

# **JOINT REPORT**

**on the Results of the  
International Coordinated  
Audit on the Prevention  
and Consequences  
Elimination of Floods**

2020



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## SAIs-PARTICIPANTS OF THE INTERNATIONAL COORDINATED AUDIT

### note the following

This international coordinated audit was carried out as part of the activities of the EUROSAI Working Group on Audit of Funds Allocated to Disasters and Catastrophes. The motivation for its conduction was the results of the Survey carried out in 2015 among the SAI-members and observers of the working group, which was the reason to include such audit in the work plan of the Working group for 2017–2020.

Participants of the International Coordinated Audit on the Prevention and Consequences Elimination of Floods are SAIs of: the Republic of Belarus, Georgia, the Republic of Poland, the Republic of Serbia and Ukraine. The European Court of Auditors and the SAI of the Republic of Turkey, as members of the Working group, also participated in the audit by providing relevant material for the Joint Report. The SAI of Ukraine is the Coordinator of the audit.

During the audit, the SAIs-participants of the international coordinated audit evaluated the effectiveness of flood risk management in the respective river basins of their countries, the legality, timeliness and completeness of the relevant management decisions, as well as the cost-effectiveness and efficiency of the usage of allocated funds.

Participants of the international coordinated audit share the provisions of the INTOSAI Guidance GUID 9000 “Cooperative Audits between SAIs” and identify a decisive factor in cooperative efforts to find a common solution for a specific audit topic, as their countries have similar interests in sphere of flood prevention and its consequences elimination.

The audit confirmed a shared understanding by SAIs of the threats caused by the lack of proper management of flood protection, as well as their willingness to work together to address these challenges.

Participants of the international coordinated audit unanimously state that in the process of managing natural disasters, the amount of money invested in reducing the risk of a catastrophe is the most cost-effective, as proper prevention and preparedness measures can significantly reduce the adverse impact of natural disasters.

The common idea of the SAIs, which have joined forces to participate in this international coordinated audit, is: “It is impossible to fully prevent flooding. However, the proper and timely implementation of preventive measures can significantly mitigate their harmful effects on the environment and save people’s lives”.

The SAIs participating in the international coordinated audit are convinced that the recommendations provided to governments and relevant national authorities to take appropriate measures on improving of flood protection management will help to maximize its effectiveness, especially at the stage of preventing such disasters.

The Supreme Audit Institutions of the Republic of Belarus, Georgia, the Republic of Poland, the Republic of Serbia, the Republic of Turkey, Ukraine and the European Court of Auditors exchanged knowledge and experience to achieve a common goal in conducting an international coordinated audit. The SAIs operated in a spirit of cooperation based on integrity, open communication and professionalism.



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of the Republic of Belarus



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State Audit Office  
of Georgia



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## EXECUTIVE SUMMARY

This Joint Report is based on common findings and conclusions from national audits conducted by the SAs of the Republic of Belarus, Georgia, the Republic of Poland, the Republic of Serbia and Ukraine. The report also includes findings of the European Court of Auditors and information from the SAI of Turkey, which, as members of the EUROSAI Working Group on Audit of Funds Allocated to Disasters and Catastrophes, provided relevant material on the issue.

National audits of SAs participating in the international coordinated audit were conducted in the field of prevention and consequences elimination of flood.

**The relevance of the chosen topic** is determined by the fact that hydrological emergencies (flood, flash flood, high waters, landslide etc.) are caused by a complex of natural and man-caused factors and lead to human victims and large material damage. The Global Disaster Risk Reduction Assessment Report for 2019<sup>1</sup> prepared by the United Nations Office for Disaster Risk Reduction states, in particular, that in the period of 1997–2017, 88 million people in different countries were affected by multi-hazard disasters, 86% of which (76 million) were affected by floods. Also disappointing are the estimates of the Joint Research Center of the European Commission, published in 2018 in the Nature Climate Change<sup>2</sup>. This study revealed that with a temperature increase of only 1.5°C, depending on the socio-economic scenario, human victims of flooding could increase by 70-83%, direct damage by 160-240%, with a relative decrease of welfare of 0,23 – 0,29%.

**The Best Practice Recommendations** for Conducting Audits in the Field of Prevention and Consequences Elimination of Floods, developed by the EUROSAI Working Group on Audit of Funds Allocated to Disasters and Catastrophes, also attest to the significant attention paid to this issue by Supreme Audit Institutions.



*Flood in the Central Europe, 2013*

Source: <https://europeangreens.eu/news/heavy-rains-cause-flooding-across-central-europe>

**The causes** of such emergencies in different countries are related to the features of the climate and terrain, the geological structure of the soil, the availability and effectiveness of flood protection structures.

<sup>1</sup> [https://gar.undrr.org/sites/default/files/reports/2019-06/full\\_report.pdf](https://gar.undrr.org/sites/default/files/reports/2019-06/full_report.pdf)

<sup>2</sup> <https://www.nature.com/articles/s41558-018-0257-z>

**The purpose of the international coordinated audit**, as defined in the Common Position on Cooperation within the International Coordinated Audit on the Prevention and Consequences Elimination of Floods signed by the SAls of the Republic of Belarus, the Republic of Poland and Ukraine in 2017, at the 3rd Meeting of the EUROSAl Working Group, was to evaluate:

- ✓ productivity, efficiency and economy of the use of budgetary funds aimed at the creation, development and operation of flood forecasting and protection systems; and
- ✓ legality, timeliness and completeness of appropriate management decisions taken by the competent authorities.

In the framework of their national audits, SAls-participants assessed the establishment by national bodies the response mechanisms in case of floods and the timeliness of such actions, the effectiveness of the flood risk management system and the reduction of the harmful impact of floods, the economy and legality of using the allocated budget funds for the above purpose. Audit issues covered the period of 2015–2018.



*Flood in Serbia, May, 2014*



*Flood in Serbia, March, 2016*

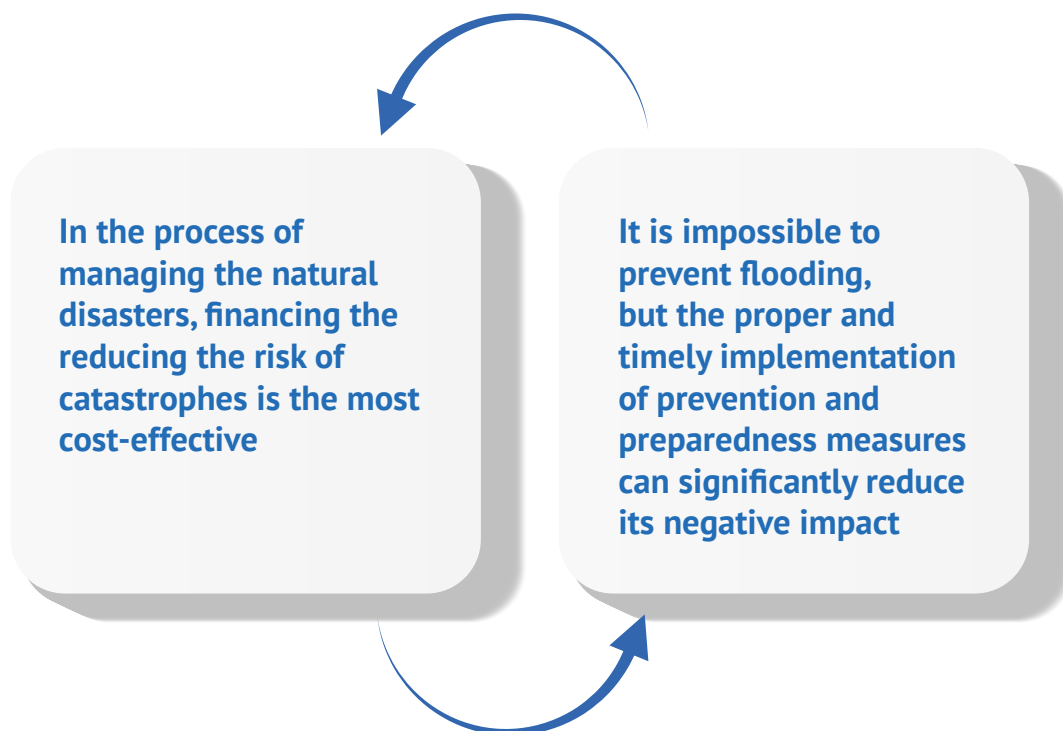
*Source: SAl of Serbia*

**The international coordinated audit highlighted**, that in the countries of participating SAls and at EU level (according to the findings of the European Court of Auditors):

- ✓ legal and organizational frameworks for flood protection planning and management have been established, however there is a need to further finalizing the programming documents, specification of the developed policies, strengthening coordination between the competent authorities, as well as strict adherence to the requirements of European and national legislation;
- ✓ a system of flood risk management based on the basin principle was introduced and regional bodies of river basin management were established, but integrated flood risk management was not provided in national and cross-border river basins;
- ✓ measures aimed at flood protection have not been implemented effectively, in particular due to late decision-making;
- ✓ approaches to financing flood measures are imperfect, do not provide the need for funds as most of SAls-participants noted, and flood risk management plans sent to the European Commission do not always identify the source of funds, as ECA reported;
- ✓ there is a need to improve forecasting of future flood risk.

**The SAls-participants** of the international coordinated audit pay special attention to the necessity of clear definition of preventive flood measures, as well as to determination of effectiveness of such activities. According to UNDP, on average, for every €1 invested in flood prevention, damage caused by floods is reduced by €7.

*Fig. 1 Expected results from the effective implementation of flood prevention measures*



The study of this problem resulted in elaboration of **key recommendations** to the governments and responsible bodies of the countries, aimed at: improvement of the regulatory framework in the field of flood protection, in order to specify the policies developed and harmonize the relevant program documents with other regulations, preparation of flood risk management plans at the river basin level, including cross-border ones, elimination of shortcomings in the system of financing of flood protection measures, enhancement the effectiveness of flood protection measures implementation.

The SAls-participants of the international coordinated audit also emphasize the need for ongoing monitoring of the flood situation by governments of their countries.

## GLOSSARY OF TERMS<sup>3</sup>

**River basin** – the area of land from which all surface run-off flows through a network of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.

**Flood** – a large amount of water temporary covers an area, includes river floods, flooding caused by mountain streams, sea currents, etc. Flood types: fluvial - due to overflow of rivers; pluvial - due to heavy rain, in excess of what drainage systems can absorb; coastal - due to extreme tidal levels, storm surges, or arising from wave action.

**Flood hazard map** – shows the annual exceedance probability and likely extent of flood events. It can also show occurrences associated with floods that can cause and/or influence the damage.

**Flood risk map** – shows the potential adverse consequences of flooding in terms of the number of people affected, the impact on economic activity and environmental risk.

**Flood hazard** – the probability of a potentially damaging flood event occurring within a given period.

**Flood risk management plan** – a document setting out appropriate objectives and a set of measures aimed at preventing, protecting, preparing, forecasting and providing early warning for certain areas within the area of the river basin.

**River basin management plan** – a document containing a status analysis and a set of measures to achieve the goals set for each river basin district within the established period.

**Flood risk management** – measures to identify, analyze and mitigate previous flood risk.

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<sup>3</sup> Best Practice Recommendations for Conducting Audits in the Field of Prevention and Consequences Elimination of Floods, elaborated by the EUROSAI Working Group on the Audit of Funds Allocated to Disasters and Catastrophes



## PREAMBLE

The uncontrolled anthropogenic impact on the environment contributes to the activation of dangerous and irreversible processes that have accelerated climate change in the world, including the process of global warming. The temperature on the Earth is rising, the average annual rainfall trend is changing, the sea level is rising significantly too and so on. The result is – an increasing of the frequency of natural disasters.

According to the Organization for Economic Co-operation and Development (OECD)<sup>4</sup>, floods are one of the most widespread natural disasters in the world, with losses of about \$40 billion annually.

Due to increasing the number of floods, particularly catastrophic ones, as well as the growing threats for the populations and economies of most countries of the world, an International Coordinated Audit on the Prevention and Consequences Elimination of Floods was initiated within the EUROSAL Working Group on the Audit of Funds Allocated to Disasters and Catastrophes.

