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What this demonstrates clearly is a problem that could be termed the problem of the human bottleneck. Modern metropolitan public transport systems are densely under surveillance, from pervasive CCTV to different types of sensors, to a variety of other channels from Intercom to mobile phones. Users and staff can contact the control centres through low-threshold communication channels to report what they deem important. This complex information combines into a communication overload at the receiving end, where the operators of the control centre are performing their task of keeping a smooth flow of traffic going. Typically, each operator has assigned a specific task or a geographical segment of the overall system and has to co-ordinate with his or her co-workers. This co-ordination *within* the control centres has not received adequate attention when investigating resilience of public transport systems.

A resilient public transport system hence would be one where information is processed in a way that allows for the identification of critical events, i.e., reducing the “noise” coming from different sources.

2.1.7 Civil protection in a European context

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The term “civil protection” has different meanings and interpretations, sometimes varying from country to country. In the context of Europe, civil protection and its developing and multi-faceted relationship with resilience is a relatively recent phenomenon, arguably originating from the end of the cold war, commonly described as the period from the end of World War II to the early to mid-1990s,¹³² when the focus changed to civil protection from civil defence, with contingency plans being put in place by many countries for the civilian populations to organise, prepare to mobilise and defend themselves in the event of a major incident such as a nuclear attack or potential invasion by another country. Over the past two to three decades, and at the level of the European Union, the use of the term “civil protection”¹³³ has become synonymous with the contingency and emergency planning arrangements that countries either individually and now increasingly collectively (such as the six regional European civil protection initiatives)¹³⁴ have put in place to increase resilience and the ability to respond effectively both to the threat or occurrence of natural disasters, such as earthquakes and damage to the built environment,¹³⁵ volcanic eruptions,¹³⁶ forest fires,¹³⁷ floods,¹³⁸ landslides and man-made disasters

¹³² LaFeber, Walter, *America, Russia, and the Cold War, 1945-1996*, McGraw-Hill, New York, 1997.

¹³³ European Commission, Communication from the Commission to the European Parliament, and the Council on a proposal for a decision on a Union Civil Protection Mechanism, COM (2011) 934 final, Brussels, 20.12.2011.

http://ec.europa.eu/echo/files/about/COM_2011_proposal-decision-CPMechanism_en.pdf

¹³⁴ European Commission, Humanitarian Aid & Civil Protection, European Civil Protection, International Co-operation. http://ec.europa.eu/echo/civil_protection/civil/prote/cp11_en.htm.

¹³⁵ Alexander, David E., “The L'Aquila earthquake of 6 April 2009 and Italian Government policy on disaster response”, *Journal of Natural Resources Policy Research*, Vol. 2, No. 4, 2010, pp. 325-342. See also Amaratunga, Dilanthi, and Richard Haigh (eds.), *Rebuilding for Resilience: Post-Disaster, Reconstruction of the Built Environment*, Wiley-Blackwell, 2011.

¹³⁶ Sangster, H., D.K. Chester and A. M. Duncan, “Human responses to historical eruptions of Etna (Sicily) from 1600 to present and their implications for present-day disaster planning”, *Conference Proceedings*, EGU General Assembly 2012, held 22-27 April 2012 in Vienna, p. 8477.

¹³⁷ European Commission, *JRC Scientific and Technical Reports*, Forest fires in Europe 2008, No.9, 2009.

such as marine pollution incidents or threats or actual acts of terrorism such as those experienced in London (2005) or Madrid (2004).¹³⁹ Gestri identified the mid-1980s as the period which saw the beginning of an organised and collective approach to civil protection in Europe: “On the European plane, the first step towards the introduction of forms of cooperation on civil protection was a meeting in Rome, at ministerial level, in May, 1985.”¹⁴⁰ Gestri also recognised a weakness in the ability to organise any collective approach to this developing subject area, due to the lack of a legislative structure: “However, before the entry into force of the Treaty of Lisbon and the further development of a European response, capacity was limited by the absence of an adequate legal basis.”¹⁴¹ The Treaty of Lisbon,¹⁴² which was signed in 2007, and came into force in 2009, introduced changes to civil protection, through increasing co-operation amongst Member States for preventing and protecting against natural or man-made disasters. The European Union determined that increasing preparedness and resilience to natural or man-made disasters or to terrorism events would require greater humanitarian focus and co-ordination of resources at a community-based level. In response to this, the European Union adopted two pieces of legislation which cover European civil protection: first, Council Decision 2007/779/EC established a Community Civil Protection Mechanism¹⁴³ and, second, Council Decision 2007/162/EC established a Civil Protection Financial Instrument.¹⁴⁴ The Mechanism covers the response and some preparedness activities, while the Instrument enables actions in the three key areas of prevention, preparedness and response.

