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DISASTER RISK REDUCTION AND RECOVERY TEAM

CAPACITY FOR DISASTER REDUCTION INITIATIVE

Disaster Risk Reduction Capacity Assessment Report

For the Republic of Serbia

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ACRONYMS

BCPR	Bureau for Crisis Prevention and Recovery
CADRI	Capacity for Disaster Reduction Initiative
CCA	Climate Change Adaptation
CDG	Capacity Development Group
DM	Disaster Management
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ES	To Come
EU	European Union
HFA	Hyogo Framework for Action
HQ	Headquarter
HS	Hydrometeorological Services
IPA	Instrument for Pre-Accession Assistance
LES	Law on Emergency Situations
NDO	National Disaster Observatory
NP	National Platform
PPS	To Come
SEE	South-East Europe
SEM	Sector for Emergency Management
SOP	Standard Operating Procedure
SSS	Seismology Service of Serbia
UNDP	United Nations Development Program
UNISDR	United Nations International Strategy for Disaster Reduction
USAID	United States Agency for International Development

WMO	World Meteorological Organization

INTRODUCTION

The capacity assessment mission for Serbia is implemented at the request of the regional project for South-East Europe (SEE) and Turkey on Disaster Risk Management (DRM). Similar capacity assessment missions are also to be conducted for Albania, Bosnia and Herzegovina, Kosovo and Montenegro, Macedonia and Turkey out of eight of the Instrument for Pre-Accession Assistance (IPA) beneficiaries of the project (with the exception of Croatia). The assessment is meant to complement the needs assessments conducted in all eight IPA beneficiaries of the project conducted in 2010 by both a regional and local consultant in each location.

The purpose of the disaster risk reduction (DRR) capacity assessment is to identify capacity gaps related to risk reduction, understand desired capacities and propose recommendations on how these capacities can be achieved. Results of the DRR capacity assessment will contribute to the development of strong national components as part of the regional capacity development proposal – to be submitted to the European Commission and potentially other interested donors for Phase II of the regional DRM project for SEE and Turkey.

NOTE TO THE READER

Regarding recommendations, the report will only propose actions that can realistically be implemented in the next three to five years, based on the existing in-country capacities to absorb them. The reader will also find the World Meteorological Organization (WMO) report regarding the Hydro-Met services in Annex 2, as well as a list of interviewees in Annex 3.

One particular element regarding the legal system needs to be explained here as this has a very important impact in advancing DRR in Serbia, and in all countries of Former Yugoslavia. In Serbia, as well as in other countries of Former Yugoslavia, you are authorised to initiate activities of general interest such as DRR only if there is a law, with all steps and activities defined, which authorises you to do so.

CADRI CAPACITY ASSESSMENT APPROACH

This capacity assessment is conducted by a joint initiative of United Nations Development Programme (UNDP), Capacity for Disaster Reduction Initiative (CADRI), United Nations International Strategy for Disaster Reduction (UNISDR) and United Nations Office for Coordination of Humanitarian Affairs (UNOCHA).

It uses the methodology developed by the UNDP Capacity Development Group (CDG) and is adapted for the DRR sector by the Bureau for Crisis Prevention and Recovery (BCPR) of UNDP and CADRI. The methodology was first piloted in Armenia in 2010 and adapted to the regional context of Balkans in 2011 by CADRI and the regional project management for South-Eastern Europe DRM.

CADRI's capacity assessment is conducted with a clear focus on national capacities for DRR. The assessment will look into five technical areas of capacity development: ownership, institutional arrangements, competencies, working tools and resources, and relationships.

Within the Hyogo Framework for Action (HFA), and specifically regarding HFA Priority 1, the assessment will focus on ownership as a basis for setting the right enabling environment for DRR, in order to guaranty sustainability in developing capacities. It will also look at the overall institutional arrangements for DRR set in the legal base, and the level of financial resources allocated to DRR as a sign of a strong commitment.

Within HFA Priorities 2–5, the assessment will concentrate on capacities related to institutional arrangements, competencies, working tools and resources, and relationships specific to these thematic areas.

In terms of recommendations, concrete capacity development actions will be proposed at the end of each of the HFA Priorities 1–5 to address any challenges identified. The level of proposed actions will take into consideration the country's real capacity to implement them within three to five years.

SERBIA NATURAL HAZARD PROFILE

Serbia faces significant meteorological hazards. Most prevalent are the following:

- Around 321,900 people live in urban or rural settlements that are prone to flooding. Floods occur most frequently in the Vojvodina region. Since 1989, six major floods have affected 125,400 people. The floods occur mostly along the river courses of the Sava, Drina, Velika Morava, Juzna Morava and Zapadna Morava.
- Drought became increasingly frequent in the last two decades of the twentieth century. They are most prevalent in the eastern portion of the country. Catastrophic droughts have struck the country three times in the last 20 years. Damages (mainly to agricultural production) in 1990 amounted to $873 million, in 1993 to $500 million, and in 2000 to $750 million.
- Wildfires are frequent and widespread in Serbia during the summer season. During the period 1998–2008, 853 forest fires burned an area of 16,357 ha.

As in the rest of the Western Balkans, climate change is expected to amplify exposure to floods and droughts. However, Serbia has not yet produced a National Communication under the United Nations Framework Convention on Climate Change.

Serbia registers frequent and strong seismic activity. Earthquakes with a magnitude of 7 (MKS scale) are likely to occur on around 50 percent of the country's territory; earthquakes with a magnitude of 8 are likely on almost 20 percent of the area (including Vojvodina and central and

southwestern regions); and earthquakes with a magnitude of 9 can be expected to occur south of Belgrade and in the southeast. Catastrophic events struck Serbia in 1979, 1980, 1988 and, more recently, in 1998. The National Geophysical Centre reports estimated economic losses due to earthquakes of approximately $2.7 billion over the last 33 years. The country is also prone to landslides.