In order to implement this initiative, in 2017, at the 3rd Meeting of the EUROSAL Working Group on Audit of Funds Allocated to Disasters and Catastrophes, the SAs of the Republic of Belarus, the Republic of Poland and Ukraine signed a **Common Position on Cooperation** within the International Coordinated Audit on the Prevention and Consequences Elimination of Floods. The SAs of Georgia, Serbia, Turkey and the European Court of Auditors as members of the EUROSAL Working Group also contributed to the preparation of the Joint Report. The Coordinator of the audit is the Accounting Chamber of Ukraine - Chair of the EUROSAL Working Group on Audit of Funds Allocated to Disasters and Catastrophes.

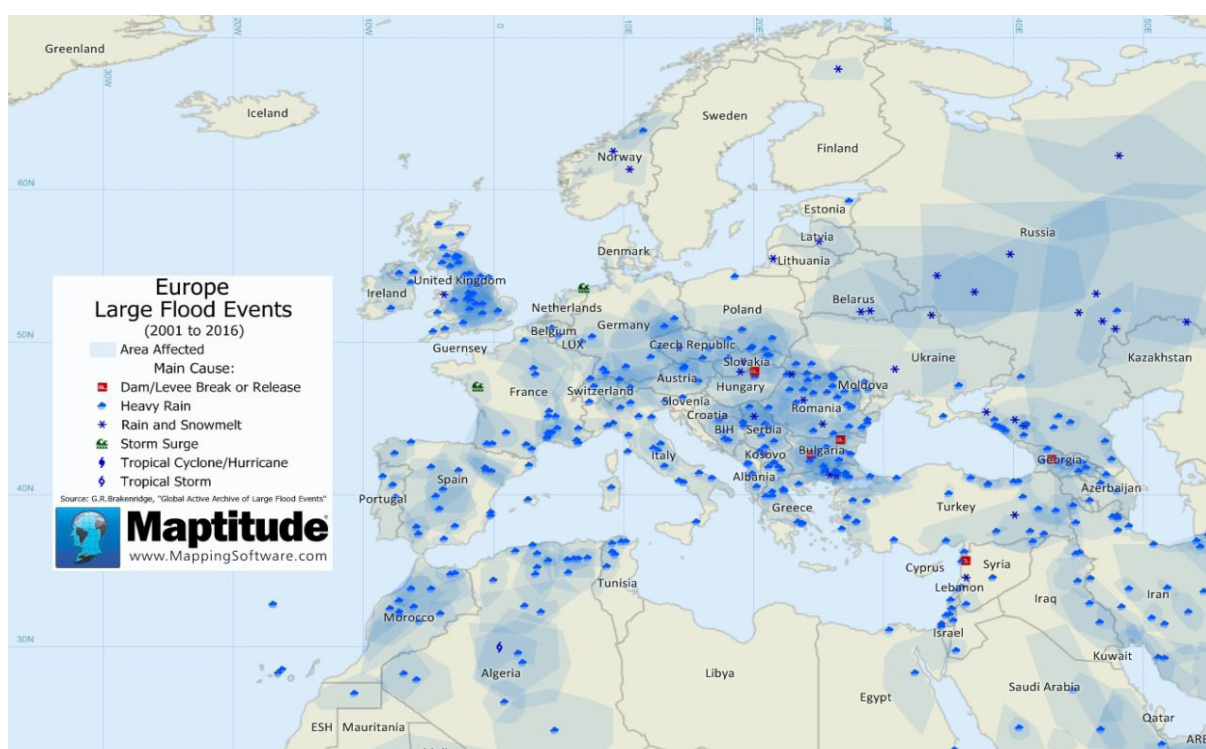
In the face of increasing frequency of natural disasters, the key task for governments is to identify the most effective way of using funds with the aim to manage risks of catastrophes. It is conducted in a context of high uncertainty, which significantly complicates the assessment of flood risks and the development of solutions to prevent, mitigate risks and provide financing based on this assessment<sup>5</sup>.

At Fig. 2 the map of the largest floods occurring in Europe in 2001–2016 is represented.

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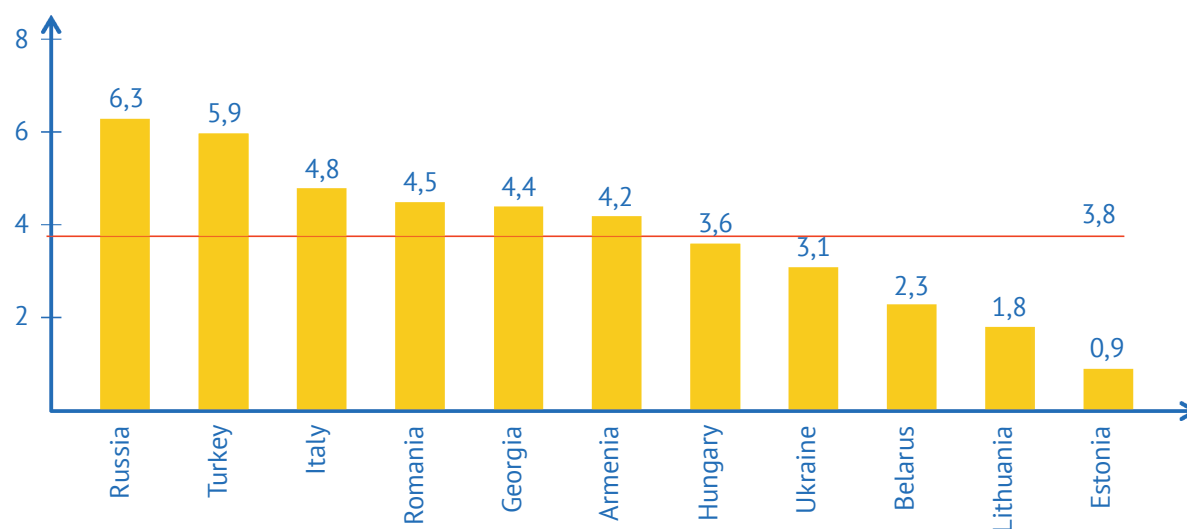
<sup>4</sup> [https://asset.keepeek-cache.com/medias/domain21/\\_pdf/media2689/415708-ve2w8vja4h/large/13.jpg](https://asset.keepeek-cache.com/medias/domain21/_pdf/media2689/415708-ve2w8vja4h/large/13.jpg)

<sup>5</sup> [https://asset.keepeek-cache.com/medias/domain21/\\_pdf/media2689/415708-ve2w8vja4h/large/14.jpg](https://asset.keepeek-cache.com/medias/domain21/_pdf/media2689/415708-ve2w8vja4h/large/14.jpg)

Fig 2. Largest floods occurring in Europe during 2001–2016<sup>6</sup>

Taking into account such flood situation, with cooperation of world's authoritative international organizations (UNDP, World Health Organization, UNICEF etc.) the global risk management index has been developed and determined the following level of risk of natural disasters<sup>7</sup>:

Diagram 1. Index of natural hazards risk in various countries



Source: SAI of Georgia

All SAIs participating in the international coordinated audit noted the threatening flood situation in their countries.

<sup>6</sup> <https://www.caliper.com/featured-maps/xmptitude-flood-map-europe.jpg.pagespeed.ic.iiDrG8Pqff.webp>

<sup>7</sup> Source: National report of the SAI of Georgia



Over the last 50 years, 12 large floods have occurred in the **Polesye Region of Belarus**, with flooding of hundreds of settlements and large areas of agricultural land. It should be noted that since 1999 there were no significant floods on the territory of the Republic of Belarus, but only local floods were recorded in the Polesye Region.

**In Georgia**, density of the hydrographic network is observed (there are about 26 000 rivers and ravines in Georgia), frequency of floods and recurrence is once in 5-6 years. Thus, relative share of floods is significantly high and comprises 24% of the entire material damage caused by the all natural disasters. In particular, during 2014–2017 years economic losses caused by flood amounted to 147 million GEL.

According to sources used in the ECA report, the economic cost of hydrological events **across the EU** was about €166 billion from 1980 to 2017, one third of the losses from climatological events. Damages across the EU caused by floods, from the combined effect of climate and economic changes, are projected to rise from €7 billion a year in the control period 1981–2010 to €20 billion a year by the 2020s, €46 billion a year by the 2050s, and €98 billion a year by the 2080s.

Disastrous floods are a frequent phenomenon **in Poland**. The two largest floods in Poland occurred in July 1997 (the one referred to as the Millennium Flood) and in 2010 (from May to June and in August). The former mainly affected the Oder River basin and borderland Germany and Czech Republic. However, the highest losses, estimated at the level of PLN 12,0 to 12,2 billion, were recorded by Poland. As a consequence, 54 people died, whereas 680 thousand housings were flooded.



*Flood in Poland, 2019*

*Source: <https://corporatedispatch.com/photostory-floods-in-poland/>*

The latter largely afflicted the Vistula River basin, with estimated losses of PLN 12,5 billion, approximately 266 thousand victims, 811 communes and 1300 enterprises affected, and more than 680 hectares of land (inclusive of 18 thousand buildings), 800 schools and 160 preschools flooded. Since 2010 no significant floods of larger than local scale were recorded, despite some seasonal surges.

Catastrophic floods from May 2014 affected the **Republic of Serbia** and caused damages which according to estimates amounted to around €1,5 billion, out of which €885 million is the value of damaged material goods, while €640 million relate to production losses. Since the beginning of 2016 until the end of 2019, the Government of the Republic of Serbia declared state of natural disaster in several instances.

*Fig. 3 Municipalities of Serbia affected the most by the floods in May, 2014.*



*Source: SAI of Serbia*

**In Ukraine**, during 2005-2015, water-related events have evolved into emergencies in 56 cases. The total losses from flood in 2008 amounted to over €755 million (UAH 5,7 billion<sup>8</sup>). A total of €460 million (approx. UAH 3,5 billion<sup>9</sup>) was earmarked from the state budget to address the consequences of this disaster. In addition, about €66 million (UAH 0,5 billion<sup>10</sup>) has been allocated by the Government from the Reserve Fund to provide financial assistance to the families of victims and the affected population.



*Flood in Ukraine, 2019*

*Source: State Agency for Water Resources of Ukraine<sup>11</sup>*

<sup>8</sup> According to official currency rate of the National Bank of Ukraine as of 31.07.2008: €100 = UAH 755.30, source: <https://index.minfin.com.ua/exchange/archive/nbu/2008-07-31/>

<sup>9</sup> According to official currency rate of the National Bank of Ukraine as of 31.07.2008: €100 = UAH 755.30, source: <https://index.minfin.com.ua/exchange/archive/nbu/2008-07-31/>

<sup>10</sup> According to official currency rate of the National Bank of Ukraine as of 31.07.2008: €100 = UAH 755.30, source: <https://index.minfin.com.ua/exchange/archive/nbu/2008-07-31/>

<sup>11</sup> <https://www.davr.gov.ua/news/operativna-informaciya-tshodo-prohodzhennya-dotshovogo-pavodku-u-zahidnih-oblastyah-ukraini-stanom-na-23-travnnya-2019-roku>

During the international coordinated audit and preparation of the Joint Report, the participants were guided by the provisions of the INTOSAI Guidance **GUID 9000** “Cooperative Audits between SAs”.

In addition, the audit was conducted in accordance with the requirements of **ISSAI 100** “Fundamental Principles of Public–Sector Auditing”, **ISSAIs 300, 3000**, INTOSAI Guidance **GUID 3910 and GUID 3920** for performance audits, **ISSAIs series 5500-5599** about auditing disaster-related aid (as in force at the time of the Joint Report preparation), as well as the **Best Practice Recommendations** for Conducting Audits in the Field of Prevention and Consequences Elimination of Floods, developed by the EUROSAs Working Group on Audit of Funds Allocated to Disasters and Catastrophes.

In particular, *national audits conducted by SAs – participants are independent, objective and reliable studies* of whether government undertakings, systems, operations, programmes, activities or organizations are operating in accordance with the principles of economy, efficiency and effectiveness and whether there is way for improvement as defined by the **GUID 3910** “Central Concepts for Performance Auditing”.

Also, when preparing this Joint Report and taking into account the results of national audits, the Audit Coordinator proceeded from the **ISSAI 3000** “Performance Audit Standards” *regarding the professional judgment and skepticism of auditors, considering issues from different perspectives, maintaining an open and objective attitude to various views and arguments*.