The Barnier Report proposed the creation of a European Civil Protection Force,¹⁴⁵ the case for which, it has been argued, arose out of the European Security and Defence Policy, adopted in 1999,¹⁴⁶ and possibly from the inability of Europe to co-ordinate an effective response to the Kosovo crisis of 1999.¹⁴⁷ The European Union has, as a

http://forest.jrc.ec.europa.eu/media/cms_page_media/9/forest-fires-in-europe-2008.pdf.

¹³⁸ Del Carmen, Llasat, and F. Siccardi, “A reflection about the social and technological aspects in flood risk management—the case of the Italian Civil Protection”, *Natural Hazards Earth Systems Science*, Vol. 10, No. 1, 2010, pp. 109-119.

¹³⁹ Canel, José Maria, and Karen Sanders, “Crisis communication and terrorist attacks: framing a response to the 2004 Madrid bombings and 2005 London bombings”, in W. Timothy Coombs and Sherry J. Holladay (eds.), *The handbook of crisis communication*, Wiley-Blackwell, Chichester (UK), 2010, pp. 449-466.

¹⁴⁰ Gestri, Marco, *EU Disaster Response Law: Principles and Instruments*, Springer, 2012, pp. 105-128.

¹⁴¹ *Ibid.*, p. 105.

¹⁴² European Commission, “The Treaty of Lisbon”, EUROPA website, 1 December 2009, http://europa.eu/lisbon_treaty/index_en.htm.

¹⁴³ European Commission, Euratom: Council Decision of 8 November 2007 establishing a Community Civil Protection Mechanism.

[http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0779\(01\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0779(01):EN:NOT).

¹⁴⁴ European Commission, 2007/162/EC, Euratom: Council Decision of 5 March 2007 establishing a Civil Protection Financial Instrument.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0162:EN:NOT>.

¹⁴⁵ Barnier, Michel, *For a European civil protection force: europe aid*, European Commission, Humanitarian Aid and Civil Protection, European Civil Protection, May 2006.

http://ec.europa.eu/archives/commission_2004-2009/president/pdf/rapport_barnier_en.pdf

¹⁴⁶ Deighton, Anne, “The European security and defence policy”, *JCMS: Journal of Common Market Studies*, Vol. 40, No. 4, 2002, pp. 719-741.

¹⁴⁷ Bailes, Alyson J.K., “The EU and a ‘better world’: what role for the European Security and Defence Policy?”, *International Affairs*, Vol. 84, No. 1, 2008, pp. 115-130, See also Berinsky, Adam J., Donald R. Kinder, “Making sense of issues through media frames: Understanding the Kosovo crisis”, *Journal of Politics*, Vol. 68, No. 3, 2006, pp. 640-656.

consequence of major events, such as the fires of southern Europe in 2007,¹⁴⁸ produced various Communications aimed at increasing the level of community response, such as COM (2009) 82 final, which reinforces the input and therefore resilience required to be shown by communities “This Communication follows up on the commitment made by the Commission to develop proposals on disaster prevention and responds to the calls of the European Parliament and the Council for increased action at Community level to prevent disasters and mitigate their impacts.”¹⁴⁹ The role of the European Union in civil protection and resilience has purposely been extended, to now include humanitarian aspects,¹⁵⁰ and is intended to reach beyond the boundaries of the European Union itself to other parts of the world, such as with the assistance provided following the earthquake and tsunami in Japan (2011), the Christchurch earthquake in New Zealand (2011), and the evacuation of EU citizens from Libya (2011). The European Union describes its role in relation to civil protection in the following terms:

