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GENETICALLY MODIFIED ORGANISMS IN EASTERN EUROPEAN AGRICULTURE: A RISKY PATH?

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Food security and productivity of land are two of the main items which nowadays draw the attention to the agricultural world sector. After the “green” revolution started in the nineteen-sixties in western Europe, the cultural, environmental and productive landscape of that geographical and political area has changed considerably. The other European Union states, formerly belonging to the soviet block, have experienced similar patterns of development in agriculture, obtaining only in the last fifteen years the technologies and funds needed to transform this sector in line with the Common Agricultural Policy promoted by the European Commission and other leading communitarian institutions. The leading trend in this development towards modern concept of farming is represented by the agro-industrial model of crop growing. The aim of this economic strategy is to increase the efficiency and total output of the farming sector, in order for the nations involved to virtually satisfy the domestic

demand and become exporters of agricultural products instead of net importers. This is intended as the easy way out of the old-fashioned problems of supply seen as an inheritance of the soviet collective production model. This sort of “revolution” has already taken place and has been firmly established in eastern Europe through foreign investments and public EU funding schemes. The need to enlarge the quantity and frequency of every kind of harvest, has led to the employment of new technologies such as the widespread use of last generation chemical fertilizers and herbicides or pesticides. Inside this framework a controversial element is gaining ground in the EU agricultural policy, with a fastest rate of development registered in the eastern part of the continent: the use of Genetically Modified Organisms (GMO). While Western Europe is refraining from the usage of this biotechnology (apart from certain specific cases which are rapidly growing in number), the former soviet countries are gladly, and often hastily, embracing this new tendency with regard both to human (indirect) and animal (direct) consumption.

At the moment there are four countries in the east European part of the EU where GMO are cultivated legally. They are: Poland, Czech Republic, Slovakia and Romania. Other states are ready to introduce these products and some others can be touched by this phenomenon without any legal basis. In fact there are multiple reported cases where GMO are planted regardless to the national laws. The total surface area involved is unknown, for it is impossible to map out exactly all traces of biotech crop inside any single national harvest. Some data are available referring to certain kinds of plants. For example: in 2009 Romania had 70% GMO in the total amount of maize cultivated. Apart from maize, the other GMO specie planted is potato (approved in 2010 after more than ten years of moratorium on this kind of authorizations). The hectares covered by GMOs in the four eastern European countries considered, aren’t very extensive and in 2010 they didn’t exceed 200.000 Has. Imported transgenic feed

is allowed too, but only with GMO under a certain level and it must be openly declared to competent authorities.

In any case, the overall outlook on the presence of GMOs in eastern Europe is not as clear as it should be, and more authorisations are likely to be accorded in the near future by national as well as communitarian authorities in the region. The EU institutions and member states have been able, until now, to restrict the ground for the spreading of this biotechnology by considering the precaution principle as the general guideline to apply to any technological innovation. This has been the case of the herbicide resistant soybean, cultivated in Romania before the nation entered the EU (where it is still prohibited) in 2007. At the same time, some states like Ukraine and Belarus are considering the option of allowing GMOs cultivation on their territory, while also Bruxelles is slowly opening itself to different transgenic cultivations and imported products (as the four EU countries cited above confirm). Edible items containing authorized GMOs are already on sale in the EU, although they must comply with some restrictions. The former are divided in three main categories: quantity of GMOs contained, traceability and labelling. No product can't contain a proportion of genetically modified food higher then 0,9%. Above this threshold, it must be clearly identified on the label. In any case it must be traced along the supply chain.

Intertwined in authorized areas of operation are the biotech sector and agribusiness multinational. The penetration in eastern Europe of GMOs plantations has been possible due to the pervasive and powerful lobbying strategies carried out on local governments, which are keen to increase their agricultural output. The European Commission and European Council are also at the centre of lobbies action. The huge investments made by biotech companies to convince public authorities about the safety and usefulness of GMOs have already obtained some gains, as witnessed by the GMOs authorisations released in the recent past.

The weakness of civil societies in eastern Europe, combined with the lack of accurate and independent regulatory institutions, facilitated the acceptance of some transgenic crops into local agriculture. The vulnerability to external economic pressures and limited effectiveness of governance has been one of the main reasons behind the spread of GMOs around the world (at the moment officially present in twenty-eight countries) and in this case, eastern Europe is no exception. Moreover, repeated extreme weather events, expanding bio-fuels market, fast rising feed demand from Asia and climbing food prices are pushing governments to consider seriously the use of biotech crops able to virtually guarantee the national harvest without depending on any climate or productive difficulty that may arise during the year. States in eastern Europe with considerable extensions of land are particularly interested in this technology and they hope to find in Genetically Modified cultivations a promising solution to bring the productivity of land and export deriving profits to the highest possible level.

