

EMERGENCY NUMBER 112 AND CHALLENGES IN BOSNIA AND HERZEGOVINA

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Abstract: *The Early Warning System is one of the most important elements of Emergency Management. As part of it, emergency Number 112 is one of the tools that ordinary people can use to disseminate warnings or information about natural disasters or other hazards that can or have already hit some people, infrastructure, or natural environment. Most European countries, from Portugal to Russia, already have that short emergency number recognizable, but some countries such as Bosnia and Herzegovina still do not have this number in function. This paper analyzed some challenges that Bosnia and Herzegovina have in the process of establishing emergency number 112 and some guidelines were given, based on experiences of countries that have that system in use for some time.*

Key words: *Critical infrastructure, Law, Protection, Comparison*

1. INTRODUCTION

Natural and other kinds of manmade disasters are common in the contemporary world. It is important to note that the Emergency Events Database reported for 2023, in total 399 disasters related to natural hazards (CRED, 2024). Moreover, according to Atlas Magazine: Insurance News Around the World the number of Technical and man-made catastrophes in 2023 was around 20, but those with big consequences (Atlas Magazine, 2023). Losses of life were huge. The number of fatalities from natural disasters was 86,473 people and 93.1 million people, were also affected by those disasters (CRED, 2024).

However, over the years people have developed ways to prevent and respond to different kinds of natural, technical, and man-made disasters or catastrophes. In that context, Early Warning Systems and emergency numbers, in the contemporary world, become important components of disaster management. The first guidelines for the Early Warning System (EWS) in the European Union were issued in 2001 (King & Sedefov, 2007). For this system to work, the dissemination network is needed, and permanent monitoring through different kinds of operational centers that are networked, and are disseminating information. Moreover, the

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fundamentals of the Early Warning System idea are in developing a system of observation, control, analysis, and forecasting for careful monitoring of the occurrence of risks and threats, timely provision of certain incoming information, and taking measures for preventive action.

As an element of that EWS is short emergency number 112. This number is implemented in all EU countries and, is also used in some countries outside the EU - such as Switzerland, South Africa, Russia, etc. The number 112 is available everywhere in the EU, free of charge.

This paper aims to show the situation in Bosnia and Herzegovina (BiH) when it comes to the implementation of the number 112. According to some national Laws and International commitments, BiH needs to implement that emergency number. Due to the very complicated internal political and state structure, there are many challenges on the way to implementing that emergency number.

This work presents the current situation in the EU related to emergency number 112, then the situation in BiH, and, before conclusion, some ideas and last project that have been done up to now to get emergency number 112 implemented in BiH.

2. EMERGENCY NUMBER „112“ IN EU

Very begging of the 112 number is related to the recommendation of the European Conference of Postal and Telecommunications (CEPT) from 1976, when was recommended to use number 112 as unique European emergency number (91/396/EEC). Moreover, European parliament in its resolution about telecommunication from 12th December 1988, again highlighted need for one emergency number in Europe (OJ C 12, 1989). According to the Council Decision 91/396/EEC, the EU got emergency number 112 and the member states got task to “ensure that the number 112 is introduced in public telephone networks as well as in future integrated services digital networks and public mobile services, as the single European emergency call number.” However, EU issued 2018 Directive 2018/972 about establishment of the European Electronic Communications Code (Directive 2018/972). According to that member states shall ensure that caller location information is made available to the most appropriate the Public Safety Answering Point (PSAP) without delay after the emergency communication is set up. and to ensure the compatibility, interoperability, quality, reliability and continuity of emergency communications in the Union with regard to caller location information solutions, access for end-users with disabilities and routing to the most appropriate PSAP.

At the moment, the emergency number 112 in EU is still in developing phase and next couple information from “The report from the commission to the European parliament and the council on the effectiveness of the implementation of the single European emergency number '112'” that was issues 2022, will give situation overview about that emergency number in EU.

In 2021 calls to the single European emergency number ‘112’ increased by 3% to 153 million compared to 2019. Meanwhile, the total number of emergency calls, including to the national emergency numbers, where these are still in use, remained steady at 270 million. Calls to ‘112’ represented 56% of all emergency calls in 2021. It is estimated that 2.3 million emergency calls were placed by roaming end-users, out of which 1.5 million were ‘112’ calls (European Commission, 2022).

The emergency number ‘112’ is the single emergency number in Denmark, Estonia, Finland, Malta, the Netherlands, Portugal, Romania and Sweden. However, only 23% of calls to ‘112’ in the EU are placed in these countries. The large majority of calls to ‘112’ are placed in Member States where national numbers are still in use. In these Member States, the use of the single European emergency number varies largely, from 5% in Ireland to 97% in Bulgaria (European Commission, 2022).