The fundamental approach to an effective civil protection operation relies on three key modes of action: Prevention, Preparedness & Response. The European Commission is responsible for supporting and supplementing efforts at national, regional and local level with regard to disaster prevention, the preparedness of those responsible for civil protection and the intervention in the event of disaster.¹⁵¹

An example of the European Union’s response (in civil protection terms) to an adverse event, the major flooding which hit Slovenia in 2012, can be found in the statement made on 30 April 2013 by the European Commissioner for Regional Policy, Johannes Hahn, who “announced an aid package from the EU Solidarity Fund (EUSF) of over €14.6 million in response to serious flooding in Slovenia in October and November 2012”.¹⁵²

The European Union’s response to civil protection and resilience

The European Union’s response to civil protection and resilience is embedded in solidarity: “Our aim is to boost solidarity among Member States and our neighbouring countries so as to achieve the optimal level of preparedness for emergencies and to

¹⁴⁸ European Commission, *JRC Scientific and Technical Reports*, Forest fires in Europe 2008, No.9, 2009, http://forest.jrc.ec.europa.eu/media/cms_page_media/9/forest-fires-in-europe-2008.pdf.

¹⁴⁹ European Commission, A Community approach on the prevention of natural and man-made disasters, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM (2009) 82 final, Brussels, 23 Feb 2009.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2009:0202:FIN:EN:PDF>.

¹⁵⁰ European Commission, Communication from the Commission to the European Parliament, and the Council, Towards a stronger European disaster response: the role of civil protection and humanitarian assistance, COM (2010) 600 final, Brussels, 26 Oct 2010.

http://ec.europa.eu/echo/civil_protection/civil/prote/pdfdocs/COM_2010_600_European_disaster_response_en.pdf.

¹⁵¹ European Commission, Humanitarian Aid & Civil Protection, European Civil Protection, Community co-operation in the field of civil protection, 1 Dec 2011.

http://ec.europa.eu/echo/civil_protection/civil/prote/cp01_en.htm.

¹⁵² European Commission, Johannes Hahn, “European Commissioner for Regional Policy”, News release, 30 Apr 2013. http://ec.europa.eu/commission_2010-2014/hahn/headlines/news/detail/index_en.cfm?LAN=EN&id=696&lang=en.

ensure a rapid and effective response when disaster strikes.”¹⁵³ The “solidarity” commitment is also contained in the Treaty of Lisbon.¹⁵⁴ However, some commentators have raised concerns over the ability of Member States to co-operate with each other in the best interests of a collective response, due to issues connected to sovereignty, and in relation to potential overlaps between solidarity clauses and collective defence clauses.¹⁵⁵

The European Commission defines resilience as “the ability of an individual, a household, a community, a country or a region to withstand, adapt, and quickly recover from stresses and shocks such as drought, violence, conflict or natural disaster.”¹⁵⁶ The European Commission has recognised the growing importance of the need to focus on resilience as a key component for collectively organised humanitarian aid in times of natural disasters or major events caused by other factors such as terrorism: “Strengthening resilience lies at the crossroads between humanitarian and development assistance. With this in mind the European Commission has proposed a new policy Communication to the European Parliament and the Council on how EU development and humanitarian aid should be adapted to increase the resilience and reduce the vulnerability of people affected by disasters.”¹⁵⁷ The European Commission has identified increasing resilience as a priority in three key areas: food security, climate change adaptation and disaster risk reduction. The new resilience Communication outlines 10 steps “that will increase resilience and reduce the vulnerability of the world's most vulnerable people. These steps include support for the design of national resilience strategies, disaster management plans and efficient early-warning systems in disaster-prone countries, as well as putting forward innovative approaches to risk management through collaboration with the insurance industry.”¹⁵⁸

Community Mechanism for civil protection

Demonstrating the importance of the engagement of communities in the role of civil protection and resilience, the European Union established the Community Mechanism for Community Protection in 2001. Now with 31 Member States, each of which has their own civil protection structures, the Mechanism has a declared purpose:

to facilitate reinforced cooperation between the Community and the Member States in civil protection assistance intervention in the event of major emergencies, or the

¹⁵³ European Commission, Humanitarian Aid & Civil Protection, European Civil Protection, Consultation on the Future Instrument Addressing Prevention of, Preparedness for and Response to Disasters. http://ec.europa.eu/echo/civil_protection/civil/consult_new_instrument.htm.