Little specific information concerning vulnerabilities and capacities is available. It is clear that the scale of economic losses is quite large, probably amounting to at least two to three percent of the gross domestic product on an annual basis. A recent World Bank-sponsored study of the Republic Hydrometeorological Services (HS) estimates that the share of weather-dependent sectors in the national economy is in the range of 42–47 percent.

THE ASSESSMENT FINDINGS

HFA PRIORITY 1

Ensure that DRR is both a national and local priority, with a strong institutional basis for implementation

The most important requirement for sustainability on any work on capacity development is ownership. For DRR, ownership starts with authorities showing a strong commitment to engage on a long-term approach in addressing disaster risk resulting from the exposure of populations and their assets to natural hazards. Ownership is initially shown by making DRR a priority through national legislation, by drafting a DRR strategy, putting in place adequate institutional structures to address priority risks, and allocating financial means to support national institutions to implement national strategies.

In terms of legal base**,** Serbia adopted a new Law on Emergency Situations (LES) in 2009. The LES is the basis for guiding all disaster management (DM) activities in the country. One excellent element of the LES is a unified terminology for DRR and DM in general.

The LES is still oriented towards emergency response with some elements of prevention also mentioned. However, new elements have recently been proposed to make the LES more risk reduction sensitive. Overall, while the LES could have been better drafted in terms of linking DM to risk reduction in development planning, it is nonetheless a good tool for initiating long term DRR work in the country – at least until the next window of opportunity opens to revise the LES, to have a new specific law or by-law on DRR, or to have risk reduction integrated into laws specific to various sectors of national development planning. An important question is how far the LES will be implemented, as there is a clear lack of technically trained staff and funding.

One of the probable reasons why the LES was not initially balanced between response and long-term risk reduction approaches is the fact that DRR is still very much perceived as disaster preparedness and response, and therefore not really integrated into long-term development planning. At central, regional, municipality and community levels, there is a low awareness of DRR concepts, in particular how DRR relates to Climate Change Adaptation (CCA) and Environmental Sustainability. There is insufficient understanding that while HFA Priority 5 deals with preparedness for response, HFA Priorities 1–4 aim to address risk reduction by integrating its measures into long-term development planning. Risk reduction is therefore not mainstreamed into the various long-term development plans of sectoral ministries and their agencies likely to have a role in DRR.

The new LES mentions that within six months of its adoption, a national strategy for emergency situations should be drafted and adopted by the parliament. A draft strategy was prepared through wide participation of various ministries and other civil society organizations. It is now in circulation for final comments. Authorities expect the parliament to adopt it by the end of June 2011 – after its adoption, the strategy will be translated into a national plan of action. The strategy was initially meant for building national capacities for emergency response. It was then revised to make it DRR sensitive by aligning its specific objectives with the five pillars of the HFA. The strategy is now called 'National Strategy for Disaster Risk Reduction and Protection and Rescue in Emergencies'. However, there are still several ways the strategy could be adapted to improve DRR in general. While there is great positivism in the fact that authorities wanted to have the strategy adopted as early as possible, based on the fact that the adoption of laws and strategies by the parliament is a long and difficult process, the concern with this 'rushed version' is that the strategy could result in a general interpretation that there isn't enough knowledge about DRR in the country, which is not the case. However, the plan of action to be drafted as a result of this assessment report could initiate capacity building activities in Serbia. In addition to the LES and the national strategy, there will also be a need to prepare a DRR policy.

The LES was adopted in 2009 but needs to be enacted by a series of by-laws (probably around 45 in total). Many of various ministries' agencies and civil society actors such as the Red Cross, as well as the private sector, seem to have a good understanding of the LES. They have various roles and responsibilities (in prevention, protection and rescue) mentioned in the LES that will eventually be defined in the by-laws. However, unless the by-laws are adopted quickly, there is the risk that actors may wish to delay their activities as many are interested in the financial support the by-laws will bring from the government.

In terms of institutional structure for emergency situations in general, the LES defines clearly roles and responsibilities for various ministries and the civil society (see LES in Annex). The SEM is being decentralized and establishes 4 regional and 27 municipal Headquarters (HQs). The structure of the SEM in Belgrade includes Directorates for Prevention, Risk Management, Civil Protection, Fire and Rescue, as well as a Training Center. The LES also establishes a National Emergency Response Coordination HQ, which is an ad hoc body established after an emergency to coordinate response operations. In general, the SEM is recognised as the main

body for DM by all ministries and stakeholders likely to be engaged in DRR. It is therefore in a strategic position to influence all stakeholders to engage in long term DRR planning.

Currently, preparations are underway to establish the NP for DRR in Serbia by July 2011. The National Emergency Response Coordination HQ will probably become the National DRR Platform with the inclusion of more potential DRR actors, with the SEM providing secretariat functions. A workshop that took place in June 2011 defined the final structure and set a clear strategy for the NP. It is hoped that in the future the NP will not just have a disaster response focus – this may divert the already limited time and resources devoted to DRR within the SEM, various ministries and municipalities.

HFA PRIORITY 1: RECOMMENDATIONS

1. Organize an awareness campaign on DRR with the involvement of all concerned line ministers. The awareness campaign can be backed by a visit from the Assistant Secretary General and the Special Representative of the Secretary General of the United Nations for DRR. The campaign can be initiated with a half-day workshop and/or a conference.
2. As part of the DRR campaign, organize yearly one-day workshops for municipality mayors on DRR/Urban Risk. This will also be an occasion for their cities to join the UNISDR 'Safer Cities' campaign. This is expected to raise interest in DRR and, more specifically, urban risk, and foster intra-municipality experience sharing and collaboration.
3. Develop a national gender sensitive DRR policy.
4. When possible, revise the National DRR strategy. However, until the next opportunity to revise the strategy, align the plan of action with the existing strategy.
5. Advocate for a legally backed obligation by the State for DRR funding to be an integral part of the national budget (1 percent).

