



Select Committee on Risk Assessment and Risk Planning

Uncorrected oral evidence: Risk assessment and risk planning

Wednesday 21 April 2021

10.15 am

Watch the meeting

Members present: Lord Arbuthnot of Edrom (The Chair); Lord Browne of Ladyton; Lord Clement-Jones; Lord Mair; Baroness McGregor-Smith; Lord O'Shaughnessy; Lord Rees of Ludlow; Lord Robertson of Port Ellen; Baroness Symons of Vernham Dean; Viscount Thurso; Lord Triesman; Lord Willetts.

Evidence Session No. 19

Virtual Proceeding

Questions 193 - 206

Witnesses

I: Professor Alexander Fekete, Institute of Rescue Engineering and Civil Protection, Technical University of Cologne; Peter Ho, Senior Adviser, Centre for Strategic Futures, Prime Minister's Office, Singapore; Jim Kronhamn, Acting Head of the Research and Evaluation Section, Swedish Civil Contingencies Agency; Harold van Waveren, Chair, National Crisis Team for Flood Risk, Rijkswaterstaat.

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Examination of witnesses

Professor Alexander Fekete, Peter Ho, Jim Kronhamn and Harold van Waveren.

Q193 **The Chair:** Good morning, and welcome to this evidence session of the House of Lords Select Committee on Risk Assessment and Risk Planning. This morning we are looking at the international experience of these very important issues.

A transcript of the session will be taken and you will have the opportunity to make corrections to it where necessary. It will eventually be published on our website.

Our witnesses this morning are: Professor Alexander Fekete, from the Institute of Rescue Engineering and Civil Protection at the Technical University of Cologne in Germany; Peter Ho, senior adviser at the Centre for Strategic Futures at the Prime Minister's Office in Singapore; Jim Kronhamn, acting head of the Research and Evaluation Section of the Swedish Civil Contingencies Agency; and Harold van Waveren, chair of the national crisis team for flood risk at Rijkswaterstaat in the Netherlands. You are most welcome.

You do not all need to answer every question, and some will be addressed to specific members of our panel, but I would like to begin the session by asking each of you to briefly outline for the committee your current work and how your work contributes, if it does, to civil protection and resilience in your country.

Jim Kronhamn: Thank you. I think I was nominated to participate here, because until recently I worked at MSB, the Swedish Civil Contingencies Agency, on the Swedish national risk and capability assessment, a central national analysis that assesses the Swedish capability to face disaster hazards in Sweden. It is an analysis that our Government task us with approximately every second year, and I have been doing it in one form or another for at least the last 10 years, perhaps even longer.

It provides our Government with strategic advice on the weaknesses and strengths of Swedish society when it comes to disaster risks, and suggests measures to strengthen the civil protection and resilience of our country. Now, I work as head of research at MSB. There is a clear line that ties research funding in Sweden on civil contingencies to developing the knowledge of how we solve societal problems, contribute to our civil protection and increase resilience in Sweden. I will stop there.

Harold van Waveren: Thank you. In my job I am the principal expert, the principal adviser, on flood risk management at the Rijkswaterstaat. The Rijkswaterstaat is the executive agency of the ministry, and in my work I advise the board of the Rijkswaterstaat and the top of the ministry on flood safety issues. I am also chair of the national crisis committee team for flood risk at the Centre for Water Management of the Netherlands, which is a national centre for co-operation with the Rijkswaterstaat, regional water authorities, the Netherlands Meteorological Institute, and the Ministry of Defence, especially for all

kinds of water management crises, and my work contributes directly to civil protection and resilience. As a principal adviser, I focus on the prevention of floods, on climate change and on adaptation and, in the crisis team, on flood risk situations.

Emergency planning in the Netherlands is organised on a national scale. The Ministry of Justice and Security is in charge at all kinds of crisis situations. We have 25 safety regions on a regional scale. The Rijkswaterstaat and my ministry have an important role on a national scale especially for water crises. We also have 21 independent democratically chosen regional water authorities working on a regional scale and, of course, the support of the Ministry of Defence if necessary.

Professor Alexander Fekete: Thanks very much for having me. It is quite an honour. I am professor of risk and crisis management, so I see my role in education, and in publications of course. I used to work for the German Federal Office of Civil Protection and Disaster Assistance. In that role I was officer for critical infrastructure protection and for devising our prioritisation scheme and method for deciding which values in society and which assets to protect first.

Resilience is still an upcoming topic in our country, so I see myself also in the role of consulting ministries and subsidiary bodies and offices, mostly environment, education and interior, on risk analysis methodology but also on stakeholder dialogues.

Peter Ho: I am a retired civil servant. Ten-plus years ago, I was the head of Singapore's civil service. I am largely out of government, but I continue as senior adviser to the Centre for Strategic Futures, which is a think tank that I set up about 12 years ago to help government to think more systematically about the extremely uncertain and unpredictable world that we live in. We look not just at the trends, the risks, the challenges, the opportunities, but at the development of the tools to help thinking about this kind of complex and challenging environment.

Q194 **The Chair:** Thank you very much. Mr van Waveren answered a question about how emergency planning is organised in the Netherlands, which was very helpful. Mr Ho, could you say how emergency planning and response is organised in Singapore, and how the training happens?

Peter Ho: In Singapore, we have something called the Homefront Crisis Management System, which is a system established at different levels, which are all connected to each other. At the top is a ministerial committee, and below that is an executive group that comprises senior civil servants drawn from various ministries and, below that, crisis management groups.

There are several crisis management groups, each designed to look at different types of contingencies. For example, one crisis management group looks at crises relating to transport, another looks at crises relating to health, such as the Covid pandemic, another group looks at safety and security, and so on.

