AMBASADORI ODRŽIVOG RAZVOJA I ŽIVOTNE SREDINE

ENVIRONMENTAL AMBASSADORS FOR SUSTAINABLE DEVELOPMENT

INFORMATION PAPER

regarding climate change and floods

2021

Information paper regarding climate change and floods[1]

Floods are a serious problem in Serbia

Memories from 2014 which are still fresh, and several more recent floods in Serbia. Due to the floods in 2014, a state of emergency was declared on the entire Serbian territory. Total damages and losses amounted to €1.7 billion[2]. Different sources were used for financing the emergency response, reconstruction and recovery. Significant floods occurred in the following years, mainly in the month of June. At the end of June in 2020, floods led to the declaration of a state of emergency in 20 municipalities and caused great damage to agricultural production. Upon consultation of the Sustainable Development Goals[3], statistics in Serbia provide data[4] on disaster consequences from the Sendai Framework Monitoring System[5] as provided by the designated national focal points (SDG 13 – Climate Action, Target 13.1 [6]).

Projecting forward, the main climate change hazards in Serbia include droughts, extreme temperatures (both heat and cold waves), reduced water resources (mainly during vegetation seasons), floods and wildfires. These events threaten multiple aspects of Serbia's society and economy. After more detailed research, we established the data presented in Table 1[7] below.

Table 1 - Sendai framework for disaster risk reduction data for Serbia (1980-2020)

	Number	Percentage of overall consequences
Deaths from floods	55	17
Indirectly affected + Directly affected by floods	317.078	44
Houses destroyed + Houses damaged by floods	59.709	60

In more detail, Table 2:

Table 2 – Floods as disasters vs consequences

Event	Deaths	Injured	Missing	Houses destroyed	Houses damaged	Indirectly affected	Directly affected	Relocated	Evacuated	Damages in crops ha.	Lost cattle
FLASH FLOOD	3	101		300	847	7331	715	20	700	3956	1723
FLOOD	55	393	2	2234	57475	273024	44054	2532	49694	257813	22068

In Serbia, the National Disaster Risk Management Program (NDRMP) was released in late

1 Prepared in March 2021 by the EASD expert team for ENV.net advocacy action and complementing Module B9 of Developing a Water & Sanitation Safety Plan in a Rural Community, within the WatSanPlan project (http://ambassadors-env.com/en/project/)

2 documents1.worldbank.org/curated/en/830671468184737730/pdf/105096-WP-Country-Note-Serbia-April-2016-PUBLIC.pdf

3 https://www.undrr.org/implementing-sendai-framework/sf-and-sdgs

4 http://sdg.indikatori.rs/en-US/

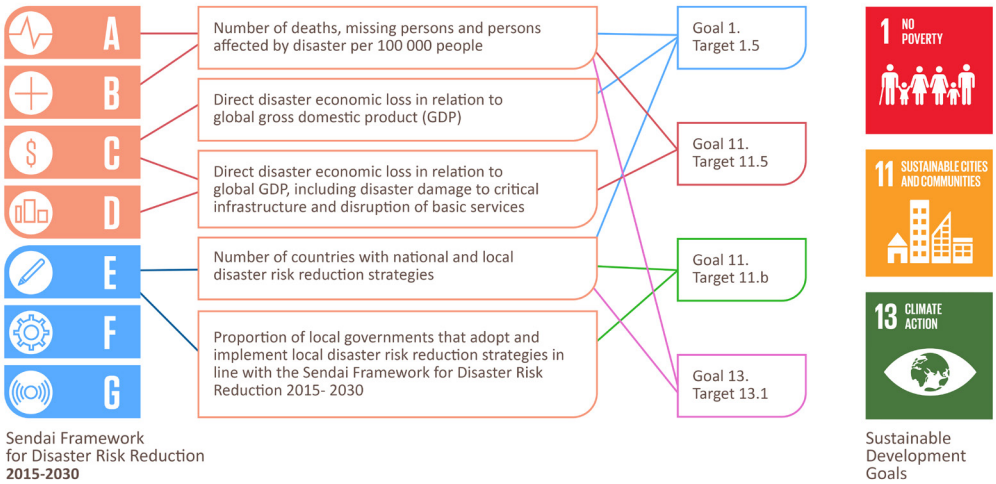
5 The Sendai Framework for Disaster Risk Reduction is an international document that was adopted by the United Nations member states in March, 2015 at the World Conference on Disaster Risk Reduction held in Sendai, Japan, and endorsed by the UN General Assembly in June, 2015. It is the successor agreement to the Hyogo Framework for Action, which had until then been the most encompassing international accord on disaster risk reduction.