HFA PRIORITY 2

Identify, assess and monitor disaster risks and enhance early warning

The former Law on Protection and Rescue primarily addressed hazards and not risks. The new LES outlines the need to conduct a national risk and vulnerability assessment for the country. Various ministries and their agencies, as well as local self-governments, are all tasked for contributing to the Risk and Vulnerability Assessments.

In terms of institutional arrangements, the Directorate for Prevention, Risk Management and Operations is responsible for coordinating risk assessments. A number of Standard Operating Procedures (SOPs) and early warning, prevention, mitigation and preparedness plans are to be developed following the Risk and Vulnerability Assessment. However, a by-law is first needed in order to develop the assessment methodology, which must be compatible with European

standards. The low capacity at municipality level to conduct risk assessments is also a major issue. In addition, many consider hazard mapping (serving as a basis for drafting preparedness and response plans) to be a valid and acceptable risk assessment: this perception needs to be rectified.

In terms of competencies and tools, Serbia has capacities within its different technical institutions that can contribute to providing risk information – supporting national authorities with decision-making processes in integrating risk reduction measures into development planning. For example, the HS play a key role in Serbia. The HS role is recognized in a number of sectoral laws, including the LES. With 688 staff members, the HS has done a lot to build its capacities within the past two years (since the adoption of the new law on HS in 2010). Regarding short-term early warning, the HS provides alert messages that are classified into four categories, from low to high. Each warning includes the type, the area and the likely duration of the hazard. Early warning information is updated on the HS website, and in addition is transmitted by email, fax and by granting access to certain institutions to its servers (Ministry of Interior). HS Serbia is also a member of European Meteorology and Hydrology alarm systems and of the SEE climate monitoring system. Regarding long-term early warning, the HS has capacities to provide data and analysis on developing trends related to climate variability and other possible slow onset disasters for the next 30–50 years.

However, most authorities and DM actors are not aware of the variety of information available from the HS. In addition, the HS is concerned that when it provides data (for free except for to the airline industry), its clients often do not know how to interpret it. It has no actual evidence that its data is used at all by authorities for long-term development planning at central or local levels. The HS are now working on methods for providing information that is easily understood by all users. (See WMO report for more on the HS)

The collaboration between the HS, the Water Management Directorate and the Directorate of Forestry (to whom the HS provide important flood and forest fire short-term early-warning information) is good.

The Water Management Directorate has already completed a flood hazard mapping. The European Union (EU) has allocated a budget of 2 million Euros as part of the IPA process to map flood prone areas. The mapping exercise will soon be enlarged to incorporate the entire Sava and Danube rivers at regional level. Following the mapping, the directorate has recently undertaken a flood risk assessment, based on an EU methodology. The assessment aims to be completed by the end of 2011 (it has now shared the methodology with the new working group on risk assessment). The main challenge for the assessment is to collect baseline data, as sufficient archives and information management systems do not exist. The directorate has built a new information management system that will enable it to review its assessment periodically. However, there is no guaranty that there will be enough funding to implement the

recommendations of the risk assessment. Note that the directorate has also recently conducted a flood management simulation exercise.

The Seismology Service of Serbia (SSS) does not fall under any of the ministries, it is independent and reports directly to the Prime Minister and government (this is also the case of the HS) – their motto is 'from repairing to preparing'. In terms of Serbia's risk profiling, the SSS mentions that seismic areas are clearly identified but analysis of the level of risk in each area, in line with different seismic scenarios, are not yet done. This is probably due to the fact that there is no provision in the legislation for regular assessment of risk related to seismic activity, especially regarding the condition of buildings and infrastructures in general. Urban planning and construction is often based on the hazard location, but not on the basis of the level of risk, which can be misleading and dangerous.

The SSS has the capacity and willingness to develop seismic risk assessment methodology and contribute to the risk assessment methodology being developed by the SEM. The SSS has general data on seismic activity in the region dating back to 350 A.D. – more detailed seismic activity dates from the 19th Century. The seismic monitoring network records all 1.5 magnitude earthquakes in Belgrade and central Serbia, and earthquakes of 2.0 magnitude in the rest of the country. Seismic maps, for seismic active zones in Serbia, will be developed by 2014.

In general, seismic data is transmitted to the SEM and media by email and sms. However, there is a need to improve communication lines for early warning and alert systems (in 2010, seismic information forwarded to authorities was automatically blocked by servers that falsely recognized the seismic increased information flow as a cyber-attack). Data from the seismic observation network is also publically accessible and shared widely, even internationally. However, understanding seismological information is an issue. SEM and other recipients of the information from the seismic service cannot properly process the information received. In general, early warning needs improvement, as does the alert system – there are no SOPs based on the seismic data. The seismic institute is capable of producing valuable information, however, there is no law that requires its proper utilization, especially for long-term planning purposes.

In general, there are regular information exchanges between the SEM and all specialized agencies: SSS, HS, Water Management Directorate, Ministry of Environment, etc. However, information exchanges consist mainly of early warning messages for imminent threats and during response and recovery operations. The SEM plans to set up a national risk information observatory that will coordinate regular risk monitoring in the country – there are already maps for various hazards but they need to be updated.

HFA PRIORITY 2: RECOMMENDATIONS

1. In order to conduct a disaster risk assessment for the country, the Government of Serbia should consider developing a National Risk Assessment Framework that would provide an overall guidance for disaster risk assessments in the country.