¹⁵⁴ European Commission, official website of the European Union, EUROPA, The Treaty of Lisbon, 1 Dec 2009. http://europa.eu/lisbon_treaty/index_en.htm.

¹⁵⁵ See, respectively, Ekengren, Magnus, Nina Matzén, Mark Rhinard and Monica Svantesson, “Solidarity or sovereignty? EU cooperation in civil protection”, *European Integration*, Vol. 28, No. 5, 2006, pp. 457-476; Konstadinides, Theodore, “Civil Protection in Europe and the Lisbon ‘solidarity clause’: A genuine legal concept or a paper exercise”, *Juridiska fakulteten*, Uppsala Universitet, 2011.

¹⁵⁶ European Commission, Humanitarian Aid & Civil Protection, Policies and Operations, Resilience. http://ec.europa.eu/echo/policies/resilience/resilience_en.htm.

¹⁵⁷ European Commission, The EU Approach to Resilience: Learning from Food Security Crises, Communication from the Commission to the European Parliament, and the Council, COM (2012) 586 final, 3 Oct 2012.

http://ec.europa.eu/europeaid/what/food-security/documents/20121003-comm_en.pdf.

¹⁵⁸ Ibid.

imminent threat thereof. The protection to be ensured by the Mechanism shall cover primarily people but also the environment and property, including cultural heritage, in the event of natural and man-made disasters, acts of terrorism and, technological, radiological or environmental accidents, including accidental marine pollution, occurring inside or outside the Community, taking also into account the special needs of the isolated, outermost and other regions or islands of the Community.¹⁵⁹

In terms of its response to major events since 2001, the Mechanism has been brought into operation more than 150 times, for a variety of major events, both within and beyond the European Union including the tsunami in South Asia (2004/2005); Hurricanes Katrina and Rita in the USA (2005); earthquakes in China (2008), Haiti (2010), Japan (2011); floods in the Balkans (2010); forest fires in Greece (2007, 2012); civil unrest in Libya (2011); and an explosion at a naval base in Cyprus (2011).¹⁶⁰ In responding to major events, the Community Mechanism for Civil Protection uses administrative and operational instruments, which have the twin aims of achieving suitable readiness and appropriate action at the community level. These instruments, or tools, include, first, the Monitoring Information Centre (MIC), which is accessible 24 hours a day, and “gives countries access to a platform, to a one-stop-shop of civil protection means available amongst all the participating states. Any country inside or outside the Union affected by a major disaster can make an appeal for assistance through the MIC. The MIC acts as a communication hub at headquarters level between participating states, the affected country and despatched field experts.”¹⁶¹ Second, the Common Emergency and Information System is a Web-based alert and notification application for facilitating emergency communication amongst the participating states. Third, a training programme has been devised for “improving the co-ordination of civil protection assistance interventions by ensuring compatibility and complementarity between the intervention teams from the participating states.”¹⁶² Finally, civil protection “modules” draw on “national resources from one or more Member States on a voluntary basis. These “modules” are contributions to the civil protection rapid response capability called for by the European Council in its Conclusions in December 2005¹⁶³ and by the European Parliament in its Resolution in January 2005 on the tsunami disaster.¹⁶⁴

It can be seen that the role of the European Union in developing civil protection and increasing resilience, since the mid-1980s, has been a developing one, and is one that is increasingly based on a collective, community and humanitarian response to achieve maximum effect, and is not confined to the borders of the Member States.¹⁶⁵

¹⁵⁹ European Commission, 2007/779/EC, Euratom: Council Decision of 8 November 2007 establishing a Community Civil Protection Mechanism.

[http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0779\(01\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0779(01):EN:NOT)

¹⁶⁰ European Commission, Humanitarian Aid & Civil Protection, Disaster Response, The community mechanism for civil protection. http://ec.europa.eu/echo/policies/disaster_response/mechanism_en.htm

¹⁶¹ Ibid.

¹⁶² Ibid.

¹⁶³ European Commission, Official Journal of the European Union, Council conclusions on improving European civil protection capabilities, Notice No. 2005/C, 304/01, 1.12.05, <http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2005:304:SOM:en:HTML>.