In conducting an international coordinated audit, cooperation between the SAs was carried out within the framework of the EUROSAs Working Group, by exercising the national audits and taking into account the purpose and subject of the international audit defined in the Common Position.

National audits were conducted in accordance with the national programs of the participating SAs. Audit participants were able to make their own decisions regarding the assessment or extension of the audit subject, questions, and national audit framework.

The key findings and conclusions of the national audits are set out in this Joint Report.

The SAs of the Republic of Belarus, Georgia, the Republic of Poland, the Republic of Serbia, the Republic of Turkey, Ukraine and the European Court of Auditors, as participants in this international coordinated audit, have joined and focused their efforts on improving the flood risk management systems in their countries in order to reduce harmful impact of flood and to increase the effectiveness of use of the allocated budgetary funds.

## COMMON CONCLUSIONS AND RECOMMENDATIONS OF THE INTERNATIONAL COORDINATED AUDIT

The SAIs of the Republic of Belarus, Georgia, the Republic of Poland, the Republic of Serbia and Ukraine, based on the national audits findings and taking into account the findings of the European Court of Auditors, have reached the following **common conclusions**:

**1.** Legal and organizational frameworks for flood protection planning and management, in general, have been established in the countries of SAIs participating in the coordinated audit. However, there is the necessity to improve the program documents and specify the policies developed. Also, the coordination between the competent authorities should be strengthened, as well as strict adherence to the requirements of European and national legislation should be provided.

**1.1.** Legislative and regulatory documents (EU directives, laws, government regulations, etc) have been developed in all countries of audit participants and at EU level to regulate the functioning of the flood risk assessment and management system, water management, management of the system of prevention and consequences elimination of emergencies, including due to hydrological factors. However, the *SAIs of Georgia, Serbia and Ukraine* point out that the implementation of EU legislation, in particular the Floods Directive, into the national legislation of these countries was not properly fulfilled.

**1.2.** The SAIs–audit participants note the availability of program documents (strategies, state programs, subprogrammes) that identified the flood protection measures. At the same time *SAIs of Georgia, Serbia and Ukraine* emphasize the need for their improvement, the specification of their intended goals, as well as the harmonization of program documents with other legislative acts in order to ensure the effective implementation of flood protection measures and their monitoring.

**1.3.** Authorities responsible for implementation of program documents on flood protection, accident-free functioning of water bodies during floods, forecasting of their consequences, monitoring the development of natural phenomena and providing interested parties with the necessary hydrological information, were designated at the legislative level in the countries of participating SAIs. At the same time audit revealed that competent authorities have not fully used the given powers to define public policy on flood protection and some management decisions were made late. The *ECA* also notes the need for coordinated flood risk management in cross-border river basins and the consideration of transboundary aspects at each stage of the risk assessment and planning process.

**2.** In the countries of participating SAIs a system of flood risk management was introduced on the basin principle and district river basin management bodies were established. But integrated flood risk management was not provided by majority of these countries and the international flood risk management plans at the level international basin districts have not been developed by some of the EU Member States.

The *ECA* reported that, in order to implement the Floods Directive, river basin district authorities have been appointed in the Member States. For their part, in the countries that have signed the Association Agreement with the EU, in order to implement European legislation, in particular, the Floods Directive, a river basin management system is also established and river basin management bodies are appointed.

At the same time, *SAIs of Georgia, Serbia and Ukraine* reported that the flood risk



management system did not fully provide for comprehensive management of such risks. Flood risk management plans, threat maps and flood risks in river basins were not developed or still are not adopted.

The *ECA* noted that some Member States had not established international flood risk management plans at the level of international basin districts; as required by the Floods Directive.

**3.** Measures aimed at flood protection have not been implemented effectively in the countries of participating SAIs.

The *ECA* report did not assess the overall effectiveness of the measures planned for the first phase of implementation of the Floods Directive, but sought to determine whether flood prevention, protection and preparedness under the Floods Directive were based on a sound framework and whether the approach employed was likely to be effective.-

The *SAIs of Belarus, Georgia, Serbia and Ukraine* outlined the effectiveness of implementation of flood protection measures. However, the *SAI of Georgia* reported that the state of implementation of flood prevention measures is not satisfactory. The *SAI of Serbia* noted that such measures have not been clearly defined and there are no indicators of the effectiveness of their implementation. The *SAI of Ukraine* found that the implementation of flood protection measures was incomplete and ineffective, causing significant economic damage to the state and the population. The *ECA* commented cases of implementation of measures which were not identified as priorities.

**4.** The SAIs, participating in the audit, indicates that approaches to financing flood protection measures in their countries are needed to be improved.

The *SAIs of Georgia, Serbia and Ukraine* noted the insufficient funding sources for flood protection measures. The *ECA* noted that some flood risk management plans had not clearly identified the source and amount of funds required for their financing.

Thus, the *SAI of Serbia* stated not only the insufficiency of funds allocated for this purpose, but also the absolute dependence of such financing on budgetary funds. The *SAI of Ukraine* revealed that during the audit period, the state budget provided only 7% of the needs identified by the relevant program.

The *ECA* also noted cases of focusing a high proportion of funding on a single project and implementing measures that had not been identified as priorities.

The *SAI of Poland* noted that there were positive trends in funding, but in former years the auditors identified some irregularities, which were a threatening factor especially at the stage of project completion.

According to the opinion of the *SAI of Belarus*, budgetary funds directed by the Government to develop the flood protection system, were used economically and productively.

**5.** The SAIs—participants of the audit draw the attention of their governments to the need to increase level of predictability of flood and to apply spatial planning to flood risk management, as intensity and frequency of flooding will increase, particularly due to climate change. The adverse effects of floods will also increase. Among the flood preparedness measures, early notification systems are of crucial importance, correct planning and development of its network is directly linked to the flood hazards and vulnerability map creation.

All audit participants noted the existence of monitoring and alert systems in the event of an emergency in their countries. At the same time, *the ECA* reported that climate change trends are not sufficiently taken into account when predicting flood risks. The *SAI of Georgia* has determined that some progress has been achieved in terms of creating digital maps (spatial maps are prepared, where all vulnerable objects will be reflected) however marking vulnerable locations by the responsible entities on the map has not been done and no works are even planned in this direction.

The *SAI of Serbia* reported that flood vulnerability and flood risk maps have not been drawn up and released to the public. The *SAI of Ukraine* also draws attention to the insufficient level of predictability of floods, which causes significant damage to the state and the population.

## Recommendations

The SAI – audit participants recommend their governments and national authorities to take appropriate measures to create, develop and operate flood forecasting and protection systems.

To this end, it is proposed to the governments and relevant authorities to:

1. Set up specific policy goals related to flood protection, provide and maintain the link between the goals, actions and funding in the relevant flood protection action plans and programs.
2. Ensure that program documents governing the implementation of flood protection are consistent with changes in existing national legislation.
3. Ensure harmonization of the national laws to the EU legislation, in particular the Floods Directive, in the countries that have signed the Association Agreement.
4. Ensure co-ordination and cooperation between responsible authorities in conducting of flood protection measures, exchange of necessary data and information between them, and, coordinated flood risk management in cross-border river basins.
5. Take the necessary steps to develop flood risk management plans, including international, flood vulnerability maps and flood risk maps for significant flood areas and undertake required activities for accounting for water protection facilities.
6. Ensure control over the implementation of flood risk management plans through quantified performance measures and performance indicators.
7. Ensure adequate financing of flood protection measures, including transboundary measures on cross-border river basins; eliminate funding gaps, especially at project completion stage; to attract sources of financing alternative to budgetary funds (public-private partnership, credit resources).
8. Determine the priority of the objects for financing based on objective and relevant criteria.
9. Develop and implement a methodology of accounting for flood losses in order to effectively plan preventive measures.
10. Improve flood forecasting system, use geospatial planning methods to manage flood risks.

Strengthen monitoring of deforestation in coastal zones, and include measures to restore forests in river gorges into strategic documents.

## KEY FINDINGS OF THE INTERNATIONAL COORDINATED AUDIT

1. *The legislative and regulatory framework governing the issues of flood protection, functioning of the system of flood risks assessment and management, water management, management of the system of prevention and elimination of the consequences of emergencies, including due to hydrological factors, in general, was formed.*

At the same time, the audit revealed a number of shortcomings in the sphere of compliance with relevant legislation, implementation of program documents and the performance of functions by authorized bodies. Namely:

1.1 According to the national audit findings, all SAIs indicate the established **legal framework** for flood protection and flood risk management.

The list of main legislative and regulatory acts of the countries of participating SAIs is presented in the **Appendix 1**.

At the same time, the *SAI of Georgia* revealed significant deficiencies in the formation of the regulatory field, namely: documents which were created and approved – are not functioning efficiently; and significant normative acts have not been adopted which would facilitate the coordination process among different entities.

*The ECA* noted that the Floods Directive has had overall positive effects, in particular on coordination between the European Commission and EU Member States and on flood risk assessment. However, in some cases the Water Framework Directive (in Bulgaria and Romania) had not been complied with.

According to the findings of *the SAI of Poland*, an effective legal framework has been created in the country for financing of flood protection measures.

The insufficient level of approximation of the national legislation on flood protection to the EU legislation, namely to the requirements of the Floods Directive, is noted by the *SAIs of Serbia and Ukraine*.

At the same time, as of the beginning of 2020, in the framework of implementation the recommendations of the SAI of Ukraine, certain steps have been taken in order to approximate national legislation of the country with the EU legislation regarding the adoption of a number of legislative and regulatory acts. In particular, following documents were adopted by the relevant authorities: the Law aimed at the implementation of integrated approaches in the management of water resources by basin principle<sup>12</sup>; Typical Basin Board Regulations; Procedure for Development of Water Balances, Boundaries of River Basin Districts, sub-basins and Water Management Areas; Procedures for Developing a River Basin Management Plan and Conducting State Water Monitoring.

1.2. Auditors note that the implementation of flood protection and flood risk management policies is realized through **program documents** – government programs, strategies, plans (**Appendix 2**).

<sup>12</sup> Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Concerning the Implementation of Integrated Approaches in Water Resources Management on the Basin Principle" dated of 04.10.2016 № 1641-VIII

At the same time, the *SAI of Georgia* found that the National Strategy provided only an overall assessment of the flood risk, without specific signs of risk that the rivers identified by it. And, the Strategy does not define the issue of reforestation as the form of flood prevention measures and the regulation of the urbanization process of coastal zones.

Also, the trends identified by the Strategy are not taken into account in the plan, and the national audit revealed a significant lag in terms of implementation of the plan.

The *SAI of Serbia* noted that key flood protection planning documents have not been adopted (Action Plan for the implementation of the Strategy; Danube River Basin Management Plan; River Basin Water Management Plans; Flood Risk Management Plan of the Republic of Serbia; waterway flood risk management plans). As of the time of preparation of the Joint Report, auditors state that drafting flood risk management plan as well as drafting flood hazard maps and flood risk maps, and drafting flood risk management plans for river basin districts are in the progress.

The *SAI of Ukraine* found that the National Target Program for the Development of Water Management and Ecological Improvement of the Dnipro River Basin for the Period up to 2021<sup>13</sup> (hereinafter – National Target Program) was not aligned with the requirements of the current regulatory acts, and the methodology for evaluating the effectiveness of its implementation is absent.

At the time of preparation of the Joint Report a bill on making necessary changes to National Target Program is elaborating according to the implementation of the national audit recommendations of the SAI of Ukraine.

**1.3. All SAIs– participants note the appointed of **authorized bodies** responsible for implementation of program documents on flood protection, the functioning of water facilities in case of floods, monitoring of the development of natural phenomena and providing interested parties with necessary hydrological information (**Appendix 3**).**

However, the *SAI of Georgia* noted that in 2019, the Emergency Management Service did not monitor the implementation of the action plan. In addition, the inconsistency of the efforts of the actors of the system, deficiencies in project management cause an unsatisfactory state of implementation of preventive measures.



