

This past June, a state of emergency was declared in more than 30 towns and villages in Serbia due to flooding. The water carried off rafts, spilled into yards and houses. The number of floods in Serbia is growing, while extremely high temperatures broke a record last year. Extreme weather conditions are a part of climate change, the worsening of which we have yet to see, CINS' interlocutors announce. Serbia has fallen far behind in adopting key regulations designed to assist in the fight against climate change, and the European Union notes that there is no political will for an urgent response.

The Obnica River is so shallow that Milivoj Mitrović often crosses it on his tractor. The Center for Investigative Journalism of Serbia (CINS) journalist passed through there on foot, wearing rubber boots. Mitrović's field is located on the most fertile soil of the village of Pričević, near Valjevo, right next to the river. He was born there and does not want to leave - his 83 acres have been giving him corn and grass for his cattle for a long time now. However, over the last few years Mitrović has had nothing but trouble. He faced drought in 2012 and 2013, and then enormous damage during the big floods of 2014. Since then, the river has been overflowing every year and causing damage, says Mitrović.

In just a few hours, pouring rain turned the Obnica River into a torrential stream taking everything in its path. Farmsteads closest to the river, where the fields are the most fertile, suffered the worst damage. Mitrović's land is among them. The damage is almost complete - he will now have to buy grass and corn. To add to all the problems, he is not sure the government will compensate him and his neighbors for the damage, whether it will reconstruct the ruined roads and build a dam that will prevent future flooding.

"The farmer is the last one in line as far as the government is concerned, as far as everything is concerned. They all have some benefit, only agriculture is under the open sky - hail, drought, rain, flood," says Mitrović.

Scientists believe that increasingly frequent extreme weather conditions, such as torrential rain, floods and drought, lack of snow in the winter, increasingly frequent waves of high and low temperatures, wildfires, are in fact a consequence of climate change. CINS' analysis shows that climate change is becoming more and more noticeable in Serbia, that it jeopardizes the population's health and income, and that the government is stalling in the struggle against climate change. Climate change has resulted in hundreds of families losing their homes, fields, some even their lives. The damage is also measured in money, i.e. as Minister of Environmental Protection Goran Trivan said earlier, in the period from 2000 to 2015 Serbia suffered damage upwards of five billion euros.

At the Bonn Climate Change Conference in 2017, Trivan also presented the data that floods were the second biggest cause of severe damage in Serbia. The data of the Center for

Research on the Epidemiology of Disasters (CRED) reveal that over the past 30 years floods have become the absolutely dominant natural disaster in the country, with a growth tendency – in the last 10 years the number of floods has gone up roughly 22% compared to the decade before. They have affected the inhabitants of almost all parts of Serbia, but western and central Serbia were most often the victims. Aside from injury and drowning during floods, direct contact with water may cause shock, hypothermia, cardiac arrest, says Nataša Dragić, a docent and medical doctor specializing in hygiene at the Institute of Public Health of Vojvodina. Problems also arise from the contamination of drinking water:

“In such situations we have contamination, i.e. polluted drinking water (...) contact with that water directly causes wound infections, inflammation of the skin, conjunctiva of the eye, infections of the ear, throat, nose.”

Floods also cause psychological and emotional stress, with increased potential for a psychosocial disorder, adds Dragić Mitrović and his fellow villagers are aware that climate change has only just begun causing problems for them, but, as they put it, their village is all they have.

### **Drought as a Silent Killer**

Frequent droughts have also been registered in Serbia over the past 20 years or so, says Vladimir Đurđević, a professor at the Belgrade Faculty of Physics, and predicts there will be more and more of them. Even if they do not occur in all of Serbia, droughts are intense and dangerous at the local level, explains Ana Vuković Vimić, a meteorologist and associate professor at the Faculty of Agriculture in Belgrade.

“You see a flood and you know what it is, while drought is like a silent killer.”

Climate change is also felt in fruit farming, winegrowing and agriculture. In the village of Paklje near Valjevo, about a dozen kilometers from the flooded village of Pričević, raspberry farmer Ivana Branković has a water deficit. Although she is happy that there has been no flooding since the construction of the dam near Paklje, she tells CINS that what is often also missing is rain, which is key to raspberry growth.

“Rain should fall in March, April, because the leaf begins to grow, then comes blooming, the fruit, therefore moisture is needed. In June, during the raspberry harvest, at least one instance of rain is needed, good rain to soak the earth. In the fall, it would be best if we had rain every seven to 10 days, for the fall variety,” Branković explains.

The lack of water can affect the fruit, which will be smaller and less juicy, which will consequently lower its price. By collecting rainwater to water her raspberries, Branković manages to make up for the lack of water, to an extent. Mild winters are also a problem,

according to Branković, and because of them in the last two years she produced fewer raspberries than she had expected.

