READY 2 RESPOND

Diagnostic Report

Emergency Preparedness and Response Assessment



Montenegro

EUROPEAN UNION

GFDRR
Global Facility for Disaster Reduction and Recovery

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This document is one of five **Ready2Respond** (R2R) analysis reports commissioned by the World Bank and conducted by Prepared International (PPI) to assess the emergency preparedness and response capacities of five Western Balkan nations. Each report includes a summary of the findings and identifies key investment recommendations for each of the five R2R components. The full diagnostic report is included as annex 1; further details on data collection are to be found in annex 2.

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Abbreviations

CBRN	chemical, biological, radiological, and nuclear
DEM	Directorate for Emergency Management
DMIS	Disaster Management Information System
DRR	disaster risk reduction
EOC	emergency operations center
EP&R	emergency preparedness and response
EU	European Union
FORS	Foundation for Development of Northern Montenegro
GDP	gross domestic product
GIS	geographic information system
GIZ	German Agency for International Cooperation
hazmat	hazardous material
IFRC	International Federation of Red Cross and Red Crescent Societies
IHMS	Institute of Hydrometeorology and Seismology of Montenegro
NATO	North Atlantic Treaty Organization
NGO	nongovernmental organization
NICS	Next Generation Incident Command System
PPI	Prepared International
R2R	Ready2Respond
SOP	standard operating procedure
UCPM	Union Civil Protection Mechanism
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WASH	water, sanitation, and hygiene
WHO	World Health Organization

Executive Summary

In 2020, the World Bank engaged Prepared International (PPI) to support the Western Balkan disaster risk management program by providing an assessment of current national and regional emergency preparedness and response (EP&R) capacities. PPI undertook **country-specific assessments of EP&R capacity in five Western Balkan** nations (Albania, Bosnia and Herzegovina, Kosovo, Montenegro, and North Macedonia) using the Ready2Respond (R2R) diagnostic methodology. Based on these findings, PPI identified priority EP&R investments at country and regional levels. This report includes the assessment of Montenegro's EP&R capacities and the associated priority investments; a more detailed investment report is published separately.

The diagnostic is designed to be an objective, data-driven foundation to engage country counterparts in EP&R development projects. The methodology builds on five core components—legal and institutional frameworks, information, facilities, equipment, and personnel—which are further divided into 18 criteria, 72 indicators, and 360 attributes. Montenegro received reasonable scores for the R2R diagnostic, **achieving an overall score of 165 out of 360**. Overall, the country is rather well prepared, although the EP&R system presents substantial disparities in its capacities. The lowest scores in the diagnostic are for the criteria on information management systems, financial preparedness, and training centers. Montenegro scores high in the criteria on emergency social services, information and communications technology, incident organization structures, and early warning systems.

The diagnostic finds that there are two sides to the **EP&R system in Montenegro**. On the one hand, the parts of the system that are in place are reasonably well developed and have minimal developmental needs. On the other hand, the system presents clear gaps—that is, areas where so far little to no progress has been made. EP&R actors have agreed on where the gaps in the system are, and some areas have clear plans in place regarding how to further strengthen them. The EP&R system would clearly profit from consolidating existing practices into a systematic, forward-facing, and programmatic approach, and from strengthening the capacities in fields that score very low. In addition, frequent testing of response plans and structures is needed in the absence of any major disaster during the past 40 years. Finally, though response capacities are acceptable, the country should strengthen its preparedness and prevention culture.

PPI recommends investing in **the fundamental components for responding to the main risks in the country**: floods and earthquakes. However, the risk environment also encompasses new challenges such as climate change, migration, pandemics, and increasing tourism. To properly recognize these new risks, the system needs further adjustments to equipment, capacity building, and technology. Multiple good practices have been identified in the country; now the task is to complement and further strengthen the existing EP&R system and to connect the parts of the system so that they develop further and mutually strengthen each other.

The separate investment plan includes three investment scenarios for a total sum of US$92,314,000, made up of short-term investments carried out in the first year (US$11,410,000), medium-term investments carried out over one to three years (US$41,024,000), and long-term investments carried out over more than three years (US$39,880,000). The investment plan also includes three sets of priorities for investments as summarized in table ES.1.

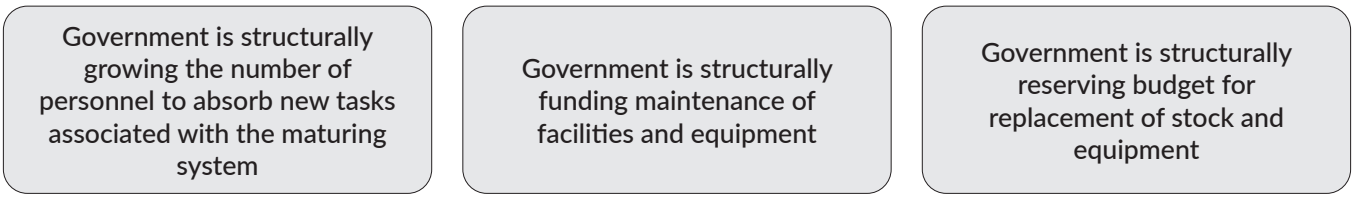
Table ES1 Investment Priorities

Priority 1 21,564,000 USD	Strengthen financial preparedness for disasters	Legal and institutional accountability
	Fill the remaining gaps in the legislative framework	Legal and institutional accountability
	Strengthen community education programs	Information
	Upgrade and repair monitoring systems across the country (Phase 1)	Information
	Foster the development of vulnerability mapping for DRR purposes	Information
	Consolidate the potential of NICS (Phase 1)	Information
	Consolidate a national emergency training center	Facilities
	Strengthen emergency medical services (Phase 1)	Equipment
	Conduct multi-agency, multi-stakeholder exercises	Personnel
Priority 2 40,615,000 USD	Establish an emergency procurement system	Legal and institutional accountability
	Strengthen personal financial risk transfer programs	Legal and institutional accountability
	Upgrade and repair monitoring systems across the country (Phase 2)	Information
	Strengthen the capacities of the 112 center	Facilities
	Improve capacities of warehouses	Facilities
	Enhance wildland firefighting capacities	Equipment
	Strengthen urban firefighting capacities (Phase 1)	Equipment
	Undertake systematic and interagency training program for responders	Personnel
	Record lessons learned from the ongoing COVID-19 crisis	Personnel
Priority 3 30,135,000 USD	Consolidate the potential of NICS (Phase 2)	Information
	Promote and strengthen disaster evacuation routes	Facilities
	Strengthen emergency medical services (Phase 2)	Equipment
	Strengthen urban firefighting capacities (Phase 2)	Equipment
	Strengthen hazmat capacities of response stations	Equipment

Note: DRR = disaster risk reduction; NICS = Next Generation Incident Command System.

At the same time that it invests in development projects, the government of Montenegro is advised to structurally grow its personnel budget and hire and train new personnel in order to absorb the new tasks related to policy, analysis, and data management associated with the maturing system. The government is also advised to budget for maintenance and replacement of equipment and facilities at the end of their expected life spans (figure ES.1). The identified priorities are based on the R2R diagnostic and first seek to strengthen the legislative and institutional frameworks to support the functioning of the other components. Identified priorities are also based on priority needs as assessed. In order to strengthen broad institutional support for investments, discussion of priorities among stakeholders is advised.

Figure ES1 Parallel Structural Budget Requirements



Introduction

The Ready2Respond (R2R) framework was developed in reference to the role of the World Bank in disaster risk reduction (DRR). While strengthening emergency preparedness and response (EP&R) is a sound investment on its own, it also supports the World Bank Group's broader risk reduction efforts and its fundamental goal of eliminating poverty and shared prosperity. According to a recent World Bank report, the impact of extreme natural disasters is equivalent to a US$520 billion loss in annual global consumption, and forces some 26 million people into poverty each year (Hallegatte et al. 2017). A functional response reduces felt consequences and enables rapid recovery, reducing cumulative impacts to public safety and the economy. Thus ensuring capacity for emergency response protects World Bank Group investments across development sectors, as well as the development gains arising from those investments. EP&R capacity must keep pace with development and demographics to ensure these gains are not lost as a consequence of disasters and emergencies. In essence, an EP&R system with sufficient capacity is the first line of defense for World Bank Group investments and country development.

This Report

This report includes the assessment of the EP&R capacities of Montenegro based on the **R2R diagnostic methodology**, as designed by the World Bank and executed by PPI. Data from a desk review[1] and key informant interviews, conducted in the format of an online field mission,[2] generated findings on the five core components of the diagnostic—legal and institutional frameworks, information, facilities, equipment, and personnel—which include 18 criteria, 72 indicators, and 360 attributes in total.

This report provides a summary of the EP&R capacities per component, as assessed by PPI in the first half of 2020; the full assessment report, structured in accordance with the R2R methodology, can be found in annex 1. The report also identifies and makes recommendations about key investments that the World Bank and other stakeholders can consider as they seek to strengthen EP&R capacities in the country. A more detailed investment report is published separately.

Country Risk Profile

Montenegro's main hazard exposure is to floods and earthquakes. Flooding affects 10,000 people annually on average and causes an average of US$90 million in damage to the national gross domestic product (GDP). During the last 20 years, Montenegro has experienced six destructive floods; the three largest took place in 2000, 2010, and 2011. Earthquakes on average affect 9,000 people and US$70 million in GDP annually. The most devastating earthquake took place in 1979 and remains etched in national memory as a watershed event. It is still used as a baseline in discussions of EP&R. In addition, Montenegro is susceptible to heavy rainfalls, flash floods (typically in urban areas), melting snow, landslides, and wildfires. These events impact settlements, industrial facilities, and agricultural lands. Despite the limited proportion of agricultural land in the country, agriculture is still the most important sector for those residing in rural areas. Forests cover 60 percent of Montenegro's area, and the country boasts a coastline that is key for the tourism industry; hence wildfires and maritime incidents are notable hazards. The most vulnerable areas include the Skadar Lake region, the Bokana River, and the capital, Podgorica, because of its dense population. River valleys are relatively small but contain the largest settlements. Over half (60 percent) of the population lives in urban settlements. Montenegro's GDP comes mainly from services, with a small portion generated from industry and agriculture. The Strategy for Disaster Risk Reduction elaborates upon all possible risks affecting the territory of Montenegro.

[1] A list of the documents reviewed is included in annex 3.
[2] The online mission schedule is included in annex 2.

Methodology

The assessment uses the **R2R diagnostic methodology**, as designed by the World Bank. The methodology "improves national, sub-national and city resilience mechanisms and protects development gains through investments in emergency preparedness and response . . . systems" (GFDRR and GSURR 2017, 5). "The encompassing City Resilience Program . . . and other World Bank resilience platforms" inform the methodology (GFDRR and GSURR 2017, 5).

The diagnostic is designed to be an **objective, data-driven** foundation to engage country counterparts in EP&R development projects. The methodology builds on the five core components of emergency preparedness and response shown in figure 1: legal and institutional frameworks, information, facilities, equipment, and personnel.

Figure 1 Emergency Preparedness and Response System Core Components

Source: GFDRR and GSURR 2017.

Each of the five components is measured by a set of criteria that addresses an aspect of a functional EP&R system for a given country. To score each criterion, 72 indicators related to 360 attributes have been developed.

Overall R2R Results

As indicated, the methodology comprises 360 attributes. These represent elements of the EP&R system that should be in place in a fully mature system. The maximum score that can be achieved is therefore 360. Montenegro has an overall score of 165. This means that 195 attributes of the EP&R system are currently absent or were not in place at the time of the analysis. In order to support an overall understanding of the relative weakness or strength of elements in the EP&R system, the average scores for each of the five components and 18 criteria have been calculated and transposed to scales from 0 (absent) to 5 (fully in place). These are listed in table 1 and represented graphically in figure 2.

Table 1 Average EP&R Component and Criterion Scores for Montenegro

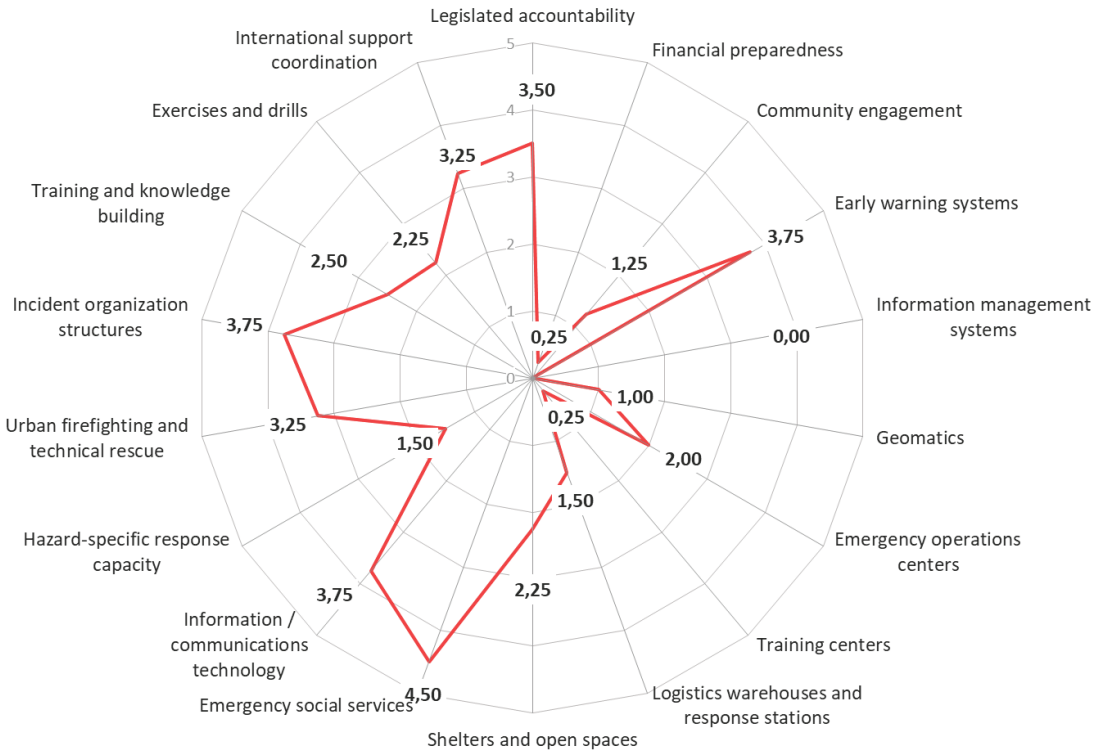
Component	Score (0 to 5)	Criteria	Score (0 to 5)
1 **Legal and institutional accountability**	1.88	1.1 Legislated accountability	3.50
		1.2 Financial preparedness	0.25
2 **Information**	1.50	2.1 Community engagement	1.25
		2.2 Early warning systems	3.75
		2.3 Information management systems	0
		2.4 Geomatics	1.00
3 **Facilities**	1.50	3.1 Emergency operations centers	2.00
		3.2 Training centers	0.25
		3.3 Logistics warehouses and response stations	1.50
		3.4 Shelters and open spaces	2.25
4 **Equipment**	3.25	4.1 Emergency social services	4.50
		4.2 Information and communications technology	3.75
		4.3 Hazard-specific response capacity	1.50
		4.4 Urban firefighting and technical rescue	3.25
1 **Personnel**	2.94	5.1 Incident organization structures	3.75
		5.2 Training and knowledge building	2.50
		5.3 Exercises and drills	2.25
		5.4 International support coordination	3.25

Source: R2R assessment findings.
Note. Scale from 0 (absent) to 5 (fully in place).

Montenegro has received reasonable scores for the R2R diagnostic. Overall, the country is rather well prepared, although the EP&R system presents substantial disparities in its capacities. The lowest scores in the diagnostic are for the criteria on information management systems, financial preparedness, and training centers. Montenegro scores high in the criteria on emergency social services, information and communications technology, incident organization structures, and early warning systems. The R2R diagnostic helped identify several concrete key investment opportunities that are expected to improve the EP&R system overall.