These above mentioned goals are identified as priorities by countries that are undertaking the path to a completely industrialized model of production and consumption. Anyway, the spreading of biotech crops implies multiple problems, able to harm the very achievements desired by the nations which are adopting them. In this context we will take into consideration two main aspects that cast shadows on the development of this latest technology applied to food. These are respectively the sanitary and environmental risks, paying closed attention to their economical allegations, even though it is clear that there are many other unresolved problems to be aware of, which we can't weigh up in this article.

GMOs are a decades old experimental technology and the effects on human health aren't still clear as their impact hasn't been fully evaluated yet. The only official tests conducted on this subject have been made by the same companies that are selling the

biotech products on the market. The competent authorities in Europe and the national ones in eastern Europe didn't have the time to assess the possible side effects on health of Genetically Modified Food and Feed. Moreover some of the lead technicians and executives that allowed the large scale commercialized GMOs, have past, recent or indirect connections with the biotech industry. There are reports about the dangerous nature of this cultivations, but they're not fully accountable as well for the same reason: whatever the health problems caused by GMOs are (if they really exists), they need to be observed and evaluated in the long run in order to be recognized and understood. This elementary procedure wasn't respected in the case of transgenic food and feed, revealing the winning pressure made by the rich lobbies on the European Commission and the national governments of eastern Europe. History left us many examples of hazardous products discovered too late. Ddt and asbestos are only two of them. If this would be the case of GMOs, the consequences would be terrible, just because of the unknown nature of genetic interaction that can be triggered. If any harm to human health, caused by GMOs, should be discovered in the future, the monetary and individual costs will be almost unbearable for the health systems of east European nations. They are already underfunded and the symptoms that might appear in the coming years are unknown and so very expensive to recognize and treat. Therefore this risk is maybe too big to be taken and the GMOs use should be postponed until its supposed safety will be proved beyond any doubt, in the long run and by independent experts.

With respect to the environmental aspects, the possible damages caused by GMOs are known, even though they have not been evaluated properly. There are many frightening aspects of biotech cultivations, which are likely to have a deep impact on the economic structure of eastern Europe. The first and most obvious problem is the contamination of non-genetically modified cultivations planted near the transgenic

ones. The spread of GM plants cannot be controlled and it is extremely difficult to monitor accurately. As a result, the original plantations will slowly be destroyed by the artificial strength of the modified ones, whose seeds are carried by the wind. The subsequent loss of biodiversity will lead to a severe environmental impoverishment with hard consequences on all living creatures of the region (humans included). Diseases that may arise in the future will be much more harmful to GM crops because they will easily hit the species that has replaced the previously existing varieties. By allowing GM crops plantations, one of the major spontaneous self-defence mechanisms of nature against pests, the genetic diversity of similar species, will be erased. This can have terrifying consequences on harvests and human nutrition in case of a particularly strong or new plant bug outbreak. What is more, the herbicide and pesticide resistant GM crops are stimulating the use of chemical substances in agriculture, adding to the intensive employment of these items. This is decreasing the fertility of soils and killing many species of insects which are essential for the environment, biodiversity and food production.

It is hard to describe in monetary terms the loss deriving from such events, but we know that biodiversity is crucial for the conservation of all human activities. The soil, water and ecological diversity and balance that can be permanently altered and spoiled by the GMOs dissemination would cause a huge loss of money and assets to all the sectors which are located in the region interested. In fact, every productive and human action needs an environment able to sustain and lodge them. The biodiversity depletion deriving from GMOs use and spread, that has occurred in reported cases across the world and Europe, would soon convert itself in an economic catastrophe. Another alarming problem related to GM crops is the growth of herbicide resistant weeds inside the transgenic cultivations. This phenomenon has been experienced in more than one country around the world and has led to further expenses to eradicate

the weeds, both in labour-force and mounting quantities of chemicals (with consequent health and environment related costs).

For all these reasons, there's an urgent need for reconsidering the biotech plantations already authorized, and for banning the other ones waiting for institutional approval until their contaminating effect and the other contraindications enumerated are definitively ruled out.

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