"Snow is important because it covers the plant, the stem, and then it has warmth and will not freeze. When there is no snow, then frost destroys the stem. (...) Maybe 20-30% of the raspberry fields were destroyed (in 2019, journalist's note) by the mild winter, because that is how much the climate has changed."

### **The High Temperatures of the 21st Century**

Ana Vuković Vimić says heat waves are among the biggest risks to fruit farming which have intensified with climate change. Although they are not dangerous to humans, perennial plants then think it is the temperature at which they should start developing:

"It is very warm, [the plant] enters the vegetation period, a cold period comes when [the temperature] is below zero and that causes the biggest damage."

On the other hand, we have heat waves during the summer and those high temperatures are practically unbearable for both plants and all living things, adds Vuković Vimić. Between January and the end of September 2020 there were four heat waves, i.e. periods during which the lowest daily temperature was very or extremely warm for more than five days. From the beginning of 2013 to the end of September 2020 there were 49 heat waves in different parts of Serbia – almost threefold more than cold ones. Heat waves weaken the heart muscle in humans, says Dr. Nataša Dragić.

"They can feel a rapid heartbeat, i.e. tachycardia, given that there is a pronounced loss of electrolytes. For the body to cool down, sweating increases and consequently the loss of fluids. If those fluids are not made up for, dehydration occurs (...) and that is typical of constant exposure to high temperatures for several days."

In those cases dizziness, fatigue, dehydration and loss of focus may occur, too. The groups most at risk are children, the elderly, persons suffering from a respiratory disease or diabetes, but also the population that is constantly outdoors in such conditions – workers, athletes and so on. Republic Hydrometeorological Service of Serbia data spanning 1951-2019 show that 13 of the 15 warmest years in Serbia have been registered since 2000. In the last seven years, from 2013 to the end of 2019, each year was warmer than the usual average – in most cases the rise in temperature was extreme at all 27, i.e. 28 locations where temperatures have been monitored in recent years. Last year was the warmest in Serbia since 1951. The situation will not get better for Serbia, concludes Vladimir Đurđević, but, as he puts it, if we implement the Paris Agreement we have a chance to control those conditions.

"That story with heat waves will intensify in the future (...) we can expect twice as many of them if the Paris Agreement succeeds. If the Paris Agreement fails, then we can expect that situation to deteriorate further," explains Đurđević.

The main battle regarding climate change is being fought because of the consequences of the planet's warming. The 2015 Paris Agreement was made by 197 countries of the world, with the chief aim of preventing the temperature of global warming from exceeding 2 °C, i.e. to keep it at pre-industrial age levels. Today the planet is about 1 °C warmer, and to prevent the temperature from rising states also need to enact and implement a number of regulations. Serbia has not adopted some of the key planning documents and regulations designed for flood prevention and reduction of damage to human health, while it is gearing up to adopt a law and bylaws on climate change which civil society organizations are fiercely criticizing. In addition, certain decisions in the energy sector are completely at odds with the struggle against climate change that Serbia has pledged to undertake. A climate change law has been waiting to be adopted in Serbia for more than two years. The draft is done, but NGOs claim it is not in line with the EU's climate change policy, i.e. does not contribute to improvement as much as it should.

"The problem is that the law does not envisage a reduction of greenhouse gas emissions," explains Mirjana Jovanović of the Belgrade Open School (BOS), which is part of the Coalition 27 platform of NGOs.

The situation is similar where the Climate Change Strategy and Action Plan are concerned. Representatives of Coalition 27, which had access to the documents, say that the strategy's plan to reduce the emission of gases which contribute to climate change the most is unambitious, while the energy sector enjoys special status:

"For energy, an analysis of compliance with the EU legislative framework was conducted. (...) There is this comparison in the draft strategy - whether a directive was transferred, whether a law was harmonized, whether documents were adopted - there is no explicit answer anywhere as to whether that will increase or decrease emissions."

On the other hand, Jovanović explains, an analysis was conducted of how the documents adopted in the areas of agriculture, waste and forestry will affect the emission of harmful substances, i.e. whether it will increase or decrease it. Đurđević believes that for the Paris Agreement to be a success we need determination, because technologies for switching to renewable energy sources already exist. He also warns that when making strategies and plans (e.g. infrastructural ones), the government should count on the fact that the climate will be different in the future. The Ministry of Mining and Energy did not answer the CINS journalist's questions about why Serbia was investing in coal-fired power stations which are

## Serbian Government doesn't combat climate change while floods and droughts increase rapidly

contrary to the policy of fighting climate change, as well as what Serbia's plan was in terms of cutting greenhouse gas emissions into the air. The Ministry of Environmental Protection, which we asked why Serbia had not passed the law and Strategy, when it was planning to do so and whether any changes would be made to these regulations, did not answer either. The European Commission in its latest report concludes that there is no political consensus in Serbia for urgency of action where climate change is concerned and recommends that the state start implementing the Paris Agreement.

Source: cins.rs