The EP&R system seems to have two sides, as is apparent in figure 2. On the one hand, the parts of the system that are in place are reasonably well developed and have minimal developmental needs. On the other hand, the system presents with clear gaps, where so far little to no progress has been made. EP&R actors have agreed on where the gaps in the system are, and some areas have clear plans in place regarding how to further strengthen them. The EP&R system would clearly profit from consolidating existing practices into a systematic, forward-facing, and programmatic approach, and from strengthening the capacities in fields that score very low. In addition, frequent testing of response plans and structures is needed in the absence of any major disaster during the past 40 years. Finally, though response capacities are acceptable, the country should strengthen its preparedness and prevention culture.

Figure ❷ Diagnostic Scores for Montenegro



Source: R2R assessment findings.
Note: Scale is from 0 (absent) to 5 (fully in place).

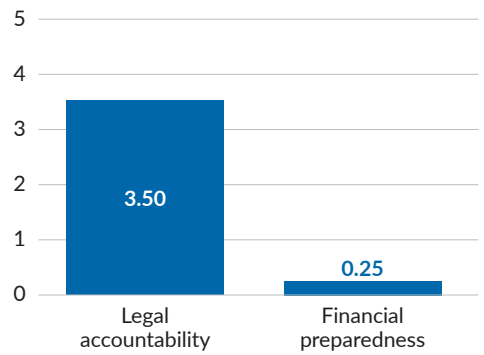
COMPONENT 1 Legal and Institutional Accountability

Component Overview

Internal and external clarity about the role of various public and private agencies is critical during disaster and emergency response. Where ambiguity exists, inefficiency and jurisdictional overlap are likely, and human and economic losses may be greater than they would otherwise be.

Improving clarity about institutions' preparedness and response roles can be a potent means to improve resilience at various levels of government. Further, clarity about roles ensures that World Bank investments in capacity do not lead policy but instead that policy comes first, with financial and technical support provided at the right time to the right agency.

Figure 3 Scoring for Legal and Institutional Accountability



Source: R2R assessment findings.
Note: Scale is from 0 (absent) to 5 (fully in place).

Ideally these accountabilities are clearly enshrined in legislation with directive regulations. Where possible, coordinated policy instruments should identify the operational expectations for agencies assigned a preparedness and response mandate. However, even in the absence of complete organizational clarity, investment in preparedness and response can often improve a jurisdiction's ability to mitigate impacts and limit disaster- and emergency-related losses.

Component Conclusions

Montenegro has the necessary emergency management legislation in place to regulate the management and functioning of the rescue and protection system. The Ministry of Interior is responsible for the management of emergencies. In this system, the Law on Rescue and Protection of 2007 and its amendments (*Official Gazette of Montenegro* Nos. 13/07, 32/11, and 54/16) form the central legal backbone for any work in EP&R in the country. EP&R actors interviewed for the diagnostic were able to derive their responsibilities from this law, which appears to be well understood and to provide an appropriate framework to guide the system. Additional laws and bylaws have been developed; the most recent is the Law on Critical Infrastructure of 2019, which is currently being implemented. Gaps in the legal framework include a law to regulate volunteer engagement (such a law was drafted but deemed unsuitable) and a law to guide the work of the Mountain Rescue Services. Montenegro has adopted a Strategy for Disaster Risk Reduction for 2018–2023; but to effectively move from response-concentrated habits to a culture of prevention and preparedness, it needs to implement the strategy further and become more aware of DRR in general.

Rescue and protection plans are defined at three levels: national, municipal, and operational. Preparedness plans at the municipal level need to be strengthened. On paper, agencies are required to have detailed plans on their state of preparedness, but a lack of capacity and knowledge has thus far hindered the development of contingency plans. Recently, more attention has been given to improving the quality and compliance of operational response plans. The

Directorate for Emergency Management (DEM) aims to increase its inspections in this regard but lacks knowledge and capacities for doing so.

The EP&R system in Montenegro has appropriate delegations of authority in place. For all actors, it is clear and accepted that the DEM is the main coordinating body and focal point in country. The country's small size facilitates the simplicity of the EP&R system with a national, an operational, and a municipal level. When needed, local municipalities can request additional disaster response support from the national system, either through the operational team or by sending a request through the 112 Operational Communication Center. Coordination could be further enhanced by regularly testing and validating these procedures.

Financial preparedness scores very low in the diagnostic, mainly due to the absence of a predefined and specific budget for EP&R. Montenegro has no national financial risk management strategy or risk transfer instruments in place. EP&R actors have their operational budgets for staff costs and maintenance, but resources were considered too small for larger procurement needs, capacity building, and personnel development. Key informants advised a more programmatic and long-term financial approach to compensate for dependency on external funding sources. The country likewise lacks a system for emergency procurement. The Foundation for Development of Northern Montenegro (FORS), a nongovernmental organization, has helped compensate for project management capacities and provided valuable support to the authorities by attracting external funding. Yet FORS has no role in actual emergencies or procurement. In general, the country lacks an effective financial management policy, a situation that limits transparency and accountability within the system. Finally, personal financial risk transfer programs exist for the most common hazards, but the penetration is low across the country due to lack of public awareness and government promotion.

1 Key Investment Opportunities

RECOMMENDATION 1

Establish an emergency procurement system

Emergency procurement is essential to ensure that disaster-related capacity needs can be addressed as fast as possible and that emergency responders can work in an effective and efficient manner. At this moment, Montenegro does not have such an emergency procurement system, and the country would benefit from this kind of flexibility to improve its EP&R system. The outsourcing of project management to FORS has been praised as a welcome way to overcome limited human capacities within authorities, but a similar approach for emergency procurement is not possible under the current administration. The current Law on Public Procurement should therefore be amended to provide better coverage of DRR-related issues, especially in relation to emergency procurement in times of disasters. The development of such a system would need to occur in parallel with the start of procurement forecasting and the strengthening of public-private partnerships.

RECOMMENDATION 2

Establish a dedicated ep&r budget

The EP&R system in Montenegro would benefit from establishing a dedicated budget for emergency response and preparedness. Currently, financial allocations are not programmatic enough to ensure sustainability and effectiveness. The dependency on external contributions remains high, resulting in challenges in compatibility and interoperability. A lack of budget also creates disparities in the quality of the EP&R system across the country. For example, the capital Podgorica reserves a sufficient amount for EP&R, but actors in other municipalities across the country (especially in the north) are not as well equipped to handle EP&R situations.

RECOMMENDATION 3

Fill the remaining gaps in the legislative framework

Montenegro has the necessary basic legislation in place to guide the EP&R system and to ensure clear and appropriate delegations of authority. However, there are some gaps in the legislative framework that would need to be filled to further enhance the scoring of this component. The role of several actors in the system is insufficiently explained in the legal framework. In particular, the responsibilities of volunteers and the Mountain Rescue Services need clarification. In addition, the responsibilities and participation of the armed forces could be clarified to consolidate their cooperation. The latter deserves special attention due to the current dependency on specific hazard-response capacities of the armed forces, e.g., hazmat response and coastal and flood rescue.

RECOMMENDATION 4

Establish government-led awareness campaigns on personal financial risk transfer programs

Montenegro was found to be lagging in personal financial risk transfer programs. Although the insurance policies offered in the country were considered affordable, the percentage of households that carry such insurance was identified as low, even in high-risk zones. The market was said not to attract further products, possibly because people consider the government more likely than insurance companies to cover any disaster-related claims. However, the government has no public risk management program, and such governmental support is expected to drain the country's GDP. Government-led promotion campaigns to raise awareness of these products could increase coverage across the country and are recommended. This effort to develop the insurance market could potentially happen together with initiatives in other countries to provide for a regional approach.

COMPONENT 2 Information

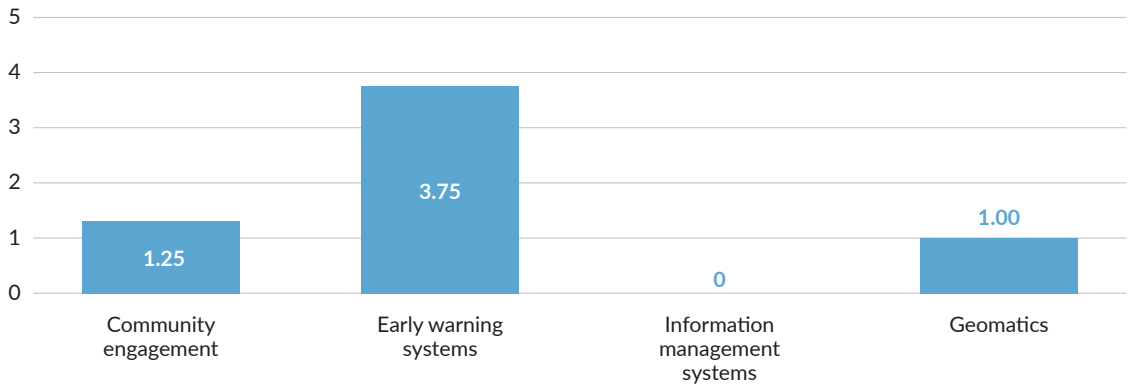
Component Overview

The collection, analysis, and swift dissemination of information enables better decision-making in advance of emergencies, during response operations, and through the transition to early recovery. Impacts from emergencies are felt locally, and so community engagement is vital to a well-developed state of preparedness.

The information used for preparedness and response includes the information generated from early warning systems; this information provides local residents—and the response teams that support them—with advance notice of emerging hazardous events. Other relevant emergency information comes from responding agencies and social media; coordination of this information ensures horizontal and vertical situational awareness that enables efficient, coordinated, and prioritized response operations.

Finally, the development of hazard and vulnerability maps along with other georeferenced emergency information, captured digitally and shared electronically, provides decision-makers with a key resource for planning across time scales to reduce risk. However, for high-quality information to have an impact, it must be utilized both by the affected community and by well-trained, committed personnel that have the appropriate equipment to respond safely and effectively to the given event.

Figure 4 Scoring for Information



Source: R2R assessment findings.
Note: Scale is from 0 (absent) to 5 (fully in place).

Component Conclusions

The diagnostic component on information gives remarkably diverse ratings to the four criteria. The highest rating was given to the criterion on early warning systems. The country has a fairly good system in place for early warning, though there is room for further improvement. The Institute of Hydrometeorology and Seismology of Montenegro (IHMS) has a monitoring and surveillance program that provides data on upcoming or existing hazards, including the most common hazards in the country. The system includes multiple monitoring stations across the country, although several need to be renewed or repaired. The data that reach the stations are properly analyzed, but more effort could be made to include crowdsourced data. Shortcomings were identified in development of real-time warning messages

and in the warning message distribution system, which relies on traditional media. Real-time systems could further enhance early warning through use of mobile phones and SMS messages.

Community engagement is limited by the comparatively few volunteering opportunities available. Individual organizations decide whether to make use of volunteers; where volunteers are used, they are properly included in trainings and exercises and receive necessary equipment. Volunteers are active in both the Red Cross and the Protection and Rescue Services in Podgorica. However, the full potential for volunteering remains untapped. The same finding applies to community education: individual good practices can be found, but a common and programmatic approach to educate the population does not exist, resulting in insufficient awareness and preparedness among citizens. The Sendai Framework for Disaster Risk Reduction emphasizes local-level prevention and preparedness, particularly targeting first responders; this part of Montenegrin civil protection is in need of serious strengthening, particularly in terms of equipment and capacity building.

Inclusion and usage of geomatics is growing in the country; however, the field requires further investments to become a standardized element of the EP&R system. An initial challenge is the absence of proper risk maps. Existing data need to be brought together and verified with the existing situation in order to properly map the vulnerabilities in certain communities. Only a small number of municipalities have drafted their own risk maps. Data on buildings are not connected with existing hazards at a given location. Projects are ongoing to strengthen the mapping of structural and social vulnerabilities, in particular in light of the ongoing implementation of the Next Generation Incident Command System (NICS).

Finally, Montenegro does not have a functional information management system in place to support emergency management activities. Instead, actors use their own information management systems, resulting in fragmentation of information and data, creating problems at local and national level, and limiting the effectiveness of the system overall. One reason for the absence of an overarching information system is lack of specific budget allocations for this purpose. Another reason is the DEM's limited capacity to integrate and analyze data.

2 Key Investment Opportunities

RECOMMENDATION 1

Advise the government on how to develop community education programs

The diagnostic has identified community awareness as an area for improvement. Though national and international actors have attempted to make communities and the general population more aware of how to prepare for and respond during emergencies, there is no programmatic approach in place. The government should be advised on how to develop community education programs, including school curricula, local leaders' education, and community-led mitigation works. Since previous initiatives have been supported by the United Nations Development Programme(UNDP) or United Nations Children's Fund (UNICEF), it is recommended that a common approach be adopted for greater coherence with these international support efforts. Modern and innovative DRR and civil protection training materials need to be developed, and training needs to be offered to community leaders. A situational analysis and needs assessment should be the first step in developing the appropriate training.

RECOMMENDATION 2

Invest in upgrading and repair of monitoring systems across the country

An early warning system is in place in Montenegro, but the monitoring and surveillance system would benefit from investments to ensure that the monitoring stations and equipment are functional and adapted to current requirements, including automatization and digitalization of information sharing. Such investments would speed up the warning systems, resulting in longer lead time. A multi-track early warning system, including various methods to alert the population, is recommended. Currently, the stations for monitoring seismological risks need urgent repair. Solutions also need to be found to compensate for missing weather radars.

RECOMMENDATION 3

Invest in ongoing projects to strengthen the development of vulnerability mapping

Montenegro's DRR Strategy includes the commitment to better map vulnerabilities and risks. To meet this commitment, a project is currently being explored with the Faculty of Civil Engineering to gather existing data and add new data collected in cities and municipalities. This is a concrete investment opportunity, and a cost and time estimate has already been forwarded to the authorities. Progress in this area should occur in cooperation with the Real Estate Administration, which possesses data on buildings and facilities. The development of vulnerability mapping could also build on the implementation of the critical infrastructure legislation and its corresponding database. Advances in this area are expected to enhance the sustainability of structures and to decrease the disaster-related risks associated with new buildings, minimizing possible damages caused by disaster impact.

RECOMMENDATION 4

Support the government to ensure that the nics is capable of closing the gap with regard to information management

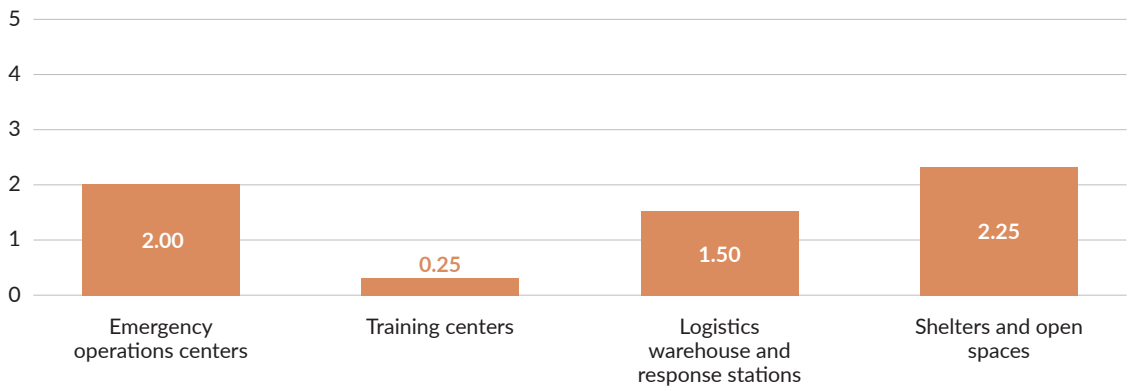
At this moment, though the country has no common information management system, it is in the process of implementing the NICS system. There are high expectations that the NICS will deal with a number of shortcomings in the system, including in geomatics and information sharing. This is an important opportunity for growth. However, further support and advice are needed to ensure that the development of the NICS considers the findings of this diagnostic. All the emergency operations centers (EOCs) should be aligned with the use of NICS and/or compatible IT and geographic information system (GIS)-supported tools; this step would enable monitoring of technical resources, collection of all available push data, and planning, predictions, and simulations. EP&R actors seeking to ensure that their structure and procedures are compatible with the NICS have some specific needs. For example, the Red Cross needs an additional server to connect with NICS and the 112 center will need to purchase additional software. Other needs include development of software tools supporting decision-making, procurement of equipment, and completion of capacity-building training.