¹⁶⁴ European Commission, Council of Europe, Parliamentary Assembly, Europe and the Tsunami Disaster, Resolution 1422, 26.1.2005, <http://assembly.coe.int/Main.asp?link=/Documents/AdoptedText/ta05/ERES1422.htm>.

¹⁶⁵ European Commission, Humanitarian Aid & Civil Protection, European Civil Protection, International Co-operation. http://ec.europa.eu/echo/civil_protection/civil/prote/cp11_en.htm See also

The principle of subsidiarity also guides the European Union's responses, in that actions should occur at the most local level possible.

Other institutions involved in civil protection at a European level

Responsibility for intervening in European regional civil protection assistance and increasing resilience to the occurrence of major events is not the sole preserve of the European Commission or the European Parliament. The South Eastern Europe Disaster Risk Mitigation and Adaptation Programme (SEEDRMAP)¹⁶⁶ is a collaborative initiative developed by the World Bank and the United Nations International Strategy for Disaster Reduction Secretariat (UNISDR) in co-operation with international and regional partners, which include the European Commission (EC); Council of Europe (European and Mediterranean Major Hazards Agreement); Regional Coordination Council for South Eastern Europe (RCC SEE); Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE); and UN partners including the World Meteorological Organization (WMO), the United Nations Office for the Co-ordination of Humanitarian Affairs (OCHA) and the United Nations Development Programme (UNDP). SEEDRMAP aims at lessening the susceptibility of South Eastern Europe (SEE) to the risk of disasters, and considers the insurance, risk and financial recovery aspects of preparing for and responding to disasters:

It addresses the loss of life, property and economic productivity caused by weather extremes and other natural hazards in the context of the implementation of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters. To that end, SEEDRMAP has three focus areas: (i) hydrometeorological forecasting, data sharing and early warning; (ii) coordination of disaster mitigation, preparedness and response; and (iii) financing of disaster losses, reconstruction and recovery, and of disaster risk.¹⁶⁷

The United Kingdom, civil protection and resilience

The United Kingdom has a reasonably robust system of civil protection and resilience, developed over the years since the end of the Second World War, ranging from volunteer organisations at the local level up to national response bodies such as the emergency services (police, fire and rescue and ambulance services), and ultimately respective national governments. The Civil Contingencies Act 2004 (CCA)¹⁶⁸ defines an emergency as an event or situation which threatens serious damage to human welfare or the environment in the UK or a war or terrorism, which threatens the security of the UK.¹⁶⁹ Civil protection in the United Kingdom is provided for by the CCA, which has two main parts: Part 1 of the Act, and the

European Commission, Communication from the Commission to the European Parliament, and the Council Towards a Stronger European Disaster Response: The Role of Civil Protection and Humanitarian Assistance, COM (2010) 600 final, Brussels, 26 October 2010.

¹⁶⁶ The South Eastern Europe Disaster Risk Mitigation and Adaptation Programme (SEEDRMAP). http://www.unisdr.org/files/18135_seedrmapbrochure.pdf.

¹⁶⁷ Ibid.

¹⁶⁸ UK Government, Civil Contingencies Act, 2004, 18 Nov 2004.

<http://www.legislation.gov.uk/ukpga/2004/36/contents>.

¹⁶⁹ Ibid.

Contingency Planning Regulations, 2005¹⁷⁰ and Contingency Planning (Scotland) Regulations, 2005¹⁷¹ establish the roles and responsibilities for organisations involved in emergency preparation and response, and Part 2 provides the legislative basis upon which to make emergency regulations, the scope of these regulations, their duration and arrangements for Parliamentary scrutiny. The CCA establishes a statutory framework for civil protection and resilience-building at the local level, setting out roles and responsibilities for local responders. The CCA Part 2 also provides the scope to impose a duty on the designated emergency responders to assess, plan and advise in relation to preventing the emergency, reducing, controlling or mitigating its effects, undertaking exercises and training staff.¹⁷² The CCA designates responders in terms of Category One or Two. Category One responders include the national emergency response services such as police, fire and rescue services, National Health Service and ambulance services, while Category Two responders include utility companies such as gas, electricity, water, sewerage and public electronic communications as well as transport, railways, airports and the Health and Safety Executive (HSE).

