



Title: Preparing For Crises in Estonia: Improvement Options for Civilian Food and Emergency Goods Supplies

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Cover page photo: Emergency supplies, 25 August 2016. Õhtuleht/Alar Truu/Scanpix

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## INTRODUCTION

Estonia follows a broad security concept, which means that the responsibility for ensuring safety and security lies not solely with the power structures but with the state as a whole. Although the security environment has become troubled in recent years and has drawn attention to the possibility of crises with implications for national defence, problems can also arise due, for example, to increased dependence on technology in daily life, growing urbanisation and migration, natural disasters or other factors.<sup>1</sup> Regardless of the origins of crises, it is important to ensure the safety of the population, including the existence of necessary food and emergency goods supplies.

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Against this backdrop, on 15 February 2018 the Estonian government approved its concept for the protection of the population; measure 10 focuses on the supplies required.<sup>2</sup> According to the concept, it is necessary to create supplies

<sup>1</sup> Government Office, “Eesti 2035 töömaterjal: Arenguvajadused” [Estonia 2035 working documents: Development needs], Government Office, March 2019, [https://www.riigikantselei.ee/sites/default/files/riigikantselei/strateegiaburoo/Eesti2035/AV\\_paberid/av\\_julgeoleku\\_ja\\_turvalisuse\\_kindlustamine\\_032019.pdf](https://www.riigikantselei.ee/sites/default/files/riigikantselei/strateegiaburoo/Eesti2035/AV_paberid/av_julgeoleku_ja_turvalisuse_kindlustamine_032019.pdf) (accessed 14 October 2019).

<sup>2</sup> The published part is available at: Government Office, *Elanikkonnakaitse kontseptsioon* [Concept for the Protection of the Population] (Tallinn: Government Office, February 2018), [https://riigikantselei.ee/sites/default/files/content-editors/organisatsioon/failid/rakkeryhmad/elanikkonnakaitse\\_kontseptsioon\\_15.02.2018.pdf](https://riigikantselei.ee/sites/default/files/content-editors/organisatsioon/failid/rakkeryhmad/elanikkonnakaitse_kontseptsioon_15.02.2018.pdf) (accessed 25 December 2018).

that can be used by local and state authorities to provide people with basic goods and to support the provision of services that protect people’s lives and health in long-term or resource-intensive crisis situations. Under the same measure, the Ministry of Rural Affairs was tasked with analysing the assured security of the necessary food supply, while the Ministry of Economic Affairs and Communications was to analyse the security of supply of emergency goods.

In order to use expert knowledge in fulfilling these tasks, the ministries commissioned from the International Centre for Defence and Security (ICDS) two analyses, which were carried out in parallel from June 2018 to January 2019. The research team included Ivo Juurvee PhD (ICDS), Ramon Loik (ICDS), Mari-Ann Ploom (Kantar Emor), Tõnis Hintsov, (TTK University of Applied Sciences, Institute of Logistics), Andres Parve (Government Office) and Eerik Heldna (lawyer and author of previous analyses on similar topics).

The research team communicated with leading experts in the relevant fields in the Ministry of Economic Affairs and Communications, the Government Office, the Ministry of Defence, the Ministry of the Interior, the Ministry of Rural Affairs, the Consumer Protection and Technical Regulatory Authority and elsewhere. In addition to the Estonian experts, consultations were held face-to-face with experts from Finland, Norway and the UK, and via electronic channels with experts from Sweden. The ICDS and the authors would like to thank all experts who contributed their knowledge and time to this study.

The full reports are far too long for the general public to read and are, for obvious reasons, subject to restricted access, i.e. they are intended for internal use.<sup>3</sup> In short, access to exact figures is restricted so as not to provide any source data for planning hostile activities against Estonia or harm the business interests of the suppliers who shared their inventory data with the research team. This document is a brief overview of the reports. It was not the goal of

<sup>3</sup> Sections 35(1)31, 35(1)6, 35(1)17 and 35(2)5 of the Public Information Act. See Riigikogu, “Avaliku teabe seadus” [Public Information Act], passed on 15 November 2000, *Riigi Teataja* [State Gazette], RT I, 19.12.2012, 5, <https://www.riigiteataja.ee/akt/119122012005> (accessed 25 December 2018).

the study to assess the possibility or likelihood of serious crises, but rather to assess the supplies of food and emergency goods (including those that already exist) required by the population.

On emergency goods, it was necessary to find out which goods are needed by the population in the event of a crisis. The analysis of food supplies assessed the amount of food required in crisis situations, based on the list of food supplies approved by the Ministry of Rural Affairs, the number of residents by region, the estimated average amount of food held by households and the number of days that the supplies to be formed should last. The assessment of the amounts of food was based on previous studies but, in order to discover the amounts and location of existing supplies of industrial goods,

a survey was carried out by Kantar Emor among the population and the suppliers of such goods. In addition to the quantity of supplies, the ministries commissioning the analyses were interested in several legal and financial issues related to the most effective creation of supplies, as well as options for their storage and distribution. The latter is a complex logistical problem, for whose solution various transportation options were modelled taking account of different crisis situations.