2. Along with the development of a National Risk Assessment Framework, the country should start implementing a Country Situation Analysis for Disaster Risk Assessments, with a particular focus on establishing a National Risk Information System.
3. Establish a National Disaster Observatory (NDO) to enhance Serbia's capacity for disaster/emergency preparedness and response. An NDO is an institutional arrangement for systematically collecting, storing, analyzing and interpreting disaster-related data for decision-making in risk and DM.
4. Organize technical training courses focusing on risk assessment and decision-making, and aiming towards the standardization of risk assessment methodologies in the country. These should be available for the SEM and other relevant institutions (line ministries) at national, district and municipal levels.
5. Establish cross-border partnerships to enhance climate risk assessment and management.

HFA PRIORITY 3

Use knowledge, innovation and education to build a culture of safety and resilience at all levels

When dealing with the subject of DRR in many of the ministry interviews, technical staff referred us back to the SEM as "They deal with disaster"– DRR is generally perceived as disaster response. There is limited understanding of DRR concepts among the personnel within the main institutions involved in DM. The SEM was recently created and its personnel were selected from various State institutions, which suggests that their knowledge in DM and risk reduction differs largely from person to person. The SEM has initiated an annual training programme for its personnel on prevention (with some elements of risk reduction) and DM coordination to bring them all up to the same level of knowledge. At municipality level, lots of DM training takes place due to the United States Agency for International Development (USAID) programme that leads to municipality certification in DM. However, there is a need to start including elements of DRR into the certification process. Moreover, it is paramount that the technical staff in charge of planning are trained on how to mainstream DRR, CCA and ES into their local development processes.

The SEM has a staff development strategy that was prepared by the national training center, but it lacks specific DRR components, which need to be added. So far, training has been provided on general subjects of DM, but the objective is to move towards more in-depth training on DRR starting with the use of a common DRR terminology. Although clearly defined in the LES, a general understanding of DRR terminology is lacking within the country.

The SEM would also like to address the training needs of other organizations that are members of the national DRR platform. Specific training programmes covering DRR do not exist within the civil society and are not conducted by any other national institution – most of them lack personnel for preparing and conducting training sessions.

In terms of public awareness, a 'Public Awareness Manual on hazards in Serbia' is being developed in conjunction with the Organization for Security and Cooperation in Europe (OSCE). There are also initiatives in place with the media for messages to be broadcasted to the public on disaster risk – the SEM plans to hold training sessions on DRR and emergency situations for the media, as their reports in times of disaster are often a concern.

Many interviewees recognize that public awareness on disaster risk is not as high as it used to be – many are nostalgic for the system that had regular community-based activities dealing with public prevention. Today, except for ad hoc campaigns here and there, community-based training initiatives are scarce. Campaigns tend to be organized after a disaster has taken place.

The SEM has run an awareness campaign for schools on fire safety, providing flyers and posters. In addition, students in primary school (grades 1–3) have basic awareness classes on fire, which are included in the curriculum. Grade 6–7 students have more detailed classes on fire protection and behavior. However, this is not the case for the higher education system. When the civil defense subject was dropped from the curriculum, nothing replaced it. Overall, there is a clear lack of disaster risk and prevention initiatives within the school curriculum. A positive element is that the Red Cross organizes many youth summer camps where disasters are regularly discussed.

The Ministry of Education is at the moment reviewing the education system and will come up with a new national strategy. This is seen as a possible opportunity to include elements of DRR in new school programmes. However, there are many sectors that would like to see other topics, specific to them, integrated into the new school curricula. One solution would be to incorporate disaster-related topics into extra school activities – in addition, teachers will need to be trained on how to teach the subject thoroughly and accurately.

In terms of cooperation with the scientific community, there are a few agreements between State institutions and universities. However, it was reported that knowledge and experience from academic institutions was not sufficiently exploited due to a lack of a sustained collaboration.

HFA PRIORITY 3: RECOMMENDATIONS

1. SEM to develop a strategy for a national public awareness camping on DRR, which will include an effective use of the media (radio, newspaper and television), and involve the members of the NP.
2. Organize yearly comprehensive public awareness campaigns covering behavioral aspects for prevention and dealing with emergencies relating to the three main hazards and their related risks.

3. In collaboration with the Ministry of Education, introduce DRR into the curriculum across primary, secondary and university levels.
4. Reinforce collaboration with various technical institutions (such as SSS and HS) to develop and publish knowledge products on disaster risk in Serbia for authorities, training institutions and the general public.

HFA PRIORITY 4

Reduce the underlying risk factors

When asked to discuss practical DRR activities, the initial reaction of many technical personnel was to direct the team towards the SEM for answers – however, when asked to list their various activities, it became apparent that several clearly contributed to reducing underlying risk factors. Throughout the interviews, members of the assessment team discovered that risk reduction measures were being undertaken by various ministries' agencies, without it being acknowledged. Although additional measures are mentioned in various plans, a major problem is access to funding to implement the plans.

Environmental and natural resource management

There is a new law on Environmental protection that is soon to be adopted – it includes clear elements of protection of ecosystems but it still needs to be enacted. Environmental sustainability and CCA are areas of interested for the SEM and the government in general. However, the mindset in Serbia is not on CCA and ES as there are so many other burning priorities and funding is limited.

Climate change is recognized as one of the causes for increased forest fires. Forest fires are considered a big threat in Serbia. Since 1990, dry periods have been longer and, therefore, risk of forest fires higher. Fifty percent of the forests in Serbia are owned by the government – the rest are privately owned (forests cover 28 percent of Serbia). The directorate gets regular information from the HS, where staff have developed a 'Fire Watch' index that is accessible through its website.