*Flood in Georgia, 2013*

Source: <http://newsportal.ge/chubersh-mtis-chamoshlam-stiq-gamoiwvia-ris-gamoc-atamde-temi-garesamyarosaa-mowyvetilii>

<sup>13</sup>

Approved by the Law of Ukraine dated of 24.05.2012 № 4836



The *SAIs of Serbia and Ukraine* outlined a number of shortcomings in the implementation of certain functions by the authorized bodies in the field of flood protection. As a result, the authorities have not fully used the given powers to define public policy on flood protection.

The *SAI of Serbia* found that the key planning documents were accepted by the competent authorities too late. In particular, Republic Water Directorate was late 3 years with adoption of operational plan for flood defense from waterways of primary importance, which may result in not having clear authorizations and responsibilities at times of floods. Also, precondition was not ensured for efficient dam management, because management rights of certain dams were not transferred to public water companies, and some of them have not been included into flood protection system. In addition, public water companies have not established reliable and full records on them, and/or they did not enter two thirds of dams into the register of water facilities. As a consequence, the condition of such dams is not satisfactory and may increase the risk of flooding.

To realize the national audit recommendations, public water companies have established working groups in charge of drafting procedures for entering dams into Register of water facilities and for monitoring such entries. They also have delivered initiative to the proponent of the law to prepare the Procedure in detail for transfer of management rights of dams to public water companies.

According to the audit findings of the *SAI of Ukraine*, responsible authorities have not fully utilized the powers they have been granted related the implementation of state flood protection policy in particular: no changes were made to the program to update it, a methodology for evaluating the effectiveness of the National Target Program implementation was not developed, information on Progress reports have not been posted on the websites of its government customers.

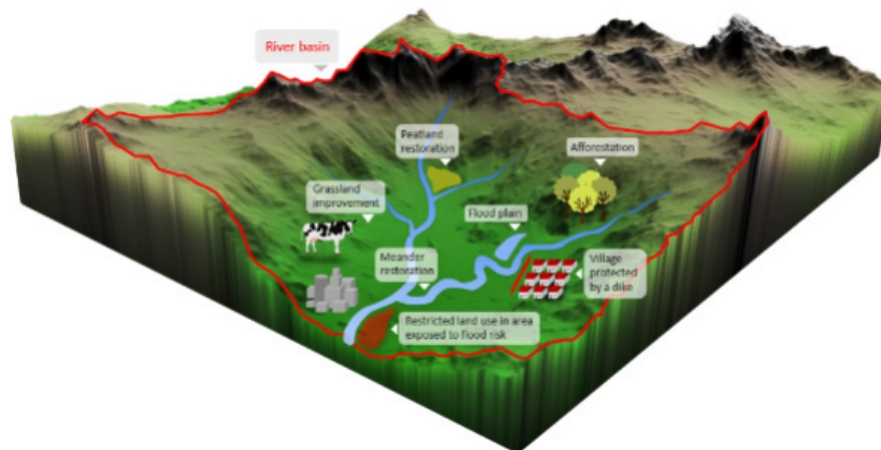
The *SAIs of Georgia, Serbia and Ukraine* also noted problems with staffing. Thus, the *SAI of Georgia* notes that one of the reasons for the non-preparation of flood plans is the lack of skilled workers at the municipal level. The *SAI of Serbia* emphasizes that fulfillment of job positions in Public Water Company Srbijavode in 2017–2018 was at around 50% of requirements which hinders conduct of company's activities in the field of water protection.

The *SAI of Ukraine* pointed to the absence of a permanent Head of the State Agency on Water Resources (who is the Head of the National Target Program) during the period covered by the national audit, that created risks of failure to ensure timely and effective control and supervision over the implementation of its measures, and weakened responsibility for its implementation. It should be noted that the Agency has taken into account the recommendations of the *SAI of Ukraine* and made changes in the direction of personnel support the implementation of functions related to flood protection.

In addition, *SAIs* participating in the audit noted the need for coordination and a well-defined mechanism for cooperation between the appointed authorities, to ensure uniform, complete and comprehensive river basin management.

The *ECA* noted the need for coordinated flood risk management and the consideration of transboundary aspects at each stage of the risk assessment and planning process for cross-border river basins.

Fig. 4 Example of coordinated flood management at river basin level.



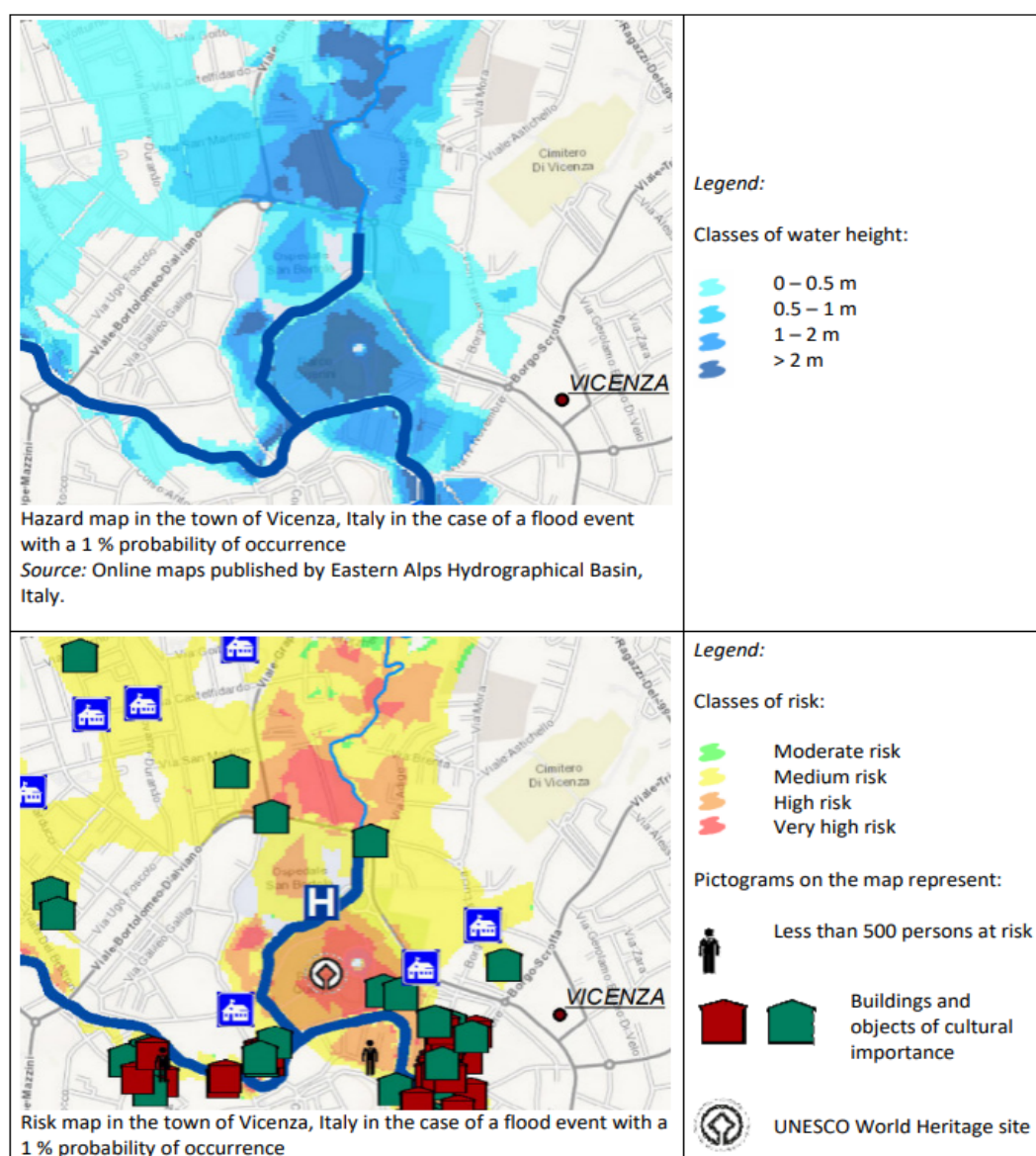
Source: ECA

The SAI of Georgia reported that that coordination mechanisms between establishments, engaged in the civil security sphere, are weak. Audit revealed that organizational functions of the establishments are not segregated, there is no adopted standard and periodicity of information exchange between the establishments. This is reflected on the lack of efficiency of the implemented measures.

2. *The auditors determined that a system of flood risk management based on the basin principle has been established and that district river basin management bodies have been appointed. At the same time, many of the national audits findings confirm that the competent authorities did not ensure adequate and comprehensive flood risk management*

So, ECA pointed out that in order to implement the Floods Directive, river basin district authorities have been appointed in EU Member States. However, international flood risk management plans at the level of cross-border river basins, as foreseen by the Floods Directive, have not been developed by the EU Member States visited.

Fig. 5 Example of hazard and risk maps.



In Serbia and Ukraine, as in countries that have signed the Association Agreement with the EU, in order to implement European legislation, in particular the Floods Directive, a basin management system has been introduced and river basin management bodies are also determined. However, the implementation of the Floods Directive in the field of flood risk management has not been fully implemented practically.

The SAI of Georgia noted that approval of the emergency situations risk management and emergency management rule was the positive event, according to which municipalities before December 31, 2018 had to approve individual plans. Audit team has selected 20 municipalities analysis of which revealed that only at 5 municipalities have started to work in this direction.

In Serbia the Republic Water Directorate has not reviewed and renewed preliminary flood risk assessment from 2011, and for that reason not all significant flood areas have been recognized. In addition, the Republic Water Directorate and public water companies have not prepared plans for flood risk management for the territory of the Republic of Serbia and for river basin districts, although the deadline expired in 2017. And public water

companies have not drafted and verified flood vulnerability maps and flood risk maps, which would have been available to the public and state authorities.

Only after conducting of the national audit and issued relevant audit recommendations the preliminary flood risk assessment from 2011 was reviewed and renewed. And data on floods from 2012-2019 period taken into account.

The *national audit of the SAI of Ukraine* revealed that the Ministry of Ecology and Natural Resources did not approve the Provisions on the Functional Subsystem of Flood Protection Measures of the Unified State System of Civil Protection, and the subsystem itself was not actually created. Accordingly, the Government and the responsible Ministry did not define annual tasks to ensure the implementation of measures and state targeted programs to prevent floods, ensure the sustainable functioning of facilities, reduce possible material losses, predict and assess the socio-economic consequences of floods. At the same time, taking into account the recommendations of the SAI of Ukraine on the national audit, the Ministry approved the Regulations on the Functional Subsystem of Flood Control Measures of the Unified State System of Civil Protection<sup>14</sup>.

Thus, the **auditors concluded** that the flood risk management system did not fully provide comprehensive management of such risks.

### 3. *The audit found that flood protection measures have not been implemented effectively in most countries of participating SAls*

The effectiveness of the implementation of the flood protection measures was investigated by the most of SAls–participants, in particular the audit conducted by the *SAls of Georgia, Serbia and ECA* focused on flood prevention, protection and preparedness measures. Emergency and recovery measures were not covered by the audit.

The findings of the national audits of the SAls–participants revealed the following:

The *SAI of Georgia* found that the Action Plan did not take into account a number of areas identified by the National Strategy, and there is a significant lagging in terms of performing the plan. In particular, as of the end of 2018, only 5 projects had been completed out of the 16 planned events.

*In Serbia*, flood protection measures are defined by the Waterways Management and Water Damage Protection Program. However, preventive measures for flood protection have not been clearly defined and no performance indicators have been identified. Certain measures are included in the Water Management Strategy at the territory of the Republic of Serbia until 2034, but they are general in nature with no determined indicators for performance measurement.

*In Ukraine*, a National Target Program provides the implementation of flood protection measures, including:

- priority measures to eliminate the consequences of the harmful water impact, the protection of settlements, facilities and agricultural land;
- development of regional schemes of integrated flood protection of the territories from the harmful water impact and river basin management plans;

<sup>14</sup> Approved by the order of the Ministry of Ecology and Natural Resources of Ukraine dated of 14.03.2018 № 86



- creation of reservoirs of floodwater reservoirs in mountainous and flat parts of rivers and an automated information-measuring system of observations and forecasting of harmful water impact.