The analysis was based on published material and theoretical literature, legal acts of Estonia and other countries, and previous research. The needs assessment for required food supplies was to be based on the seven resilience requirements agreed at the 2016 NATO Summit

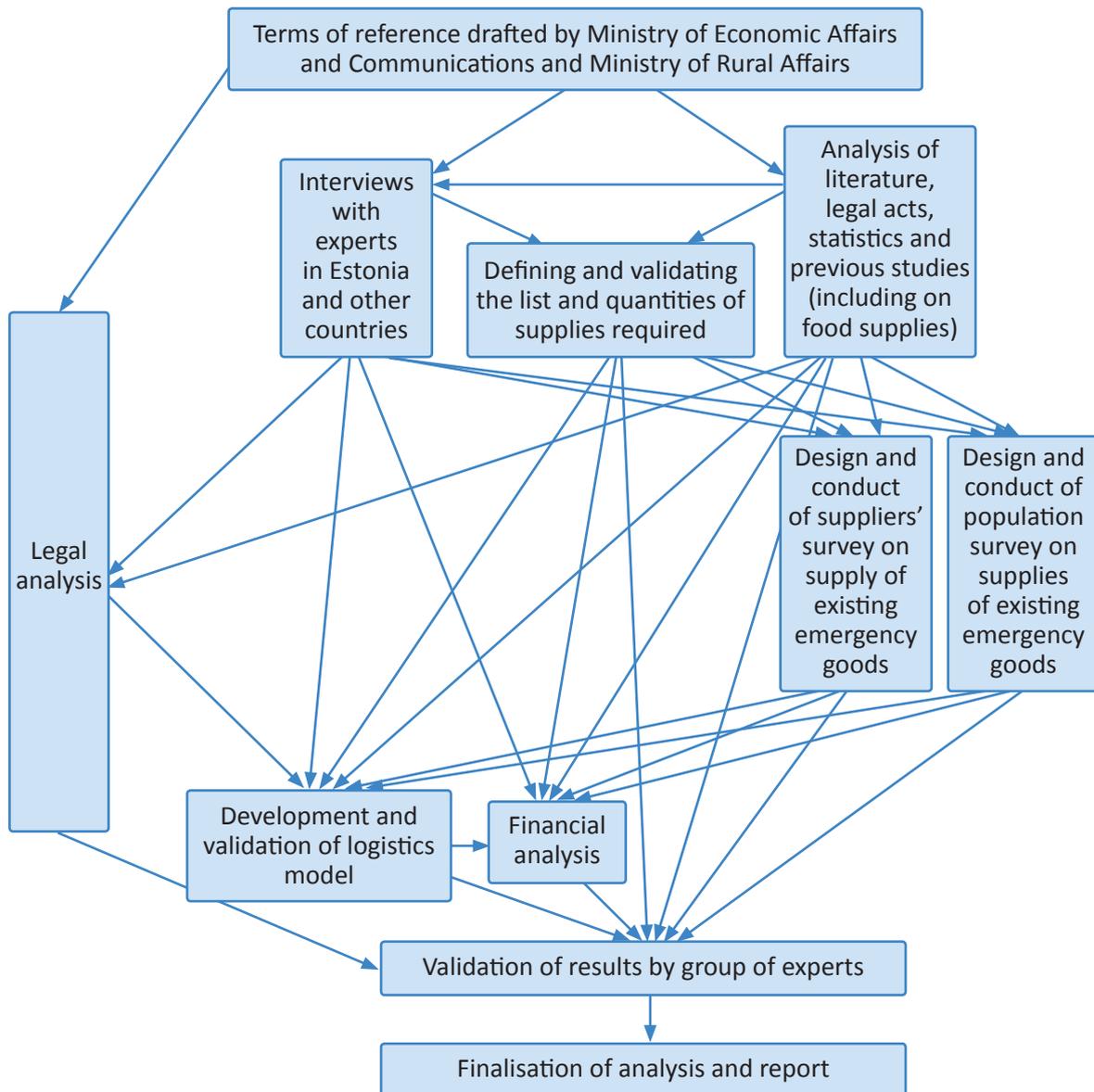


Figure 1. Major steps in the research process and linkages between them.

in Warsaw. The fourth requirement concerned resilient food and water resources and ensuring that these supplies are safe from disruption or sabotage.<sup>4</sup> As these analyses progressed, the gaps in existing knowledge became clearer and experts in Estonia and elsewhere were contacted for more information. The knowledge obtained was used to design surveys for the population and for suppliers. The results of the surveys and other statistical material fed into estimates of quantities required in a crisis, which in turn served as a basis for financial analysis and a logistics model (see Figure 1). The final report was based on all these components and a legal analysis.

Calculations were based on a theoretical situation in which Estonia is completely cut off from its external supply chain. In line with the terms of reference, the focus was only on food and industrial goods; stocks of water, fuel and medicinal products were omitted from the analysis.