First, the groups think about what the potential contingencies could be. Secondly, they exercise contingency plans that have been developed. Thirdly, they execute the plans if something happens. Of course, the crisis management group dealing with health is deeply involved right now with the Covid-19 pandemic. That is the kind of structure we have, but that is not something I am directly involved in right now.

The Chair: Thank you very much. During this session, I hope we will come back to you to talk about cross-cutting emergencies that cover more than one issue. Professor Fekete, how is crisis management organised in Cologne and in Germany?

Professor Alexander Fekete: Germany is characterised not only by a so-called bottom-up principle, but by a subsidiary principle whereby, in the case of everyday emergencies, it is the responsibility of the city of Cologne. It has a fire brigade, which at the same time is responsible for civil protection actions and sending out the paramedics in a larger accident. It is also responsible for handling Covid-19 and other crises first.

If the city, which has over one million inhabitants, is overwhelmed by a crisis, or a catastrophe as we call it, it calls in the other neighbouring counties first and then it escalates up to the upper levels—first, to the regional authorities or councils and then to the federal states; we have 16 federal states with a lot of autonomy and emphasis on that. Only then does it go up to the national level. In reality, however, we see that it is a mix of top-down and bottom-up approaches, depending also on authority but also on competencies.

Training is also conducted at the local level by local organisations; we have a lot of organised volunteer forces. We also have regional or even national academies for training for specific purposes, be it fire-fighting or medical training. We have dedicated task forces for special topics, such as medical task forces or nuclear accidents.

I will say a bit about how planning is mostly conducted. If you look at the city of Cologne, I know the people very well. It has a planning department, but very often the roles, when it comes to who has to do what, are intermixed. It is often more in the hands of the upper bodies. Guidelines are directed by national subsidiary offices for the ministries, which help a lot, and these guidelines are then often looked at at the county level, too.

The Chair: Mr Kronhamn, I will not ask you the same question, because Lord Browne is just about to ask you similar sorts of questions.

Q195 **Lord Browne of Ladyton:** Good morning, gentlemen. Thank you for being witnesses for our inquiry.

This question is designed to open up the concept of total defence. There is a logic in us starting with you, Mr Kronhamn, because previous witnesses have recommended to us the Swedish model of the concept of total defence, so I will start with a very simple question. Could you please

describe for our committee Sweden's total defence concept? There is a slight addition to that: if possible, could you share what you know of the lessons of the Total Defence 2020 exercise that took place, starting in 2019?

Jim Kronhamn: Certainly. I will start by looking back to our recent history. In the beginning of this century, Sweden ended most of its planning for a raised alert of war. As a consequence, large parts of the previous total defence were decommissioned, not least on the civilian side. For many years, there has been no systematic planning or preparation for a raised alert decision or wartime conditions on the civilian side. This has now been resumed and is the subject of a lot of attention in Sweden, which is why it has been highlighted even abroad, I think.

The total defence concept makes peacetime emergency preparedness and resilience a basis for wartime defence planning. An important benefit that we find has to do with the threats that have evolved more recently; it takes its advantage from the societal changes that have happened over the last few decades, with massive digitalisation at its core. Hybrid threats whereby an aggressor can put a strain on our society with a high level of deniability over a long period of time mean that the resilience of our vital societal functions needs to be part of our defence planning.

Total defence, according to Swedish law, is defined as the preparations and the planning required to prepare Sweden for war. When the Government declare the highest alert, all societal functions are defined as total defence. So, in a sense, total defence is what we do after our Government have declared the highest alert. There is a whole of society approach to this: the parliament, the Government, government authorities, municipalities, private enterprises, voluntary defence organisations, as well as individuals, are part of total defence.

The overall objective is that, by trying to clarify that an attack against Sweden will be costly, the total defence concept, together with diplomatic, political and economic measures, will hopefully deter an aggressor from attacking Sweden or exerting influence by military means.

To put that into context, Sweden has substantial laws and regulations for our Swedish society. It should function in a state of war. In a way, working on the civilian side at MSB is not that different from working, for example, with the NATO baseline requirements for national resilience, where you have baselines, guidelines and checklists for what you need to be able to withstand and carry out in a demanding situation. In a way, that integrates the armed forces with the rest of society, in a sense. That is a bit of an overview, I guess, of what we are working with.

You also had a question about the Total Defence exercise that we carried out in 2019-20. I myself have not been deeply involved in that, but it is an exercise where we have had different activities involving both the civilian side and the armed forces, and have exercised the total defence

concept jointly. I am not sure how much more detail I am able to provide on that matter, but if you have any more detailed questions I will do my best.

Lord Browne of Ladyton: Thank you very much. In particular, in my earlier reading I came across some commentary on this. I do not know if this is correct, but in that exercise the commentary identified difficulties emerging with communicating clear messages to populations against a background of disinformation campaigns in social media. It revealed elements of dysfunctionality between the national level and the regional authorities that needed to be addressed. Do you have any knowledge of these emerging conclusions? I suspect this is not a comprehensive report of it, but I was intrigued by it.

Jim Kronhamn: Those types of conclusions or identified areas where we need to improve are known when it comes to the total defence of Sweden. We almost have to go back to the way emergency planning and management are organised in Sweden, because we have a fairly decentralised system. We have a Government who take all decisions collectively in Cabinet. We have semi-independent governmental authorities. We have 21 regions with independent responsibilities in a number of areas, for example healthcare, and 290 municipalities with independent responsibilities in a wide range of important areas such as social care, school, water management. It is a very decentralised system and generally a bottom-up rather than top-down approach.