COMPONENT 3 Facilities

Component Overview

Coordination of effort for EP&R activities requires a structural presence, be it for command and control, movement of emergency aid, or the staging of response teams and their equipment. These physical facilities act as a core element in establishing a culture of preparedness, ensuring a dependable common operating picture and resilient services when most other critical infrastructure and government services are disrupted. This component ensures that there is a nexus for information, personnel, and equipment as the EP&R system matures through focused investment.

Figure 5 Scoring for Facilities



Source: R2R assessment findings.
Note: Scale is from 0 (absent) to 5 (fully in place).

Component Conclusions

Most basic EP&R facilities exist in Montenegro, with the exception of a common training center and mobile command posts. However, the existing facilities would benefit from better advance planning, more human and financial resources, and a harmonized approach. For example, the desk review research did not clearly indicate whether the 112 center also serves as the EOC. The de facto situation is that while the center is capable of performing tasks related to the 112 emergency number, it lacks the necessary human resources for the additional responsibility of coordinating between emergency responders. The combination of these tasks is said to put a heavy burden on the staff. An additional problem is that the center can share information and request dispatch but does not have the actual mandate to deploy teams. There are no backup systems in place for sending in more capacities when the center is overwhelmed. The country has no mobile command posts at all.

EP&R actors have their own training capacities, but multi-agency training is hampered by the absence of a national training center. Joint training enables common learning and exchange of experiences, which are essential elements for an effective response by multiple emergency rescuers. Currently, integrated trainings occur on ad hoc basis. Montenegro has two well-located training facilities with the necessary capacities and equipment, which could be made use of more often. The first is the Red Cross center near the coast, which is used for national and international training purposes and to host trainings of other responders. The second facility belongs to the Rescue and Protection

Services in the capital; it was built in 2003 by the European Union (EU) and is said to offer the necessary modern equipment. Although these premises are not equipped with accommodation facilities, discussions are ongoing with national authorities to expand and transform them into a national training center.

Montenegro has two types of warehouses. The DEM owns several warehouses for equipment, and the Red Cross has warehouses for incoming humanitarian assistance. Good cooperation exists between authorities and the Red Cross, which facilitates the storage of incoming goods. However, the capacities of the warehouses could be further improved. The Red Cross warehouses lack refrigerators, which makes storage of food items problematic and forces their immediate distribution. The second Red Cross warehouse (for equipment) is in need of urgent repairs to meet standards. The DEM is currently building a new warehouse with modern equipment, but it will be hampered by limited staff and transportation capacities. In terms of response stations, the number is said to be adequate, but equipment and staff capacities of the different stations differ across the country.

Local response plans are required to include sheltering possibilities and locations for command posts, resources, and evacuation vehicles. In practice, the quality of designated spaces differs across municipalities. Since there are no agreements in place with the private sector, only public buildings and public land can be included in the planning. The Red Cross and the armed forces provide additional shelter capacities. The identification of safe evacuation routes was called a challenge for the EP&R system by multiple interview partners. There is a clear need to better publicize evacuation routes and increase the local populations' awareness of them.

3 Key Investment Opportunities

RECOMMENDATION 1

Invest in increasing the capacities of the 112 center so it can execute its role as emergency operations center

The responsibilities of a 112 center and an EOC are linked but not necessarily the same. While there is a clear advantage for these two centers to operate from the same physical building, the necessary human and financial resources for the functioning of both must be in place and properly supported. Currently, Montenegro's EOC capacities are lacking. The 112 center's own development plan calls for strengthening the center so that it is better equipped to execute emergency operations responsibilities; this is considered a key investment opportunity. Enabling the 112 center to perform this central function would also entail procuring the necessary equipment and software to digitalize information sharing.

RECOMMENDATION 2

Invest in the consolidation of a national training center

The existence of a national training center is expected to facilitate a consistent training approach for all EP&R actors in the country and to enable sharing of information and joint practicing. The country has two comparably strong training facilities, and discussions have taken place about transforming the training premises of the Protection and Rescue Services into a national center. This change would require expanding the current premises, adding accommodation facilities, and updating some of the teaching equipment. But steps would have to be taken to ensure that the current training programs of the Protection and Rescue Services are not negatively affected but instead become an integrated part of the national training program. Ensuring this outcome will require strategic thinking and resources.

RECOMMENDATION 3

Improve capacities of warehouses

Montenegro has warehouses for humanitarian assistance and civil protection, maintained by the Red Cross and the Directorate for Emergency Management. Further investment is needed for these warehouses to meet international standards. This report suggests investments in some key capabilities. First is the purchase of refrigerators/cold storage capacities for the Red Cross warehouses, which would prevent the untimely expiration of donated food items. With refrigerators in place, the Red Cross would no longer be forced to distribute goods immediately but could do so in a planned manner targeting the most urgent needs. A second investment would address the DEM's reliance on rented transportation. Access to larger trucks would enhance the efficiency, independence, and flexibility of the emergency response system.

RECOMMENDATION 4

Ensure that disaster evacuation routes are in place and publicized

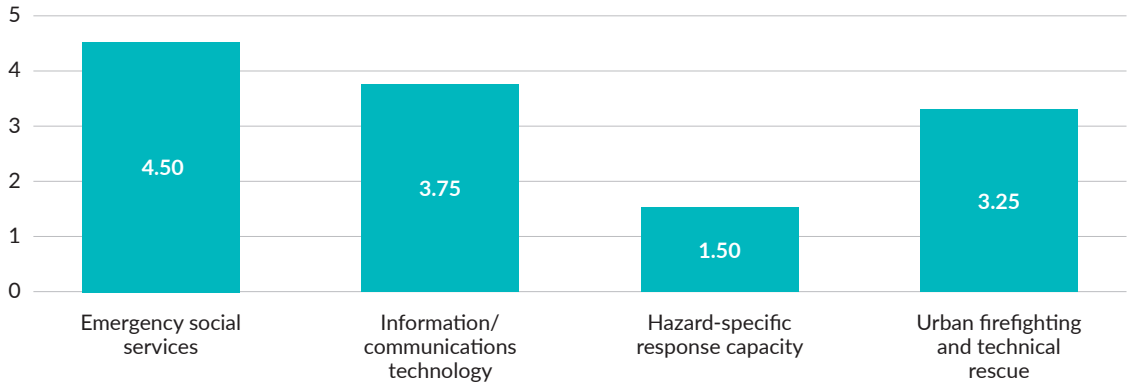
A shortcoming was identified relating to evacuation routes. Populations of residential care facilities were insufficiently aware of evacuation procedures, and signposts were missing. This report advises (1) identifying disaster routes for public buildings, social homes, and municipalities; (2) raising awareness of existing disaster evacuation routes through signposting; (3) holding regular practices and evacuation drills to ensure populations are well-informed about evacuation procedures; and (4) inspecting buildings to ensure that the necessary alerting systems exist.

COMPONENT 4 Equipment

Component Overview

The appropriate acquisition, use, and maintenance of preparedness and response equipment ensures timely information sharing and safe, effective rescue operations. It allows for effective communication in even the harshest conditions. Investments in equipment help governments overcome the capital requirements to ensure access to lifesaving technologies and resources. Combined with clear implementation guidance, established parts and service supply chains, and program budgets for maintenance and upgrades, these elements ensure a government's core preparedness and response agencies have the tools to safely and effectively deliver their services.

Figure 6 Scoring for Equipment



Source: R2R assessment findings.
Note: Scale is from 0 (absent) to 5 (fully in place).

Component Conclusions

The component on equipment is the highest-scored element of the R2R diagnostic for Montenegro. Except for hazard-specific response capacities, criteria receive high scores. Indicators on emergency social services receive an excellent score, with only marginal need for improvement. The country has a functioning emergency medical system in place with health centers spread across Montenegro. Remaining challenges include the availability of doctors, sufficient space in rented buildings, and availability of sufficient and reliable ambulances. Disease prevention and core services were tested during the COVID-19 crisis, and lessons learned were derived. The system functioned. Shortcomings were identified in the field of risk communication.

Information and communications technology has not been identified as a main shortcoming in the country. Use of the TETRA radio system by multiple EP&R actors enhances the interoperability of equipment and the direct communication between emergency responders. Stakeholders expect that in light of the upcoming NICS integration, changes will have to be made while still retaining use of the TETRA system. EP&R actors advised more frequent testing of the systems (linked to trainings discussed below under Component 5). The diagnostic identified backup systems and mitigation and recovery programs for critical system components as a problem area.

The hazard-specific response capacities of the country would benefit from further investments. Challenges relating to specialized equipment were identified. Emergency responders possess the necessary basic equipment for rescue but lack specialized equipment for wildland fires and water-based emergencies. The Mountain Rescue Services do not have sufficient budget for purchasing adequate equipment. A real gap was identified for specialized hazardous materials (hazmat) mitigations capabilities; currently, the EP&R system relies on the armed forces for chemical, biological, radiological, and nuclear (CBRN) response and hazardous substances neutralization.

In terms of urban firefighting capabilities, the Protection and Rescue Services in the capital are well equipped, but there are differences in the preparedness and capacities of firefighting services at municipality level. The DEM has an overview of missing equipment, and the rescue services know what they are lacking, but also lack funding to purchase what they need. More expensive equipment and especially vehicles cannot be financed by existing budgets and depend on international donations. Specific gaps exist in terms of functional confined space rescue capacities and heavy urban search and rescue equipment. There are a number of needs that will enhance the response capacities of responders, but the following recommendations are the key investment opportunities that should benefit the overall capacities of the country.

4 Key Investment Opportunities

RECOMMENDATION 1

Support the emergency medical services

The role of the Emergency Medical Services is of utmost importance in saving lives during emergencies. This responsibility is even greater given that the Red Cross in Montenegro does not provide any health services and that the Protection and Rescue Services are trained only in first aid. A key investment opportunity, therefore, is to ensure that the Emergency Medical Services' vehicles are fully reliable and of the best quality. This investment is also expected to minimize response time.

RECOMMENDATION 2

Enhance wildland firefighting capacities

Although 60 percent of Montenegro is covered by forests, the Protection and Rescue Services have little specialized ability to fight wildland fires. In 2017, fires raged through the country, forcing tourists and inhabitants alike to evacuate and causing significant loss of timber. The enhancement of specific capacities for dealing with wildland fires is considered a key investment opportunity, especially for those municipalities that are likely to be affected the most.

RECOMMENDATION 3

Strengthen urban firefighting capacities

Montenegro's GDP comes mainly from services, and the capital, Podgorica, has been identified as vulnerable due to its dense population. The strengthening of urban firefighting capacity is therefore important. The Protection and Rescue Services have several specific outstanding needs, including new hydraulic stairs and heavy equipment for urban search and rescue. Another gap is atmospheric monitoring and ventilation equipment for confined space rescue.

RECOMMENDATION 4

Invest in developing hazmat capacities

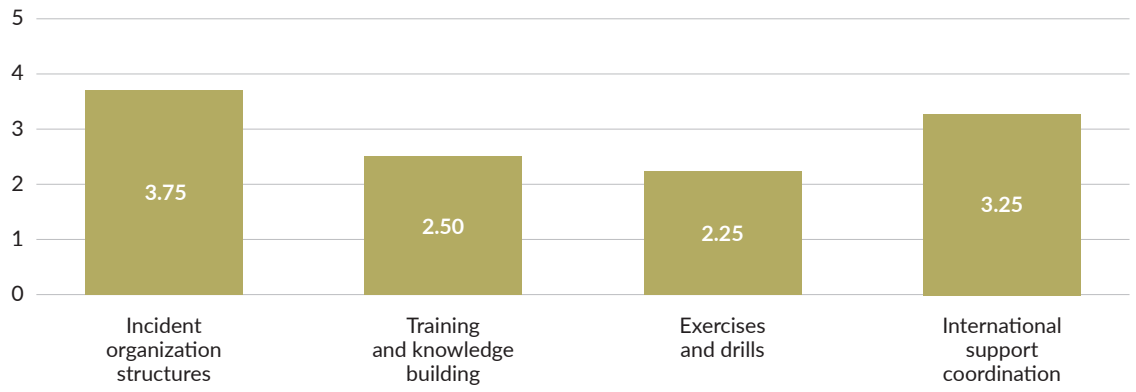
The capacity to respond to incidents involving hazmats has been identified as a gap in the system and requires urgent investment. Although industry accounts for only a small part of the country's GDP, the potential impact of a CBRN incident could be substantial. Responders lack basic equipment for dealing with hazmats and are not trained for CBRN incidents; moreover, the recent COVID-19 crisis has highlighted the need for decontamination equipment. Purchase of specialized hazmat and protective equipment for a preselected group of response stations is therefore recommended.

COMPONENT 5 Personnel

Component Overview

A highly skilled and experienced workforce is the most valuable resource in any disaster preparedness and response system. To achieve this, there must be a culture of preparedness in which both the public and political entities trust the agencies tasked with ensuring public safety and minimizing economic disruptions. Developing such a culture requires intensive and extensive training of those involved in EP&R so that they acquire the necessary knowledge, skills, and practical experience. Training of personnel must take advantage of the best available plans, information, facilities, and equipment to ensure an interoperable systems approach is broadly understood. It must also enable deep capability in focused areas of expertise to ensure that personnel development spreads upward, from the individual to the team, and from the team to the agency.

Figure 7 Scoring for Personnel



Source: R2R assessment findings.
Note: Scale is from 0 (absent) to 5 (fully in place).

Component Conclusions

The component on personnel scores on average 2.9 out of 5, and (along with the component on equipment) is one of the stronger pillars of the EP&R system in Montenegro. In general, basic elements and systems are in place, but further improvements would harmonize and improve the coherence of the country's approach. Efforts in that direction have already begun; the most important development so far is the rolling out of the NICS system to enhance EP&R coordination and efficiency. The NICS comes on top of the existing coordination structure in place and is expected to further enable exchange and scalability. Since the process is only in its beginning, further training will be needed to ensure that all relevant EP&R actors have the necessary knowledge of new procedures and ways of working.

The country has no common training program (or budget) in place for emergency responders; rather, separate services organize their own training activities. Three conclusions are of relevance here: (1) more and diverse training is needed; (2) further attention is required to consolidate existing assessment programs; and (3) personnel development needs to be better monitored and based on promotion for good performance.

Due to a gap in legislation identified by the diagnostic, there is no focal point responsible for conducting exercises. EP&R actors occasionally organize exercises, at times including other actors, but exercises are not regular enough and their scope could still be broadened. This improvement is particularly important given the absence of large-scale disasters in the country in the past decade; response plans and coordination systems need to be tested and updated more often because they have not been tried in practice. The private sector needs to be involved, also in parallel with the implementation of the Law on Critical Infrastructure and the development of vulnerability mapping. These developments could go hand in hand, mutually reinforcing one another's outcomes.

Concerning the final criterion, international support coordination, focal points are divided among the DEM, the 112 center, and the Ministry of Foreign Affairs; nevertheless, the roles and responsibilities of those involved are clear. Such a division requires strong coordination and regular communication. Additional bylaws could assist in specifying these arrangements. The operational staff is professionally trained, but decision-makers and political leaders would benefit from a better understanding of the international response system. The NICS holds the potential to track and monitor incoming international aid, but further standard operating procedures (SOPs) would have to be developed for this purpose. The logistics systems that receive and distribute international support are in line with Host Nation Support Guidelines of the EU.

5 Key Investment Opportunities

RECOMMENDATION 1

Support trainings on NICS

There are expectations that the NICS will fill several current gaps in the system. However, the NICS will be effective only if all relevant EP&R actors are connected, have the proper equipment, and understand how the system works. A national training program for EP&R staff members should be launched to introduce them to the system and explain how to make optimal use of its features.