In most of the reporting EU Member States (18), the lack of availability of network-based caller location information occurs in less than 3% of the calls. Higher rates of failure to provide caller location were reported for the Netherlands (3%), Estonia (4%), Portugal (5%), Ireland 5.5%, Italy (9.4%), Spain (12.3%), Croatia (13.8%) and Latvia (21%). All Member States reported that for calls from mobile networks the location is given by the Cell/sector ID providing a high reliability of the data transmitted to the PSAP operator (European Commission, 2022).

Moreover, 25 EU Member States reported 10 seconds or less for the average answering time needed to get in contact with the emergency services. Also, to comply with this obligation, EU Member States have deployed a broad range of accessibility solutions dedicated to end-users with disabilities, including real time text, total conversation (a multimedia real time conversation service that provides bidirectional symmetric real time transfer of motion video, real time text and voice between users in two or more locations), SMS, emergency applications, web services, relay services, access from special devices, email or fax. Relating to that, the technology that is most deployed is SMS, which ensures a two-way, text-based interaction between the person alerting the emergency services and the PSAP (European Commission, 2022).

As for the neighboring countries, it should be noted that Croatia is the only one to introduce the number 112 so far, but together with the already existing telephone numbers 92, 93 and 94. Serbia and Montenegro still kept separate numbers for each of the emergency services (192, 193, 194 - Serbia, 122,123,124 - Montenegro) and they plan to have all emergency services on the number 112. Only Croatia, of the countries in the surrounding area, managed to fully implement the system for emergency calls 112, while Serbia and Montenegro and further at the beginning of the realization of that project. North Macedonia is in second phase of process to establish emergency number 112.

3. EMERGENCY NUMBER 112 IN BOSNIA AND HERZEGOVINA

Until 2006, observation and notification systems in BiH were carried out at the entity level within the entity Ministries of Defense. With the abolition of entity ministries of defense, entity observation and notification systems were also abolished, and operational centers of civil protection were established (Centar za sigurnosne studije, 2010). In accordance with Article 18 of the Framework Law on Protection and Rescue in BiH („Official Gazette BiH“ No 50/08), Operational-Communication Center (OCC) BiH-112 was formed at the state level.

OCC BiH-112 is located in accordance with the Rulebook on the organization, conditions and functioning of OCC BiH-112 in the basement of the building of friendship between Greece and BiH, which also houses the Ministry of Security of BiH in Sarajevo, which is the primary location of OCC BiH-112. The reserve location of the OCC BiH-112 is in Tuzla in the Cantonal Administration of Civil Protection of the Tuzla Canton. The OCC BiH 112 was opened in Sarajevo on 25th May 2009.

The obligation to form this OCC BiH 112 arose primarily from Directive 2002/22/EC and other mechanisms of the EU Council and Parliament, which strengthen the capacities of the protection and rescue system of the EU member states. This center got the tasks prescribed by the Rulebook on the structure, conditions and manner of functioning of the OCC BiH – 112 („Official Gazette BiH“ No 56/09).

This OCC BiH-112 should be just a coordination center. The establishment of OCC BiH-112, in accordance with the "Feasibility study for the establishment of the 112-communication system for emergencies in BiH", is planned through three phases:

Phase I: Establishment of OCC BiH-112 in Sarajevo;

Phase II: Expansion of the OCC BiH-112 in Sarajevo with additional functionalities related to the expansion of the software and hardware capabilities of the OCC BiH-112, including the integration of the radio communication system, and complete hardware redundancy of the OCC, the establishment of entity centers and the center of the Brcko District of BiH, and the promotion of the 112 system.

Phase III: Expansion of the 112 system, complete geographic redundancy of OCC BiH-112 and entity centers, development of regional and cantonal centers according to legal responsibilities (Agic, 2011).

The development process of the 112-communication system for emergencies in BiH is in phase II. At the moment operational communication centers of FBiH, RS and BD are connected with OCC BiH 112. However, there is no regular exchange of information between those centers, and there is no SOP for information exchange. This OCC BiH 112 cannot receive emergency call 112. It is just institution with that name – Operational Coordination Center of Bosnia and Herzegovina 112. Moreover, that institution supposed to have coordination role according to the article 18 of the Framework law on protection and rescue in BiH („Official Gazette BiH“ No 50/08).

The coordination of OCC BiH-112 is also achieved with the Operational Center for Command and Control of the Armed Forces of BiH and in accordance with the Cooperation Agreement between the Ministry of Defense of BiH and the Ministry of Security of BiH, in the field of responding to natural and other disasters .