The directorate has a ten-year development plan for forest management. The Directorate of Forestry has 16 technicians in charge of analyzing the situation of forests, and 50 inspectors in charge of field monitoring visits. However, it only has one person in charge of prevention as most of the prevention work (i.e. forest fires or diseases) is outsourced to the private sector. There is a yearly tendering process for prevention work and the costs are shared between the government and private forest owners. When the forest fire level of threat is high, forests are put under 24-hour surveillance by private owners and government inspectors. This system works well, and, although there have been forest fires, they occurred in very limited areas and with very

limited consequences. In addition, there has always been a tree-planting programme – this comes as a result of large-scale forest fires like the one of 1999 where a total of 3,500 ha of forest was lost.

In terms of competencies, the number of technicians that understand the concept of risk reduction is limited, which means that many institutions involved in central, municipal and urban development planning are not using risk assessments and subsequent information on disaster reduction for planning. Fortunately, some of the plans do take into consideration some hazard mappings that are being produced by a variety of institutions. In terms of DRR, CCA and environmental sustainability, there is no clarity among the staff on how they relate to each other or, indeed, how to integrate them. Again, as DRR concepts are not clearly understood by most personnel, they are not really mainstreamed in any of the environmental and natural resource management approaches. For authorities, it is also critical to mainstream environmental protection aspects and DRR into the various sectors of the country's development plans, which is not yet the case.

Social and economic development practices

In terms of DRR and food security, authorities are well aware of the effects of climate variability. However, there are no clear indications on how risk reduction is taken into account in relation to food security.

There isn't a culture of insurance against natural disasters within the sectors of the economy. The practice is still based on expectation that 'losses due to natural disasters will be compensated by the government'. It is not even clear if the insurance system in the country is capable of issuing insurance products that cover natural disasters, as there is no proper risk assessment/profile that can be used by insurance companies for costing their products.

Currently, there is no specific law that governs disaster recovery processes, and, as a result, there is no obligation, nor a mechanism defined to address recovery issues in a comprehensive manner. However, as Serbia is said to receive up to $5 billion per year on remittances, it is expected that this is an important contribution that could increase in the case of post disaster recovery needs.

Land use planning and other technical measures

According to the law, the National Spatial Plan of Serbia has a chapter on Natural and Technological Disaster Management, covering landslides, floods, earthquakes and fires. By 2014 national maps of landslides, land erosion and flood areas will be produced. At the moment, the harmonization of the legislation with EU requirements is the top priority.

Serbia's municipal and regional spatial plans need to be harmonized with the country's national plan. At all levels, the plans are developed with the participation of the SEM. In addition to the

spatial plans, there are technical plans for specific areas such as industrial zones. A concern is that plans do not cover the entire territory of Serbia. There are no proper risk assessments and therefore no clear risk reduction measures to incorporate into the long term urban or rural land-use planning.

Floods are occurring more and more frequently in Serbia, especially flash floods. During the 1990s the country went through difficult times and not much attention was given to water management. Response to floods was then the main activity instead of prevention. The main cause of flash flooding is people using rivers as dumping grounds, and there is insufficient monitoring to improve the situation due to the lack of staff and financial restraints of the municipality authorities. A new law in 2010 saw water management (including flood prevention) aligned with EU directives. There are also many international treaties for the protection and management of the Sava and Danube rivers. There was a water management master plan for Serbia, which contained clear elements of prevention. However, the former plans were not based on risk assessments and risk management. Still, the water management system was good and was working quite well due to regular monitoring by the central level authorities. A new flood control plan was recently established and it works quite well, with large numbers of active stakeholders. In addition, there is now some funding in the yearly budget for flood prevention (1/4 of the budget). However, flood response remains completely the responsibility of the SEM with whom the Water Management Directorate has good collaboration/coordination.

The HS also mentioned that floods, especially flash floods, are becoming a regular problem. The HS usually predicts the occurrence of high water levels and the Water Management Directorate subsequently predicts areas that are likely to be flooded. But this system only works for large rivers and most flash floods occur in small rivers. The HS are working on setting technical mechanisms for better predictions of flash floods. However, the main problem remains of people throwing materials and waste into rivers, creating blockages.

The estimation by the SSS is that more than 60 percent of the buildings in Serbia are highly vulnerable to the average seismic activity. Construction codes that are used today date from 1963. It is also estimated that schools and hospitals are not very optimal in terms of resistance to floods, earthquakes, etc. as most of them are old buildings. The danger is that the level of risk is unknown as buildings are not regularly assessed. The SSS is not responsible for the development or reinforcement of building codes (seismic safe construction). It is also not responsible for monitoring the condition of buildings. Monitoring of seismic conditions of buildings is apparently not even in the legislation.

The Ministry XXX issues building permits for dams, nuclear facilities, oil and gas facilities, basic chemical processing facilities, hydropower plants and any other hazardous facility. As a preventive measure, feasibility studies are conducted by the ministry before a building permit is issued – however, building standards are said to be outdated and require urgently revision. The responsibility for the assessment of building conditions after construction is not clear. Normally,

this responsibility would lie with the owner of the building, however, reinforcement and monitoring are not commonplace. Note also that the new Law on Construction and Planning has a component on fire regulations and fire preventive measures.

During the former Yugoslav Republic system, where everything was centrally controlled by the State, building codes were strictly followed as per the law. Today this does not seem to be the case. Most people interviewed expressed concerns regarding the lack of consideration for seismic risk in property development – people are keen to avoid the extra 10–15 percent that is added to the overall cost when having to make buildings more resilient to earthquakes. The problem is not with the design of the buildings, which do follow regulations, but more to do with the lack of respect for the initial design and the poor quality of materials used. In addition, it is reported that major infrastructures, such are roads and bridges, are not always constructed on the back of proper geological studies, which are necessary to avoid building in areas that may be subject to landslides. Retrofitting old buildings is the responsibility of the owners, however, this is not a realistic expectation considering the economic situation of the past two decades. Currently, the government only retrofits critical facilities.