We have laws and regulations in place that task all the actors involved—governmental agencies, regions, municipalities—to identify and reduce the disaster risks, to train and exercise and to prepare organisations for situations that put additional strain on the capacity to uphold everyday operations and at the same time manage an event, an emergency. It is founded on the principle of responsibility, which states that an actor responsible for an area or a task in an everyday operation has the same responsibility areas during an emergency. It means that they retain their ordinary responsibilities during a situation of emergency.

Going back to the things that you have read were identified, it is something of a known effect from having this type of set-up. The responsibility principle is a strain in that it creates a continuity, a responsibility, between normal operations and emergencies or even higher levels of stress. No one steps in and takes over responsibility from someone else.

Because we do not have a system whereby someone else steps in and takes over responsibility, we have the benefit of not getting into a situation where that someone else does not know the ins and outs of how things work. On the other hand, an emergency or an even higher level of stress that creates a new type of work or activity that is not just a scaled-up ordinary operation, and which requires a co-ordinated approach to deal with it, sometimes leads to uncertainty with regard to the roles and responsibility for managing the situation. That is where exercises play a

very important role in identifying the gaps and weaknesses—knowledge gaps, really—between different actors in society.

Lord Browne of Ladyton: Thank you very much indeed.

Q196 **Lord O'Shaughnessy:** Thank you, Mr Kronhamn. That has been very interesting. As you can tell from Lord Browne's questioning, the committee is very interested in, and has been highly recommended, the total defence-type approaches, and our understanding is that they are often in use across the Scandinavian countries and elsewhere in the world.

I will address my question to Mr Ho, because we understand that Singapore has taken a similar approach. I am keen to hear more about the Singaporean approach to what Mr Kronhamn has described as the total defence programme in Sweden. I would also like to put another question: how important is the proximity of a very visible and present aggressor or threat to having these kinds of total defence-type approaches? If they are not there, how much more difficult does it become to create the culture and buy-in of the population to be part of this kind of system?

Peter Ho: Singapore adopted a total defence approach a few decades ago, I think in 1986, and it studied principally two models. One was the Swedish model. The other was the Swiss model of total defence. In fact, we adopted finally the Swiss model because it has a component that is particularly significant in Singapore's context, the concept of social defence, because Singapore is a multiracial and multireligious society and, of course, it is very important in the total defence approach to have a united society working together to deal with the threat.

There are five components: military defence; civil defence, which is conventionally understood to be things like policing, fire-fighting and so on; social defence, which deals with the specific problem in Singapore of a multiracial and multireligious society; psychological defence, or psychological resilience, which is what happens if there is an attack or some catastrophe and how society responds to that; and economic defence, which is how you keep the economy running if there is a war or some kind of conflict.

Total defence starts from the premise that it is the whole system that is being organised. Of course, with economic defence you have to have soldiers fighting, but you also have to have people keeping the economy chugging along. Singapore's military defence is based on a national service system, so they have to decide who goes into the military and who keeps the economy or critical aspects of the economy running. There are a lot of very detailed plans involved.

I should add that a sixth component was added to total defence in 2019, I think: cyber defence, or digital defence if you will. That area is seen as a new and very complex challenge, so it has been added to the idea of total defence.

In Singapore, we are very careful not to identify a threat if there is no need to identify one. Our defence budget is argued in parliament on the basis not of a threat, but of a fixed allocation of GDP. This, I guess, was the wisdom of the early Cabinets, which felt that it was not a very good idea to debate openly in parliament who could be a possible threat. In the early days, I think it was about 7.5% of GDP. Now, closer to 4% of GDP is allocated to defence. The idea of who the threat is is not discussed. People draw their own conclusions.

On the question of how the population gets on board, I would say that, given that Singapore is a very small country that is very exposed to the world, people are quite informed about what is going on, so they know where the challenges are. Given that, with each cohort, half of them go into military or national service, there is a very high level of support for defence and for total defence. I believe that annual public service is extremely high, because, once you experience military or defence national service, attitudes change, I think.

For the civil defence and social and psychological defence parts of total defence, exercises are conducted in constituencies to help people to know the kind of roles they can play, including fire-fighting, first aid and so on, so there is a certain degree of conditioning over time where people get quite used to the idea of total defence and, in fact, embrace it. I think it seems to work reasonably well in Singapore.

Lord O'Shaughnessy: We will come back to this issue of volunteering and social participation, but I wonder just how important that seems to be in creating that buy-in, and how scalable it is from countries with populations of under 10 million to ones with populations of over 50 million or 60 million. That is an interesting question. Thank you.

Q197 **Lord Robertson of Port Ellen:** Thank you to the witnesses for giving us your time. I want to broach the subject of how you communicate risk to the public. How are you as transparent as possible without creating panic? Maybe I could start with Professor Fekete and ask how Germany deals with that particular issue.

Professor Alexander Fekete: We are trying to differentiate between how to prepare the population for a disaster or event by what we call risk communication and crisis communication, and the dissemination of information as soon as something happens. With preparedness measures, we are trying to engage populations mostly passively, I think, by distributing information pamphlets or brochures on how to prepare at home and even how to get education interested by distributing school programmes or educational material. Of course, the large biannual national exercises we have also very much help to bring people together to exercise and to feel familiar with it, but they are mainly for the duties of stakeholders in industry and in the authorities and do not involve the population much.

We can observe very well at the moment in the pandemic how the dissemination-of-information channels inform people about the ongoing

risk. We are dealing with traditional, official TV channels and media as well as trying to go into areas where the federal offices have YouTube channels. It is a challenge trying to keep up with the speed of social media dissemination of knowledge.