The UK government provides guidance on emergency planning, resilience and preparedness; exercises and training; national recovery guidance on humanitarian issues, economic issues, infrastructural issues, plus telecoms resilience.¹⁷³ The Government's resilience to major events has been demonstrated at a national level through the establishment of the highly publicised civil emergencies committee, commonly known as the COBRA Committee (Cabinet Office Briefing Room A),¹⁷⁴ which is normally chaired by the Prime Minister, and meets when required to deal with civil emergencies and terrorism alerts. The Cabinet Office provides advice to individuals and networks in the form of a guide on Integrated Emergency Management (IEM)¹⁷⁵ which covers "anticipation, assessment, prevention, preparation, response and recovery. Resilience is about all these aspects of emergency management, and this guide deals with the resilience of existing entities in the UK such as buildings, systems and networks."¹⁷⁶ The guide also covers community resilience. In Scotland, the Scottish Government's Resilience Division supports the frontline agencies that deliver emergency planning and response across Scotland.¹⁷⁷

¹⁷⁰ UK Government, Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005, No. 2042, Part 7, Reg. 40. <http://www.legislation.gov.uk/uksi/2005/2042/regulation/40/made>.

¹⁷¹ UK Government, Civil Contingencies Act 2004 (Contingency Planning) (Scotland) Regulations 2005, 14 Nov 2005. <http://www.legislation.gov.uk/ssi/2005/494/contents/made>.

¹⁷² Ibid.

¹⁷³ UK Government, Cabinet Office, *Inside Government, Public safety and emergencies, What we're doing*, <https://www.gov.uk/government/topics/public-safety-and-emergencies>. See also UK Government, National recovery guidance, generic issues: social media, London, 4 Oct 2012, <https://www.gov.uk/government/publications/national-recovery-guidance-generic-issues-social-media>.

¹⁷⁴ UK Government, Cabinet Office, "Inside Government, COBRA meeting on fuel". <https://www.gov.uk/government/news/cobra-meeting-on-fuel-contingencies>.

¹⁷⁵ UK Government, Cabinet Office, "Resilience in society: infrastructure, communities and businesses". <https://www.gov.uk/resilience-in-society-infrastructure-communities-and-businesses#corporate-resilience-sme-resilience-strategy>.

¹⁷⁶ Ibid.

¹⁷⁷ Scottish Government, Safer Scotland, Ready Scotland, "Preparing for and dealing with emergencies, Resilience Division". <http://www.readyscotland.org/ready-government/resilience-division/>.

The Resilience Advisory Board,¹⁷⁸ which normally meets three times per annum, provides advice to Scottish Ministers and the wider civil contingencies community on strategic policy development. Membership of the Resilience Advisory Board includes representation from the public, private and voluntary sectors, and organisations which are representative of Category One and Two responders in terms of the CCA, such as the Chief Fire Officers' Association (Scotland); the Association of Chief Police Officers' Scotland (ACPOS); the Scottish Ambulance Service; NHS Scotland; the Society of Local Authority Chief Executives; the Convention of Scottish Local Authorities; the Scottish Environmental Protection Agency; Scottish Power; Network Rail and the Met Office.¹⁷⁹ The Scottish Resilience Development Service (ScoRDS) is part of the Resilience Division and provides “training, exercising and other knowledge development opportunities to the emergency services and other responder agencies, to ensure that Scotland is prepared to respond to any major emergency.”¹⁸⁰

Community engagement in the UK

The Civil Contingencies Act, 2004,¹⁸¹ the Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005¹⁸² and the Civil Contingencies Act 2004 (Contingency Planning) (Scotland) Regulations 2005¹⁸³ establish, inter alia, how Category One and Two responders should engage with voluntary organisations in assisting them in responding to civil emergencies. The legislation and Government guidance imposes a duty on the responders to make best use of local resources, and sets out what their responsibilities are.¹⁸⁴ In responding to civil emergencies, the voluntary sector often plays a crucial role, as the resources of the Category One and Two responders will undoubtedly be stretched in attending to the emergency, whilst still needing to maintain their mainstream operational roles. The UK Government, Cabinet Office, has established the Voluntary Sector Civil Protection Forum, which is a grouping of voluntary organisations that have a civil protection role, and provides advice.¹⁸⁵ For example, the Norfolk Civil Protection Volunteers¹⁸⁶ provide support to Broadland and North Norfolk District Councils and the Emergency Services when they have an emergency. Combining the interests of the business community and voluntary and

¹⁷⁸ Scottish Government, Safer Scotland, Ready Scotland, “Preparing for and dealing with emergencies, Resilience Advisory Board”.