Serbia has a considerable number of illegal buildings dating back to 1945. The ministry estimates that of the estimated 1 million illegal constructions in Serbia today, many are situated along river banks. These buildings need to be reinforced if they are to resist disaster, or even last much longer. Many municipalities also have unauthorised human settlements housing many illegal buildings, and yet there seems to be no end to this practice. Municipalities are normally responsible for monitoring the condition of buildings but this is not done regularly due to lack of funding and capacity.

The government is now looking at legalising the existing illegal settlements, which means that large funding will be required to improve the living conditions in the settlements and make them more resistance to potential natural hazards. The cost of this is said to be the reason why the government has not defined its approach to address the issue of illegal settlements and buildings.

HFA PRIORITY 4: RECOMMENDATIONS

1. Organize gender sensitive DRR, CCA and ES mainstreaming workshops for all ministries' technical units involved in drafting national sectoral development plans.
2. Reinforce the capacity of the SEM for monitoring the mainstreaming of DRR into the sectors that contribute to the development of the country.
3. Conduct a study on how best to influence authorities to ensure compliance with the building codes.
4. Advocate/support the World Bank Risk Insurance programme implemented in Serbia.

5. Conduct an assessment of critical facilities for seismic resistance such as bridges, tunnels, school, hospitals and residential buildings. Ensure issuance of technical passports of the seismic condition and general condition of the buildings. This can be initiated first with study tours to see best practices in Armenia and Tajikistan.
6. Further develop Serbia's capacity and methodology to assess buildings after earthquakes.
7. Implement 'Safer Schools' and 'Safer Hospitals' campaigns and define steps for school and hospital resilience to natural disasters.
8. Set up a mechanism to estimate and monitor the investments in risk reduction of various ministries and municipalities, and define how the investments contribute to building resilience in the country.

HFA PRIORITY 5

Strengthen disaster preparedness for effective response at all levels

Legal base, policies, strategy

On 29 December 2009, the Serbian National Assembly adopted the new LES and Law on Fire Protection. The LES forms the legal base for emergency management in Serbia. It details the establishment of an integrated protection and rescue system and other regulations, programmes, plans and documents related to prevention, rescue and civil protection. The Law on Fire Protection, and a number of decrees, further augment the protection of civil society and enforce best practice.

The LES (referred to from now as 'the Law') defines the roles and responsibilities of the public and private sectors, non-government organizations and all levels of government. It also facilitates an integrated approach to emergency management by encouraging the sharing of information and inter-agency training, and will strongly influence the formation of a NP in the future.

However full implementation of the Law is some way off, having generated additional commitments and pressures for the agencies it influences. For example, the Law devolves significant accountability to the municipalities, yet many of the obligations within the Law affecting regional and district levels are yet to be fulfilled, largely due to a lack of funding.

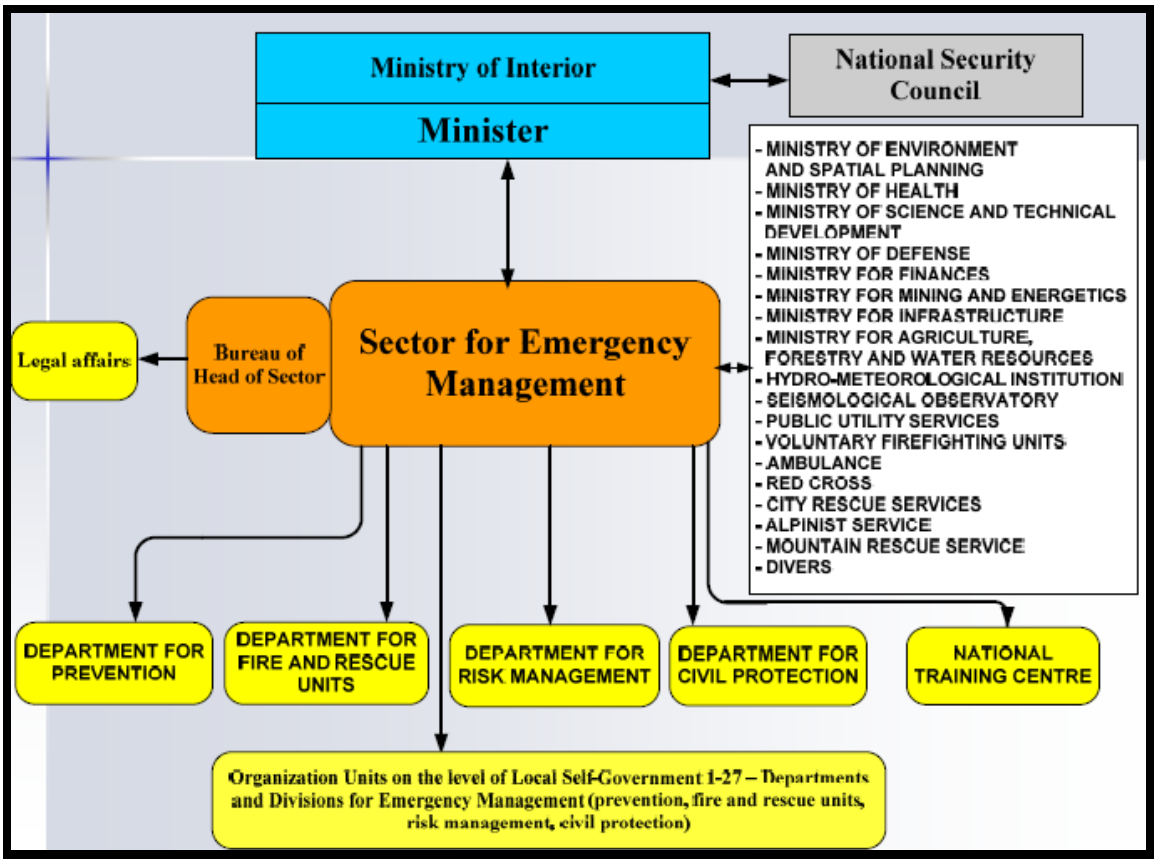
Furthermore, the command and coordination structure during a response is known as 'the protection and rescue system' in the Law. However, it is detailed within the 153 articles of the Law, making it difficult to distinguish the system that would ultimately coordinate actors in times of emergency. The National Plan of Protection and Rescue in Emergency Situations of the Republic of Serbia would be a document that could present this clearly, but this is yet to be finalized.