At the same time, the audit revealed that the measures of the National Target Program were not fulfilled during the audit period and its expected results were not achieved. Since 2015, the construction and reconstruction of landslides and anti-landslides have been suspended, the system of flood monitoring and forecasting has not been perfected, as well as preparatory work on the construction of floodwater reservoirs in mountainous and flat parts of rivers, polders and floodwater reservoirs were not conducted. The financing of major repairs of water works, which perform the functions of flood protection, has been suspended since 2009. That is, the state flood protection system is not actually created, and the functioning of the created objects of flood protection is not ensured.

*Fig. 6 Different types of flood-related projects. Source: ECA*

 <p><b>Flood expansion plain also used as pastureland for an organic milk cow farm (The Netherlands)</b></p>	 <p><b>River dike with removable walls allowing the controlled flooding of one river bank, in order to protect the opposite densely populated bank (Slovenia)</b></p>
 <p><b>Dry reservoir used for temporary water storage to reduce the risk of flooding the towns downstream. The 110 hectares of the reservoir are also used for farming (Italy)</b></p>	 <p><b>Coastal embankment to prevent flooding of a residential area. The height of the embankment can be increased in future if the flood hazard increases (Bulgaria)</b></p>
 <p><b>Raised 200 m-long wall at the confluence of two rivers where floods had occurred in the past (Spain)</b></p>	<p><b>Meteorological monitoring networks collect data used in modelling and risk evaluation, contributing to evidence-based policy-making (Portugal)</b></p> 

*Source: ECA*

In *Belarus*, systematic construction of flood protection facilities has been initiated under the Republican Program “Engineering Water Management Measures to Protect Populations and Agricultural Lands from Floods in the Most Flooded Areas of Polesie”. In 2016, within the framework of the State Program for the Development of Agrarian Business for 2016-2020, sub-program 7 “Engineering Flood Protection Measures” was approved, which provides the further development of protective measures. The auditors concluded that the effectiveness of the implementation of flood control measures was sufficient during the audit period.



*Flood in Belarus, 2013*



*Flood in Belarus, 2013*

*Source: SAI of Belarus*

#### **4. Auditors also concluded that system of financing of flood protection measures should be improved and does not meet the need for funds**

Thus, *SAIs of Serbia and Ukraine* noted the lack of funds allocated for implementation of flood protection measures and sources of such financing.

During the audit the *SAI of Georgia* revealed gaps in funding for disaster risk reduction measures. A system for financing emergencies and disasters is not clearly focused on prevention and preparedness measures. Funding is agency-based, individual and does not provide an opportunity to see causal links. Therefore, according to the individual budgets, it is impossible to identify the exact measures taken to prevent floods.

The *ECA* noted that flood risk management plans did not always indicate the source of funding. It also noted a need to improve the approach to cost-effectiveness analysis.

The *SAI of Poland* stated that the financing of tasks in the field of prevention and consequences elimination of flood at the state level is planned and implemented within the state budget expenditures, also with commitment from the EU funds and loans from International Financial Institutions (among others: World Bank). Auditors noted an increase in the efficiency of ongoing activities and progress in investing. However, during the audit of the flood protection project of the Oder River basin, they found a number of violations of procurement and payment procedures, which were creating risk of trespassing final deadlines set for the project's completion.

As it was identified by the *SAI of Serbia* during the audit, there was no adequate financing for the implementation of flood protection measures, which jeopardized the fulfillment

of goals of the Water Management Strategy regarding water protection. Also, the existing water protection financing model is completely dependent on the budgets of the Republic of Serbia and the Autonomous Province of Vojvodina, and sufficient funds for flood protection in 2017–2018 have not been provided.



*Flood in the Central Europe, 2018*

Source: <https://www.preventionweb.net/news/view/64249>

The auditors of the *SAI of Ukraine* noted that during the audit period, the state budget provided only 7% of the needs identified by the relevant National Target Program. This led to the non-implementation of the flood control measures of the program in the planned volumes, and consequently, the performance indicators determined by it were not achieved. Also the approved expenditures of the state budget were not enough to execute the planned works defined by the National Target Program within the set deadlines. At the same time, there is an emphasis on the need to amend the National Target Program and increase the number of measures financed by local budgets, because due to the budget decentralization policy the main environmental tax funds are concentrated in local budgets, which will reduce the planned burden on the State budget. The audit also revealed that the responsible authorities did not ensure effective management (planning and distribution) and use of available state budget financial resources for the implementation of program activities.

The *SAI of Belarus* noted that the budget funds directed by the Government to development of the flood protection system have been used economically and productively.

For its side, *SAI of Georgia* reported that there is no methodology for accounting loss incurred by the natural disaster in place, due to which the municipalities are calculating results differently, what ultimately hinders efficient planning of the preventive measures and may incur inefficient spending of the budget resources after the catastrophe occurs (in the part of reimbursement of loss by the state).

It should be noting that in accordance with the recommendations of the *SAI of Ukraine* related searching for additional sources of financing for flood protection measures, since 2018 in Ukraine a State Fund for Water Development was created, which is formed at the expense of rent for the special use of water. This approach will reduce the deficit of General Fund of the State Budget needed to maintain the water system.



- 5. Taking into account that due to climate change in the world and in Europe, in particular, the intensity and frequency of floods will increase and their harmful effects will be expanded, the auditors emphasize the need to ensure the adequate and accurate level of floods predictability. Spatial planning in flood risk management is one of the effective tools of flood risks management.**

Based on the key findings of the national audits, all SAIs – participants noted the existence of monitoring and alert systems in case of emergencies, as people's lives and health is a priority of civil protection systems.

The ECA audit outlined that predominantly historical data are mainly used in predicting flood risks, without taking into account current trends caused by climate change and sea level data. The ECA auditors also emphasized the need to integrate spatial planning into the flood risk management system, including the digital maps, made using GIS.

The SAI of Georgia commented that work has begun in this area in the country, spatial maps have been prepared, but the marking of vulnerable places by the responsible entities on the map has not been done, and no work is planned in this direction.

According to the SAI of Belarus, monitoring and forecasting of emergencies on hydrodynamic accidents and dangerous hydrological phenomena is entrusted to the State Association for Land Reclamation, Water and Fisheries "Belvodkhoz". The Government Decree approved the procedure for collecting information in the field of protection of the population and territories from natural and man-caused emergencies and the exchange of this information. In all districts there is a single dispatching service. Alert systems are in good working order, covering the territories of regions. It also uses SMS alerts to the public.

The SAI of Serbia found that public water companies have not drafted and verified flood vulnerability maps and flood risk maps, which would have been available to the public and state authorities, and entered in spatial and urban plans. And the Republic Water Directorate did not undertake necessary activities in establishment of the Water Council and National Water Conference, and for those reasons larger influence of experts and public participation have not been ensured in water protection process. Auditors note that at the time of preparation of the Joint Report the project titled "Study of Flood Areas Mapping in Serbia – Phase 2" is being implemented, within which significant number of maps will be drafted and then will be published at websites of public water companies. The project was initiated in 2014, but part of SAI Serbia recommendations will be implemented through this project.





*Flood in the Central Europe, 2019*

Source: <https://www.rms.com/blog/2019/03/27/european-floods-and-the-relationship-with-the-north-atlantic-oscillation/>

Auditors of the *SAI of Ukraine* noted that forecasting emergencies, including the occurrence of flooding, is the task of a Unified State System of Civil Protection. Creating an Automated information and measurement system for monitoring and forecasting the harmful water impact is foreseen by the National Target Program. At the same time, according to the SAI of Ukraine, the insufficient level of predictability of floods, as well as the lack of a modern and complete protective complex, lead to annual losses in the agricultural, industrial and social sectors of the economy.

It should also be added that the *SAI of Georgia* considers it necessary to strengthen monitoring of deforestation in coastal zones in order to prevent flooding and to include in the strategic documents measures for the restoration of forests in river gorges.

Thus, **findings of the national audits** carried out by the SAls—participants of the international coordinated audit, **confirmed the commonality of issues** and challenges that need to be addressed as soon as possible by governments and authorities of different countries.

From the SAls, as an independent audit bodies, whose activities are aimed at improving the lives of citizens, it requires the development and provision of effective recommendations and constant monitoring of the situation regarding flood prevention and elimination of its consequences.

## INFORMATION ON THE NATIONAL AUDITS OF THE SAIs-PARTICIPANTS:



### REPUBLIC OF BELARUS



**Audit topic:** Report of the State Control Committee of the Republic of Belarus on the Results of the International Audit of Prevention and Consequences Elimination of Floods.

**Date of the decision on approval of the Report:** December 19, 2018.

Issues of spending of budget funds, their purposeful and effective usage are under permanent control of the State Control Committee of the Republic of Belarus. The objects of audit are all state bodies and organizations involved in the implementation of state programs, starting with the Government and ending with the direct implementation of measures.

**Flooding** causes the most negative impact on agricultural production. Flooding of crops lead to severe damage, and often to people's death.

On average, in flooded areas, crop yields are 50-75%, and the cost of production is 20–50% higher.

In order to protect settlements and agricultural lands from floods, since 2005 the Third State program has been implemented in the Republic of Belarus, which provides for engineering water protection measures.

In the course of the control-analytical measures in accordance with the received Audit Design Matrix of audit questions, the following assessment was carried out:

- ✓ Legality, timeliness and completeness of management decisions related to the development and operation of the flood protection system;
- ✓ Economy and productivity of use of budgetary funds;
- ✓ Achievement of the planned goals as a result of the implementation of measures.

The fullness of the use by the responsible authorities of their powers in the planning of protective measures is clearly defined by the legislation of the Republic of Belarus. According to the audit findings, the adopted legal acts and the established system of management of enterprises of reclamation systems provide sufficient and clear conditions for the implementation of effective flood protection.

Within the framework of the Republican Program “Engineering Water Management Measures for the Protection of Settlements and Agricultural Land from Floods in the Most Flooded Areas of Polesye for 2005–2010” approved by the Council of Ministers of the Republic of Belarus dated of 23.03.2005 No 311, the complex construction of flood protection facilities started.

**In 2016**, according to the Resolution of the Council of Ministers of the Republic of Belarus dated of 01.03.2016 No 196, the sub-program 7 «Engineering Flood Measures» was approved within the framework of the State Program for the Development of Agrarian

Business in the Republic of Belarus for 2016–2020. It provides the further development of protective measures.

In the period 2011–2015, 14.8 million rubles have been allocated from the national budget for the construction of anti-flood protection objects planned by the State Program.

During this period, 20 sites were put into operation, which allowed to protect 20,7 thousand hectares of agricultural land and 10 settlements with 31397 inhabitants, including 2438 inhabitants in the flood zone.

At the time of completion of the State Program, 9 flood protection engineering facilities were in the stage of unfinished construction, with readiness levels ranging from 4% to 70%.

Subsequently, in the period from 2016 to 2020, the Sub-Program 7 is intended to protect 42,5 thousand hectares of settlements and agricultural lands from flooding by allocating 50,4 million ruble from the republican budget.

In 2016, 2,5 million rubles were allocated from the national budget for implementation of the Sub-Program 7. At the expense of these funds 4 objects of engineering protection were put into operation. The total area of protection was 2,7 thousand hectares, including 2,6 thousand hectares of agricultural land. As a result of implementation of measures, 4 settlements were also protected from flooding.

In the framework of implementation of Sub-Program 7 in 2017, 2,2 million rubles were actually used and 2,025 thousand hectares were protected, and 2 facilities were commissioned. According to the Sub-Program it was planned to complete the previously started construction of 9 flood protection facilities provided by the State Program. As of 01.01.2020, 9 flood protection facilities have been put into operation at the State enterprise “Belvodkhoz”, and 2 – are under construction.

According to the Ministry of Agriculture, the effectiveness of the implementation of the activities of Sub-program 7 for 2016–2017 is high.

The audit found that the government’s budgetary resources for developing a flood protection system were used economically and productively.

Thus, in the country, the activity related protection of settlements and agricultural lands from flooding in the most flood-prone areas of Polesye is controlled by the Government. Currently, the threat of flooding of the above territories is not expected.



## GEORGIA



**Audit topic:** Performance Audit on Management (Prevention, Preparedness) of Flood.

**Date of the decision on approval of the Report:** May 25, 2020.

**Type of audit:** performance audit.

**Audit purpose:** to assess the capability of the preventive and preparedness measures planned and implemented to meet the set targets aimed at reduction of the flood risks, to study shortcomings existing in the system and issue improvement oriented recommendations which will help the auditees to guide their activities effectively.

