

**SDSR Workstrand 6: UK Resilience and Crisis Response**

1. The risk of severe civil emergencies in the UK remains high. As predicted in 2010, they have been a major factor in the UK's National Security, requiring all levers of Government to be brought to bear to mitigate the impact on our citizens, infrastructure and economy. The 2013/14 floods cost the UK £560million in flood support and resulted in insurance claims of around £450million.
2. In the last five years we have seen the emergence of Ebola in West Africa; increased anti-microbial resistance; widespread outbreaks of public disorder in 2011; and the very real threat of severe and nationwide disruption from industrial action. The Government will be required to respond to a similarly wide range of challenges in the coming five years.
3. Horizon Scanning and Early Warning must continue. As well as mitigating risks where reasonable, we must maintain our readiness to respond effectively. Effective multi-agency local emergency response arrangements, supported by strong national coordination, are vital to our national security and resilience.

**Progress since SDSR 2010:**

4. Government has worked to enhance crisis management capabilities through joint emergency services inter-operability training. We have in place contingency plans for disruption to satellite communications, and we effectively monitor risks of disruption to oil and gas supplies.
5. We have put in place an annual review which takes a systematic look at the UK's key critical national infrastructure and the most significant risks it faces. The review has identified a number of priorities for action.
6. Energy security remains a UK foreign policy priority. We continue to mitigate emerging risks, and to develop strong bilateral engagement with critical energy partners, consumers and producers
7. We continue to learn the lessons from the Ebola outbreak, particularly on responding to complex crises more quickly. We support the cross-government pandemic influenza programme, and monitor infectious diseases across the globe, including Middle East Respiratory Syndrome Corona Virus.
8. As well as responding to flooding emergencies, the UK will be investing £2.3 billion over the next 6 years in building and maintaining flood defences.

**Stakeholders Consulted**

9. Primary consultation has been through the NSC(THRC)(R)(O) and THRC(O) committees, covering a broad range of departments and agencies. Subject area stakeholders have also been consulted, such as those covering energy and resource security and climate change. Not all comments have been incorporated, due to length of document, volume of contributions and level of detail.

**Main areas of examination:**

10. Following analysis of the SDSR workstrand scoping papers, it was decided to combine a number of workstrands under the heading of UK resilience and crisis response. This paper focuses on:

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| A. Crisis Response                  | D. Health                       |
| B. Critical National Infrastructure | E. Climate Change               |
| C. Resilience                       | F. Energy and Resource Security |

11. The options for each are explored in the sections below.

**A. Crisis Response**

12. **Horizon Scanning and Early Warning:** Effective crisis response relies on horizon scanning and risk assessment to deliver improved early warning and information sharing mechanisms. We should continue to focus on this area domestically and internationally.
13. There is an established and successful early warning process in the domestic space, and this is being rolled out more widely to cover international incidents and rapid cross-HMG decision making through a new team in the Cabinet Office. This links to BSOS early warning and early action work and the gathering data workstrand. Other initiatives exist and should also be supported, such as the International Natural Hazards Partnership.
14. **COBR and Fallback Facilities:** Domestic crisis response and the central coordination of national capabilities are key pillars of resilience. Under the Lead Government Department (LGD) system, there is no fund to maintain existing or deliver new capabilities which are genuinely cross-cutting in nature. This has led to the degradation of our central crisis response facilities, and an inability to fund innovative and life saving new capabilities.
15. We must therefore secure funding to maintain and improve our national crisis response facilities. We must ensure they are resilient, improve our fallback sites and introduce new technology in line with Ministerial expectations, including secure and resilient communications. Costs are in the region of £40m over 5 years for those things we must do, including improvement and running costs. Further developments in line with ministerial expectations, to improve the overall capability are likely to be in the range of £5m - £10m over 5 years [should do]. Options to improve highly resilient telecoms could cost an additional £10m – 15m a year [could do];
16. **UK Resilience Programme Fund:** Whilst the Lead Government Department approach has clear strengths in terms of providing accountability, one weakness is the inertia which results when there is a need to drive forward improvements in

cross-cutting capabilities (which benefit all but there is no clear lead). To remedy this we must establish a small UK resilience programme fund to enable new and innovative capabilities to be introduced. This could cover:

- a. implementing an emergency alert system. This would provide the capability for agencies to send messages direct to the mobile phones of those caught up in an emergency. It would allow the UK to keep up with other developed nations such as Australia or the USA, but also developing nations such as Sierra Leone and Sri Lanka who have similar, albeit less effective, systems [set up costs of ~£10m, ongoing ~£2m];
- b. explore the feasibility of new arrangements to ensure the coordinated mobilisation of emergency services' specialist or additional capacity to support a response. This would cover operational aspects (the building and the people to reach back to mobilise capabilities); plus an assurance framework to understand what capabilities exist and where. [current costs for NPoCC + FRS NAt Coord Centre + NAt AMbu Coord centre = £3.7M. Assume need an additional £1m pa for this new centre].
- c. new digital situational awareness tools to support the collation of data to build a more accurate picture of the impacts arising from emergencies. The data will improve response and recovery actions by ensuring they meet the greatest needs of those affected. [£100k one off cost for scoping. Estimated £750k to develop]

17. **Defence Contribution to Crisis Response:** Following the severe winter flooding in 2013-14, we have reviewed the role of the armed forces in preparing for, and responding to, emergencies in the UK. We concluded that the armed forces should be routinely involved in preparedness activity, which requires closer working with local responders, earlier engagement and greater mutual understanding. We are now working to develop further thinking relating to:

- a. whether there are Defence capabilities that should have a more formal role in the UK's resilience e.g. exploring what support Defence could provide to a central government crisis planning team;
- b. whether Defence should play a stronger role in ensuring the continuity of central government decision making in the most extreme scenarios; and
- c. whether resilience should be formalised as a Defence task.

## **B. Critical National Infrastructure (CNI)**

18. CNI plays a vital role in keeping the country running by maintaining essential services for the public and economy, and allowing the state to function in a

secure and resilient environment. Protecting CNI, against all risks, is a key Ministerial objective.

**19. Addressing key risks and vulnerabilities:** Our CNI faces a myriad of risks, both known and unknown, which if realised could cause major disruption to the UK's security and millions (or potentially even billions) of pounds' damage to the economy. We will prioritise our efforts on the risks and vulnerabilities that are the most likely or that would cause the greatest damage to our security, based on those sectors where the risks are unknown or evolving, and where our understanding of the vulnerabilities is not clear.

- a. The cyber threat to the UK, including the CNI, is greater than it ever has been. Further investment is needed to ensure owners and operators improve the cyber security of the CNI. There must also be additional investment in partnership with industry to provide the services and capabilities needed to protect CNI from cyber threat. More detail is included in the dedicated cyber security paper, *Enhancing Our Cyber Security*.
- b. Improving the UK's (including the Government's) ability to withstand the risk of widespread loss of power and/or telecoms, including, by maintaining: mobile telecoms service, availability of fuel from forecourts; and availability of cash from bank branches (All costs being explored through Letwin Resilience Review and are expected to fall to industry or consumers (not HMG); current high level estimates for their costs are: c. £75m - £700m for fuel; c. £700m-£1bn for telecoms; and c.£35-£80m for finance);
- c. Investing in a small emergency fuel tanker fleet (£20m), to help mitigate significant economic and social impacts from fuel shortages, from any supply shock;
- d. The reality of modern technology, including within our CNI, is a great degree of interdependence between networks and systems. This has added another layer of complexity to UK infrastructure, and CNI specifically, arguably increasing our vulnerabilities. We must address this head on in partnership with industry, regulators and academia and suggest £6m of the NCSP budget for critical project to understand cross-sector dependencies and supply chain resilience, leading to improvements in our CNI resilience;
- e. Protection of our CNI relies on appropriate information sharing at a local and national level. Improving this at a local level is necessary and a key requirement of the Government's CNI efforts to realise improved resilience and crisis response. Protocols and better information sharing can be achieved in part through working practices and better collaboration, but this

should be supported by improved IT systems. We propose a small but vital fund of £2m to ensure key local delivery partners across the country have the secure IT and storage facilities needed to handle important information about critical assets in their areas;