The Law does detail a budget that has been allocated for the preparation, implementation and development of programmes, projects and other activities. Municipalities can submit an application for funds and some municipalities have also made their own provisions for funding emergency management initiatives. During a major incident all municipalities can request funds from the government to meet necessary expenditures.

Institutional Arrangements

In June 2009, the Protection and Rescue Sector of the Ministry of Interior amalgamated with the Department for Emergency Situations of the Ministry of Defense. Together with the emergency services of the Ministry of Environment, a single body was created and named the SEM. The SEM lies directly under the Minister of Interior and contains five departments:

- The Department for Prevention;
- The Department for Fire and Rescue Units;
- The Department for Risk Management;
- The Department for Civil Protection;
- The National Training Centre.



As already stated, a NP does not currently exist, however, the National Strategy for Disaster Risk Reduction and Protection and Rescue in Emergencies has listed it as a strategic objective. This Strategy is currently in draft and under consultation.

The protection and rescue system in the Republic of Serbia is decentralized and accommodates all types of hazardous events. A significant emergency will always receive a response at the municipality or local level and will see the formation of a 'Headquarters for Emergency Management'. If the incident escalates or is already of such a size to require further intervention, a regional and national HQ will also be formed. SEM representation at the HQ will promote coordination and aid communication streams between government levels. To some extent, the protection and rescue system does facilitate collaboration between key stakeholders who would represent their agencies within these HQs. This group would normally form during a major incident, yet the opportunity to plan, prepare and advance social networks prior to such events should certainly be capitalized on. This forum could then support a NP.

The current lack of any national contingency plan is a limitation and although competencies do in some part compensate for this, the process of planning and then validating such documents integrates those agencies that are involved. It also appears that existing plans (contingency, response etc.) are seen more as a result than a process. Effective planning is an opportunity to engage agencies, build relationships, facilitate coordination and promote the sharing of information towards a common purpose. Additionally, those existing plans do not appear to be based on a sound assessment of hazards, risks and capacities of the country (or area) and it is uncertain whether they have fully considered vulnerabilities and marginalized groups.

Competencies

It is clear from the interviews conducted that the competencies of the actors and decision-makers are strong. There was a great deal of understanding of the protection and rescue system (regardless of there being no stand-alone documentation detailing it) and interviewees were mindful of their weaknesses.

This has been largely as a result of the USAID Preparedness, Planning and Economic Security Programme, which is now in it's fifth year. This programme has delivered DM training to most of the municipalities within Serbia. Each of these municipalities has had the opportunity to complete the training and elements to become certificated as a community with 'Enhanced Disaster Resilience' and, to date, 52 of the 80 municipalities have achieved this status. However the programme has not only advanced local capacities, it has supported the SEM through the construction and implementation of the LES. It has also been active in the development of the National Training Centre and continues to build competencies amongst its staff. The National Training Centre now delivers training sessions and inter-agency exercises in close liaison with the Red Cross of Serbia.

As of September 2011 USAID will discontinue its close association with the project, entrusting the National Training Centre to carry it on. USAID must be commended for their involvement and every effort should be made to ensure the programme continues to augment the current capacities within the Republic of Serbia.

It is essential that capacity development begins by building existing capacities so that lessons identified through exercising and simulation become lessons learnt. SEM is fully aware of this and has made every effort to validate plans, train staff and accept specialist support from the international community.

In fact, there is a strong and understandable emphasis on the response phase of emergency management, supported by a commitment to preparedness measures through planning, training and education. However there are less examples of education in measures to mitigate or prevent risk and plan for recovery. One interviewee expressed the need for a cultural change, which may be achieved by embedding DRR into all actors work, including those typically seen as emergency responders.

Working Tools and Resources

The coordination of key stakeholders and actors during a response will occur at municipal, regional and national emergency management headquarters. The Mayor will adopt the position of Commander with a 'Head' from the local branch of the Sector of Emergency Management to facilitate coordination. At national level the Head of the Ministry of Interior and the Assistant Minister of the SEM will carry out these roles. The Mayors of the majority of municipalities have been fortunate to receive some training though the USAID PPS project and there are also occurrences when the likely members at these HQs have gathered to discuss preparation issues. These unpremeditated forums could become more formalized with DRR and preparedness for response firmly on their agendas.

It also appears that decision-making within these HQs is rather 'reactive', particularly below the national level. More emphasis needs to be placed on making tactical and strategic decisions. This is not helped by the lack of appropriate technology in the HQs, which can be used to gather and present information about the situation as it develops.

Interoperability is achieved through radio, mobile phone, email and the Internet, and seems to be satisfactory. There is, however, a heavy reliance on the mobile phone networks for communications. This method is unreliable in times of crisis therefore other methods should be tested to ensure some level of resilience.

Government facilities have the necessary equipment to function although the coordination headquarters, as reported, lack the suitable technology to aid a 'common operating picture' and facilitate an awareness of any developing situation. Funding appears to be the issue but this limitation will frustrate tactical and strategic decision makers.

There are national emergency numbers for the public to raise the alarm (Police 92, Fire 93 and Ambulance 94). Efforts are being made to synchronize these numbers to the EU standard. The resulting 112 service will create a system of surveillance, early warning, informing and alerting – however, at present this is not seen as a high priority. There are also provisions within the Law for the media to broadcast public information in cases of emergency. Many of the government ministries, including the SEM, also have websites as a useful expedient. At present, these remain the most likely methods of warning and informing the population majority.