On the question of how to balance transparency and panic, from our studies at the moment it looks like there is not much evidence of panic. It is more the fear of social unrest that we see, an uprising against the established political parties, and here it is a question of how the Prime Minister and the Government with their office try to influence media and public opinion. This is very much characterised by a fact-based approach—and scientific consulting and trying to bring transparency about facts but also informing people and populations and making them calm, in some sense.

However, this system of largely top-down dissemination of information brings scepticism from some, which I think is natural and is very good in a democratic society. Such processes often help very much to balance out the different underlying opinions and to treat the phenomenon of panic. So far, we have not seen much evidence of panic yet in the latest events, but Germany is still very much characterised in its communication strategies and set-up of bodies by the heritage of World War II, so we are trying to balance the powers and differentiate very much the military from the civilians, and even the police from fire-fighting and other staff. This comes back to a question of mentality and credibility in balancing of power, which also helps to bring about some sense of transparency.

Lord Robertson of Port Ellen: Does the federal system in Germany frustrate the idea of your common messages coming out? We saw recently that Ms Merkel was having some trouble with the lockdown with the Minister-President of North-Rhine Westphalia, who disagreed with her on that aspect of the pandemic. Does the federal structure mean that the collective message is more difficult to get across?

Professor Alexander Fekete: It is very much debated, and known I think, that the main challenge in the German system is the federal system and the parallel existing powers of the federal states, powers at the national level, and powers of the communities and municipalities. Keeping that autonomy not only at the national level but at the federal states level is very much observed. That is right.

Secondly, what happened was no big surprise because it is election year, and I have learned that politicians love to have a decision corridor—or wiggle room, as some colleagues in the United States call it. They do not like to have a clear, prescribed decision path from scientists only.

It is pretty normal at political level to have that balancing and going back and forth. Yes, the lockdown has been challenged. Anyway, there have also, of course, been challenges on how to lock down. Germany tries to observe the system whereby it is also agreed upon by the 16 autonomous Ministers in their federal states. So it is quite difficult to

come to a common decision, so the lockdown requirements vary from state to state.

Lord Robertson of Port Ellen: Maybe the lesson is to not have a national emergency during an election year. Can I turn now to Mr van Waveren in the Netherlands and how you communicate without creating panic?

Harold van Waveren: Thank you for this question. Risk communication for flood safety especially is a very important issue in the Netherlands. Some years ago, the OECD evaluated water management in the Netherlands and came to two main conclusions.

One was positive, and it is excellent that we are world leading, but the weak point is the awareness among the public. People feel absolutely safe in the Netherlands. We are 60% floodable, so without flood defences 60% of our country should flood, but people do not expect floods. They feel absolutely safe, so we put a lot of effort into campaigns to improve awareness, such as websites. Only today, for example, we launched a new version of our website overstroomik.nl—"do I flood?". You can enter your postcode and find the chance of a flood or the height of a flood in your house: "Does it go to the first or second floor, or even higher?" "Should I stay or should I go to higher points in the neighbourhood?" They can do preparation measures themselves; we also give them the message to self-support for several days, which is needed because we cannot help everybody, so, "Be prepared with, food, water, radio, batteries, blankets, candles, medicines". It is all on this website and from information sources during a crisis, such as radio channels and so on.

The second way of communicating is schools. In our national historical canon, flood safety is an important issue. Even in primary schools the children are educated about living with water in the Netherlands.

A third is also very important and positive in that we have a lot of media attention. Even minor high water on the rivers generates a lot of media attention. We use these moments to push our key messages, so we are the best-protected delta in the world, but absolute safety does not exist, so be prepared and check our website.

Finally, climate change and a rise in the sea level is another important issue in the media, so we also use this to communicate. We have also frequent television series and documentaries. We get a lot of questions from producers to advise, and of course we do so that we can also use these channels to push our messages.

Lord Robertson of Port Ellen: I will now move on to Mr Kronhamn and Sweden's communication. We have seen a site—I had it on my screen just now—that, in a crisis or a war, has important information for the population of Sweden, which seems to me to be a very good mechanism. How effective is it? Our experience in the UK has been that when pamphlets are distributed, the market is tested and people say they never saw it or were not aware of it. Is your information communication

more accepted, does it have more traction, than we might expect?

Jim Kronhamn: I should say that we have a history in Sweden of doing this type of work with brochures that dates back to the Cold War. This particular brochure was distributed in 2018 to every household nationwide, so 4.8 million copies were sent out. It instructs people on how to prepare for various civil crises and ultimately an imminent war.

Our attitude is openness with this kind of important community information to the population. We find that people have the right to know what potential threats we are facing and, most important of all, how they can prepare themselves and handle a difficult situation. In Sweden, we have a long-standing regulation in place, since the 18th century, under which the authorities make information public as a general rule. That might also affect how we position ourselves towards the individual. People in Sweden expect and have the right to this type of information.

We have polled people on how they have reacted to different information campaigns, not the least the brochure, and the poll shows that there are those who experience concern and anxiety but far more experience a sense of responsibility from the information. We do not want people to be concerned, but it is important that you are aware of what can happen, how it can affect you and what you can do to affect your own safety and preparedness of the people close to you.

On whether it has been a success or not, we have evaluated the campaign and found that 66% of the people we asked rated the brochure as good or very good. Only 4% were negative, rating it as poor or very poor.

People seem to remember what the brochure was about. Some 80% said that they knew about the brochure and knew what it was about, which is a fairly high number and pretty even between the sexes. Another outcome from the polling we did afterwards was that some 34% stated that they were planning to take action to improve their household preparedness as a result of reading the brochure. The brochure is still in use in Sweden, and a lot of the work on communication that we carry out these days is still based on the foundation that we developed when we put out the brochure. So I would say that it is a success, but it might be that we have different backgrounds and different traditions when it comes to information for the general public.