RECOMMENDATION 2

Invest in a national training program

In line with the earlier recommendation on a national training center, the EP&R system in country would benefit from rolling out a national training program built on existing best practices. Such a training program is expected to ensure consistency in its learning outcomes and to give emergency responders access to a common network that will facilitate the exchange of experiences in advance of an emergency. The program would also support performance-oriented behavior and could lead to the development of a train-the-trainers program, which would increase the availability of national trainers in country. In terms of training opportunities, Montenegro would also benefit from a regional exchange of expertise, particularly through the Disaster Preparedness and Prevention Initiative in South East Europe (DPPI SEE).

RECOMMENDATION 3

Organize more frequent large-scale exercises

Several large-scale exercises have been held in the last 10 years. Exercises were held in 2011 (exercise ZELTA, organized by the armed forces), in 2014 (financed by the EU), in 2016 (with NATO), and in 2019 (on NICS). In the absence of a large-scale disaster, such exercises would have to be organized annually to test and validate response plans, identify gaps, and ensure that staff remain up to date. Exercises are an opportunity to test new developments and technologies, and any future exercise could possibly test the incoming NICS, lessons learned from the COVID-19 crisis, or ways to involve the private sector. Exercises would be a cost-efficient way to constantly improve the EP&R system in Montenegro and to take on the recommendations of this diagnostic in a structured way.

RECOMMENDATION 4

Strengthen the overall firefighting system

Particular attention should be given to strengthening the overall firefighting system, including both professional forces and local-level volunteer firefighters. Community-level programs need to be strengthened and their sense of ownership improved via awareness raising. Cooperation and coordination between the different firefighting units require regular trainings and exercises for professional firefighters, local volunteers, the local population, and other relevant EP&R actors.

Annex 1
Full Diagnostic Report

Component ❶ Legal and Institutional Accountability

Criterion 1.1: Legislated Accountability

Indicator 1.1.1: Emergency Management Legislation

Rationale given by the R2R diagnostic: For an emergency preparedness and response system to function well at any government scale, and especially across scales, emergency management legislation and related policy instruments must exist. These instruments must clearly assign accountabilities to specific government departments and ministries to ensure public safety service delivery and resilience.

The Law on Rescue and Protection (Official Gazette of Montenegro, No. 13/07 of December 18, 2007) remains the main legal framework for the emergency preparedness and response (EP&R) system in Montenegro and defines the functioning, management, and coordination for the rescue and protection system. The Ministry of Interior is responsible for risk management, management of rescue and protection in emergencies, and management of remediation activities in emergencies. A number of additional laws regulate the EP&R system:

- The Law on Water (Official Gazette of Montenegro, No. 27/07)
- The Law on Hydrometeorological Services (Official Gazette of Montenegro, No. 26/10)
- The Law on Hydrographic Services (Official Gazette of Montenegro, No. 26/10)
- The Law on Forests (Official Gazette of Montenegro, No. 74/10 and No. 47/15)
- The Law on Spatial Data Infrastructure (Official Gazette of Montenegro, No. 037/17)
- The Law on Red Cross of Montenegro (Official Gazette of Montenegro, No. 28/06)
- The Law on Electronic Telecommunications (Official Gazette of Montenegro, No. 40/13)
- The Law on Local Self-Government (Official Gazette of Montenegro, No. 42/03)
- The Law on Critical Infrastructure (Official Gazette of Montenegro, 2019)

In interviews, EP&R actors frequently referred to these laws, and in particular the Law on Rescue and Protection, to clarify their activities in the EP&R system. This framework was generally considered appropriate and was said to have clarified accountabilities for emergency management. On paper, agencies are required to have detailed plans regarding their state of preparedness, but a lack of capacity and knowledge hinders the development of contingency plans. National rescue and protection plans were developed for earthquakes, fires, and floods in 2018. Rescue and protection plans are defined at three levels: national, municipal, and company level, and there is need to strengthen plans for preparedness at the municipal level. Enhanced attention to fulfilling these requirements has been noted in the last years. A few stakeholders called for an update of the Law on Rescue and Protection in order to further specify the fire services' tasks and responsibilities. There is no legal basis for the involvement of the police in protection and rescue; nor are the duties of the Mountain Rescue Services directly and officially regulated by law (as would be the case in Croatia, for example). On the other hand, the armed forces refer to the Law on Crisis Management for their responsibilities.

Montenegro adopted a National Strategy for Emergency Situations in 2006, situating the work of civil protection actors within the concept of disaster risk reduction (DRR). In addition, the country has developed a Strategy for Disaster Risk Reduction for 2018–2023; its goal is "to reduce and prevent the occurrence of new risks and to

strengthen capacity of the society and state institutions in responding to various types of natural and other disasters" (GoM 2006). Montenegro also follows global DRR practices, and adopted the National DRR Strategy in part because it was required by the Sendai Framework for Disaster Risk Reduction. A certain level of awareness and knowledge was noted on the topic of DRR.

Indicator 1.1.2: Appropriate Delegations of Authority

> *Rationale given by the R2R diagnostic: During disasters and emergencies, decisions must be made more quickly and often by those directly involved in managing or setting priorities for response operations. Clarity about decision-making processes, and about the ability of officials to make decisions that would typically be made at a higher government level, is vital to timely and effective disaster and emergency response.*

The Directorate for Emergency Management (DEM)[3] in the Ministry of the Interior is the main coordination body and focal point for EP&R in country. The DEM is responsible for risk management, management of rescue and protection in emergencies, and management of remediation activities in emergencies (GoM and MoI 2017). The DRR Strategy mentions three levels of coordination:

1. The national coordination team for rescue and protection, responsible for the entire territory of Montenegro (headed by the prime minister)
2. The operational rescue and protection team gathering senior management of key EP&R actors, such as the DEM, the Institute of Hydrometeorology and Seismology of Montenegro (IHMS), police forces, the armed forces, etc.
3. The municipal rescue and protection team (headed by the mayor)

A state of emergency—for the entity or part of the territory at the national or municipal level—can be legally proclaimed by the Parliament of Montenegro. Local authorities can declare a state of emergency on their own territory. Local municipalities can request additional disaster response support from the national system, either through the operational team or by sending a request through the 112 center.

Indicator 1.1.3: Agency-Specific Operational Response Plans

> Rationale given by the R2R diagnostic: An operational response plan ensures that government departments with *specific accountabilities for ensuring public safety will be able to fulfill those roles despite organizational challenges such as personnel turnover. It also ensures limited overlap with other government departments and, through testing the plan, enables others to become familiar with how each department will fulfill its obligations.*

Agency-specific operational response plans were deemed to be appropriate for the most part, although room for improvement was identified at the municipal level. Companies such as medical facilities and shopping centers were found to have operational response plans, which include organigrams and structures of the system before, during, and after a disaster situation, with details about main contacts and responsibilities. Relevant bylaws require these plans to be updated annually at a minimum. The DEM has the responsibility to inspect these plans and provide advice to the EP&R actors on how to improve them. However, the DEM's inspection capacity is impaired by inspectors' limited knowledge of all main hazards and the organization of plans according to the type of hazard. An additional shortcoming is that in the absence of a comprehensive training and exercise program, plans are not regularly tested and improved. This shortcoming is discussed below, under Criteria 5.1 and 5.2.

[3] Previously called Sector for Emergency Situations and Civil Protection.

Indicator 1.1.4: Critical Infrastructure Assurance Program

Rationale given by the R2R diagnostic: Critical infrastructure is the structural backbone of any jurisdiction. It is the core physical presence of any government, without which essential government and private services could not be provided. Typically, a significant percentage of critical infrastructure is privately owned and operated. Whether public or private, this infrastructure is of vital economic and public safety importance, so a well-developed critical infrastructure assurance program should be established across the jurisdiction.

A Law on Critical Infrastructure was adopted just last year and implementation has only started recently. Thus no critical infrastructure assurance program is in place at this moment. Efforts are ongoing to create a national list of critical infrastructure facilities, but the criteria for categorizing installations are not yet final. Although state electric companies and large state-owned companies were said to be fully covered by insurance for disaster risks, the new law would require further enhancements of preparedness and resilience. The knowledge of inspectors would likewise have to be enhanced to ensure that they can fulfill their responsibilities. Critical infrastructure data are not currently stored. At municipal level, some lists of critical infrastructure support the work of emergency responders.

Criterion 1.2: Financial Preparedness

Indicator 1.2.1: Appropriate Financial Instruments

Rationale given by the R2R diagnostic: The government's central role in natural disaster emergency response and recovery involves a large financial burden, which varies based on the government's definition of contingent liabilities related to natural disasters. Contingent liabilities refer to the spending obligations arising from past events that will be incurred in the future if uncertain discrete future events occur. Ex ante disaster funds provide the government with a predefined amount in readily available resources to be used in the aftermath of a natural disaster. Ex ante funding includes the financial allocations, budget contingencies, emergency reserve funding mechanisms, and insurance instruments that exist to support effective preparedness, response, and early recovery.

Whereas the legislative framework and accountabilities score fairly well in the R2R diagnostic, financial preparedness manifests a clear shortcoming: there currently are no budget allocation mechanisms to earmark funding for EP&R or DRR. According to the Law on Protection and Rescue, the budget for EP&R comes from general and municipal budgets (on an ad hoc basis) as well as from voluntary contributions and international assistance. Additional support from the Ministry of the Interior can be requested, but no specific budget, predefined amounts of resources, or disaster funds are in place. Montenegro has no national financial risk management strategy or risk transfer instruments. EP&R actors have their operational budgets for staff costs and maintenance, but resources were considered inadequate for larger procurement needs, capacity building, and personnel development. Key informants advised a more programmatic and long-term financial approach to compensate for dependency on external funding sources.

Indicator 1.2.2: Emergency Procurement Systems and Frameworks

Rationale given by the R2R diagnostic: Within disaster relief logistics, procurement accounts for a substantial percentage of total expenditures. Good procurement practices are essential for efficient, effective, transparent, and accountable governance and project management in emergency disaster response. Proactive procurement forecasting identifies the goods and services required for effective disaster response by stockpiling and forming vendor partnerships to ensure rapid distribution in emergency situations. Decentralized, fast-track response procurement procedures incorporate more flexibility and invoke other mechanisms (such as prequalification processes) to minimize serious supply delays, reduce costs, and speed up delivery times.

The country has no system for emergency procurement or framework designed to respond quickly and effectively following a disaster.[4] Procurement forecasting does not take place, and no partnership principles have been defined

[4] The UNDP Bureau for Crisis Prevention and Recovery (2011) report stated that a new law on public procurement was being drafted, but no reference to such a law was made during the data collection.

for public-private partnerships to jointly cater to arising needs. The shortcomings of the approach to procurement are partially compensated for by outsourcing of equipment purchases to the Foundation for Development of Northern Montenegro (FORS), which attracts funding from abroad on a project basis for procuring equipment and organizing trainings. FORS has prepared and implemented projects related to Montenegro's EP&R system whose total investment comes to €3 million, and it has procured equipment worth €400,000. FORS acts as project manager, thus compensating for the limited capacity within the DEM and connecting identified needs of the EP&R actors with investment opportunities abroad.

Indicator 1.2.3: Public Financial Management Policies and Procedures

Rationale given by the R2R diagnostic: Effective financial management policy outlines and provides guidance on the processes involved in managing response costs during the activation of the emergency response structure and protocols. It outlines those responsible for managing response expenditures for costs incurred during response and recovery as well as the relevant expense authorities and applicable thresholds. Financial management procedures outline the scope, steps, and responsibilities for financial tracking of all eligible and approved emergency response costs, authorizations of those expenditures, and processing of invoices.

In line with the previous indicators, the country lacks an effective financial management policy outlining and providing guidance on the processes for managing response costs during the activation of the emergency response structure and protocols. An orderly financial tracking system does not exist, and allocation and distribution of funds is not supported by a clear transparency and accountability system. This is not to suggest that funding is not geared to responding to emergencies; yet the law does not provide for a decision-making system with clarity on how to distribute the funds. The result is differences in emergency preparedness across the country. During the 2010 floods, it was decided that more funding would go from the central budget to assist emergency response at the local level. Montenegro is not part of Europa Re for budgetary reasons. Public insurance was deemed to be an area for further development.

Indicator 1.2.4: Personal Financial Risk Transfer Programs

Rationale given by the R2R diagnostic: An established personal insurance market that is affordable and available in high-risk areas can significantly reduce the financial burden on individuals, families, and governments in the wake of disasters and emergencies. In combination with other government risk-transfer mechanisms, a robust personal insurance market can significantly reduce government contingent liability while also improving personal accountability and preparedness of individuals and families.

Personal risk transfer programs for the most common hazards, such as earthquakes and floods, exist in the country, but they are not obligatory for the population and are offered only as add-on packages with fire and household insurances. In fact, insurance against catastrophes is not a common practice in Montenegro, and insurance companies were not successful in recent efforts to launch these packages on the market. At the level of households and small and medium enterprises, penetration of insurance coverage for floods and earthquakes is low. Affordability was considered to be a hindering factor for businesses, though not for households. Even in risk zones, households still found the slightly higher prices affordable. The practicality of the programs has been proven, and after a disaster interest in acquiring insurance temporarily goes up. Complaints about the length of time needed for processing the claims were noted, but the general opinion among the population is that claims should be covered by the government rather than by the insurance companies. The fact that governments distribute post-disaster subsidies and financial aid partly explains why households and small enterprises are reluctant to purchase additional insurance coverage (GFDRR 2018). The country was considered to be generally lagging behind in this area when compared to the rest of the region. To bolster activity and offer support, the United Nations Development Programme (UNDP) has recently promoted the participation of the Insurance Supervision Agency in workshops so that the sector can gain knowledge from counterparts. Further possible improvements include launching national initiatives and promoting insurance to the population, as well as integrating the Insurance Supervision Agency in relevant EP&R meetings and discussions.

Component ❷ Information

Criterion 2.1: Community Engagement

Indicator 2.1.1: Program for Local Level Volunteer Emergency Responders

Rationale given by the R2R diagnostic: Local responders are the first to act. However, if no systems are in place to engage with local volunteers in advance of an emergency, managing disaster response becomes more difficult. It is helpful to engage with volunteer responders early to maximize response effectiveness, significantly reduce response times, and encourage individual accountability for personal and family preparedness.

Although Montenegro has no national volunteer program, the diagnostic identified volunteer programs for local-level emergency responders. For example, the Protection and Rescue Services of the city of Podgorica has about 100 to 150 volunteers on standby, and provides them with a three-day basic training course, including gear and tools for use when deployed. The Mountain Rescue Services operate fully on a volunteer basis. The Red Cross of Montenegro remains the main organization working with volunteers, namely 2,000 volunteers across the country (compared to 100 employees). During the COVID-19 crisis, 450 Red Cross volunteers have assisted the population daily. These volunteers received training in different areas, in accordance with the standards of the International Federation of the Red Cross and Red Crescent Societies (IFRC); but the organization faces financial constraints and most funding for this training comes from international donations. Red Cross volunteers receive protective equipment and insurance. There was general agreement among stakeholders that the potential of volunteering in Montenegro is untapped. A recent draft law for volunteer management was said to be too limiting and was not implemented. If volunteer engagement is to be promoted and consolidated, more organized incentives are needed.

Indicator 2.1.2: Program for Community Education

Rationale given by the R2R diagnostic: Addressing preparedness and response at the local level can raise awareness of specific threats and help communities to prepare and engage in problem solving prior to and during a disaster. Further, these programs ensure communities know what local action to take when warnings are issued and thus reduce pressure on response services during widespread and/or more intensive disasters and emergencies.

The desk review noted insufficient implementation of community awareness-raising activities due to a lack of legislation and the absence of systematic education efforts on risk awareness. Montenegro knows good examples of community education, which are tailored to the relevant hazards and said to enable individuals to enhance preparedness. For example, the Ministry of Environment and the Institute of National Health have provided community education related to the recent pandemic. FORS has worked on strengthening awareness of specific risks in selected municipalities. UNDP has facilitated some activities for elementary and high schools. The Red Cross has worked with communities on flood resilience and with the DEM on preparedness for earthquake response. The Protection and Rescue Services in the capital occasionally visit schools and instruct students on how to react in case of emergency. The Bureau for Education has a program for teachers to transfer knowledge to students. However, the country would profit from a centrally funded and programmatic approach to community education. Disaster risk reduction and emergency preparedness are not yet part of school curricula. A growing interest in improving the topic was noted, but there remains a lack of awareness of the 112 emergency number (for example).