Statistics are collected and analysed on emergencies by the Department for Prevention in the Sector of Emergency Management. This will be further improved once the 112 project is completed. The extent to which this influences prevention and mitigation measures were not ascertained.

The government's operational response for immediate rescue and response is predominantly met by the Fire and Rescue Service and specialist rescue units under the command of the Sector for Emergency Management. There are approximately 4,000 members in total making up 176 units across 27 regional districts.

The department is targeting the ratio of 1 fire-fighter per 1,000 population, yet they currently do not meet 1 in 1,800. Each Fire and Rescue Service has made mutual aid arrangements with neighbouring municipalities. Services' capacities to respond are hampered by some equipment deficiencies and understaffing, but capability is not an issue. Fire-fighters have conducted ad hoc educational projects within schools, however community safety is not embedded in their daily work. Inspection and enforcement of fire safety legislation is being executed.

The five specialist rescue units are geographically positioned and capable of responding to flooding, forest fires and structural collapse, for example, following an earthquake. The teams are Light USAR trained, supported through close collaboration with the French Fire Service. USAR teams have taken part in joint training with Montenegro and a field exercise in Turkey. Fire-fighting teams were also deployed for forest fire-fighting activities in Greece, 2007. Due to the logistics and travelling distances, mobilization of specialist teams must be anticipated early in the response (if not before), as local emergency crews have often had to apply interim measures, of which they have lacked the knowledge and skills to do.

It is unclear whether the Fire and Rescue Service operates to a command system as such (which should support the protection and rescue system). Fire-fighters do not, however, work within SOPs – they would effectively implement the requirements of the Service within the Laws on Emergency Situations and Fire Protection, into operational, standardized activities.

More often than not, the Red Cross of Serbia with its impressive 60,000 volunteers and 800 employees will also be providing humanitarian assistance. The organization currently has no formalized mobilizing mechanism with the government, but instead requests information from local responders regarding the nature of the incident. However, interoperability is hindered by the incompatibility of radio equipment in the RC with government technology.

There is a desire to foster better relations with SEM and this should be encouraged. The Red Cross of Serbia has a great deal of trained resources in first aid and has, in fact, trained fire-fighters in this skill. It also has four emergency response units, capable of delivering water purification and supplying equipment, temporary shelters and assistance in field assessments and logistics. A section of volunteers have been trained to carry out risk assessments and complete VCAs within their communities.

The Red Cross responded to flooding incidents in spring and autumn last year and provided relief during the Kraljevo earthquake. Within the last 12 months it has also organized four municipal simulations, one being a field exercise as part of its disaster preparedness project. Funds have also been secured to equip and train flood rescue teams to alleviate the consequences of one of Serbia's highest risks.

Finally, the SEM can, if necessary, request the assets and resources of the military (although local government cannot) and members of the public – some of which have undergone Civilian Service in disaster response as an alternative to military schooling. SEM can also commandeer resources from the private sector, for example heavy or specialist machinery.

Relationships

The Republic of Serbia is aware of its own capacities and recognizes that the magnitude of a disaster may eclipse its ability to cope. As a result, close relationships have been forged with neighbouring countries, through the sharing of information and training. SEM has also made arrangements to ensure a problem free transition of rescue and relief teams into the country during times of critical need.

HFA PRIORITY 5: RECOMMENDATIONS

1. Detail the protection and rescue system in accordance to the LES in a 'stand alone' document. This will separate the protection and rescue system from the legislation and simplify its use for actors. (This may form the framework for The National Plan of Protection and Rescue in Emergency Situations of the Republic of Serbia)
2. Assimilate managerial levels and align decision making within the protection and rescue system. By making more tactical and strategic decisions, with a clear emphasis in the emergency management headquarters on being proactive and anticipating likely consequences, there is likely to be effectual response. For example, assigning sites for

strategic holding areas, water and food distribution, emergency mortuaries, casualty collection areas, rest centres and early recovery arrangements.

3. The objectives of the 112 project need to be realized. Conforming to the EU standard will be a progressive step towards a more timely and effective response and potentially influence other areas of risk reduction.
4. The methodology for preparedness and contingency planning through an interactive training package needs to be delivered. This should also include education in the development of SoPs, particularly for the Fire and Rescue Service.
5. Provide tools and training on recovery including pre-disaster recovery planning and Post Disaster Needs Assessment methodologies to the SEM.
6. Standardisation of Risk Assessment methodology across agencies will avoid confusion and encourage the sharing of risk assessments between organizations. This needs to be driven by the Risk Assessment Department of the SEM.
7. Continuation of the USAID PPS programme's strategy, accredited by an external organization. If USAID are to end their association with the certification scheme later this year, then efforts should be made for a suitable replacement that will develop the programme and National Training Centre and maintain the credibility it has established.
8. Prioritise the production of a National Contingency Plan for all hazards (The National Plan of Protection and Rescue in Emergency Situations of the Republic of Serbia), which will integrate current plans and assist with the development of future contingency planning. This must engage all key actors, not be done in isolation.
9. Carry out basic search and rescue training for the Red Cross of Serbia volunteers. The Red Cross has the largest resource across the country ready to respond to landslide and earthquake events. This would also ensure skilled urban search and rescue teams could be more efficiently deployed.
10. The collection and sharing of statistics and data on all emergencies to show trends, susceptible areas and reveal vulnerabilities. This may be as simple as recording road traffic collisions and dwelling fires on a local map.
11. Instill 'community safety' into the curriculum of firefighter training and the role maps of operational personnel. Once emergency responders understand emergency management more holistically, they can be more efficiently utilized to raise public awareness, educate school children and vulnerable groups and complete qualitative risk assessments.