on the environment and human life, is accelerating the destructive impact of the elements cited above. The economic and financial losses deriving from the combination of the three trends can be huge and pose a big menace to the sustainability of the development carried on by the countries of the region; sustainability that can be spoiled permanently in terms of economic balance, human health preservation and environmental conservation.

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