**Audit period:** from January 1, 2017 through October 1, 2019, however for the purpose to analyze the trend, information from the previous and current period has been used.

**Scope of the audit:** includes two phases of flood management – prevention and preparedness.

The following **methodology** has been used:

- Analysis of the legal base and regulations;
- Acknowledging international practices and standards;
- Analysis of the existing conditions of the implemented and planned prevention and preparedness events/actions;
- Analysis of the documentary information;
- Interviews with auditees (respective accountable persons);
- Analysis of the data and statistical information;
- Interviews with NGOs and international organizations;
- Survey of population residing at the areas vulnerable to the floods;
- Survey/Interviewing municipalities.

### Key audit findings:

#### 1) Preventive Measures. Audit revealed:

- ✓ *Shortcomings of the strategic planning.* The Strategy provides the general evaluation of flood hazards however, there is no particular indication of the risk bearing rivers. Also, Strategy does not define the issue of reforestation as the form of flood prevention measures and the regulation of the urbanization process of coastal zones.
- ✓ *Shortcomings of the Action Plan.* The action plan is incomplete, and only a small part of the measures planned (16%) has been implemented. A significant portion of the issues covered in the plan are delayed and unfulfilled. As a result, the state of performance of the flood preventive measures is not satisfactory, which is attributed to the uncoordinated efforts of the system entities, shortcomings in the project management, problems with funding and insufficient monitoring of the project implementation.
- ✓ *Deficiencies in financing the disaster risk reduction.* A system and model for financing

emergencies and disasters is not clearly focused on prevention and preparedness measures. Funding is agency-based, individual and does not provide an opportunity to see causal links. Therefore, according to the individual budgets, it is impossible to identify the exact measures taken to prevent floods.

- ✓ *Absence of the Uniform Information Base and Loss Calculation Methodology*, that ultimately hinders efficient planning of the preventive measures and may incur inefficient spending of the budget resources after the catastrophe occurs (in the part of reimbursement of loss by the state).
- ✓ *There is problem of forest felling and restoration* at the riparian zones, resulting the frequent cases of felling forests in the river gorges thus increasing the possibility of occurrence of the natural catastrophe.

### **Issued Recommendations:**

#### ***To the National Security Council:***

Under their competence, organize and coordinate the following:

- ✓ The process of developing and updating the conceptual document of the national level, in particular the Georgian hazard Assessment document, taking into account the threats and challenges caused by the newly identified natural and human factors;
- ✓ To update the Strategy and its Action plan, including all significant flood causing factor response mechanisms and all efforts planned in this direction, responsible entities identified and relevant funding allocated;
- ✓ To consider the possibility of improving and refining the current legislative framework;
- ✓ To develop the statistical information recording methodology and facilitate introduction of the uniform electronic program of registering natural disasters, which will cover all information related to the elements (information databank);
- ✓ For the assessment of the volume of damage, planning the relevant measures needed for the restoration, it is important to develop and introduce loss accounting methodology.

#### ***To the Ministry of Environment Protection and Agriculture of Georgia:***

For the purpose to prevent floods, reinforce monitoring of forest felling at the riparian zones; the strategic documents include measures of restoring forests at the river gorges and special significance should be given to this issue taking into consideration existing risks; revise the criteria of acknowledging 300 m forest areas located along the rivers as SFPs and bring into compliance with the river parameters.

### **2) Coordination and Management of Natural Disaster. Audit revealed:**

- ✓ *Lack of communication between the establishments*. In particular, entities engaged in the system operate without mutual agreement and sufficient communication, what does not correspond to the international practice and the approaches determined by Georgian legislation in this respect.
- ✓ *Problems existing in the process of legislative base formation*, such as: documents which were created and approved – are not functioning efficiently; significant normative acts have not been adopted which would facilitate coordination process.
- ✓ *Municipalities are unable to ensure effective flood prevention*. No risk management and

emergency management plans have been approved in any of the municipalities, therefore the level of preparedness of the municipalities is low.

#### **Issued recommendations:**

##### ***To the Emergency Management Service to:***

- ✓ Develop the coordination and communication plan with the entities engaged in the system;
- ✓ Ensure inventory/prioritizing of the normative and legislative acts to be adopted in the catastrophe management sphere;
- ✓ Organize additional trainings and workshops for the municipalities, which would facilitate local self-governments to design efficient plans;
- ✓ Introduce control mechanisms over developing risk management and emergency management plan by the municipalities.

##### ***To Ministry of the Regional Development and Infrastructure and the Roads Department of Georgia to:***

- ✓ Ensure the use of the researches, findings and monitoring reports produced by various establishments of the system in the planning process.

#### **3) Preparedness Measures. Audi revealed:**

- ✓ *Early Warning System Shortcomings*, particularly: spatial maps are prepared, where all objects will be reflected, however marking vulnerable locations by the responsible entities on the map has not been done and no works are even planned in this direction. Also, there is no SMS notification service provided to the population, which is highly efficient and is practiced in developed and developing countries.
- ✓ *Shortcomings of the Public Awareness Measures*. Thereby, the Emergency Management Service has planned certain awareness raising campaign, however there is the potential of significant improvement in this direction. Namely, development of the relevant strategy would allow the entity to manage awareness raising measures more effectively.

#### **Issued recommendations:**

##### ***To the Emergency Management Service, Ministry of Regional Development and Infrastructure and LEPL National Environment Agency:***

- ✓ For raising the efficiency of the early notification system, it is important to use modern technologies (SMS notifications);
- ✓ Jointly discuss the measures necessary for creation of the digital maps and under the recommendation of the Emergency Management Service implement active works to depict disaster risks on the spatial maps.

##### ***To the Emergency Management Service to:***

- ✓ Develop awareness raising plan and methods, which would be aimed at respective target groups. Also, it is important to introduce evaluation practice for the planned measures;
- ✓ Popularize already created products (video-lessons, web-page, mobile application).





## REPUBLIC OF POLAND



**Audit topic:** Audit of the Implementation of the Odra River Basin Flood Protection Project (the ORFPP Project Audit) and the Audit of the Implementation of the Odra-Vistula Flood Management Project (the OVFMP Project Audit).

**Date of the decision on approval of the Report:** June, 2019.

**Type of the audit:** financial audits with elements of performance audit.

**Audit period:** 2018.

### **Sources of financing of flood measures, planned and actual amounts of financing.**

In Poland state funds to prevent and limit the consequences of floods are planned and executed within the part of the national budget at the disposal of the Minister of the Interior and other ministers (i.e. Ministry of Climate and Ministry of Maritime Affairs and Inland Navigation) running government administration operations, central authorities of government administration and Provincial Governors.

Local self-government units receive targeted subsidies from the state budget in the amount adjusted to their task execution. Besides, they are obliged to establish own resource reserves in their own budgets designated to tasks regarding emergency management.

### **Planned flood protection measures and their actual implementation. Performance indicators.**

Currently two nationwide flood protection programs are being implemented: the Odra River Basin Flood Protection Project (ORFPP) and the Odra-Vistula Flood Management Project (OVFMP), financed from the state budget, loans and credits from international financial institutions and European Union funds. The two programs currently exceed worth of EUR 2.1 billion (€905 mln ORFPP+ €1,2 bln OVFMP).

### **Key audit findings:**

Since 2009 every year the SAI of Poland has been conducting, elaborating and presenting a report on the implementation of the Odra River basin flood protection project (ORFPP), as its financial auditor. It was one of the provisions set in the loan agreement signed between the World Bank and the Polish Government (the Project is co-financed by the World Bank).

Thanks to these consecutive annual audits, an increase in the effectiveness of activities and progress in the execution of the investment have been noted. However, by such huge scale of the project irregularities would still occur, what was even more worrying in period 2016-2018, when completion of the project on time was at risk.

The irregularities included:

- ✓ The financial progress of tasks remained on the low level of 50% in 2016, while according to the genuine provisions of the project set in 2007, the works should have been completed at the time. It took almost 5 additional years to finish the works (according to amended timetable);

- ✓ Due to delays in the execution of works the borrowed funds were not fully utilised and the Polish government has paid EUR 5 million for their readiness so far;
- ✓ There were only few reliable contractors of technically advanced works on the market;
- ✓ The entities responsible for the coordination of the Project committed organisational errors;
- ✓ In 2016, due to delays and using inappropriate materials by the contractor Water Management Administration decided to break the contract for building the Dry Reservoir Racibórz Dolny. The works have been resumed in 2018 and project completion is scheduled for the end of 2020.

The SAI of Poland also audited the Odra-Vistula Flood Management Project (OVFMP).

In both cases the SAI of Poland issued unmodified opinion upon the yearly financial statements, although there were some observations concerning timeliness of payments, etc.

**As a result of particular audits carried out in entities implementing the OVFMP and the ORFPP Projects, SAI of Poland made following observations:**

- ✓ It takes more time to transfer money to contractors;
- ✓ It takes more time to conclude the procurements for particular tasks and complete demanded documents (the OVFMP Project);
- ✓ New people bring the risk of delays;
- ✓ There is constant risk of extending the duration of construction of the Racibórz Dolny dry Polder beyond the deadlines set for the closure of the Project (end of 2020), which may result in the need to amend the Loan Agreement.

**Issued Recommendation:**

- ✓ To comply with tender procedures and take steps to reduce the time needed to start payment for contractors.

In accordance with the financial agreements, the SAI of Poland pays the role of the auditor for both projects in the coming years. It is also highly probable that after the ORFPP is completed, the audit carried out in 2021 will cover not only the audit of financial statements, but also the implementation of project-related tasks with usage of value for money methodology.





## REPUBLIC OF SERBIA



**Audit topic:** Flood Protection in the Republic of Serbia.

**Date of the decision on approval of the Report:** November 12, 2019.

**Type of audit:** performance audit.

**Audit subject:** preventive measures for flood protection on waterways of primary importance, at times when no ordinary or extraordinary flood protection measures were declared.

**Audit period:** 2017–2018.

### **Sources of financing of flood measures, planned and actual amounts of financing:**

In case of the Republic of Serbia, according to the UNDP data, for every dinar invested in flood prevention, damage caused by floods may be reduced by three to nine dinars.

Funds for financing flood prevention may be provided from: Budget of the Republic of Serbia, Budget of Autonomous Province of Vojvodina, water fees, concession fees, own funds of legal and physical persons, funds received on prevention earmarked from the insurance premium, special purpose loans, public loans and donations.

For the purpose of recording special funds earmarked for financing water activities, Water Budget Fund of the Republic of Serbia was established (managed by the Republic Water Directorate) and Water Budget Fund of the Autonomous Province of Vojvodina (managed by the Provincial Secretariat for Agriculture, Water Management and Forestry). Assets from the Funds are used in compliance with annual programs for water management, of the Republic of Serbia and Autonomous Province of Vojvodina. Annual programs for water management are planning documents defining water facilities, type and volume of works, amount of funds for realization of works, amount of participation and other issues regarding construction, reconstruction, rehabilitation and maintenance of water facilities.

### **Key audit findings:**

- ✓ Existing management system has not been established so that it ensures integral flood risk management.
- ✓ Application of the EU Directive, in the field of flood risk management, have not been fully implemented in practice, because the competent authorities were late in adopting key planning documents.
- ✓ Republic Water Directorate:
  - has not reviewed and renewed preliminary flood risk assessment from 2011, and have not prepared plans for flood risk management for the territory of the Republic of Serbia and for river basin districts, although the deadline expired in 2017;
  - was late 3 years in the last 4 years with adoption of operational plan for flood defense from waterways of primary importance, which may result in not having clear authorizations and responsibilities at times of floods;
  - did not undertake necessary activities in establishment of the Water Council and

National Water Conference, and for those reasons larger influence of experts and public participation have not been ensured in water protection process.