Indicator 2.1.3: Program to Support Small-Scale, Community-Led Mitigation Works

Rationale given by the R2R diagnostic: Mitigation of risk at the local level with support from the community helps raise overall risk awareness while reducing the effects of a disaster and promoting rapid recovery following an event. Examples might include retrofitting irrigation equipment for secondary use in wildland fire suppression, local riverbank stabilization, etc.

This indicator scores low in the diagnostic due to the absence of a dedicated, government-led program enabling mitigation projects. Existing initiatives are project-driven, rather than following a priority-based official decision-making process. FORS, for example, executed some projects on education and mitigation. The Red Cross has some flood-related mitigation activities but admitted these to be donor-driven and dependent on local support. A German Agency for International Cooperation (GIZ)-supported project supports local communities in implementing flood protection measures.

Indicator 2.1.4: Education and Tools for Local Leaders

Rationale given by the R2R diagnostic: Local leaders, elders, and community groups have an important role to play in overall disaster risk reduction. Engaging and training the community leadership in proactive risk management can improve the overall effectiveness of the emergency management program in all phases, ensuring integration with all levels of government and establishing a local culture of preparedness.

The provision of education and tools related to EP&R resources, policies, and programs scores low. Although key informants regularly recognized the role of community leaders, they did not identify a support program to enhance leaders' knowledge and capacities. Only FORS provided some training to community leaders, deputy mayors, and other key people from municipalities in how to ensure disasters are taken into consideration in municipal development plans. The level of local leaders' knowledge of EP&R depended on the municipality and the type of hazard they are confronted with. There is clearly room to strengthen education programs and regular government communication on this topic.

Criterion 2.2: Early Warning Systems

Indicator 2.2.1: Functioning Monitoring/Surveillance Program

Rationale given by the R2R diagnostic: Monitoring and surveillance mechanisms and the ability to disseminate the information they generate are the foundation of an effective early warning system. Ideally, there should be an existing system that allows for the prediction and forecasting of potential hazards, grounded in sound science and technology. This system should be able to operate 24 hours a day, seven days a week. Ongoing and frequent monitoring and surveillance of hazards increases the likelihood of accurate and timely warnings. Since there are multiple hazards, there should be a certain level of coordination across sectors/ministries in order to understand and possibly leverage existing monitoring and surveillance systems.

The Law on Protection and Rescue includes the responsibility of issuing early warnings and informing the population with assistance of the public administration body. IHMS is responsible for tasks related to the observation, measurement, and analysis of meteorological, hydrological, hydrographical, environmental, and agrometeorological parameters. IHMS also has 20 stations across the country to monitor seismological risks, but these need urgent restoration pending available funding. The work is also challenged by the absence of weather radars, and eight more hydrological stations are needed in the riverbeds to enhance coverage. IHMS has 170 employees and 45 observers working in various stations. The observers are trained to carry out daily observations and receive training on new devices and technologies. The data from the stations across the country are sent to a central database every three hours, either digitally or physically. In hazardous situations, data are sent every 5 to 15 minutes and staff are on call to be available 24/7. In the past, FORS has worked on building capacities of the IHMS and purchased required equipment. Since the 2011 floods, when exchange of early warning data with neighboring countries encountered

issues, communication with hydrological stations and private companies across borders has improved and is now partly automated.

Indicator 2.2.2: Sound Data Analysis Program

> *Rationale given by the R2R diagnostic: The analysis of data gathered by monitoring and surveillance systems is crucial to any early warning system. The data gathered should be analyzed using scientifically and technologically sound methodologies to ensure that the information being disseminated is accurate, useful, and timely.*

The IHMS analyzes the data based on predictive and meteorological models, including the most recent hydrological models for the country's river basins (developed with the support of GIZ). Analysts are trained to use these models and the models are regularly updated. In case of a power outage, there is a backup system for the main station, the forecasting system, and the database, but not for all local stations. The backup system is located in the north of the country, where the seismological risk is the lowest. Currently, crowdsourced data are not incorporated into hazard analysis.

Indicator 2.2.3: Real-Time Warning Messages

> *Rationale given by the R2R diagnostic: Functional early warning systems deliver clear, simple messages containing useful information to affected or at-risk populations. This information empowers individuals and communities to act and adopt protective behaviors that save lives. Messages need to be straightforward and action oriented. They should be consistent across multiple media platforms and message delivery systems.*

The development of real-time warning messages is subject to existing procedures and in line with international protocols. The messages are shared with a number of preestablished key actors, in particular the Directorate for Emergency Management. Although the IHMS is not responsible for the further distribution of these messages, it does actively take part in media discussions upon request to provide further information to the public. The mechanism was tested during the 2010 floods and the 2011 heavy snowfall, and these experiences proved the functionality of the system. Color-coded messages are shown on the website of the IHMS, where the public has direct access to daily weather forecasts and information on possible hazardous situations. At this moment, there is no program established to track warning messages.

Indicator 2.2.4: Functional Warning Message Distribution Systems

> *Rationale given by the R2R diagnostic: Critical early warnings based on sound analysis and high-quality data are effective only if delivered rapidly to the population at risk. To be effective in reaching the target population, warning messages must be delivered near simultaneously across multiple media platforms, such as television, radio, social media, and mobile phone text message. By ensuring "last mile" connection for early warnings, at-risk populations are able to take lifesaving actions within the community to reduce the consequences of disasters and emergencies.*

The responsibility to distribute warning messages to at-risk populations rests with the Directorate for Emergency Management, but under the DRR Strategy, local municipalities are responsible for acoustic studies, sirens, equipment, and early warning. However, there is no clear and established mechanism for passing messages on from authorities to the population. The main channel is national TV, and there is good cooperation in place for this purpose. For example, an orange-coded weather warning would be broadcast. During the COVID-19 crisis, the media informed the public about distance and hygiene measures to maintain in line with government instructions. However, two other distribution channels are not operative, namely sirens (which are not functional) and partnership with telecommunication companies (which are only now being explored). There are currently procedures in place to inform the population through their mobile phones. The IHMS informs the 112 Operational Communication Center of upcoming risks, for which they prepare accordingly.

Criterion 2.3: Information Management Systems

Indicator 2.3.1: Functional Information Management System

Rationale given by the R2R diagnostic: The use of a common Disaster Management Information System (DMIS) by all emergency management personnel improves overall situational awareness, decision-making, and response coordination. A system based on commercial off the-shelf (COTS) software that is interoperable with common systems in use by international agencies can improve overall response and increase training opportunities for personnel across agencies.

Montenegro does not have a functional information management system in place to support emergency management activities. Actors apply their own information management systems. For example, the 112 Operational Communication Center applies the CoordCom system. The 112 center also receives messages from the Common European Communication and Information System (CECIS), but has no equipment connected. This situation could be improved. The Emergency Medical Services record diagnoses and types of incident in an electronic and analogue data system, but this system is not integrated across the various services. With the support of GIZ, FORS worked on a flood database in the Skhodra region. Companies, other legal entities, and entrepreneurs are obliged by law to provide data and information to the database (MoI DEM 2016). The main shortcoming identified by EP&R actors is the absence of a common system, which hinders the accessibility of data. Actors stated that in general, there was a willingness to share information and a need to improve the data quality. Better use of data would result in evidence-based plans and actions. The DRR Strategy also refers to a lack of technical and operational capacities among relevant institutions to analyze the data they collect (GoM and MoI 2017). The implementation of the Next Generation Incident Command System (NICS) was expected to solve a number of issues in this area.

Indicator 2.3.2: Budget Allocations for Information Systems

Rationale given by the R2R diagnostic: A functional DMIS fills a crucial role in supporting situational awareness and organizing information prior to and during a disaster. It is important to ensure that the system is maintained, updated, and upgraded as necessary so that it functions appropriately and valid information is available when required.

The absence of any specific budget allocations for information systems creates a major problem at local and national levels and limits the capacities of the DEM to integrate and analyze data.

Indicator 2.3.3: Integration of GIS-Generated Data in DMIS

Rationale given by the R2R diagnostic: The availability of geolocated information within the DMIS provides superior situational awareness for planning, mitigation, response, and recovery efforts. Real-time updates of GIS data, often by mobile and wireless device users, provide current data for disaster and emergency response and recovery planning.

The use of geographic information system (GIS)-generated data to inform decisions is not possible at this moment. In the future, the NICS should be able to integrate GIS data to enhance decision-making.

Indicator 2.3.4: Integration of Early Warning Data in DMIS

Rationale given by the R2R diagnostic: Early warning systems provide data that are crucial for analyzing the potential impact of an incident. The integration of early warning system data with the DMIS enhances situational awareness and allows for the dissemination of a comprehensive common operating picture for all responding agencies.

Early warning data are currently not integrated into a common information management system but are shared with the 112 Operational Communication Center. It will be necessary to determine how the 112 center's current information system will be made compatible with the NICS to allow for direct integration of data.

Criterion 2.4: Geomatics

Indicator 2.4.1: GIS Capacity

Rationale given by the R2R diagnostic: GIS can be a powerful tool for planning, preparedness, response, and recovery by organizing and making available information on hazards, vulnerabilities, and resources for emergencies. GIS can also be a powerful tool in promoting public risk reduction by helping populations better understand current risks.

Geographic information is currently being used in the various information management systems of the EP&R actors in country. For example, the CoordCom system used by the 112 center automatically provides the location (and name) of the person calling. However, the current system does not fully meet all needs, since it does not allow the 112 center to create additional layers. The additional software required to meet this need (ResQMap GIS software) cannot be covered by the current budget. The Emergency Medical Services can identify the location of the person calling based on the information provided, but they do not have electronic maps to automatically locate the caller. Financial restrictions equally led to the absence of a water engineer in the Water Directorate of the Ministry of Environment, even though the directorate is required to maintain this capacity. A GIZ project covered the cost of a staff member with the requisite qualifications to collect the relevant data. A project funded by the Japan International Cooperation Agency (JICA) has provided training for ministries and sectors in use of GIS, though not necessarily with a focus on DRR. In the capital, the Protection and Rescue Services have maps of areas most prone to flooding. Overall, training, finances, and sufficient staff were identified as the main hurdles to growth of GIS capacity among EP&R actors.

Indicator 2.4.2: Georeferenced Data Layers

Rationale given by the R2R diagnostic: Interoperable GIS improves situational awareness and response efficiency, and can prevent further damage or loss of life. Responding agencies and emergency management personnel should have interoperable systems based on common baseline data layers. This foundation significantly contributes to the common operating picture and efficient information flow between responders and integrated command agencies.

Although hazard maps exist, there are shortcomings related to vulnerability mapping. Only a small number of municipalities have drafted their own risk maps. Data on buildings are not connected with existing hazards at that location. The absence of these maps prevents sustainable urban planning and disaster risk reduction. Zoning is currently not based on good data. The government works together with the Faculty of Civil Engineering to strengthen georeferenced data layers, and a project to develop vulnerability mapping is currently being explored in line with the DRR Strategy for 2018–2023. However, data on infrastructure, buildings, tunnels, and supporting structures are limited at the moment; they are either scattered across institutions or not identified as useful for EP&R purposes. A second relevant project—funded by GIZ to strengthen climate change adaptation in four countries of the Western Balkans (Albania, Kosovo, Bosnia and Herzegovina, and Montenegro)—resulted in the development of hazard and risk maps for the Lake Shkodra region. The project is currently updating information on floods within national plans for flood rescue.

In addition to shortcomings in the identification of structural vulnerabilities, there is insufficient mapping of social vulnerabilities, and no social vulnerability methodology is used. There is no connection made between data on vulnerable populations and emergency preparedness—for example, no effort to determine the risk levels in areas where vulnerable populations reside. This shortcoming stands in the way of planning and implementing proactive measures to protect vulnerable populations during emergencies. The national Red Cross, together with IFRC and the United States Agency for International Development (USAID), is currently exploring how its data on vulnerable populations could be integrated in the NICS once it is fully implemented, but compatibility will require an update of IT systems.

Indicator 2.4.3: Standards for Georeferenced Data

Rationale given by the R2R diagnostic: Ensuring that data conform to a standard lowers overall operating costs for the GIS while ensuring the data quality is maintained. This enables faster processing and interpretation of the data and increases confidence in the models and outputs from the system. These efficiencies lead to more rapid and informed response operations with higher confidence in decisions.

At the research level, GIS data are collected in line with European standards. However, GIS data are not properly shared between the local and central levels. At local level, it is not always clear who is responsible for or who owns GIS-related data, resulting in improper maintenance of the data and insufficient sharing with central institutions. The quality of data depends on the individual collecting it rather than on the system in which it is stored.

Indicator 2.4.4: Standardized and Periodic Process for Updating

Rationale given by the R2R diagnostic: GIS data must be current and reliable to have value for emergency management activities. A system that regularly updates the information ensures that the information is always useful. It also improves situational awareness for focusing preparedness activities by increasing understanding and transparency about how hazardous areas, community vulnerability, etc., are established.

Data are not regularly updated, and the reliability and accuracy of GIS data are thus not guaranteed. For example, information on population living in flood-prone areas dated from 2012–2013, though the data have now been updated through a GIZ project. There was recognition that climate change requires an update of any existing data. A new spatial plan for the country is expected to be finalized by the end of 2020. The capacity to gather and regularly update data is insufficient.

Component ❸ Facilities

Criterion 3.1: Emergency Operations Centers

Indicator 3.1.1: Available Emergency Operations Centers

*Rationale given by the R2R diagnostic: An emergency operations center (EOC) must be supported by sufficient backup systems, including power, heating and cooling, communications, staff, and operational resources (such as security, break rooms, planning/meeting rooms, media center, etc.). Ideally, an EOC would have a backup faci*lity that is geographically distant, and fully capable of operation in the event the primary EOC is not available.

The 112 Operational Communication Center fulfills the function of an emergency operations center on top of managing the 112 emergency call number. The 112 center has backup systems in the event of service disruption, since it operates through three centers—in Podgorica, in Bijelo Polke, and in Bar. If the system in the capital collapses, a backup server in Bijelo Polke ensures continuous operation. The operators—28 staff members in total—work on a 24/7 basis. The system is capable of receiving 60 channels for simultaneous calls, and staff are trained to prioritize calls. In 2019, the center received over 150,000 calls, and through July 2020 has received over 100,000. The center receives its budget from the Ministry of the Interior but has no projects of its own that would provide additional equipment. Because of the dual function of the center, however, there seems to be confusion about responsibilities—in sharp contrast with the available human resources and capacities. This situation is said to put stress and pressure on the staff of the center, since in emergencies staff are also tasked with coordinating with national and international actors. The Ministry of the Interior is currently exploring options to move the coordination body of the 112 center into a new premises.

The Red Cross also has an operations center in its headquarters, which was made available to the government for quarantine purposes during the COVID-19 outbreak. The organization intends to strengthen this unified coordination center to communicate with its local branches and warehouses, and to install a connecting feature with the NICS (assuming that a new server is purchased). The Rescue and Protection Services in Podgorica operate from several locations at the moment, and are also in the process of bringing the different units physically together and connecting them to the NICS.

Indicator 3.1.2: Mobile Command Post

Rationale given by the R2R diagnostic: Mobile command post facilities typically include space for incident management activities in a controlled environment (secure, sheltered, etc.). The ability to accurately communicate site conditions, resource needs, and other information to the EOC is necessary. This requires reliable backup communication capabilities and the ability to operate in a self-supporting mode for some period, ideally 36 to 72 hours, without resupply.

Mobile command posts do not exist in the country, and this situation was identified as a gap. The Rescue and Protection Services of Podgorica intend to purchase one truck with IT capabilities and other equipment to be used as a mobile command post, but the plan has not yet materialized.