6 http://sdg.indikatori.rs/en-us/area/climate-action/?subarea=SDGUN130101&indicator=01050101IND01

7 https://www.desinventar.net/DesInventar/country_profile.jsp?countrycode=srb&lang=EN

2014 and focuses primarily on floods, landslides and fires, while the Action Plan for the Implementation of the NDRMP (2016 – 2020) further supplements the above. In 2017, the World Bank issued the paper titled COMPREHENSIVE DISASTER RISK MANAGEMENT IN SERBIA[8], with the lesson learned that "In the aftermath of a disaster, the urgency of aid and recovery efforts can cause confusion and inefficiencies unless strategic laws and institutional capacities are already in place". In 2018, Serbia adopted a Law on Disaster Risk Reduction and Emergency Management, which is reported to be consistent with the disaster risk reduction framework adopted in Sendai[9].

In 2021 the question is: what are the inefficiencies and deficiencies? Why do we allow communities to make the same mistakes time and time again that add to the impact of natural disasters?



How climate change correlates with floods

Heavy rainfall and other extreme weather events are becoming more frequent. This can lead to floods and decreasing water quality, but also to the decreasing availability of water resources in some regions.

Table 3 – Correlation between climate change and floods

Key climate impacts	Climate stressors and Climate risks for WATER RESOURCES	
Human Health	Stressors	Risks
Energy and Infrastructure	Rising temperature	Reduced snow cover and **surface water from snowmelt**
Agriculture	Reduced precipitation and increased incidence of droughts	Reduced surface waters and water supply shortages
Ecosystems	**Increased intensity and frequency of extreme precipitation**	Declines in agriculture production
		Damage to infrastructure from **flooding**

8 *http://documents1.worldbank.org/curated/en/601731512540034235/pdf/121908-BRI-PUBLIC-Serbia-0-1.pdf*

9 *www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf; www.undrr.org/implementing-sendai-framework/what-sendai-framework*

Water resources

When we know that **greenhouse gas emission causes climate change, it is evident that with measures to reduce the causes of climate change we are consequently lowering the incidence of extreme weather events and further floods**[10]. With climate change, the frequency, pattern and severity of flooding are expected to change, becoming more unpredictable and damaging. Useful information and common actions are available[11] for people who experience flood events, in order for them to have access to safe water and sanitation and thus increase their resilience to the impact of floods. Safe drinking water should be a top priority issue within a flood event, as well as the performance of the sewer systems and waste management. Flood events may also lead to an increased incidence of waterborne diseases.

Flood risk awareness is one of the most important steps in preventing the effects of flooding. It is important that flood risk maps [12,13] be provided.

10 *Also consult Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks. Available at http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:288:0027:0034:EN:PDF*

11 *http://ambassadors-env.com/en/project/watsanplan/ ; https://www.wecf.org/wssp/*

12 *https://www.researchgate.net/profile/Milivoj-Gavrilov/publication/261728902/figure/fig2/AS:341448563150848@1458419089141/Flood-index-map-of-Serbia-adapted-after-Internet-5.png*

13 *https://www.floodmap.net/?gi=3194360*

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