- ✓ Public water companies have not drafted and verified flood vulnerability maps and flood risk maps, which would have been available to the public and state authorities, and entered in spatial and urban plans.
- ✓ Separated flood risk management among public water companies, in river basin districts of Danube and Sava, with no clearly defined manner of cooperation, presents a risk that river basin districts are not managed uniformly, completely and comprehensively
- ✓ Fulfillment of goals from the Water Management Strategy was jeopardized, in the field of water protection, because funds and staff were not fully ensured in the period 2017-2018.
- ✓ Existing financing model for water protection in 2017-2018 period did not provide sufficient funds and is fully dependent upon the budgets of the Republic of Serbia and Autonomous Province of Vojvodina.
- ✓ Fulfillment of job positions in Public Water Company Srbijavode in 2017–2018 was at around 50% of requirements compared to the number of positions determined by Systematization Act, which hinders conduct of company's activities in the field of water protection.
- ✓ Management rights of certain dams were not transferred to public water companies, which results in the fact that the state of such dams is not satisfactory and may influence flood risk to become higher rather than lower.
- ✓ Precondition was not ensured for efficient dam management, because public water companies have not established reliable and full records on them, and/or they did not enter two thirds of dams into the register of water facilities.

#### **Issued Recommendations to:**

##### ***Republic Water Directorate to:***

- ✓ Undertake necessary activities in order to review and renew preliminary flood risk assessment from 2011, taking into account all relevant and available data;
- ✓ Undertake necessary activities, in order to prepare as soon as possible flood risk management plan, in coordination with the Provincial Secretariat for Agriculture, Water Management and Forestry;
- ✓ In cooperation with the Provincial Secretariat for Agriculture, Water Management and Forestry, to adopt procedure in writing, which would clearly define manner of cooperation between public water companies in the river basin districts of Danube and Sava, to ensure coordination of measures and activities they conduct in order to decrease flood risk and ensure exchange of necessary data and information among them, and to directly monitor their implementation.

##### ***Public Water Company «Srbijavode», Beograd and Public Water Company «Vode Vojvodine», Novi Sad, to:***

- ✓ Prepare and verify flood vulnerability maps and flood risk maps for significant flood areas, and make them available to the public and state authority in charge of state of emergency and authorities and organizations in charge of spatial planning;

- ✓ Undertake necessary activities, in order to prepare as soon as possible flood risk management plans for river basin districts, within their competences, with harmonization and coordination of measures and activities in river basin districts of Danube and Sava;
- ✓ Undertake required activities in order to enter into the Register of water facilities necessary data regarding all dams located at the territory in which such company conducts water related activities; to complete the transfer of management rights of dams with accumulation to public water companies, as soon as possible, for all dams which is stipulated by the Water Law.

At the time of preparation of the Joint Report in the framework of **implementation of the recommendations** provided by the SAI of Serbia:

- ✓ Preliminary flood risk assessment from 2011 was reviewed and renewed; data on floods from 2012-2019 period were taken into account.
- ✓ Draft Procedures were prepared on cooperation with public water companies and were sent to all public water companies for the purpose of harmonizing the document.
- ✓ Project titled «Study of Flood Areas Mapping in Serbia – Phase 2» is being implemented, within which significant number of maps will be drafted. Also, the plan is to initiate drafting of maps that are not included by the mentioned project. After drafting the maps, the plan is to publish them at websites of public water companies.
- ✓ Public water companies have established working groups in charge of drafting procedures for entering dams into Register of water facilities and for monitoring such entries. They also have delivered initiative to the proponent of the law to prepare the Procedure in detail for transfer of management rights of dams to public water companies.
- ✓ Also drafting flood risk management plan for the territory of the Republic of Serbia is closely related to drafting flood hazard maps and flood risk maps, as well as drafting flood risk management plans for river basin districts are in progress.



UKRAINE



**Audit topic:** Performance Audit of the Use of the State Budget Funds for the Development and Operation of the Flood Protection System.

**Date and number of the decision on approval of the Report:** ACU Decision dated of 13.09.2017 № 18-4.

**Type of audit:** performance audit.

**Audit subject:** legislation and regulatory acts, planning, reporting and other documents regulating the efficiency of the use of state budget funds aimed at the development and functioning of the flood protection system; movement and procedure of using the State Budget of Ukraine funds; planning and implementation of measures of the National Target Program for the Development of Water Management and Ecological Improvement of the Dnipro River Basin for the Period up to 2021.

**Audit purpose:** assessment of the effectiveness of planning and implementation of the flood measures identified by the National Target Program, as well as the economy, productivity and efficiency of the use of state budget funds allocated for these measures.

**Audit period:** 2014–2016. Data on the implementation of the recommendations of the SAI of Ukraine as of the beginning of 2020.

**Key audit findings:**

- ✓ Customers of the National Target Program (Ministry of Ecology and Natural Resources and State Agency of Water Resources) did not use their powers in defining state flood protection policy.
- ✓ Planning of the flood protection measures of the National Target Program was not carried out by all their performers and was implemented in the conditions of insufficient budgetary allocations.
- ✓ Customers of the National Program did not ensure efficient management and use of the state budget funds.
- ✓ Measures of the National Target Program on the direction of flood protection were not fulfilled and its expected results were not achieved.
- ✓ The state flood protection system provided by the National Target Program is not created, and the functioning of the created objects of flood protection is not ensured at the proper level. At the same time, due to the insufficient level of predictability of floods, as well as the lack of a modern, full and complete protection complex, the agricultural, industrial and social sectors of the economy annually suffer significant losses.

**Issued recommendations to the Government and customers of the National Target Program:**

- ✓ Consider introducing a public-private partnership in the field of flood protection, including by attracting credit;

- ✓ Amend the National Target Program in order to bring it into compliance with the requirements of the current legislation;
- ✓ Ensure the development of integrated flood protection schemes in all river basins of Ukraine, with a view to intensifying work on the timely implementation of the Plan for the Implementation of Directive 2007/60/EC of the European Parliament and of the Council of 23.10.2007 on the assessment and management of flood risks;
- ✓ Provide an inventory of the existing complex of flood control structures in order to determine their operational status, expediency of reconstruction and establishing priority of the use of state budget funds aimed at flood protection;
- ✓ Ensure internal control over the use of state budget funds.

The Accounting Chamber monitors **the implementation** by the auditees **of the recommendations** issued after the national audit.

Thus, as of the beginning of 2020, the relevant authorities prepared a bill on making necessary changes to the National Target Program. Some steps have been taken to approximate national legislation with EU law, namely:

- ✓ Law on Amendments to Certain Legislative Acts of Ukraine on the Implementation of Integrated Approaches in Water Resources Management by Basin Principle was adopted;
- ✓ A number of regulatory acts was approved, in particular: On the Approval of the Regulations on Basin Councils; Procedures for development of water balances, boundaries of river basin districts, sub-basins and water management areas; the Procedure for developing a river basin management plan; the Procedure of state monitoring of waters;
- ✓ Some steps have been taken to provide the necessary personnel responsible for flood protection at the customer level of the National Target Program;
- ✓ In order to implement the European model of water resources management and improve the system of financing the relevant measures, since 2018 the State Water Development Fund has been created, at the expense of a part of the rent for special water use, which will reduce the deficit of the General Fund of the State Budget for the maintenance of the water system.





## EUROPEAN COURT OF AUDITORS



**Audit topic:** Floods Directive: progress in assessing risks, while planning and implementation need to improve.

**Date and number of the decision on approval of the Report:** Special report No 25/2018 adopted by Chamber I in Luxembourg at its meeting of 19 September 2018.

**Type of audit:** performance audit, compliance audit.

**Subject of audit:** determining whether flood prevention, protection and preparedness under the Floods Directive were based on a sound framework and whether the approach employed was likely to be effective.

**Audit purpose:** examining whether the Floods Directive had positive overall effects in establishing a framework for flood-related action; whether Member States managed appropriately the financial resources used and implemented their FRMPs well; and if they adequately considered some of the major future challenges.

**Audit period:** 2007–2018. The audit focused on the first flood risk management plans (FRMPs) prepared for the implementation cycle of the Floods Directive covering the period 2016–2021.

**Scope of audit:** the audit focused on floods prevention, protection and preparedness. Emergency and recovery actions were excluded from the audit scope. The report does not assess the overall effectiveness of the measures planned for the first cycle of the Floods Directive. However, auditors sought to determine whether the approach employed was likely to be effective.

### Key audit findings:

**On economy and compliance, it was found that:** FRMPs did not always identify sources of funding for planned flood-related action; and some floods protection projects in Bulgaria and Romania were not compliant with the Water Framework Directive. Although most Member States visited used cost-benefit analysis and models to design projects, improvements were needed.

It was found that **cross-border flood-related action** is based on existing long-standing cooperation between the Member States and it mainly involved the exchange of information through bilateral meetings, the communication of hydrological forecasts and the harmonisation of technical standards. The Member States visited have not yet established international FRMPs at the level of international basin districts, as recommended in the Floods Directive. Also funding was limited for flood related infrastructure with a potential international impact, despite positive examples found.

On **reducing the harmful consequences of floods**, it was found:

As the climate changes, the consequences of floods in Europe will overall worsen. Highly localized and very intense rainfall can result in flash floods. They can cause deaths and widespread destruction, especially in towns and cities without adequate drainage. Flash floods are increasingly common, especially in the Mediterranean and in mountains.

Flash floods are more difficult to forecast as they are caused by specific meteorological dynamics due to local conditions, such as topography, winds and distance from sea. The consequences of flash floods caused by periods of more intense rain and the impact of sea level rise can be underestimated. Member States generally used historical data, which carries the risk of not reflecting the increasing and changing risks arising from climate change.

It was found **best practices** in auditing on prevention and consequences elimination of floods for:

- ✓ Coordinating, at EU level, the implementation of the Floods Directive through the Working Group on Floods;
- ✓ Securing funding;
- ✓ Using EU funds to co-finance some FRMPs;
- ✓ Cross-border investments;
- ✓ Sharing information with citizens;
- ✓ Using Cost Benefit Analyses in the Netherlands;
- ✓ Selecting floods measures compliant with the Water Framework Directive in Italy, Slovenia and Spain;
- ✓ Combining grey and green measures in Spain;
- ✓ Covering floods risks by insurance system;
- ✓ Integrating spatial planning within flood risk management.

It was found **examples of weaknesses** for:

- ✓ Failing to establish international FRMPs;
- ✓ Defining too broad policy objectives, notably in Italy;
- ✓ Failing to identify specific financing sources in FRMPs;
- ✓ Providing unequal access to EU funds in Spain;
- ✓ Focusing a high share of funding on one single project in Romania;
- ✓ Electing “readiness for implementation” as a key selection criterion;
- ✓ Non-complying with the Water Framework Directive in Bulgaria and Romania;
- ✓ Failing to promote green infrastructure;
- ✓ Lacking knowledge of the impact of climate change on pluvial floods and rainfall regime; expressing flooding probabilities in terms of historical data not reflecting future weather conditions due to climate change; Failing to fully take into account sea level rise in FRMPs;
- ✓ Providing low insurance coverage against floods;
- ✓ Embedding spatial planning within flood risk management.

**Issued recommendations to the European Commission to:**

- ✓ Check that the Member States improve accountability through quantifiable and time-bound objectives for flood-related action in the FRMPs;

- ✓ Assess and report on whether Member States identify sources of financing to cover the needs arising from the FRMPs and establish a relevant timeline; and to request Member States to consider together potential cross-border investment for flood measures on international river basins;
- ✓ Only co-finance flood measures for which projects are prioritised based on objective and relevant criteria, such as a good-quality cost-benefit analysis, and, where relevant, a criterion considering the cross-border impact of projects;
- ✓ Enforce the compliance with the Water Framework Directive of new floods infrastructure proposed in FRMPs by the Member States, and check that, whenever EU co-financing is requested, Member States have analysed the feasibility of implementing significant complementary green measures;
- ✓ Check that FRMPs include measures to improve the knowledge and modelling of the impact of climate change on floods. In its review of the documents required for the second cycle, check that the Member States better integrate the effects of climate change into flood risk protection, prevention and preparedness; and check whether Member States have planned action to raise public awareness of the benefits of insurance coverage against flood risks and to increase coverage, e.g. via cooperation between public and private flood insurance sectors;
- ✓ Check whether Member States have used their FRMPs to assess the extent to which land use planning rules in Member States are aligned with the Floods Directive, and provide good practices and guidance to Member States.



## REPUBLIC OF TURKEY



**Audit topic:** Effectiveness of Activities for Reducing Flood Risks. It is expected to be over in the second half of 2020.