- f. HMG needs to continue to strengthen its ability to mitigate the risk and manage the impacts of severe space weather and build its understanding of the dependency of Critical Infrastructure on space services. We will also meet our regulatory obligations related to the use and manufacture of secure technologies for the Galileo Public Regulated Service and consider the value of its contribution to critical military and civilian functions.

20. **Levers:** Given the fundamental importance of the CNI to the nation's security and prosperity Government arguably has a duty to ensure these critical services are reliable, including in the face of national risks. However, risk appetite differs across the CNI due to a variety of influences, including, but not limited to the market, shareholders, regulation etc. Additional levers are needed, to enable HMG and industry to work together to strengthen the security and resilience of the UK's critical infrastructure. As such Government will explore new statutory duty on CNI owners to ensure adequate security and resilience in their CNI, to drive up standards and improve HMG's ability to act when vulnerabilities are identified, is the recommended option Costs incl. a small bill team (c. £250k one-off cost over 18 months). Government should also support industry's own improvements to resilience and security through voluntary means, which could be accredited through national standards or guidance. Set up costs are still being explored but would be low, and such a scheme could be self-funding, or income generating within a few years.

21. **Central Government CNI Assurance:** Given the vulnerabilities and risks are shared across much of our CNI Government should work as 'one HMG' as far as possible to support CNI owners and regulators. A Central CNI Assurance team, backed by the right levers, would provide the checks required to ensure CNI efforts are sufficiently co-ordinated, prioritised effectively, based on accurate assessments of current vulnerabilities. We should reorganise the small teams that already exist at the heart of Government to create an 'Office for CNI' within the Cabinet Office, supported by a small number of industry / academic experts. (4 year pilot over remainder of Parliament ~ £2m inc 7 additional FTEs). In addition, Government should ensure it leads by example and only invests in resilient and secure major infrastructure. We propose to establish an investment gateway for major infrastructure projects to ensure decisions are made in full knowledge of the security and resilience risks.

## C. Resilience

22. **Assurance:** Current assurance mechanisms for resilience are weak or non-existent, meaning that it is difficult to assure Ministers that the UK is “prepared”, or to be able to take action to address gaps and identify priorities for improvement. We should therefore:
- a. develop and apply standards in a way that provides consistency on principles or outcomes required whilst allowing flexibility for locally adapted solutions and facilitated improvement activity. The preferred route would be through a *Publically Available Specification (PAS)*, [costs £80,000-100,000]. A British Standard is a cost free but less desirable option.
  - b. Develop options for an assurance framework which can build on the standards to support governance and inform improvement activity. There may be a cost attached, but it is difficult to be precise about how assurance will be best carried out without first developing the standard to be assured against.
23. **Prevention:** There is a clear direction of travel provided by the international dimension (in particular the UN) to move into the sphere of ‘disaster risk reduction’ to promote a ‘culture of prevention’. This means focusing risk management onto mitigation where possible, not just preparing for emergencies.
24. In the UK, where significant investment already takes place in protection (of infrastructure for example), maximum utility will come from improving processes and how we make policy decisions. We should therefore:
- a. introduce better structures in departments for ensuring security and resilience is considered when making policy decisions; CCS are looking at this with EDS (no cost);
  - b. make Permanent Secretaries accountable for risk mitigation through their objectives (no cost); and
  - c. work in support of the Sendai Framework for Action to improve resilience overseas (this option to be taken forward as part of BSOS workstrand.
25. **Use of Wider Community Resources:** Given the high incidence of low level, but locally significant, events requiring emergency response, it is unrealistic to expect emergency responders to deal with all the impacts. Harnessing the resource and capability inherent in the voluntary sector, businesses and communities (including military assets), will significantly improve the UK’s capability to respond to and recover from emergencies.
26. We conclude, therefore, that the armed forces, voluntary sector and business representation should routinely be involved in preparedness activity, and that delivering this requires closer working with local responders, earlier engagement

and greater mutual understanding. This should be mirrored at the national level, and we should, therefore:

- a. provide practical support for Local Resilience Forum partners to , encourage and promote better co-operation and engagement with voluntary sector and business organisations; [no cost]
- b. use the proposed UK resilience Programme fund to pump-prime further coordination activity at local level;
- c. support and promote businesses wanting to improve their resilience in peacetime and support for those affected by a crisis; [no cost]
- d. streamline the process by which communities access additional support in recovery from an emergency (learning from lessons from 2013/14 flood recovery efforts).

**D. Global Health Security and wider Bio Security**

27. The National Security Risk Assessment recognises Major Public Health emergencies as a tier one national security risk. Disease can cause thousands of fatalities and have massive economic impact. Large scale outbreaks in animals or plants can be equally significant (and in some cases spread to humans).
28. Disease does not recognise borders, technological developments in biological science are global in nature and deliberate biological threats can emanate from abroad as well as the UK. This reinforces the need for our effective domestic early warning and response mechanisms to be expanded to cover international risks and events. To that end, the Prime Minister has made a number of commitments to promote global health security which we need to take forward.
  - a. We must introduce a central governance structure and funding mechanism to: consider bio risks systematically; provide scope for efficiencies; and allow for a 'One Government' approach, including on decisions about upstream action and intervention to reduce risks to the UK. Funding of around £7million annually would allow delivery of the International Biological Security Programme (IBSP) and those elements of the Global Health security priorities which would not be eligible for ODA funding. For example: deploying Rapid Response Teams at very short notice in middle and high income countries; developing local capacity to detect rapidly and report emerging biosecurity concerns; and improving biosecurity through work with scientists in countries of concern to prevent proliferation of knowledge or materials

- b. We should continue to lead the global fight against Anti-Microbial Resistance (AMR), taking forward the recommendations of the O'Neill Review (when it reports). We should develop international partnerships to promote the conclusions of the review; any such partnerships would aim to maximise the contributions of other countries and of the private sector
- c. We should push forward the work of the new R&D network, supported by £10m ODA funding, matched by research council money, to focus on developing vaccines to combat other diseases with pandemic potential. DFID is developing further plans for R&D to meet the manifesto commitment for the world's deadliest diseases. We will explore options for investing in a biodefence capability which would aim to accelerate the development of diagnostics and vaccines to address those diseases which represent a threat to low income countries, and indirectly the UK. Where appropriate we will explore innovative options for bolstering production of vaccines in the UK.

**E. Climate Change**

- 29. Climate change risks undermining UK and international prosperity, and is a threat multiplier to international security. Climate security risks include resource stresses, migration and links to global economic and food insecurity. The UK must build on domestic mitigation and adaptation efforts (linked to energy security below), and drive global action to build resilience.

**Domestic action**

- 30. Must have: Ministers are currently considering priorities for further action in context of the recommendations from the review of the implementation of the National Adaptation Programme by the Adaptation sub-Committee. Priorities for action identified are: Address the increasing risk of heat stress and flooding to the built environment. Improve the resilience of infrastructure networks and services during periods of extreme weather. Preserve and enhance the country's natural capital in order to sustain agricultural productivity and the benefits provided by the natural environment
- 31. Should have: Other recommendations for action include: increase public awareness of climate change risks; quantitative assessment of the capability of the emergency planning system and actors at the local level to response to extreme weather events; regulatory and non-regulatory measures to support and encourage businesses to improve their resilience and report on risks and risk management; better understanding of potential systemic risks from climate change to the financial sector; better assesses and share the systemic risk to infrastructure and trends in resilience, including through a mandatory approach to the third round of reporting under the Adaptation Reporting Power.