Lord Robertson of Port Ellen: Indeed. You are fairly close to what might be seen to be a pretty visible threat in any event. Thank you very much.

The Chair: Mr Kronhamn, from my point of view it is definitely a success. It is an icon on my desktop, because you have kindly published it in English as well.

Q198 **Viscount Thurso:** I am interested in the use of volunteer civilian reserves, so perhaps I can come to you first, Professor Fekete, because Germany has, I understand, a very successful agency for technical relief,

the THW. Could you tell the committee how it works, what it is used for and whether it works well?

Professor Alexander Fekete: Thanks very much. We have a couple of volunteer organisations. The fire brigade, for example, has 2 million staff, but the THW has 80,000 people, and I would call them organised volunteers because the system is that this is a federal body. It is an operational part of the Ministry of the Interior for civil protection, and it has around 1,600 or so staff. It has a share of quite a number of officers too, as compared to the planning arm of the Ministry of the Interior, which has only around 500.

The operational forces here are equipped with technical equipment and are organised at a very local level in so-called local councils, or Ortsvereinen, a very German thing. The Ortsverein is like a sports club and has the same understanding: that it is very much a local identity group, like the local fire brigade. It brings in the community, sometimes by having families participating in some events, so you would probably say that they are building community resilience.

The set-up is that different skills are distributed among all those organisations. You have a certain specific technical module, such as a high-capacity pumping group in one city and another nearby that is capable of lighting or has boats and equipment. If you have a national event or an international event, they can be called at any time of the day and they are ready and deployed within short notice, say 12 hours or so, for international flights. When they are called in to help, the employer continues payment, so they are not paid, and very often when I am asked about the system other countries are very interested in that. They are not being paid, but they are not losing money in their job, which is important, I think.

Why does it work well? I think the main thing is that the technical side that draws in a lot of interested and mainly male persons has passed. Before, you would not need to go into military service, before it became a professional army, because you could serve in a technical relief agency. Now, it is only volunteers, and the challenge is to keep up the number of volunteers, in the local fire brigades and other organisations, because society is changing. German society is becoming older and we have more mobility of people, so they have invested in advertising and it is more the traditional identity communities that help to maintain this.

The success story is their technical equipment and their highly skilled staff—they get training—and their long-standing good reputation. We have seen events where that reputation became an issue, and there is a question as to how well they work in international events, but so far, I think, technical equipment skills and trust bring about success.

Viscount Thurso: Just before I open that question out to our other witnesses, did I detect you saying that after the link between national service and volunteering was broken it has become more difficult to recruit? Did I understand correctly?

Professor Alexander Fekete: I am not sure whether it had already become a bit more difficult back in the 1990s or so. They have been able to keep up the number of volunteers until now, but I am involved in two research projects with them and they are looking into how to keep up the numbers. So far, it works, but we see that as a continuous challenge.

Similar to the UK, we annually have something like champions getting an award for their volunteer service, be it THW or others, and there are a lot of advertising campaigns to draw in the volunteers these days.

Viscount Thurso: Can I come next to Mr Kronhamn and ask how you see this from the Swedish perspective?

Jim Kronhamn: The Swedish approach to emergency preparedness and response emphasises volunteer contributions. We have long implemented a whole of society approach to security and defence, which I spoke about a bit earlier. It posits collective security as a joint responsibility for public and private actors at all levels of society, including individuals and non-profit organisations. We have policy in this area, which places importance on the role of non-profit sector and volunteer forces.

In contingency planning, public authorities co-ordinate closely with a wide set of civil society organisations, and in this context we have 18 voluntary defence organisations that have special roles defined in specific government regulation on volunteer defence activities. These organisations are explicitly tasked with recruiting and training volunteers in a number of different military and civil facilitations, assignments and public authorities—fields such as logistics, transport, staff support, communications, animal disease control, aviation. We find that volunteer engagement strengthens the resilience of the individual and contributes to building popular support as well for contingency policy. All voluntary contributions are important, and institutions should work to ensure that there are different paths for individuals to become engaged.

Q199 An important issue for Sweden pertains to the diversity of volunteer forces and the need to ensure that different types of volunteers are given suitable tasks and responsibilities. Staff reinforcement in emergencies must be predictable in quality and availability and implemented in accordance to the rule of law. For this reason, the Swedish approach to volunteer reinforcement is based on our formalised employment relations with trained volunteers from civil society organisations.

Viscount Thurso: Mr Ho, could I perhaps come to you? In a previous answer to Lord O'Shaughnessy, you made the link between people doing national service and then being available as volunteers afterwards. Would you like to say anything more on that, or on volunteers and how to use them?

Peter Ho: In Singapore, in the context of what we have been talking about, total defence and big disasters, I guess you very much depend not just on the government systems—the police, civil defence and the military—but on the man in the street. The people who are going to be affected are the communities themselves, so they want to contribute, but

they need to be trained in a sense or at least to get the assurance that they know what they are doing.

One of the things that is done quite frequently in Singapore at a community level is running different types of emergency exercises to teach people basic things like first aid, how to put out a fire, even how to spot a potential bomb that has been left by a terrorist. This gets people very involved, and I guess Singapore is small enough for people to get involved in rather tight communities and everybody is related to a national serviceman.

We do regular mobilisation exercises. The armed forces mobilise their national servicemen, who in normal life are civilians, just to test that they can be called up very quickly, within 24 hours. This mobilisation system is done through announcements on television, at movie theatres and on the radio. This conditions people to think not only that national servicemen are involved but that they are part of that system. It is very much about getting the whole community involved, and by getting the whole community involved you are not just bringing a sense of commitment to society but getting a commitment to building resilience in society, psychological defence and so on. It is the whole system that is working.