<http://www.readyscotland.org/ready-government/resilience-advisory-board/>

¹⁷⁹ Ibid.

¹⁸⁰ Scottish Government, Safer Scotland, Ready Scotland, “Preparing for and dealing with emergencies, ScoRDS”.

<http://www.readyscotland.org/ready-government/scords/>.

¹⁸¹ UK Government, Civil Contingencies Act, 2004, 18 Nov 2004.

<http://www.legislation.gov.uk/ukpga/2004/36/contents>

¹⁸² UK Government, Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005, No. 2042, Part 7, Reg. 40. <http://www.legislation.gov.uk/uksi/2005/2042/regulation/40/made>

¹⁸³ UK Government, Civil Contingencies Act 2004 (Contingency Planning) (Scotland) Regulations 2005, 14 Nov 2005. <http://www.legislation.gov.uk/ssi/2005/494/contents/made>. In exceptional circumstances, emergency powers may also be available. For further details, see UK Government, Cabinet Office.

<http://www.cabinetoffice.gov.uk/content/civil-contingencies-act>

¹⁸⁴ UK Government, Cabinet Office, *Preparation and planning for emergencies: responsibilities of responder agencies and others*, February 2013. <https://www.gov.uk/preparation-and-planning-for-emergencies-responsibilities-of-responder-agencies-and-others>

¹⁸⁵ UK Government, Cabinet Office, *Guidance, Voluntary Sector Civil Protection Forum*, 2012.

<https://www.gov.uk/government/publications/voluntary-sector-civil-protection-forum-2012>

¹⁸⁶ Norfolk Civil Protection Volunteers. <http://www.norfolkcivilprotection.org.uk/>

public sector organisations, Community Resilience UK cic¹⁸⁷ is a not-for-profit company which helps people and their communities prepare for and recover from major emergencies. It works with the business community and voluntary and public sector organisations.

Preparedness and resilience

Many public agencies in the UK, such as local authorities and health services, often organise emergency planning exercises involving a multi-agency approach, followed by debriefing and “lessons learned” dissemination. The focus of these training events, and preparations in general, is not necessarily on the cause(s) of the adverse event, but rather on the adequacy of the response, the effectiveness of communications, the resilience capacity of the responders, the establishment of a suitable control centre, the success of inter-agency co-operation, the visibility and awareness of the command structure, and the suitability of the deployment of resources. Taking the emergency planning arrangements put in place by a local authority in central Scotland, e.g., South Lanarkshire Council, which has more than 14,000 employees and a population of around 300,000, they have a contingency planning officer¹⁸⁸ and an Emergencies Management Team comprising various contingency planning officers across all departments of the Council, each ready to be alerted at any time in the event of an emergency. To enable a swift response to any emergencies, South Lanarkshire Council has prepared an emergency planning handbook, containing names, home addresses, home telephone numbers and mobile telephone numbers of all senior management personnel, and facilities managers, which has been issued to all designated contacts and senior management teams. Many emergency planning officials in the UK are members of a professional body, such as the Institute of Civil Protection and Emergency Management (ICPEM).¹⁸⁹

In conclusion, one can see that the basis of the UK’s response to civil protection, and resilience capacity-building, stems from an acceptance that it would be probably be impossible for a single body acting unilaterally to deal competently with the complex demands of a civil emergency. The UK advocates a collective approach involving agencies working collaboratively and engaging with the community and voluntary sectors.

General comments from an IRISS project perspective

In the domain of civil protection, the term “resilience” has been used widely by the European Commission and European Parliament, and by the United Kingdom and Scottish governments. Particular attention has been given to the development of the response by communities and the voluntary sector to natural or man-made disasters, and this has been mirrored both at the European Union and United Kingdom government levels. Resilience capacity building has had an increasing focus at a European Union level since the late 1990s, extending in recent years to humanitarian

¹⁸⁷ Community Resilience UK cic. <http://communityresilience.cc/>. Cic stands for Community Interest Company.