At the level of Republic of Srpska, the telephone numbers for each emergency service are still in use: ambulance 124, police 122, firemen 123 and civil protection 121 (Center for observation, notification and warning, or Civil Protection Operations Center). In the Republika Srpska there are six 121 centers, one in the Republican Administration of Civil Protection, which is the Center for Observation, Notification and Warning, and five regional Operational Communication Center 121 in regional departments of civil protection (Banja Luka, Dobo, Bijeljina, Sokolac, Trebinje). In the Federation of BiH, there is an Operational Center of the Federal Administration of Civil Protection, which is called Operational Center 121. There are also cantonal operational centers of civil protection in all ten cantons (Bihac, Orasje, Mostar, Sarajevo, Grude, Livno, Tuzla, Travnik, Zenica, Gorazde). During 2010, the beginning of the implementation of the introduction of a single European number for emergency interventions 112 in the Brcko District of BiH was agreed upon (Vijece ministara, 2011), but only number 121 is in function even they call it the Operational - Communication Center 112.

With the entry of Bosnia and Herzegovina into the Mechanism of Civil Protection of EU, the entities became an integral part of that mechanism. Continuous communication and exchange of information with the Center for Response and Coordination in Accidents - ERCC of DG ECHO is achieved through the Operational Communication Center of Bosnia and Herzegovina - 112 of the Ministry of Security of Bosnia and Herzegovina. It means that the contact point is in the Ministry of Security of BiH in the Operational Communication Center BiH 112 (OKC BiH 112) (Jovicic, 2023).

During the floods that hit BiH in May, June and August 2014, OKC BiH - 112 worked continuously for 24 hours without interruption. These are activities that, first of all, relate to the coordination of receiving international aid, as well as the international cooperation of BiH with other countries and international organizations with the aim of rescuing and recovering people and material goods in flood-affected areas. It also pointed to the importance of coordinating international assistance in protection and rescue, and practically demonstrated

that the Operational and Communication Center 112 BiH is capable of coordinating activities (Ministarstvo bezbjednosti BiH, 2015). Through, OCC BiH 112 received and coordinated a huge amount of international help. The same happened during the COVID-19 pandemic and migrant crises, which started on a bigger scale in 2018.

4. THE FEASIBILITY STUDY FOR 112 IN BIH

To establish emergency number 112 in Bosnia and Herzegovina many studies were conducted. One of the last was the Feasibility Study for 112 in Bosnia and Herzegovina, conducted by International Consulting Expertise in 2023. This document was presented to the Prime minister of entities and Brcko District BiH.

The main aim of preparing the Feasibility Study for 112 in Bosnia and Herzegovina was to define the best-fit solution for implementing the Single European Emergency call number 112 in Bosnia and Herzegovina and its units, which meets the requirements of the European Electronic Communications Code (EECC) and is feasible considering the administrative structure of the country (Frischmann, Janin, Krnjajic, 2023). Also, the current Law on Communications of Bosnia and Herzegovina does not mention the Single European Emergency call number 112. At the moment work on a new Law on Electronic Communications is in progress, and aim is to harmonized it with the European Electronic Communications Code, which defines – among others – the requirements relating to 112 operations. The implementation of the 112 system shall be based on the new Law and Rulebook to be put into force before starting the implementation. Considering the complexity of the legislation system in the country and the many potential pitfalls ahead of adoption of a BiH level law and even within the Federation of BiH, it is questionable how to do it in the future.

The Regulatory Communications Agency (RAK), as one of the most important stakeholders in the project to develop emergency number 112, unfortunately do not show great interest in the project. During the research for the Feasibility Study 112 for Bosnia and Herzegovina 2023 consultants made numerous efforts to organize discussions with RAK, to present and emphasize their importance in the process of establishing emergency number 112 in the country. Consultants had just one meeting and after that it was not possible to organized another (Frischmann, Janin, Krnjajic, 2023).

During the same project, meeting with three biggest telecom operators in the country: BH telecom, MTel and Eronet HT, was organized by Ministry of Security. The purpose of the meetings was to notify them that the implementation of the 112 number is coming and that they should prepare themselves both technically and operationally for the change. All three operators welcomed the forthcoming change and expressed willingness to cooperate, within the scope of their possibilities, and respecting the current legislation and RAK as their regulator. Those three operators are national operators and they acting in accordance to political decisions.

Also there is important to highlight that the Ministry of Security BiH (MoS) should not have any operational role in operating the 112 systems within the entities / BD BiH. The MoS should not have jurisdiction over the emergency services and suppose to act just as a Single Point of Contact (SPoC) towards international organizations and EU Civil Protection Mechanism. In that context, an optimal allocation would be the Operation and Communications Centre – 112 within the MoS which serves as a state level and neutral organization (being independent from the entities / BD BiH and the PSOs). However, in order to offer an alternative on hosting the handover point by OCC BiH-112 in MoS, The Feasibility Study included two technical options assuring complete independence and isolation (like a

separate country), for the case if that is the absolute basic pre-condition of having the 112 introduced in BiH at all. (Frischmann, Janin, Krnjajic, 2023).

