

Recent environmental protests over the possible opening of a jadarite mine near Loznica have put the issue of ecology, but also agriculture, in the public spotlight. One of the arguments against the opening of the jadarite mine was that it would destroy the land, and agriculture is our development opportunity that we should use. Without going into the issue of mines, let's see if agriculture is really a magic map as it is often presented.

How much does the development of a country depend on agriculture? Are the natural characteristics sufficient for developed agriculture and what is the role of agriculture in generating GDP?

There are no developed economies based on agriculture

When a country has a high share of agriculture in generating GDP, then it is certain that it is a poor country with an underdeveloped economy. This is publicly seen in the chart showing a clear inverse link in European countries between income levels and the importance of agriculture. Simply put: the more important agriculture, the weaker the economy. Also, in the historical experience, there is no country that has reached a high level of income that has managed to do so with the help of agriculture.

This is also noticeable when looking at European countries that have strong and competitive agricultural sectors such as the Netherlands, Denmark or Poland, and countries that are closer to Serbia in terms of income as the poorest in the EU (Bulgaria and Romania): not even agriculture it does not play any particularly notable role in relation to industry and services.

The situation is the same when we look at the data on the amount of employment in agriculture. It does not seem to be the source of a large number of well-paid jobs anywhere in Europe. In countries where work in agriculture is still highly represented, including Serbia, the most common form of work in this sector is unpaid work of helping household members during the agricultural work season. This is followed by temporary and occasional undeclared work in the height of the season, such as hand-picking fruits and vegetables and the like. In developed countries, agriculture is not labor-intensive, even when it generates high incomes, so a very small share of workers work in this sector.

New technology and robotics are significantly changing agriculture

If there is anything that Serbia has in abundance, it is fertile land and a good climate. As the saying goes: whatever is thrown to the ground, sprouts. That is why Serbia has a rich tradition in agricultural production, as well as a great development opportunity in agriculture - or at least that is one of the main arguments why we should turn to agriculture.

This is a similar argument that can be found in the film *Balkan Spy* - when an untried spy played by Bora Todorović says that "Serbia with Vojvodina, Macva and even Šumadija should feed half of Europe." But natural characteristics are no longer the main preconditions for agriculture. - Israel has become an oasis from the desert, and Saudi

Arabia and Australia have large farms in the middle of the desert that are irrigated with ocean water using desalination, for which they use solar energy.

New technologies, including ICT and robotics, are significantly changing today's agriculture. Vegetables are no longer grown only in fertile land during the agricultural season, but in greenhouses throughout the year, and the temperature and drip irrigation are controlled by computers. Even the land is not used, but more and more vegetables are grown directly in the water in which micronutrients are poured exactly at the moment when they are needed and in the required amount, which maximizes yields and minimizes costs. Machines that change workers are increasingly used: tractors that are driven in the field from the office via the Internet; a series of four tractors where the driver is in only one vehicle, while the others follow him with the help of sensors; machines that pick only fruits with precisely defined characteristics (ripeness and size), etc.

The issue of climate and fertile land remains important for now for extensive agriculture, such as cereals and industrial plants, but for most other crops it has long since lost its importance.

Trade surplus in agriculture - an argument for the importance of agriculture

One of the arguments in the claim that agriculture is a development opportunity for the Serbian economy is the realized trade surplus in this sector. Serbia traditionally produces and exports significantly more of these products than it imports. So, this is a sector in which we have a comparative advantage that we can make good use of.

But this data distorts the picture a bit. It is enough to see that the monthly import per capita is only 20 USD (or about 2,000 RSD), which means that we import much less agricultural products than other richer countries in the region, and the reason for this lies in low imports of quality premium products such as France. Italian and Spanish cured meat products, cheeses and wine, and tropical fruits and vegetables out of season.

The reason for the low import of these products is primarily low purchasing power. As the standard rises, so will their imports, and the trade surplus will melt away.

Agriculture as a connection with nature - myth and illusion

In the modern world, full of new technologies, agriculture gives us the charm of living "in harmony with nature". But this life in harmony with nature is mostly an illusion, which is one of the reasons why every civilization has tried to distance itself from nature as much as possible. Because natural life is not only the chirping of birds in the park or the apple tree in the yard, but also the death of a huge number of people (especially small children) from all kinds of diseases that we successfully treat with antibiotics today, and hard physical work in the field from morning to night.

Mankind has spent most of its existence producing food to survive and is often on the verge of starvation, which changed significantly only about 100 years ago, and in our country even later, as a result of which agriculture for many people and something that connects with

other family members – grandparents who lived in the countryside and who visited during the holidays and vacations, while they lived alone with their parents in the city.

Agriculture not as a business, but as a way of life

It is not seen as a business like any other, whose main goal is to make a profit, but more as a way of life, primarily on a small agricultural estate as 200 years ago in the age of natural economy when people grew only what they would eat. Today's agriculture is based on large farms and enterprises that can achieve economies of scale and use new technology (from drones for spraying fruit, through robots for milking cows to new varieties of fruits, vegetables and cereals that are resistant to disease and give higher yields). Successful agriculture will be built by farmers who have the knowledge and capital, and primarily large estates and new machinery, and not small fragmented estates where agricultural crops are grown as they were a few decades ago.

That Serbian agriculture can be much more efficient and profitable than it is today is certainly clear, and it would be highly desirable. Not only would that mean a better life for farmers, but also a flywheel for the accompanying food industry, but also lower prices and better products for us consumers. But it is enough to look at the data on the yields of the main agricultural crops to see how far Serbia lags behind the world. Of the three most widespread crops, Serbia records a relatively high yield only in the case of corn, while it has significantly worse results with wheat and sugar beet.

Agriculture in Serbia is dual – on the one hand we have a sector of successful and modern farms – large combines, to stronger farmers who cultivate several tens of hectares (their own, or leased), then dairies and similar companies, and modern large orchards, but also vegetable gardens in greenhouses and hothouses that produce throughout the year, while on the other hand we have very small fragmented estates where more is produced for own needs than surpluses are created that are placed on the market, and even then it is the nearest city instead of large centers or exports.

This part of agriculture serves more as an informal social protection system, due to low pensions and salaries, and the inability to find work in a large number of smaller communities. If we want to live better, it seems that the path to that is not through plum groves and meadows, but through industry and services.

Source: talas.rs