Indicator 3.1.3: Clear Lines of Authority

Rationale given by the R2R diagnostic: Policy and authority must be clear for activation of the EOC and for the required staffing, fiscal authority, and operational responsibilities, including the role of elected officials, government staff, NGOs, and other supporting entities. How the EOC will function in relation to other governments (federal, territorial, municipal) and potential foreign disaster agencies or corporations should be spelled out in advance of an emergency.

The 112 center operates in accordance with an action plan guiding the operator to connect quickly to the responsible actor. A majority of the calls have the police as a final receiver. The IHMS warns the 112 center about upcoming

threats. The Directorate for Emergency Management tells the 112 center when to take on coordination functions and contact additional (national and international) actors, including through the Union Civil Protection Mechanism (UCPM). There are no agreements with external institutions or other procedures to send backup capacity when the center is overwhelmed. A key problem for the 112 center is that while it can share information and coordinate activities, for example with the Emergency Medical Services, it does not have the authority to command a hospital to send an ambulance or helicopter. In the past, these challenges were circumvented by using personal contacts to ensure that assistance was sent to the affected persons.

Indicator 3.1.4: Standardized Process for Social Media and Crowdsourced Data

Rationale given by the R2R diagnostic: To control the messaging surrounding an incident, it is necessary to know what is being said on social and conventional media and to respond to rumors and incorrect information with an authoritative voice and clear messaging. Collecting, aggregating, and analyzing media can help to identify needs for messaging, and can be valuable tools for analyzing the effectiveness of messaging and overall response.

The diagnostic could not identify specific procedures or processes to collect and integrate data from social media. In the Ministry of the Interior, there is a crisis communications team that oversees public information services and is trained in crisis communication, but there is significant room to better adjust these activities to crisis situations. The Ministry of the Interior maintains no social media accounts, and its units are not allowed to use any social media platforms or tools. Communication with the public is one-way only through official ministry websites.

Criterion 3.2: Training Centers

Indicator 3.2.1: Capacity of Training Centers

Rationale given by the R2R diagnostic: A training center will have limited effectiveness unless it has the capacity to meet the needs of the targeted trainees. Dedicated resources for training will meet both general and specific needs of the training audience.

Photo 1. House of Solidarity, the Red Cross training facilities in Sutomore. (Credit: © Montenegro Red Cross.)

Montenegro does not have a national training center with the specific purpose of training EP&R actors. At this moment, no dedicated resources are directed for such facilities. Some EP&R actors have training facilities of their own. The Red Cross maintains these in the House of Solidarity in Sutomore. These facilities can accommodate 230 people. Training rooms are equipped with audiovisual devices, and sport facilities are available on the grounds. Previously, international IFRC trainings were hosted here as well. The Emergency Medical Services have their own training center for continuing education. The Rescue and Protection Services of Podgorica also have a training center, which was built in 2003 with support of the European Union (EU) and offers the necessary modern equipment. This facility includes classrooms for theoretical training and has space for practical exercises and drills. Accommodations for 35 people are available at a nearby location, and food is catered by local companies. Equipment can be stored, including chemical equipment and gear for water rescue and forest fire response. Discussions are ongoing between the DEM and the mayor of Podgorica to enlarge the existing facilities and to transform these training facilities into a national training center.

Indicator 3.2.2: Options for Multi-agency Training

Rationale given by the R2R diagnostic: Multi-agency training centers will allow interagency training and will also reduce costs by avoiding the need for training centers for specific disciplines. Beyond responders, the public and volunteers should have access to training centers to promote a bottom-up approach to emergency preparedness and response.

The Red Cross center has organized international trainings in the past with IFRC and EU consortia, including simulation exercises on earthquake response in which field conditions were practiced. Trainings for water rescue also took place, and the center has hosted medical personnel and police. The training center in Podgorica has organized trainings with the police and Emergency Medical Services. However, such multi-agency trainings occur on an ad hoc basis and do not accommodate health, security, and rescue personnel together with disaster managers and/or the public on a programmatic basis.

Indicator 3.2.3: Utilization and Maintenance of Existing Training Centers

Rationale given by the R2R diagnostic: A strategic plan and operational budget for use of a training site will ensure site optimization; engagement with multiple responder agencies and the private sector should be explored and formalized. Training centers can function effectively as secondary EOCs or regional command posts, if properly designed. The facilities must be maintained to a high standard and equipment kept current with the equipment being used in daily operations by rescue and response services.

The training center of the Protection and Rescue Services is not used every day for trainings. The facilities are available for use by other agencies for a fee. But such revenue-generating arrangements are still new and need to be further explored. The Red Cross training center is also used to offer vulnerable families recovery time at the seaside. Thus these two training centers are frequently used and are maintained by the individual agencies.

Indicator 3.2.4: Geography and Location of Training Sites

Rationale given by the R2R diagnostic: Geography and accessibility are key to training the maximum number of agency personnel and public volunteers. Exploring partnerships with academic institutions and ensuring proximity and easy access to transportation will improve usage patterns for training centers, in turn increasing the opportunity for collaborative learning and establishing a culture of preparedness across public, private, nongovernmental, and academic sectors.

The Red Cross training center is located in the House of Solidarity in Sutomore at the seaside in the south of the country, 40 km from the international airport. The training center of the Protection and Rescue Services is well located in the capital.

Criterion 3.3: Logistics Warehouses and Response Stations

Indicator 3.3.1: Entities and Frameworks for Logistic Hubs and Warehouses

Rationale given by the R2R diagnostic: Logistics management is often a complex process even during ordinary (non-disaster) periods. Due to this complexity, suitable and sustainable networks should be developed and maintained as part of a disaster preparedness plan. Logistics hub networks, including warehousing storage facilities, should be able to work with the private sector, government, and NGOs to successfully coordinate incoming international aid and distribute it to domestic areas in need.

Article 30 of the Law on Protection and Rescue specifies that the Ministry of Foreign Affairs is the focal point for incoming humanitarian goods, and that the Red Cross is the key actor receiving these goods. The DEM has warehouses for equipment (the largest one is in Rogami), and the Red Cross has storage facilities for humanitarian

assistance. Incoming relief goods are usually stored in the Red Cross warehouses, where customs can also clear necessary procedures. Local warehouses in Podgorica can also be used. The DEM reserves part of its budget for regularly updating and maintaining the equipment stored in its warehouses. The Red Cross relies on private donors to replace used stocks. A minimum level of transportation is available, but if the DEM needs larger trucks, it has to hire them or (as a last resort) rely on army trucks. There are no agreements with the private sector as a matter of contingency. The NICS should include the possibility of tracking delegation of goods and materials. No shortcomings were identified for the storage and distribution of medical items during the COVID-19 crisis.

Indicator 3.3.2: Capacities of Logistic Warehouses

Rationale given by the R2R diagnostic: Beyond having a network of logistic hubs for distribution of goods and materials, operations management and the physical structure of logistic warehouses are key to increased resiliency during disasters. Warehouses must have the size, staffing, budget, and equipment to successfully intake, sort, maintain, store, and eventually distribute both perishable and nonperishable items and other equipment.

The DEM is in the process of establishing a new warehouse to replace the previous facilities in a former military building. In the current warehouse, equipment is old and there is insufficient fire protection and ventilation, but the new warehouse should be better equipped. The warehouse is manned by five staff members, a number that has proven to be insufficient during emergencies, when reliance on Red Cross volunteers has become necessary. The main Red Cross facility, located between the city center and the airport, has 2,000 m^2 of surface space, and part of the warehouse has a pallet rack that offers additional storage. A main shortcoming of this setup is the lack of refrigerators, which forces immediate distribution of any perishable food donations. The Red Cross has another warehouse in Cetinje to store equipment for international deployments, but this facility needs repairs (roofs and technical equipment). The facilities are located in areas that are not at risk of floods. Local branches of the Red Cross have warehouses on a much smaller scale. The Rescue and Protection Services also have some capacities for storing food and non-food items, mainly to ensure their self-sufficiency in case of disasters.

Indicator 3.3.3: Capacities, Resources, and Abilities of Local Response Stations

Rationale given by the R2R diagnostic: Local response services are a critical resource during disaster and will be some of the first responders deployed. While local response stations are primarily for daily emergencies, a regional network of response stations will also provide a resource for disasters until more specialized aid is deployed. Daily emergencies will not cease during disasters, and ensuring that local response stations can continue to carry out their regular duties is key to building a resilient population. Local response stations include resources such as ambulance or paramedics, firefighters, police, and search and rescue.

The number of response stations is deemed to be acceptable relative to the needs in the country. The main fire station in Podgorica is well connected to all parts of the city, and the coverage by other response stations in country is good. The response time for Emergency Medical Services is 8 minutes in Podgorica, less than the prescribed time of 10 minutes. In other municipalities, the response time varies depending on the presence of health centers but averages 11 minutes, well under the 30 minutes for rural communities prescribed by the relevant Ministry of Health rule book. The capacities of response stations differ across the country, and various amounts of equipment and numbers of staff could be observed. This observation needs to be linked to the indicator on financial preparedness; since no specific budget is reserved for EP&R, the response capacity of stations depends on the decision of local budgets regarding how much funding to reserve.

Indicator 3.3.4: Specialized Hazard Response Stations Criteria

Rationale given by the R2R diagnostic: Hazard-specific response stations may be housed or designated in the same structure as local response stations with dual-trained personnel. However, specialized equipment may be needed to respond to specific disasters or hazards that are typically beyond the capacity of local response stations. Hazard response stations may also be centralized as response situations are less common, but their equipment and trained personnel should reflect local threats and hazards. Local response stations do not typically respond to disasters for prolonged periods, so specialized teams are required.

Policies exist for hazard-specific response when local response stations are overwhelmed or unable to handle specific disaster hazards. The R2R diagnostic noted that response stations have a general response capacity rather than being specialized for specific hazards. An exception to this is the Red Cross team in Kolasin, which specializes in snow-related disasters. The Emergency Medical Services also have one vehicle suitable for response in mountainous areas.

Criterion 3.4: Shelter and Open Spaces

Indicator 3.4.1: Infrastructure for Emergency Housing and Temporary Shelter

Rationale given by the R2R diagnostic: Temporary shelters and emergency housing are potentially expensive. Preexisting partnerships to use land and provide shelter help defer or lower costs while reducing response time. Temporary housing is not meant to be permanent but should provide the basics of sustainable living, including protection from the elements, security, and a space for mental well-being. Organizing shelter resources during a disaster (rather than before) is not pragmatic and not likely to provide suitable protection to a displaced population.

The Law on Protection and Rescue stipulates that Montenegro has an obligation to construct public shelters, and that these should be built as dual-purpose buildings (i.e., buildings that function during ordinary periods as well as emergencies, such as schools and sports facilities). Article 78 states that "construction interventions that reduce the protective function of shelters shall not be allowed." Article 66 specifies the responsibility of the Red Cross of Montenegro to participate in giving shelter and accommodation to evacuated populations, refugees, and displaced persons.

Infrastructure for emergency housing and temporary shelter in Montenegro is organized by two key EP&R institutions: the armed forces and the Red Cross. The latter usually provides tents or prefab settlements that have capacities for complete accommodation (tent, bed, sheets, kitchen set) for 500 persons in accordance with Sphere standards. The Red Cross also has prefabricated sanitation units covering the needs of 200 persons. The armed forces can accommodate up to 570 persons in military barracks across the country (Danilovgrad, Niksic, Pljevlja, Kolasin) and at the military airport in Golubovci; they offer food and general medical aid as well as shelter. In addition, the Rescue and Protection Services of Podgorica have shelter facilities for the population, including a prepared atomic shelter in the base, but beyond this no specific equipment. In response plans, communities have identified public buildings for use as emergency shelters, but they cannot use private land for such purposes until it has been paid for. In the absence of hazard maps, land designated for temporary shelters has not undergone a hazard risk assessment. Overall, enough space is available for shelter.

Indicator 3.4.2: Designated Open Space for Disaster and Management Operations

Rationale given by the R2R diagnostic: Open spaces such as parks, vacant land, and green spaces are a natural convergence point for displaced people. They also may be relatively free of structures or debris after a disaster and hence be suitable locations for disaster- specific operations, such as mobile command posts and resource staging areas. Pre-disaster identification and planned use of open spaces will help save time and manage resource deployment during a disaster.

Local response plans include locations for command posts, resources, and evacuation vehicles in open spaces that are accessible and located near basic infrastructure. The municipalities have the responsibility to pre-identify these spaces. As a result, the quality of the designated spaces differs across municipalities. There are no partnerships with the private sector to use private land during emergencies.

Indicator 3.4.3: Disaster Evacuation Routes

Rationale given by the R2R diagnostic: Designated and safe disaster routes are key for saving lives and evacuating portable economic resources (such as livestock) before or during a disaster. The local population must also know when, where, and how to access evacuation routes through outreach and education.

No evacuation plans exist in retirement homes or child care institutions, even though the risk of fire (from cigarettes) is real. In addition, buildings are old and do not have the necessary alerting and automatic sprinklers. Staff members should be trained in how to organize evacuations, and more exercises are needed for this purpose. In the absence of hazard maps, it is not known if evacuation routes are resilient to known hazards.

Indicator 3.4.4: Safe, Healthy, and Secure Locations for Temporary Shelter

Rationale given by the R2R diagnostic: While displaced persons may end up in emergency housing for years, the situation should always be viewed as temporary. In the short term, shelter communities often create added risks through overcrowding, crime, poor sanitation, and the absence of services that are well established in permanent communities. The longer the residence in temporary communities, the greater the risk for residents. A realistic timeline for transition to permanent housing should exist; this will also help speed the transition from response to recovery.

Montenegro's capacities to provide safe, healthy, and secure shelter were demonstrated in a camp built for the Roma community after fires destroyed their dwellings. In this case, the Red Cross and the armed forces established a proper, fully equipped camp for 800 people in less than 36 hours. UNICEF assisted in covering the needs of these persons, supplying hygiene kits, diapers, and tailored education programs. Although there are no specific emergency medical services for shelter communities, they can rely on the existing medical services in place. Response plans incorporate special provisions for shelter, including a timeline that provides guidance on the usage of short-term and long-term shelter.

Component ❹ Equipment

Criterion 4.1: Emergency Social Services

Indicator 4.1.1: Medical Responders, Prehospital Health Care, and Medical Transportation Resources for Casualty Care

Rationale given by the R2R diagnostic: Emergency medical care is required during disasters and emergencies. Systems need to be maintained to ensure communication and the tracking and documentation of injuries and patients transported from the field to the hospital (from admittance to discharge). Appropriately equipped responders with medical training or environment-specific first aid skills are the ideal personnel for transporting patients to higher-level medical facilities or hospitals.

Montenegro has an emergency medical care system in place through primary health care centers spread out over the country—in the capital and in 19 other municipalities. In addition, the country has public (and two private) hospitals. There are two emergency numbers, namely the general 112 number and the specific 214 number for emergency care. The health centers are operational 24/7. The plan is to increase the number of medical teams and to include medical technicians for emergency sanitary transport. Basic equipment is available: each team has its own vehicle with necessary equipment, and in Podgorica there are four ambulances, although vehicles are quickly worn out. A major shortcoming is the scarcity of doctors in the emergency medical services: countrywide, only 96 emergency physicians are available, compared to the estimated 160 required to serve the population. Another challenge is that health centers operate in hired buildings and lack space to properly execute their functions and follow existing rule books. A medical documentation system is in place, and responders are trained in triage systems to ensure priority evacuation of the most severe casualties. A corresponding protocol for triage is in place. Field hospitals can be provided by the armed forces. During the COVID-19 pandemic, for example, the armed forced delivered 30 military tents for triage outside the hospitals. The Red Cross in Montenegro does not offer emergency medical care and has no ambulances.

Indicator 4.1.2: Disease Prevention and Core Services

Rationale given by the R2R diagnostic: A breakdown in public health and WASH (water, sanitation, and hygiene) after disaster and large-scale local emergencies is the largest contributor to disease outbreak. Countries or regions that have underdeveloped public health and WASH services may already have unchecked diseases; in more developed countries, diseases may present themselves only after a disaster or large-scale emergency. A country with adequate WASH resources during non-disaster periods will recover far quicker after a disaster.