### International

32. Must have: Sustained diplomatic engagement to reduce global emissions. To avoid degrees of climate change that could overwhelm the UK's capacity for resilience in the long-term, a significant change in the trajectory of global emissions needs to begin within the next decade. Agreeing an ambitious global deal in Paris in December 2015 will be important, though further work will be needed beyond this. Multilateral, plurilateral and bilateral engagement with the largest emitting countries beyond 2015 will be required in order to have a chance of meeting our objective of limiting average global temperature rise to below 2°C.
33. Should have: International climate finance commitment, [amount to be confirmed by Number 10 and HMT by September 2015]. UK efforts will focus on reducing emissions, increasing access to energy, building resilience, and reducing deforestation. This will include catalysing further international public and private finance to tackle the risks posed by climate change.

### F. Fuel and Resource Security

34. **Energy:** UK prosperity relies on secure supplies of affordable energy, critical minerals and chemicals, but there are upstream and downstream risks. The UK is increasingly dependent on imports for key commodities, and risks to disruption of those imports are mitigated through maintaining a diverse source of supplies. As the Ukraine crisis has shown, there are also risks of Russia using energy as a political lever. We therefore need to continue to encourage EU-wide action to become less dependent on Russian gas.
35. Significant risks remain of conflict or wider instability that would have an immediate impact on supplies and a longer-term effect on UK energy prices, and risks to energy security in the UK downstream are growing. The risks are real, and HMG relationships in supply countries help mitigate those risks, but early warning of problems, allowing for international coordination to minimise price and supply shocks, and the planned development of the low carbon domestic energy sector are key. The following actions are priorities
  - a. Must have: Ongoing investment in HMG overseas network (including Prosperity Fund) so as to influence energy producers and major consumers, including across EU capitals. [*Cost for staffing: to be factored in to relevant Departments existing resources*]. [Prosperity Fund resource decision as part of EITF / Prosperity Reboot process. Expected to be of order of ~£500m, in part from ODA].

- b. Should have: Investment in R&D in energy storage, efficiency measures, and critical raw materials. Good for UK security and prosperity. Huge potential market in green goods. Clean Energy Research and Development Initiative (CERDI) on investment in R&D in energy storage – currently exploring international cooperation, potential funding and scope. [Cost: *within existing departmental expenditure. Potential for ODA to cover some R&D spend*].

36. **Food and Water:** Issues around International Food and Water Supply and Distribution are not sufficiently joined-up. There is no single departmental lead or forum that brings together HMG's diverse interests. International food and water matter to the UK for a variety of reasons: UK critical resource needs, international development and stability, and global prosperity.

- a. Determine clear departmental lead for global food and water security and scarcity issues (MUST)
- b. Further efforts on opening up trade in food products (e.g. global, WTO, EU-US, EU-Japan agreements) (SHOULD)
- c. Domestically, we recognise the dependency of food and water security on energy, especially longer periods of interruption and the need to maintain a small standing team on ensuring broader food and water resilience.

### **COMPENSATING REDUCTIONS**

37. Improved resilience saves money in the long term by reducing the impact of disruptive events on the UK. Investing now means we will spend less in an event. Improving resilience means a better response, protected CNI, and tackling health risks at source, which all support strong economic growth.

38. The requirements to deliver the new approach set out above (other than CNI) do not involve significant spend in SDSR terms. Rather we have identified improvements which can be delivered through better practices and a small investment in central resilience capabilities. We have not, therefore, identified areas of reduced spend, however this strand supports efforts to improve cross-government working, improving efficiency by doing more with what we've got, and in future this will generate reductions in cost.