¹⁸⁸ The author acknowledges, with thanks, information supplied by the Contingency Planning Officer of South Lanarkshire Council for this section.

¹⁸⁹ The Institute of Civil Protection and Emergency Management (ICPEM), <http://www.icpem.net/>. The ICPEM is affiliated with the International Civil Defence Organisation, www.icdo.org.

assistance. Examples of this increased focus can be found in: a) legislation in force (e.g. the establishment of a Community Civil Protection Mechanism);¹⁹⁰ b) implementing rules; c) Council conclusions; d) European Parliament Resolutions, and e) through various Communications from the European Commission to the European Parliament, the Council and Committees. The European Commission has also identified increasing resilience as a priority in three key areas: food security, climate change adaptation, and disaster risk reduction. Similarly, in the United Kingdom resilience capacity building has been the subject of legislation (through the Civil Contingencies Act, 2004 and the subsequent Regulations, 2005), where Category One responders (e.g., police, fire and rescue and ambulance services) are required in civil emergency situations to make best use of community and voluntary resources. The United Kingdom Government Cabinet Office has also issued advice and guidance relating to responder agencies, infrastructure, communities, businesses, and the voluntary sector. The Scottish Government has embedded the term resilience within its support structure for responding to civil emergencies, through its Resilience Division which supports the frontline agencies that deliver emergency planning and response across Scotland,¹⁹¹ and the Resilience Advisory Board,¹⁹² which normally meets three times per annum, providing advice to Scottish Ministers and the wider civil contingencies community on strategic policy development.

A fundamental question remains as to the extent to which the increased focus on resilience capacity-building depends upon surveillance systems and technologies. Undoubtedly, greater and more sophisticated use is made of systems for monitoring volcanic activity, and the potential for flooding, for example, the South Eastern Europe Disaster Risk Mitigation and Adaptation Programme (SEEDRMAP)¹⁹³ has as one of its stated priorities, hydrometeorological forecasting, data sharing and early warning. Similarly, the European Community Mechanism for Civil Protection uses administrative and operational instruments, one of which includes the Monitoring Information Centre (MIC),¹⁹⁴ which is accessible 24 hours a day, and acts as a communication hub at headquarters level between participating states, the affected country and despatched field experts. Clearly, the MIC depends to a large extent on the ability of its monitoring systems to provide easily accessible and accurate information. From the examples in the preceding paragraphs and elsewhere in this contribution, it can be asserted that the concept and term of resilience have clearly entered the policy-making discourse amongst governments, governmental bodies and practitioners, however, it is harder to assess the extent to which resilience has entered into the public discourse in society in general, and especially around the area of democratic processes. These aspects would require further examination.

¹⁹⁰ European Commission, 2007/779/EC, Euratom: Council Decision of 8 November 2007 establishing a Community Civil Protection Mechanism. [http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0779\(01\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0779(01):EN:NOT)

¹⁹¹ Scottish Government, Safer Scotland, Ready Scotland, Preparing for and dealing with emergencies, Resilience Division. <http://www.readyscotland.org/ready-government/resilience-division/>

¹⁹² Scottish Government, Safer Scotland, Ready Scotland, Preparing for and dealing with emergencies, Resilience Advisory Board. <http://www.readyscotland.org/ready-government/resilience-advisory-board/>

¹⁹³ The South Eastern Europe Disaster Risk Mitigation and Adaptation Programme (SEEDRMAP). http://www.unisdr.org/files/18135_seedrmapbrochure.pdf

¹⁹⁴ European Commission, Humanitarian Aid & Civil Protection, Disaster Response, The community mechanism for civil protection. http://ec.europa.eu/echo/policies/disaster_response/mechanism_en.htm

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2.1.8 Resilience in the banking sector

Professor Kirstie Ball, Open University

The financial crisis has foregrounded the resilience agenda in the global banking sector and clear statements about the meaning of resilience within banking have emerged. The current financial crisis began in the US financial markets. Excessive, risky sub-prime mortgage lending caused huge financial losses as customers defaulted on their mortgages. A “credit crunch” resulted as credit was less available due to banks having to absorb these losses. This rapidly spread around the world as banks