The COVID-19 crisis has been a test of the country's capacities in terms of disease prevention and core services. The country scored well for this indicator in the diagnostic, but some lessons were identified. The COVID-19 crisis strengthened the disease control capacities of the country, including laboratory capacities. To manage patients more effectively, case management should be strengthened. The country is well prepared for short-duration emergencies, but the protracted nature of the COVID-19 crisis exhausted the medical system. Collaboration is essential for pandemic response, and though preparedness was not ideal, the system learned quickly. However, the main problem identified was risk communication. Existing communication capacities were not sufficient to manage this crisis, and additional risk communication experts had to be hired. Another challenge was allocating available space and keeping COVID-19 patients separate from others. Better legislation is needed to regulate quarantine measures.

Indicator 4.1.3: Social Services Programs

Rationale given by the R2R diagnostic: Vulnerable populations, including groups like women and children who are often targets of violence, are the populations most devastated by a disaster. Certain populations, such as the elderly and those with ongoing mental illness, may not have the ability to take care of themselves. Post-disaster contexts can create conditions that may lead to extremes in cultural influences that could either exploit or traumatize specific vulnerable populations.

Under the Law on Protection and Rescue, the Red Cross of Montenegro has an important role in emergency social services. The COVID-19 crisis affirmed the importance of counseling for mental health, and the Red Cross offers the population psychological support through a telephone service. Three psychologists and internationally certified Red Cross trainers are available for this service at the organization's headquarters. The Red Cross also offers counseling for emergency responders, and—in cooperation with the Ministry of Social Affairs, Ministry of the Interior, and Ministry of Foreign Affairs—it is involved in family reunification, including for migrants crossing the country. As part of its programs for vulnerable populations, the Red Cross provides gender support services, including to LGBT groups, as well as child protection services and support for the elderly.

UNICEF works with government and civil society in Montenegro to monitor the rights of children, in particular children with disabilities, and it supported remote education for vulnerable children during the COVID-19 crisis. An outstanding need remains psychosocial support for children.

Indicator 4.1.4: Management of Mortality During Emergencies

Rationale given by the R2R diagnostic: Deceased bodies hold minimal physical risk of disease transmission for survivors and responders, but they can attract vector and zoological factors that can cause disease separately. Failure to manage local cultural needs for disposal of bodies will slow disaster recovery. Body identification is important if resources permit, as this may give family members their only opportunity for closure.

There are currently no protocols established for temporary burial of the dead during a mass fatality event, but the Ministry of Health is working on drafting these. The Emergency Medical Services have no specialized approach for identification of recovered bodies, such as after an earthquake. In general, institutions seem not to be fully prepared for mass casualties due to the absence of an event requiring such services in the recent past. Even the COVID-19 crisis resulted in a comparatively small number of losses (as of July 2020). The Ministry of Health has access to appropriate vehicles for body recovery and transport of the dead. The armed forces have no capacity to deal with mass casualties.

Criterion 4.2: Information and Communications Technology

Indicator 4.2.1: Availability of Radio Communications in Support of Emergency Operations

Rationale given by the R2R diagnostic: Reliable radio communication forms a crucial lifeline for responders and provides critical information for EOC and command post personnel. Older and unreliable systems compromise safety and operations when they are needed the most. Newer digital systems enhance reliability and provide secure (encrypted) communications, often with text and other advanced capabilities to better manage all communications.

Emergency responders in Montenegro use the TETRA radio system, including repeater systems, for radio communications. The EP&R institutions using TETRA, including the DEM, the Rescue and Protection Services of Podgorica, and the 112 center, indicated that they are pleased with the system, which was not expensive. TETRA's text messaging feature is used, and there is a possibility of using TETRA as a mobile phone for a specific number of users. The Ministry of the Interior also has a department responsible for radio communications. The Red Cross identified an outstanding need among static and mobile units for radio amateurs to use free frequency across the entire territory of Montenegro.

Indicator 4.2.2: Interoperability of Radio Communications in Support of Emergency Operations

Rationale given by the R2R diagnostic: Interoperable radio systems improve situational awareness and response efficiency and can prevent further damage or loss of life. Radio systems for responding agencies should be capable of communicating together in order to allow for a unified response and to ensure efficient information flow between responders, the command post, and EOC as necessary.

Due to the common use of the TETRA system, radio communications are interoperable. It was confirmed that the police, the medical services, and the fire services can be connected directly on the same frequency when needed. However, to ensure interoperability with the incoming NICS, it was expected that technical changes would have to be made to the TETRA system, which will be retained. The CoordCom system of the 112 center is interoperable with the TETRA system, and through that system the 112 center can connect to alerting systems and traffic controls; the TETRA system needs updating, however. A shortcoming identified was the lack of regular testing of the system's interoperability.

Indicator 4.2.3: Broadband Network Connectivity for EOC Use

Rationale given by the R2R diagnostic: Broadband network connectivity, including connection to the internet, allows for efficient communication between response and relief agencies, incident command posts, and the emergency operations center. This allows voice, data, and video communication that improves situational awareness, provides crucial links to the world outside of the disaster-affected area, and supports use of GIS, incident management systems, and early warning systems technologies.

Broadband network connectivity was not identified as a challenge within the EP&R system, and the 112 center provided several examples of established systems reliant on broadband network. Two possible problems were identified: the functionality of the broadband connection is not regularly tested, and budgets for broadband equipment maintenance and upgrades are not in place.

Indicator 4.2.4: Protection and Rapid Recovery of Public and Private Sector Communication

Rationale given by the R2R diagnostic: The public relies upon communications during and following a disaster event. Hence a program for communication infrastructure protection and recovery must include participation of industry partners and all levels of government. Such participation could require a legislated mandate that ensures cooperation by all parties and provides some level of protection to private business information.

Public and private critical communication infrastructures have been hardened to known hazards, but because hazard maps are missing, these risks have to be evaluated regularly. Emergency responders can use different channels for communication. The support of industry to secure rapid recovery of the communication infrastructure would depend on the scale of the emergency. No mitigation and recovery programs are in place for identified critical system components. However, some backup systems are in place, and if these backup systems were down, for example during an earthquake, radio amateurs would be able to fill in the gaps. Unfortunately, there is no backup system in place for the TETRA radio communication system.

Criterion 4.3: Hazard-Specific Response Capacity

Indicator 4.3.1: Functional Wildland Firefighting Capabilities

Rationale given by the R2R diagnostic: Many jurisdictions, including some heavily urbanized areas, include wildland areas. A functional capacity to prepare for and suppress wildland fires ensures wildland fires are less likely to breach the interface between wildland and built-up areas or communities, causing loss of life and severe economic consequences. As with flooding, wildland fires are often rapid-onset events with little opportunity for evacuation before peak event intensity.

In anticipation of the wildfire season from June to October, the Protection and Rescue Services of Podgorica issue messages to the public through the media. The messages raise awareness of how to prevent wildfires and how to react when they occur. In general, basic capabilities, equipment, and personnel are available to suppress localized and contained wildfires. However, the equipment used is not specifically intended for wildfires, but is the regular equipment

for urban fire response. The need for specialized wildland firefighting capabilities was acknowledged, and the services in the capital have now purchased their first wildfire-designated vehicle. There are no specific arrangements with the private sector for fighting wildland fires, though additional support may come from local stations.

Indicator 4.3.2: Capabilities for Rescue During Floods or Water-Based Emergencies

Rationale given by the R2R diagnostic: Water-based rescue is a core response capacity in areas where floods or other water risks are prevalent. Specialized training and equipment are mandatory for safety and risk mitigation in water environments. Water rescue is a separate category from coast guard or ocean-based rescue (or rescue from other large water bodies) and requires extremely rapid response deployment to be effective.

Photo 2. Water rescue capacities. (Credit: Armed Forces of Montenegro.)

Montenegro's Administration for Maritime Safety and Port Management has direct competences related to this indicator, but it relies on the regular Protection and Rescue Services to respond to water-based emergencies. In addition to the basic fire equipment used for rescue in these cases, the Podgorica-based Protection and Rescue Services intend to purchase a boat specifically for flood response. Specialized training, equipment, and budget for water-based rescue are not available for the emergency responders. In general, for rescue and evacuation at or in rivers and at sea, the EP&R system relies on the involvement of the armed forces (marines), which have search and rescue capabilities, including a sea surveillance detachment and a sea rescue detachment, along with the required equipment. The Institute of Water in the Ministry of Agriculture is responsible for flood management, and the Institute of Hydrometeorology and Seismology monitors flood levels. River floods and flash floods are a particular risk in country.

Indicator 4.3.3: Rescue Capacity for Structural Collapse and Entombed Rescue

Rationale given by the R2R diagnostic: Structural collapse is typified by the victims being buried or otherwise not accessible to the responders. This differs from entrapment, in which victims are physically held by or trapped inside an item but (at least partially) accessible to responders. These two types of rescue disciplines may be present at the same incident and indeed be present with the same victim. In such cases, the rescue is classified as an entombed rescue: the victims are buried and their entrapment is not initially discernable.

The Protection and Rescue Services in the capital have limited capacity for rescue from collapsed buildings. A few well-trained persons and an instructor are available, but they lack adequate (including heavy) equipment. Montenegro has Mountain Rescue Services in place (in Zabljak, Hercg, Husinke, and Niksic). They are a member of the International Commission for Alpine Rescue (ICAR), and they have capacities for technical rescue and search and rescue with helicopters. In the past three years, they have conducted 70 rescue operations, including technical operations as part of rescue on rocks. In addition, they conduct preventive operations and accompany tourists in the mountains. In order to improve their capacities for cave rescue, they would need additional manpower; bilateral agreements with neighboring countries could also help meet this need. In the past, the Mountain Rescue Services have been available to support mass events at country level (such as the earthquake in 1979). Air medevac services can be provided by the armed forces, but civilian units also have helicopters for this purpose.

Indicator 4.3.4: Functional Hazardous Mitigations Capability

Rationale given by the R2R diagnostic: Hazardous material incidents pose a serious risk to anyone who is not properly protected, including rescuers wearing firefighting equipment. The primary focus at such incidents is to prevent the situation from deteriorating and causing greater harm. Rescue may be secondary. Developing an ability to do more than secure the area and evacuate those at risk requires intense investment in equipment and training.

Response to hazardous material (hazmat) incidents have been identified as a gap in the system. The Rescue and Protection Services in the capital do not have proper hazmat response capacities. Among chemical, biological, radiological, and nuclear (CBRN) threats, the Emergency Medical Services have training only for biological threats. A group of eight persons forms a first hazmat response team with basic equipment but would be unable to deal with larger incidents. The armed forces have a platoon with capacities for hazardous substances neutralization, including explosive ordnance neutralization and chemical, biological, and radiological decontamination. This platoon was operational on a daily basis during the COVID-19 crisis for decontamination purposes.

Photo 3. Decontamination as carried out during COVID-19 crisis. (Credit: Armed Forces of Montenegro.)

Criterion 4.4: Urban Firefighting and Technical Rescue

Indicator 4.4.1: Functional Urban Firefighting Capabilities

Rationale given by the R2R diagnostic: Volunteer fire services are an option in rural or less populated areas. However, full-time services will tend to respond to a greater variety of incidents, as their training level increases with time, experience, and resources. Equipment and training are a major factor in any fire service's ability to respond. The fire service's tactics will necessarily reflect its equipment capabilities if responder safety has been fully considered.

The Protection and Rescue Services in the capital have the necessary equipment for emergency response in urban areas, including chemical material for industrial accidents. One shortcoming identified was the inability to extinguish fires in high buildings due to the outdated hydraulic stairs, which need urgent replacement. However, the current budget is not sufficient to cover the high cost of this equipment (€1 million). The armed forces also have urban firefighting capabilities, including vehicles.

Indicator 4.4.2: Entrapment and Extrication Rescue Capabilities

Rationale given by the R2R diagnostic: Victim entrapment in a damaged motor vehicle is the most common technical rescue worldwide. Removing the vehicle from the victim, and not the victim from the vehicle, requires specialized equipment, training, and victim care. Such training and equipment may be the basis for responding to other emergency incidents in which a victim or a portion of a victim becomes trapped inside something (household items, farm equipment, commercial/industrial machines, etc.).

The Protection and Rescue Services in the capital have the required knowledge and equipment to respond to train and car accidents and the necessary tools to extract persons from vehicles. A medium urban search and rescue team is part of the services, though sufficient equipment for earthquake response is not available in municipalities. In particular, heavy equipment for extrications is needed. The armed forces have this type of heavy equipment, including

for recovery of road communications and water obstacle crossing, as well as additional ground search and rescue teams. Medical responders are trained to give life support to persons entrapped in collapsed buildings and have the necessary capacities to do so. Staff receive a two-day course on trauma support and are obliged to repeat this course every four years. Though the Protection and Rescue Services have good cooperation with emergency medical responders, it takes time before these units arrive at the site of the incident.

Indicator 4.4.3: Functional Rope Rescue Capabilities

Rationale given by the R2R diagnostic: Rope rescue is the basis for other technical rescue disciplines (confined space rescue, water rescue, trench rescue, etc.), which often require ropes, harnesses, anchor and haul devices, etc. to undertake safely. Providing safety regulations for workers will limit death and injury in a high-risk setting.

A 15-person alpinist team is part of the Protection and Rescue Services in Podgorica; since the city is mountainous, the Mountain Rescue Services are also said to be active there. No issues were identified in terms of the capacity to safely and effectively perform rope rescues classified as steep angle (35–65 degrees) and high angle (greater than 65 degrees). Although the Protection and Rescue Services in the capital have sufficient budgetary means to maintain standards for rope equipment and purchase new ropes and carabineers, the budget of the Mountain Rescue Services is limited and covers only regular activities and purchase of basic equipment.

Indicator 4.4.4: Functional Confined Space Rescue Capabilities

Rationale given by the R2R diagnostic: Confined space rescue is at the very high end of equipment and training requirements for technical rescue. Such rescues are resource- and trained personnel–intensive. Emergency services able to perform proper confined space rescues are well equipped and trained. This level of emergency service is thus expensive and considered at the apex of emergency response service delivery.

In general, Montenegro lacks the necessary equipment to safely lift victims from confined spaces. Atmospheric monitoring and ventilation equipment is not available. The Protection and Rescue Services in the capital have some cameras to locate persons, but these capacities need to be bolstered. Legislation and workplace regulations are being developed as part of the Occupational Safety Law.

Component ❺ Personnel

Criterion 5.1: Incident Organization Structures

Indicator 5.1.1: Existing Policy for a Common Incident Organization Structure

Rationale given by the R2R diagnostic: Incident organization structures, such as the Incident Command System or the National Incident Management System in the United States, are more successful if the system is directed by policy. Formal policy more strongly encourages response agencies to follow a common and standardized system. Without political backing on a common incident organization structure, all response entities will not have the benefits of a comprehensive, jurisdiction-wide, systematic approach to managing incidents. Ideally an incident organization structure is consistent with internationally best practice when forming system standards.

In the discussion of Indicator 1.1.1, reference was made to the emergency management structure of the country, consisting of three levels: national coordination team, operational team, and local coordination team. This system is well supported by formal policies. A next step now being pursued is the implementation of the NICS to enhance the EP&R system's coordination and efficiency. In addition, responding agencies have their own incident organization structure, which is clearly outlined in the response plans. No issues in terms of functional interoperability could be identified, but communication should be further improved, including in non-emergency situations through use of the TETRA system.

Indicator 5.1.2: Flexible and Scalable Incident Organization Structure

Rationale given by the R2R diagnostic: A flexible and scalable response structure allows for emergency incident flexibility and promotes user familiarity through a common structure for multiple incident types. The system should apply to any incident regardless of cause, size, location, or complexity. This allows various organizations and agencies to work together in a predictable, coordinated manner.

Depending on the size and complexity of the incident, the 112 center can request additional resources either from other responders or from neighboring countries. The coordination structure in place guarantees that prioritization is given to response operations. The development of the NICS is in line with developments in neighboring countries. The Red Cross intends to be integrated in the NICS system but needs an additional server for this purpose.