Viscount Thurso: Mr van Waveren, for completeness, do you want to add anything?

Harold van Waveren: Thank you. I do not think we have as much involvement as in the other countries mentioned. We rely mainly on the professionals, but I have some examples from the water sector that I can add, and some experiences. For example, the regional water authorities are using dyke armies. These are trained volunteers for dyke inspections during high water, for example, but also for the installation of removable temporary flood barriers to protect historic city centres, for example.

The experiences are primarily technical and positive, because they are doing useful work but also because of the awareness. Those volunteer members of a dyke army are proud to save their own cities from floods, so the social aspects, the community resilience and the awareness are also very important.

However, there are two main things to consider. The first, of course, is the personal safety of our volunteers, so training is extremely important, which is a big responsibility for the professionals when they are using those volunteers. Sometimes the availability of volunteers in extreme conditions like storms and floods can also be a problem. They are not always there when you need them, so you have to account for that in your contingency plans.

Q200 **Lord Rees of Ludlow:** This is a question on foresight, mainly for Mr Ho. How does the Singapore Government use foresight tools to manage emerging risks and opportunities, and how has Singapore embedded the use of foresight tools across government? More importantly, how do you translate foresight into policy-making to make sure that senior decision-

makers take low probability, high consequence risks seriously? You have great experience on this.

Peter Ho: In Singapore, for quite a few years, we have been employing scenario planning at the national level to help the Government at all levels to think systematically, as I said, about an essentially unpredictable and uncertain world. The process of scenario planning itself is a very important process, because it not only engages civil servants across all the ministries—I emphasise all the ministries—but involves the political leadership. Cabinet members are all consulted during the scenario planning process, and each of them, including the Prime Minister, are asked questions like, “What keeps you awake at night?” But this process is important, because it forces everybody to question their mental models and to think a bit out of the box, and to contemplate possibilities and risks that they might not normally be thinking about or which they would want to avoid thinking about. That process is very important.

The scenario planning process is very deeply embedded in government thinking. We do a set of national scenarios every two to three years that are translated into strategy and then into the plans of individual ministries. They are also tied into the budget cycle, so it is quite tightly interlocked.

It is very difficult to ensure that you get people to look at low probability, high impact events. All of us have our cognitive biases and would rather that something very serious will not happen during our watch. There is this cognitive bias of hyperbolic discounting: just fight the fire in front of you. You wish that nothing will happen in the future on your watch. That is a real problem, and the scenario planning process itself helps you to confront some of these demons.

The other thing that we do from time to time, which is quite important, is the process of tabletop exercises, involving senior political leaders sometimes. That gets them to look at some of the issues that otherwise they would not look at. It is a very gradual process, because it is about changing your mental model and accepting that some things might become serious problems in the future.

However, for this you need to have quite a lot of patience. You need to engage. I would not say that you need to proselytise, but you have to spend a lot of time talking to the decision-makers. Over time, if they are open-minded they will start to change their views, but it will not be achieved overnight.

We could spend a lot of time talking about this, but my own view is that, humans being humans, it is not so easy to tackle this problem of low probability, high impact events.

Lord Rees of Ludlow: Is it harder for politicians than for the officials?

Peter Ho: I think it is hard for both, but maybe harder in a way for politicians. I referred to hyperbolic discounting, which is a real issue.

Somebody won a Nobel Prize for developing that concept. If you are a politician and you have to face elections every four or five years, you worry about the problems that will happen on your watch and you will be much less concerned about something that may or may not happen beyond your watch and you focus on that. Yet all the big problems that we worry about, climate change and so on, may take years before they become real problems or before you begin to feel the real effects.

Hyperbolic discounting tells us that normal human beings are not going to focus on the long-term problems. They will focus on the short-term problems. Why pay an insurance premium for something for which you may not score any political points? It is an inherent challenge for all political systems where you have to face elections every four to five years, so you have to find a workaround.

Q201 Lord Clement-Jones: Mr Ho, I think we all empathise with the challenges that you describe in getting politicians to recognise the longer-term risks involved, but we are talking in the context of foresight tools, and you have mentioned scenario planning, exercising and so on. Do you have, in the Singaporean system, particular tools that you have developed that are particularly useful in this context?

Peter Ho: I mentioned scenario planning, which is already embraced within the government system in Singapore, so the politicians themselves get involved. Another tool that we use from time to time that is quite popular is backcasting, where you imagine the future you want, or you imagine the worst possible future, and you look for the milestones or signposts that will take you from here to there. These become the steps you have to take to achieve that future or the steps that you have to avoid for the worst-case scenario.

Another thing that we play around with quite a bit is emerging strategic issues. We are looking for weak signals and for trends that might suggest that changes are afoot. These are the deep global trends or even social trends. We watch these very closely. The decision-makers at the civil service level and political level find that very useful, because it can alert them to things that they should be perhaps thinking about but which they have not been thinking about. As an example, several years ago we started to worry about artificial intelligence, not the obvious benefits but the downsides of artificial intelligence. We started thinking about that and producing reports on this problem and eventually the Government said, "Yes, this is something we should be thinking about". They set up an advisory council on the ethical use of AI and data. These are the kinds of things you can do.

Lord Clement-Jones: Thank you very much. If Lord Rees and I were able to carry on the conversation I think we would go on for another hour on that score, but I would be interested to know whether any of our other witnesses are able to take a view on the kind of foresight tools that their Governments are using.