**Type of audit:** performance audit

**Audit purpose:** evaluate whether

- the activities conducted for reducing flood risks were accurately planned;
- the current organizational structure functioned effectively;
- the measures regarding reducing flood risks effectively implemented.

**Audit period:** audit covered the activities for reducing flood risks between 2012 and 2019.

### Scope of audit:

The audit focuses on risk reduction activities implemented to minimize possible damages and prevent future floods from turning into major disasters. The definition of flood in the scope of audit remarks only to river floods rather than other type of floods such as coastal floods and sewerage system floods.

Planning of the structural and non-structural precautions, organizational structure of the entities responsible for conducting risk mitigation activities, sufficiency of those entities in conducting their activities in coordination, implementation results regarding precautions were examined in the framework of river basin water management.

The scope of risk reduction activities excluded the early warning systems, training, drill, emergency and evacuation plans, and insurance systems.

### Responsible authorities:

- Water Management Directorate General;
- State Hydraulic Works Directorate General;
- Combating Desertification and Erosion Directorate General;
- Forestry Directorate General;
- Meteorology Directorate General;
- Metropolitan municipalities;
- Municipalities.

### Basin Management Model:

Turkey has the following structuring at the national, basin and provincial scales in terms of flood management..

- ✓ Water Management Coordination Council;
- ✓ Basin Management Central Council;
- ✓ Basin Management Committee;
- ✓ Provincial Water Management Coordination Council.

### Background Information:

Turkey experiences widespread flooding resulting in loss of life and property. Achieving an effective risk management in floods requires handling the issue at the river basin level.

The Water Management Directorate General (of the Ministry of Agriculture and Forestry) has launched the “Project for Capacity Building for Implementing the Flood Directive”, and prepared flood management plans for various basins. As of the end of 2019, flood management plans were prepared for 16 of the 25 basins, all of which are expected to be completed by the end of 2020.

**The audit methodology:** It includes obtaining detailed information on flooding events in Turkey, analyzing the issues surrounding flooding events, and investigating possible reasons for flooding damages. It is planned to assess flood risk mitigation activities implemented between 2012 (when basin-based flood management started) and 2019, including:

- ✓ Flood risk planning at the river basin district level,
- ✓ Organizational structure of entities responsible for implementing mitigation activities,
- ✓ Organizational and coordination capacity of relevant entities,
- ✓ Review of relevant legislation, policies, strategies, and
- ✓ Flood-protection measures.

Auditors examine the works conducted by other SAs and other country practices in this field and sample a country that planned a flood management plan and examine the plan's content in detail.

The audit was conducted according to two base questions determined in the Audit Matrix:

- ✓ Is there an accurate planning and effective organizational structure for reducing flood risk?
- ✓ Have the measures been implemented for reducing the flood risk?



## Appendix 1

### List of legislative and regulatory acts in the field flood protection and flood risk management

<b>Belarus</b>	<ul style="list-style-type: none"> <li>✓ Law on Protection of Population and Territories from Natural and Man-made Emergency Situations</li> <li>✓ Law on Land Reclamation</li> <li>✓ Law on Civil Protection</li> <li>✓ Resolution of the Council of Ministers approving the Order of the notification system of the population, government bodies and forces of the State System for the Prevention and Elimination of Emergencies and Civil Protection</li> <li>✓ Resolution of the Council of Ministers approving the Procedure for gathering information in the field of protection of the population and territories from natural and man-made emergencies and sharing this information</li> <li>✓ Resolution of the Council of Ministers on the State System of Prevention and Emergency Elimination</li> <li>✓ Resolution of the Council of Ministers on Approval of the Regulation on the Commission on Emergency Situations of the Council of Ministers of the Republic of Belarus and its working body, as well as the composition of the said Commission</li> <li>✓ Decision of the Ministry of Agriculture and Food on approval of the Regulations on the procedure of inspection of reclamation systems and separately located hydraulic structures</li> <li>✓ Order of the Ministry of Agriculture and Food on the functioning of the system of monitoring and forecasting of emergencies in the sectoral subsystem of the state system of prevention and elimination of emergencies of the Ministry of Agriculture and Food of the Republic of Belarus</li> </ul>
<b>Georgia</b>	<ul style="list-style-type: none"> <li>✓ Law of Georgia on Public Safety</li> <li>✓ National Disaster Risk Reduction Strategy of Georgia 2017–2020 and its Action Plan</li> <li>✓ National Plan of Civil Protection/Public Safety</li> <li>✓ Law of Georgia on Planning and Coordination of the National Security Policy</li> <li>✓ Resolution of the Government of Georgia on Rules on Emergency Management Plan Development</li> <li>✓ Resolution of the Government of Georgia on Emergency Situation Risk Management Plan Development Rules</li> <li>✓ Law of Georgia on Structure, Authority and Activity Regulations of the Government of Georgia</li> <li>✓ Association Agreement between the European Union and the European Atomic Energy Community and their Member States, of the one part, and Georgia, of the other part</li> </ul>
<b>Poland</b>	<ul style="list-style-type: none"> <li>✓ Act on Emergency Management</li> <li>✓ Water Law</li> </ul>
<b>Serbia</b>	<ul style="list-style-type: none"> <li>✓ Water Framework Directive</li> <li>✓ Flood Directive</li> <li>✓ The Water Law</li> <li>✓ Water Management Strategy at the Territory of the Republic of Serbia until 2034</li> </ul>
<b>Ukraine</b>	<ul style="list-style-type: none"> <li>✓ Water Code</li> <li>✓ Code of Civil Protection</li> <li>✓ Decision of the National Security and Defense Council of Ukraine on the National Security Strategy of Ukraine</li> <li>✓ Implementation plan for the Flood Directive</li> <li>✓ Provisions on a Unified State Civil Protection System</li> <li>✓ Association Agreement between the European Union and the European Atomic Energy Community and their Member States, of the one part, and Ukraine, of the other part</li> </ul>
<b>EU</b>	<ul style="list-style-type: none"> <li>✓ Water Framework Directive</li> <li>✓ Floods Directive</li> </ul>
<b>Turkey</b>	<ul style="list-style-type: none"> <li>✓ Law on Protection Against Floods</li> <li>✓ Flood and Sediments Control Regulation</li> <li>✓ Flood Management Plans Preparation, Application and Monitoring Regulation</li> </ul>

## Appendix 2

## Program documents regulating issues of flood protection and flood risks management

<i>Belarus</i>	<ul style="list-style-type: none"> <li>✓ State Program for Development of Agrarian Business in the Republic of Belarus for 2016–2020, Sub-Program 7 «Engineering Flood Protection Measures»</li> </ul>
<i>Georgia</i>	<ul style="list-style-type: none"> <li>✓ National Disaster Risk Reduction Strategy of Georgia 2017–2020</li> <li>✓ Action Plan</li> </ul>
<i>Poland</i>	<ul style="list-style-type: none"> <li>✓ Programme for the Oder – 2006</li> <li>✓ Programme for the Vistula</li> <li>✓ the Odra-Vistula Flood Management Project</li> </ul>
<i>Serbia</i>	<ul style="list-style-type: none"> <li>✓ Water Management Strategy at the Territory of the Republic of Serbia until 2034 (adopted in January 2017)</li> <li>✓ Action plan for implementation of the Strategy (not adopted)</li> <li>✓ Water management plan for the Danube River Basin (not adopted)</li> <li>✓ Water management plans in river basin districts (not adopted)</li> <li>✓ Preliminary risk assessment from floods (adopted in 2011)</li> <li>✓ Flood risk management plan for the territory of the Republic of Serbia (not adopted)</li> <li>✓ Flood risk management plans for waterways (not adopted)</li> <li>✓ Arrangement of waterways and protection of detrimental effects of water</li> </ul>
<i>Ukraine</i>	<ul style="list-style-type: none"> <li>✓ National Target Program for the Development of Water Management and Environmental Improvement of the Dnipro River Basin for the period up to 2021</li> <li>✓ Action plans of protection measures from harmful water impact</li> </ul>
<i>EU</i>	<ul style="list-style-type: none"> <li>✓ the Member States prepare programming documents, and monitor the measures of the programs</li> </ul>
<i>Turkey</i>	<ul style="list-style-type: none"> <li>✓ National Flood Management Strategy Document and Action Plan (have not been approved currently)</li> </ul>

### Appendix 3

#### Authorized bodies responsible for implementation of flood protection policies

<b>Belarus</b>	<ul style="list-style-type: none"> <li>✓ Emergency Management Commission of the Council of Ministers</li> <li>✓ Ministry of Emergencies</li> <li>✓ territorial and sectoral subsystems</li> <li>✓ other Republican bodies of state administration</li> <li>✓ other government organizations subordinated to the Government</li> <li>✓ “Belvodhoz”, the State Land, Water and Fisheries Association</li> </ul>
<b>Georgia</b>	<ul style="list-style-type: none"> <li>✓ Subordinated State Entity of Ministry of Internal Affairs – Emergency Management Service</li> <li>✓ Ministry of Environment Protection and Agriculture of Georgia and LEPL – National Environment Agency subordinated to it</li> <li>✓ Ministry of Regional Development and Infrastructure of Georgia and its Subordinated State Entity – Roads Department of Georgia</li> <li>✓ National Security Council</li> </ul>
<b>Poland</b>	<ul style="list-style-type: none"> <li>✓ Council of Ministers</li> <li>✓ Minister of the Interior affairs</li> <li>✓ Provincial Governor, Starost and Head of Commune/Mayor</li> <li>✓ State Enterprise for Managing of the Polish Water Resources</li> <li>✓ National Hydrological and Meteorological Services</li> <li>✓ National Services for the Safety of Impoundment Structures</li> <li>✓ Institute of Meteorology and Water Management</li> </ul>
<b>Serbia</b>	<ul style="list-style-type: none"> <li>✓ General Manager of the Republic Water Directorate</li> <li>✓ Provincial Secretary for Agriculture, Water Management and Forestry</li> <li>✓ General Manager of the Public Water Company «Srbijavode», Belgrade;</li> <li>✓ General Manager of the Public Water Company «Vode Vojvodine», Novi Sad</li> </ul>
<b>Ukraine</b>	<ul style="list-style-type: none"> <li>✓ Ministry of Ecology and Natural Resources (by the Resolution of the Government of Ukraine dated of 02.09.2019 № 829 «Some Issues of Optimization of the System of Central Executive Bodies» was renamed the Ministry Energy and Environmental Protection of Ukraine)</li> <li>✓ State Agency of Water Resources of Ukraine</li> <li>✓ State Emergency Service of Ukraine</li> </ul>
<b>EU</b>	<ul style="list-style-type: none"> <li>✓ European Commission, Directorate-General for Environment</li> </ul>
<b>Turkey</b>	<ul style="list-style-type: none"> <li>✓ Agriculture and Forestry Ministry</li> <li>✓ General Directorate of Water Management</li> <li>✓ State Hydraulic Works General Directorate</li> <li>✓ General Directorate of Meteorology</li> <li>✓ Combating Desertification and Erosion General Directorate</li> <li>✓ General Directorate of Forestry</li> <li>✓ Municipalities</li> </ul>

## List of abbreviations

<b>Best Practice Recommendations</b>	Best Practice Recommendations for Conducting Audits in the Field of Prevention and Consequences Elimination of Floods
<b>Common Position</b>	Common Position on Cooperation within the International Coordinated Audit on the Prevention and Consequences Elimination of Floods
<b>ECA</b>	European Court of Auditors
<b>EUROSAI</b>	European Organization of Supreme Audit Institutions
<b>EUROSAI Working Group</b>	EUROSAI Working Group on the Audit of Funds Allocated to Disasters and Catastrophes
<b>Floods Directive</b>	Directive 2007/60/EC on the Assessment and Management of Flood Risks
<b>INTOSAI</b>	International Organization of Supreme Audit Institutions
<b>ISSAI</b>	International Standards of Supreme Audit Institutions
<b>Joint Report</b>	Joint Report on the Results of the International Coordinated Audit on the Prevention and Consequences Elimination of Floods
<b>SAI</b>	Supreme Audit Institution
<b>UNDP</b>	United Nations Development Programme
<b>Water Framework Directive</b>	Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for community action in the field of water policy.





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