Indicator 5.1.3: Training and Implementation Resources

Rationale given by the R2R diagnostic: An incident organization structure consistent with internationally recommended practices should be supported by resources, including reference materials, training materials, and exercise scenarios that provide responders the opportunity to practice in a consequence-free environment. These reference and training resources should be provided to emergency responders as well as coordinators who may be working in emergency operations centers.

Standard operating procedures (SOPs) and checklists to support the incident organization structure vary between agencies. It was said that in general the capital is well prepared, but that municipalities were less so, with differences between the south and less developed northern part of the country. As will be discussed under Criterion 5.2, training materials and experienced instructors are problematic for some parts of the system. Given the ongoing development of the NICS, more attention will need to be given to training emergency responders in its use. Some issues remain on technological interoperability to connect to NICS, including for the 112 center. It is too early to assess if the NICS system will be properly supported by standards, best practices, and guidelines.

Indicator 5.1.4: Roster of Trained Personnel and Database of Common Response Resources

Rationale given by the R2R diagnostic: Emergency response agencies are trained and equipped to manage a threshold for both number of simultaneous events and event complexity/intensity. When these thresholds are exceeded, the responsible agency must have access to additional resources to effectively manage the emergency. Sharing of personnel and resources through a formal process can ensure collective preparedness of response agencies, help manage cost, and improve response efficiency. This personnel and resource sharing begins with shared understanding of what supports may be available to responding agencies when they are needed most.

The Directorate for Emergency Management has a roster of trained and experienced response personnel for functional roles identified in the incident organization structure. An annual report is produced on the status of the EP&R system, including all human resources in EP&R institutions, with a list of personnel and the trainings they received. Through the drafting of the annual report, the DEM also receives information on the services' available resources. However, this sharing of information could be improved, especially between the local and national services. When there is a need to deploy personnel from local units, official requests can be made, upon which commanders need to give permission to release the staff members. There are no agreements on cost sharing.

Criterion 5.2: Training and Knowledge Building

Indicator 5.2.1: Training program in place

Rationale given by the R2R diagnostic: Those within an organization who may be involved in planning for and responding to an emergency should be appropriately prepared. They require a clear understanding of roles and responsibilities and how they fit into the wider emergency preparedness and response system. Training builds capability and capacity for emergency response incidents. Training should also extend beyond those employed by the jurisdiction and include contractors and the staff of voluntary organizations who might support emergency planning or response.

The country has no common training program (or training budget) for emergency responders; rather, the separate services organize their own training activities. In general, a lack of training possibilities was noted. The 112 center, for example, trains all newcomers in software and international communication procedures. Shift leaders need to acquire additional skills and knowledge, which they mainly learn by following other shift leaders while on the job, taking UCPM trainings, and visiting the EU Emergency Response Coordination Centre. The Emergency Medical Services train their staff in a programmatic manner, whereby first training is offered at the training in addition to regular lifesaving and traumatic care training. FORS also provides trainings on flood protection. The Mountain Rescue Services organize four trainings a year for each rescuer (two in winter and two in summer) at their own training facilities. The Red Cross trains its teams in psychosocial support, tracing services, and distribution of humanitarian aid (ZFRA 2018). IHMS has no training program for its in-house experts.

Indicator 5.2.2: Availability of Qualified Trainers and Appropriate Training Materials

Rationale given by the R2R diagnostic: A robust training program offers multiple methods of training, including off-site, on-site, instructor-led classroom training, self-directed, hands-on study, etc. While online training for basic concepts may be easy to deliver for those whose primary role is not emergency preparedness or response, in-person training coupled with workshop activities is more meaningful for participants and more easily absorbed. Having a variety of training methods is important to ensure comprehensive understanding of the material.

Most trainers used in FORS programs come from abroad and are internationally certified. FORS trainings typically include a theoretical part and a practical exercise on the final day, indicating that instruction uses multiple delivery modes. FORS also pays attention to disseminating the results of the trainings by supporting post-training workshops in which participants present what they learned to their colleagues. The Mountain Rescue Services trainers have been internationally educated and are certified trainers in rescue and emergency medical aid. The Protection and Rescue Services in Podgorica can rely on Mountain Rescue Services' well-equipped training center and materials.

Indicator 5.2.3: Formal Assessment Program

Rationale given by the R2R diagnostic: Regular program evaluation is critical to ensuring a comprehensive and effective training program. Feedback should be obtained from all participants to determine training and instructor effectiveness as well as knowledge or skill acquisition. Analyzing this feedback can identify weaknesses in the training program and aid in closing critical learning gaps that may otherwise compromise effective emergency response operations.

Because of the different training activities, it is not easy to get a full picture of the requirements for formal assessment of existing trainings. In general, trainings are evaluated in class and through participant feedback, based on international standards. Staff of Emergency Medical Services must undergo exams at the end of their training. FORS trainings are in line with international standards. Mountain rescuers are selected in accordance with strict criteria and must renew their certification yearly through annual exercises and trainings. The Protection and Rescue Services follow personnel performance after training to monitor response outcomes, but the diagnostic could not determine that other EP&R actors across the country do likewise.

Indicator 5.2.4: Planning and Tracking of Personnel Development

Rationale given by the R2R diagnostic: When responder agencies formally and deliberately plan personnel development and track its results, agency-specific capacity can be known. This information provides agencies with heightened awareness and advanced knowledge of when additional resources or special emphasis may be required to ensure they have the capacity to continually meet their responsibilities.

Although the country lacks a programmatic approach to training, good examples do exist. New staff working at the 112 center are first trained as operators, but after a few years in that position may be selected to become shift leaders, based on an assessment of their performance and their English language skills. For the Emergency Medical Services, the challenge is not necessarily development through trainings, but retention of trained personnel. Despite investments made in personnel development, doctors frequently leave. Thus while basic trainings are in place, a strategic approach to advanced learning and mentoring is desirable.

Criterion 5.3: Exercises and Drill

Indicator 5.3.1: Comprehensive Exercise Program

Rationale given by the R2R diagnostic: A formal and functional exercise and drill program enables testing of response plans and application of training in a consequence-free environment. Exercises allow for team building within and among responder agencies, especially when exercises and drills are collaboratively designed and delivered. Exercises should reflect appropriate jurisdictional risks and increase in complexity and difficulty as participants and their agencies increase their operational response capacity.

Legislation does not include obligations to conduct exercises. A comprehensive exercise program is thus not in place in the country, nor has a lead agency been identified. The DRR Strategy does state that companies, other legal entities, and entrepreneurs are responsible for organizing trainings and making preparations in case of natural disasters and other accidents. In general, exercises are fragmented, and budget is a limiting factor, especially at municipal level (UNDP 2012). Still, individual actors organize exercises for their staff that are guided by real hazards. The armed forces, for example, organized a large simulation exercise in 2011, called ZELTA, based on the scenario of the 2010 floods. Participants practiced procedures for handling corpses, using heavy construction machines, establishing field hospitals, and using radio equipment, among other content. Since then, no significant floods have taken place, which has prevented the system from evaluating its learnings. Every year, the armed forces organize naval exercises to practice the response to fires originating from sea pollution by sea vessels.

Indicator 5.3.2: Collaboration and Coordination

Rationale given by the R2R diagnostic: Collaborative and centrally coordinated exercises that involve multiple response agencies provide opportunities for collective learning that could otherwise be realized only during actual emergencies and disasters. Such exercises, while somewhat more complex, are also more reflective of real-world response operations, which tend to involve a variety of sectors and agencies.

The diagnostic identified a few examples of collaborative and coordinated exercises. The ZELTA exercise was coordinated between the armed forces, police forces, and ambulance services. The Emergency Medical Services are frequently invited to participate in exercises held by other actors. The Mountain Rescue Services are also invited to exercises held by other stakeholders, including fire services. The private sector was not identified as a standard participant in exercises. As previously noted, volunteers from the Red Cross and the Protection and Rescue Services do participate. EP&R actors also participate in international exercises. For example, the 112 center participates in EU and NATO exercises, but would have to improve evaluation practices to better learn from these exercises.

Indicator 5.3.3: Exercises Designed to Validate Response Plans

Rationale given by the R2R diagnostic: Evaluation is the key to a successful exercise. It is where all lessons learned and gaps are identified. An essential part of a successful evaluation process is ensuring objectives are developed based on plans and assessed jurisdictional risks. Clear and concise objectives are key factors that form evaluation criteria and performance measures. A post-exercise report on how to implement changes needs to be carefully documented, tracked, and used during annual work planning for following fiscal years.

Although good examples exist in the country, there is a general need to organize more testing of response plans and coordination systems. In the 112 center, after-action meetings and internal exercises are organized to identify gaps in procedures. The Protection and Rescue Services likewise perform after-action reviews, which lead to improvement plans. Simulation exercises are mainly organized by international actors, limiting the possibility to rehearse country-specific procedures and protocols (UNDP 2012).

Indicator 5.3.4: Robust Exercise and Drill Planning Process

Rationale given by the R2R diagnostic: Exercises can be difficult and time-consuming to develop. Personnel with multiple other duties may not prioritize development of complex field exercise with multiple stakeholders. Significant time and money must be dedicated to develop a robust and useful program. In many cases, large-scale operational exercises have been successful only with year-long planning, a dedicated budget, and experienced exercise planners. Smaller budgets are acceptable as long as the scale of the exercise equals that of the budget. For example, a multi-day, multi-stakeholder, 24/7 exercise would be challenging without the support of a dedicated design and delivery team.

Exercises mainly take place at the project level; few are conducted at either the local or the national level. The diagnostic concludes, however, that those being carried out follow an appropriate design and planning phase and involve subject matter experts and realistic scenarios.

Criterion 5.4: International Support Coordination

Indicator 5.4.1: Agency Assigned to Coordinate International Support

Rationale given by the R2R diagnostic: Designating an agency to officially request disaster relief formalizes and streamlines the assistance request process and improves the speed and efficiency of international aid delivery following widespread and/or intensive emergencies and disasters. Improved capability enables the jurisdiction to make the best use of internationally accepted tools and resources. With this capacity, the jurisdiction can complete advanced planning to identify likely disasters and potential aid requirements. It is also better able to coordinate with international and humanitarian aid agencies as well as other levels of government.

The Directorate for Emergency Management is responsible for incoming civil protection support, whereas the Ministry of Foreign Affairs deals with the coordination of humanitarian support. Basic legislation is in place to coordinate international support, but additional bylaws would provide further clarifications. A database on support received would enhance transparency. The actual lead for coordination efforts depends on the type of situation—for example, in a health-related disaster, the Ministry of Health leads. However, the DEM is involved on a standard basis. The country has signed several bilateral agreements and has been participating in the EU Civil Protection Mechanism since April 2015. The single focal point for UCPM is the 112 center within the Ministry of the Interior. Coordination with the United Nations is performed by the Directorate-General for Multilateral Affairs and Permanent Mission of Montenegro to the United Nations. SOPs for receiving international support and Host Nation Support Guidelines are in place. Responsible staff have no experience in being deployed abroad but have followed several international exercises and have regional and national emergency response experience. A need was identified to further train political leaders and key staff in relevant ministries.

Indicator 5.4.2: Minimum Standard for Provision of Aid by International Groups

Rationale given by the R2R diagnostic: The accountable agency for coordinating international support should be aware of international standards that ensure service quality and consistency of aid during very complex and difficult times. Such standards provide formal procedures for collaborative decision-making, identify best practices, and enable performance monitoring and issue reporting. These standards also typically include minimum standards for documentation, an operational framework, and oversight to ensure outcomes are being met.

Best practices and international standards are part of training but are not formally adopted. There are no pre-identified organizations to support relief, but the Red Cross plays a key role in this task and has operational plans and service agreements for this purpose. In the future, it is possible that the NICS could track expenditure and relief distributions, but this possibility is not part of any SOPs at this stage.

Indicator 5.4.3: Functional Logistics System in Place to Receive International Support

Rationale given by the R2R diagnostic: In a post-disaster environment, tight communication and control will be required to carry out effective and reliable disaster relief coordination. To enable expedited and efficient movement of aid resources, the agency coordinating support should have agreements or memorandums of understanding established with warehouses, airports, and transportation entities before a disaster.

Based on the Host Nation Support Guidelines, agreements are in place to handle and receive incoming support—which is linked to the use of Red Cross warehouses, discussed under Indicator 3.3.1—and to stage, deploy, and house incoming human resources. For example, in 2017, support from NATO and the EU was received in response to fires in the south of the country. In addition, the armed forces signed a technical agreement for Host Nation Support, whereby military personnel crossing into neighboring countries can be hosted in their premises. Strict procedures exist for managing donations. The country has little experience with, and no procedures for, handling of time-sensitive goods, and the Red Cross has no capacities for refrigerating perishable food items. In the end, the institutions are responsible for how to handle goods; the Ministry of Health is responsible for medicines, for example, and the Ministry of Agriculture and Rural development for food items. No relevant agreements exist with the private sector.

Indicator 5.4.4: Functional Logistics System in Place to Distribute International Support

Rationale given by the R2R diagnostic: The capacity to distribute aid resources that have been cached in advance of a disaster, or received immediately following a disaster, is vital to managing the consequences of the event and transitioning to recovery. In particular, determining how aid will be prioritized for distribution and identifying redundant distribution channels for remote and/or unreachable areas are important in advance planning.

The national coordination team decides on the prioritization of disaster aid distribution, followed by more detailed decisions on destinations by operational bodies and local teams. There is no strict process in place for this decision-making, but prioritization will depend on the actual situation. Planes and helicopters can be used to distribute aid in remote disaster-affected areas. Sufficient experience in managing complex logistics is available. However, no formal agreements with transportation partners exist for distribution purposes.

Annex 2
Interview Overview

Date	Time	Institution	Contact
June 22	08:00	Insurance Supervision Agency	Branko Barjaktarović, Chief Supervisor, Department for Insurance Market Supervision
	10:15	Institute of Hydrometeorology and Seismology of Montenegro	Luka Mitrović, Director Ivana Adžić, Head of International Cooperation Department
	12:15	Ministry of the Interior/ Directorate for Emergency Management-112 Center	Zlatko Mićanović
June 23	08:00	Red Cross of Montenegro	Jelena Dubak, General Secretary Milena Sekić, Tracing Services
	10:15	Rescue and Protection Services of Podgorica	Goran Janković, Head of Rescue and Protection Service
	12:15	Emergency Medical Services	Radmila Furtula, Doctor
June 24	08:00	Ministry of Labor and Social Welfare	Goran Kuševija, General Director for Social Welfare and Child Protection
	10:15	GIS expert	Biljana Medenica, GIS expert
	12:15	Ministry of Foreign Affairs	Isidora Dabović, General Directorate for Economic and Cultural Diplomacy
June 25	08:00	Foundation for Development of Northern Montenegro (FORS)	Tamara Todorović, Project Implementation Manager
	10:15	United Nations	Borko Vulikić, United Nations Development Programme (UNDP) Office Manager
	12:15	Mountain Rescue Services	Željko Loncović, Head
June 26	08:00	UNICEF (United Nations Children's Fund)	Michaela Bauer, UNICEF Deputy Representative Nela Krnić, Child Protection Officer Danilo Smolović, Child Protection Officer and Social Policy Officer
	10:15	Armed Forces of Montenegro	Željko Ojdanić, Frigate Captain, Command and Operations Center, General Staff of the Army of Montenegro Milutin Đurović, Colonel, Department for Strategic Planning, Directorate for Defense Policy and Planning, Ministry of Defense
	12:15	Faculty of Civil Engineering	Jelena Pejović, Department for Earthquake Engineering Nina Serdar, Department for Earthquake Engineering
June 29	10:15	Real Estate Administration	Mirjana Ljumović, Assistant Director
June 30	08:00	World Health Organization (WHO)	Mina Brajović, Head of WHO Country Office
	10:15	Ministry of the Interior/ Directorate for Emergency Management–Department for Civil Protection and Humanitarian Assistance	Ljuban Tmušić, Head of Department Vojin Vojinović
July 3	09:00	Ministry of the Interior/ Directorate for Emergency Management–Department for Civil Protection and Humanitarian Assistance	Vojin Vojinović

Annex 3
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