Q202 Lord Willetts: I would like to follow up on Mr Ho's response to Lord Rees

and his references to hyperbolic discounting. Of course, that means that in the very early days we certainly value stuff much more highly than in six months or a year's time where the curve on the high is very steep. However, hyperbolic discounting also means that we attach some value to the distant future, whereas conventional discounting means that no value is attached to 20 years' time. Is it not also quite a powerful tool for addressing exactly the problem that Lord Rees invited you to comment on?

Peter Ho: Yes. I assume that all political leaders will at least think about genuflecting towards the long term. As you say, this is suggested by hyperbolic discounting, but the challenge is how they find a balance between dealing with the short term and dealing with the long term. I will give you an example. If you take the issue of climate change, everybody will say that climate change is a real challenge, an existential threat. But how do you translate that rhetorical commitment to the seriousness of the challenge into something that will involve outlay of a lot of resources and that may take away some of the things that we are quite used to in this modern world that is based on fossil fuels? You can see Governments grappling with this kind of problem.

I think this business of tackling risk is such a challenge partly because you have to create a kind of social construct in which people begin to coalesce on an agreement that something is a real challenge—that consensus. In the Netherlands, I think there is clear consensus, a social construct, that floods are a serious problem. In Singapore, you could say that we have a related existential threat that everybody agrees is very serious, and that is the water that we drink. Once you have that national consensus—or, at the global level, a global consensus—it is relatively easy to allocate the long-term resource that can involve hundreds of millions or billions of dollars to develop the resilience against such a threat.

The Chair: Since you have mentioned floods, I think we ought to move on now to the next question, which Lady Symons will ask.

Q203 **Baroness Symons of Vernham Dean:** I want to go back to Mr van Waveren on the question of flooding. The Netherlands probably has more experience in dealing with flooding than most other European countries. Mr van Waveren, you explained some of the mechanisms you use and the resources, regionally and locally. I want to ask you very specifically about two ends of those responsibilities. One is the individual responsibilities. I have 60 sandbags in my garden at the moment because of local flooding. I do not know how I am meant to move them. This is very difficult for a woman living alone. How is that sort of individual responsibility discharged in the Netherlands? How much do you use the military? When we had huge local flooding where I live, it was several days before the military came in, and the locals had already rescued each other from their basements.

I think that this question is very close to all our hearts, and I would like to know about individuals, the military and what about insurance against

flooding, please.

Harold van Waveren: I am afraid that I do not have a lot of experience with all this because, in the Netherlands, we focus on prevention. Over 99% of my efforts are on prevention. The last time we had evacuation was in 1995, and the last time we had a serious flood was in 1953. Of course, it is also important for us, and we always say that being absolutely safe is impossible, so be prepared for floods, but the experience is really low.

However, I can answer your questions. Individual responsibility in the Netherlands is high, because the chance that we will have a flood is relatively high, but the probability that it will have an enormous impact is small. It means that we cannot help every civilian, so there is a website, "Do I flood, and what do I have to do if I flood?" Our message is, "Don't count on the officials. You have to help yourself, at least for several days". Also, helping your neighbours, disabled neighbours for example, is very important. We also have exercises for this, involving the professionals and the army, and right now the Environment Agency in England and the US Army Corps in the United States. They are very important partners for us to learn aspects like this, and we can learn from each other. We try to help each other to get on a higher level, including our army. That is how we try to tackle this problem. It includes the army and our water management centre, as I said in answer to the first question, I think it was. We practise a lot, but the experience is relatively low in the Netherlands.

Baroness Symons of Vernham Dean: How does insurance work? Is there a hypothecated tax? How does it all work in funding terms when disaster strikes?

Harold van Waveren: It does not. That is the same problem, because the chance is so low that we do not have an insurance system for floods. It is also about dealing with awareness. People feel safe, so they do not expect to need insurance for floods, and included in ordinary insurance is a small amount of money for damage due to floods. We have a national system from the ministry. A real flood where the damage is really incredible is not insurable against. That is the problem in the Netherlands, and we are working on it. We say that it may be wise to have a system of insurance, but so far we do not. I do not think you can compare it to other countries.

Baroness Symons of Vernham Dean: But no sandbags?

Harold van Waveren: Of course we have sandbags. Sometimes the dyke army practises with them, but we last used them a long time ago.

Q204 **Lord Mair:** Following on from Baroness Symons' question, you talk very clearly about community awareness and communication. We are talking here about low probability, high impact risks—worst-case scenarios for flooding in the Netherlands. What are those worst-case scenarios? Presumably they are catastrophic failures of dykes, and there might be

other worst-case scenarios. Would you say a bit more about what the worst-case scenarios are and what sort of investment is made to guard against those?

Harold van Waveren: Our worst-case scenarios are what we call the worst reasonable flood. That is not 60% of the country below sea level flooding at once in one flood, but we have a worst reasonable flood, a worst credible flood, for three regions. One is a threat from the sea, a severe storm that could flood the western part of our country. The second is a serious flood on our main rivers, the River Rhine and the River Meuse, with another part of the country being flooded. The third is something in between, where the damage is so high that we say it may never happen in fact. "Never", of course, is not always absolute, but prevention is so important.

Therefore, we focus on prevention, and we take a risk-based approach, which means that the higher the value and the risk behind the dyke, the stronger it should be and the higher the flood safety standard is. Our flood safety standards are relatively high compared to other countries, because we have a lot of protection and because the risk is that high. Our flood safety standards are based on an economical, optimal investment level. If there is just a meadow behind a dyke you do not have a really high and expensive dyke, but if there is a city you should have a real "Let's go up this high".