That Feasibility Study 112 for Bosnia and Herzegovina come up also with some Legal Recommendations such as: Continue working and reach consensus on the new Law on Electronic Communications (or amendment to the current Law on Communications) – this is a basic pre-condition of any implementation steps.

It is very important that the Feasibility Study gave recommendation for independence of entities / BD BiH in all matters relating to internal operations (e.g. organization, structure, hosting, relation of 112 and PSOs, entity-internal SOPs) but coordination in all state levels (horizontal and vertical coordination) or inter-entity/BD BiH issues (e.g call handover SOP in case of misdirected calls by telecom operators, standard/technical matters of telecommunications solutions).

The entities and BD BiH shall internally regulate at least structure of 112, hosting organization of Data Centers, Call Centers, organizational and staffing framework, financing of Facility, Standard Operative Procedures, Updating Rulebooks etc.

5. CONCLUSION

According Council Decision of 29 July 1991 on the introduction of a single European emergency call number (91/396/EEC), “the single European emergency call number shall be introduced in parallel with any other existing national emergency call numbers, where this seems appropriate.” It means that the emergency number in entities in BiH can remain together with the number 112, and that number can be available mostly to the visitors in BiH as an emergency number. Just eight member states of the EU have just 112 emergency numbers all other states have 112 national emergency numbers, too.

One of first steps to implement emergency number 112 is to change Law on Electronic Communications in order to harmonize it with the European Electronic Communications Code, which defines – among others – the requirements relating to 112 operations. It would be very useful that Republic of Srpska issues his on Law on Electronic Communication in order to define emergency number 112, as soon as possible.

There is an option from The Feasibility Study which included a technical option assuring complete independence and isolation (like a separate country), for the case “if that is the absolute basic pre-condition of having the 112 introduced in BiH at all”, and it is. So there is a solution that we can use as the Republic of Srpska and we should find sponsors and experienced partners to implement 112 emergency a number on our one territory. The OCC BiH 112 can remain a point of contact with the EU and other international organizations as agreed upon already.

To full fil this task, Republic of Srpska needs right technology, an experienced partner (some of EU or other countries that already have this number implemented), and one real and customized plan. Also, to implement this number in BiH political will is something that must be achieved, otherwise there will not be any improvement in emergency number 112 implementation in near future.

REFERENCES

112 – magistarski rad. Sarajevo: Fakultet politickih nauka.

Agic, S. (2011). Pristup konceptu jedinstvenog Evropskog broja za hitne situacije

Atlas Magazine: Insurance News Around the World (2023). Technical and man-made catastrophes in 2023. *Available from* <https://www.atlas-mag.net/en/article/natural-catastrophes-and-man-made-disasters-in-2020>. *Accessed:* 2024-06-30.

Centar za sigurnosne studije. (2010). Zastita i spasavanje u Bosni i Hercegovini. Sarajevo.

CRED (2024). 2023: Disasters in Numbers, Brussels: CRED, *Available from* https://files.emdat.be/reports/2023_EMDAT_report.pdf. *Accessed:* 2024-06-01.

DIRECTIVE (EU) 2018/1972 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 establishing the European Electronic Communications Code. *Available from* <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L1972>. *Accessed:* 2024-06-05.

European Commission. (2022). REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the effectiveness of the implementation of the single European emergency number '112' Brussels, 16.12.2022, COM (2022) 724 final. *Available from* <https://ec.europa.eu/newsroom/dae/redirection/document/93399>. *Accessed:* 2024-05-20.

Frischmann G., Janin G., Krnjajic M. (2023). Feasibility Study 112 for Bosnia and Herzegovina Framework Contract SEIA 2018 – LOT 3: FINAL REPORT V.1.0. International Consulting Expertise EEIG & EU. Brussels, Belgium.

Jovicic, R. (2023). Uloga Bosne i Hercegovine u mehanizmu unije za civilnu zastitu sa akcentom na prirodne katastrofe - naucna studija. Banja Luka.

King, A.L. & Sedefov, R. (2007). Early Warning System on new psychoactive substance – Operating guidelines. EUROPOL. European Monitoring Centre for Drugs and Drug Addiction.

Ministarstvo bezbjednosti BiH. (2015), Izvjestaj o radu vijeca ministara Bosne i Hercegovine za 2014. godinu, Sarajevo.

OJ C 12. (1989). Resolution on the need to overcome the fragmentation in telecommunications. *Available from* <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:1989:012:FULL>. *Accessed:* 2024-06-25.

Vijece ministara. (2011). Izvjestaj o radu Vijeca ministara Bosne i Hercegovine za 2010. Godinu. Sarajevo.

„Official Gazette BiH“ No 50/08.

„Official Gazette BiH“ No 56/09.

91/396/EEC. (1991). Council Decision of 29th July 1991 on the introduction of a single European emergency call number *Available from* <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31991D0396>. *Accessed:* 2024-06-22.