### **OVERSEAS TERRITORIES**

39. The UK has a responsibility to support its 14 Overseas Territories during a disaster or crisis. The emergency services in a small Territory will quickly be overwhelmed by a major incident, and the UK Government needs to be prepared to respond to its needs. This includes, but is not limited to: the continued deployment of a Royal Navy vessel 365 days a year to fulfil its security/defence obligations and to act as a first responder in a crisis. DFID can provide

humanitarian and longer term disaster relief. The Department for Transport provides support in building capacity in the maritime and aviation sectors, and DECC supports Overseas Territories to diversify their energy supply.

40. Pro-active engagement with the OT by departments is essential to help to build resilience and strengthen crisis response, including through regional cooperation agreements and crisis simulations to test plans and implementation. Funding for exercising is available through the EU and these should be explored.

### **STRATEGIC CAPABILITIES**

41. In times of financial constraint is it important to understand the risks to existing strategic capabilities which have cross departmental funding and which, without ongoing funding or prioritisation, could be lost. Cutting departmental funding, without considering properly the implications on security and resilience, is a significant risk. We should ensure, therefore, that:
  - a. departmental resources (teams) with a focus on resilience and response to emergencies are not diminished. Maintaining these capabilities as departmental priorities must be part of Perm Sec objectives;
  - b. A “whole government” approach is taken to the procurement or renewal of emergency response capability / infrastructure that would support a range of civil contingency scenarios.
  - c. the capability the Met Office (and other organisations such as the British Geological Survey) provides is maintained, particularly as world leading centre of excellence, providing crucial early warning and policy advice;
  - d. Given the fundamental importance of effective communication during a crisis, the telecoms capabilities used by government and responders must be resilient to promote and enable decision making.
  - e. there is no degradation of key scientific capabilities (both high containment labs and scientific expertise). Not funding the maintenance or improvement of these will impact on scientific advice to decision makers, reduce the attraction of the UK as partner with key international allies, damage our ability to respond at short notice to new challenges and arguably impact on innovation and prosperity. We should, however, explore what efficiencies might be possible in order to support this effort.
  - f. when an emergency does happen, there are clear arrangements in place to support those individuals and communities affected to recover from the event. A number of lessons were identified from the flooding over the winter of 2013/14 and it will be essential that these are learnt across the range of emergencies that the UK might face.

**International Implications and opportunities for working with partners**

42. The EU Civil Protection Mechanism (CPM) is the legal framework for Participating States to provide assistance to each other and to third countries in disasters. It provides a means of matching requests to offers of assistance internationally, but also enables Community funding for research, training, exercises, equipment, capability development and to support transport of assistance to where it is needed.
43. This is an effective system. The UK previously has received funding for transporting its assistance in areas such as Sierra Leone, Syria and Nepal (and in the 12 months to July 2015, received £10 million in funding for this). In addition, it is providing €1 million to London Fire for an exercise next year. The Commission can also contribute financial assistance to support access to response capacities required to 'address temporary shortcomings in extraordinary disaster situations'. Effectively a "buffer capacity", it can cover a range of costs, but the UK has not yet used this.
44. Going forward, the UK should explore options to work through the EU Civil Protection Mechanism to fund UK resilience and to continue to build relationships with partners.

**Areas where the UK could become a world leader or seize opportunities (inc links to the prosperity agenda).**

45. Improved resilience boosts prosperity in the following four areas:
- Providing stability for inward investment
  - Skills and international development
  - Promoting innovation
  - A differentiator from near competitors (EU states for instance)
46. Resilience provides stability, but is often overlooked as a cornerstone of economic prosperity. A nation which can withstand natural hazards, has few terrorist or cyber attacks, and in which utilities are reliable, is a more attractive location for investment than one which refuses to invest in sea defences, and has regularly interrupted electricity supply. This resilience to disruptive events also supports the economic well being of the United Kingdom and its citizens.

47. Given that the UK is a world leader in resilience, there are opportunities to take our skills overseas to promote stability, which is in line with the Sendai Framework for Action on Disaster Risk Reduction. This should be considered more through the Building Stability Overseas workstrand.