A focus on awareness is not just about our inhabitants' awareness but about our politicians'. We are lucky that so far they support our efforts on floods, but to help them a little bit we introduced a flood defence Act in 1996. It is very important to get awareness and political attention. In this Act, we introduced a system of continuous political attention to continuous improvement in flood safety. This includes the risk-based flood safety standard but also a regular assessment of all our flood defence assets and reporting of the assessment to the Parliament by an independent inspectorate. Coupled with this is a renovation programme for assets that do not pass their assessment. If your dyke does not pass its assessment, it goes directly on to the renovation programme list. The progress of the renovation programme is reported to the parliament.

Another important point is the long-term funding. We have a separate fund, for 15 years at least, free of daily political influence. The politicians decided that there should be a fund for 15 years and more, free of daily political influence. That is also very important for prevention.

Finally, in the flood defence Act, we introduced a system of the best available knowledge. We have instruments and computer models, and in the legal framework it says that these instruments should be used for assessment and should include the best available knowledge, including computer models.

All this, so far, gives the political attention we need. It comes together in a delta programme, which is a national programme, not to respond to a flood—that is the main message—but to protect against the next flood. In

the yearly delta fund programme, we have a delta law, a delta commissioner and an integrated approach including, for example, freshwater supply. Last but not least, and very important in any country, I think, is spatial planning, because clever spatial planning can prevent a lot of flood impacts.

Q205 **Baroness McGregor-Smith:** It has been a quite wide-reaching conversation. Could each of you tell us what in your view are the most successful elements of how your country manages risk? It would be really helpful if you could give us some very short, punchy points to bring the whole conversation together.

Peter Ho: It is very important to be open to alternative points of view. Secondly, the process is important, and scenario planning is one of the processes I referred to. Lastly, the whole of government, the whole of nation, the whole of society are very important. These are the three things that I think contribute a lot to successful risk management.

Baroness McGregor-Smith: Thank you. Would anyone like to add anything to that? I think that is probably quite a good summary.

Harold van Waveren: I can summarise it from my last answer. It is always dangerous to copy solutions from one country to another, but my suggestion is to analyse some elements of the flood defence Act. They can be useful in the UK too, and the same is true of the delta programme. Some elements of the delta programme may also be valuable for the UK.

Baroness McGregor-Smith: Thank you. I was very taken by your comments on prevention as opposed to anything else, and how long you have been doing prevention. Are there any others to add? I think we might be done on that question.

Jim Kronhamn: I will add something from a Swedish perspective. In Sweden, there is a strong tradition of seeing people as subjects rather than objects, as resources and not care-needing entities. We are all subjects and decision-makers who can make a difference for ourselves and the wider society. This mindset is something that I believe is a strength in our approach to managing risks. A recommendation would be to consider how this perspective is present in the UK national approach and, if not, what could be done to apply it.

Baroness McGregor-Smith: That is an interesting point: that everyone is a subject. I think you are absolutely right on that and on how you have to include everybody in this to get the buy-in and the understanding. Thank you.

Q206 **Lord Triesman:** Thank you very much to all our witnesses. It has been fascinating. Mr van Waveren was brave enough to say that he was going to advocate something for us. Generally speaking, people tend to say that they do not want to advocate things for other people because it might seem rude or intrusive, but I will quickly ask our witnesses—apart from Mr van Waveren, who has already advocated one thing for us—what

the one thing is from your national experience that you think we should put in our report as being potentially very helpful for us. Can I start with Professor Fekete?

Professor Alexander Fekete: Thanks very much, but that is exactly what I wanted to say. I would not dare propose anything to another country. I always admire the UK spirit, the critical reflection and being on the forefront of research—doing that and still having an optimistic spirit. That is the crucial part. It is not often seen, but it is the main cohesion behind it. That is the tricky part. You need a Stern report to justify globally that it makes sense to invest in preparedness for climate change. You need building policies to justify your investment in a flood protection wall. You need events to show that your preparations for enough hospital beds for a pandemic were justified. But that is the conundrum here: you need events and visibility, and you need to know how to make your population feel fine about coping with any type of crisis and trusting each other and the government. That is the big challenge, at least in our country.

Lord Triesman: It may be a challenge in every country actually these days. Mr Ho, you gave us some useful advice a few moments ago, but is there anything else you want to add?

Peter Ho: The only additional point is that it is very important to take the long view, because that is where you can build up the preventive capacity. That is something you really need in managing some of these big risks.

Lord Triesman: Is that a long view financially as well as a long view in understanding the risk?

Peter Ho: It is a long view of the financing, but also a long view in how risks unfold. We tend to be conditioned by what we see today, but many of the big risks will unfold over a much longer timeframe. The trick is to be able to set some of the emerging trends within the longer timeframes and understand what risks there are. We did not talk about interdependencies, but if you just look at one risk without looking at how it connects to other risks you sometimes miss the wood for the trees. This this requires taking quite a long view. We do not think about interdependency too much, but it is a very critical aspect of understanding where risks come from. They do not come from single factors but from a combination of many factors operating together. That is the nature of the world we live in.

Lord Triesman: You will be relieved to know that that has been one of the things we have looked at very carefully as well. Mr Kronhamn, is there anything else that you want to add?

Jim Kronhamn: No, thank you. I think my last comments answered this question.

Lord Triesman: That is probably right. Thank you for those comments, and thank you to Mr van Waveren for his comments, too.

The Chair: Thank you very much. Mr Ho, thank you particularly for ending on that interdependency point, because it is a matter of extreme importance. It is good that you ended on it and it has brought an excellent session to an end. I thank all our witnesses for really helpful and interesting evidence, and all our committee members for asking some excellent questions, supported by our wonderful staff. I now formally bring this meeting to an end.