## 1. POPULATION'S NEEDS IN THE EVENT OF A CRISIS

Analysis of previous research revealed that there are significant differences between food and emergency goods. While people need to eat predictable amounts of food in any type of crisis, the range of industrial goods depends to a large extent on the nature of the particular crisis and even on the season. As regards food,

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it is possible to replace various product groups with one another, so as to ensure that a person's average minimum amount of food energy and nutritional needs are met. For emergency goods, however, needs vary significantly. If a crisis involves a major power outage, there

will be a greater need for autonomous light sources and means of communication. If a crisis hits the population in summer, the need for goods that provide additional warmth will be quite small compared to the requirement in winter. There are also significant differences in terms of transporting goods to those in need: food needs to be supplied regularly, while for many industrial goods one delivery would be sufficient, as the wear and tear on such items tends to be very small (e.g. one sleeping bag should last to the end of any foreseeable crisis).

*Bearing in mind the diversity of goods that are consumed today, only a few are really critical in a crisis, as it is people's lives and health that need to be ensured, rather than their usual lifestyle and convenience*

Bearing in mind the diversity of goods that are consumed today, only a few are really critical in a crisis, as it is people's lives and health that need to be ensured, rather than their usual lifestyle and convenience. For example, as it is necessary to ensure the minimum nutritional needs of the population are met, food supplies do not have to contain products that help to sustain certain habits, particularly drinks or flavourings (coffee, tea, sugar etc.). On the other hand, in the event of a crisis there is a need for (larger quantities of) emergency goods that under normal circumstances are either not consumed or are consumed in small quantities or for other purposes (e.g. there may be a need to use candles for preparing food, or use garbage bags in lieu of a toilet). Differences are also due to the possibility that in crisis power supply, water supply, sewerage, gas supply, central heating and communications may be interrupted temporarily or for a long time and hence people will be cut off from light, heating and information, and cannot cook food, wash themselves, use the toilet and store their food as usual.

The documentary analysis supported by expert interviews was based on countries whose climate is similar to that in Estonia. Although risk assessments in these countries regarding the probability of national defence-related or other crises may vary, the goods necessary for

<sup>4</sup> North Atlantic Treaty Organisation, "Resilience and Article 3," NATO, last updated 25 June 2018, [https://www.nato.int/cps/en/natohq/topics\\_132722.htm](https://www.nato.int/cps/en/natohq/topics_132722.htm) (accessed 14 October 2019).

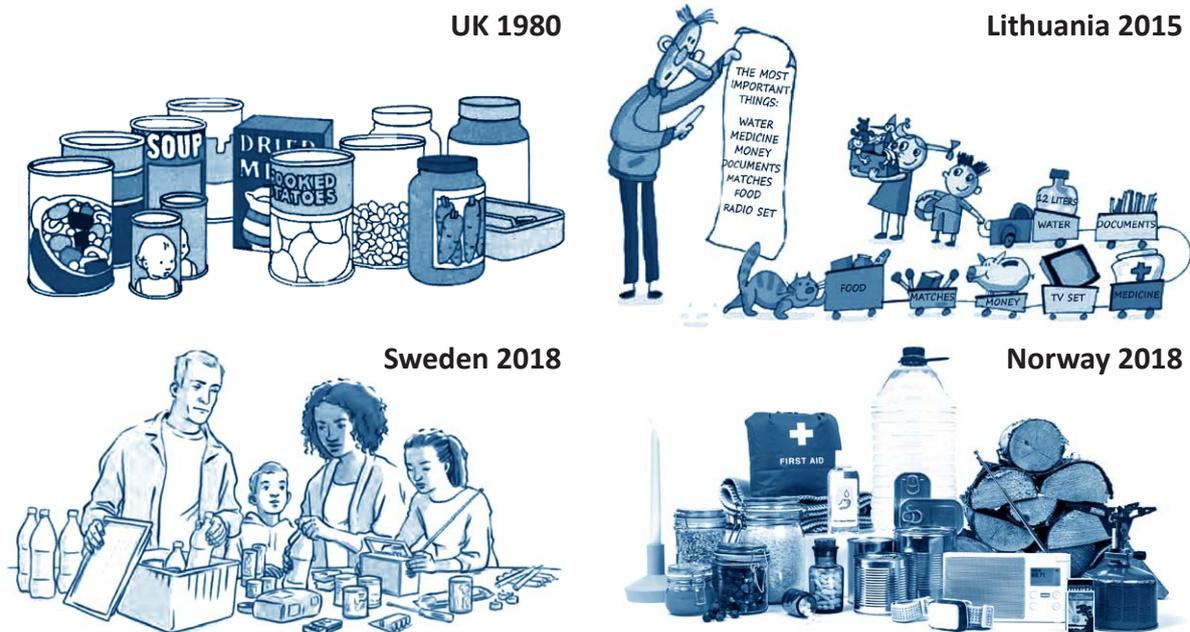


Figure 2. Graphic representations of necessary food and emergency goods in the event of a crisis in public information material of selected countries.

the survival of the population are similar. One of the sources used was, of course, the relevant recommendations developed in Estonia, the final version of which was published during the final phase of the study.<sup>5</sup> In 2018, several crisis-related guides for conduct were also published in Sweden (materials used included national guidelines and those of the city of Västerås) and Norway.<sup>6</sup> Other sources used

include recommendations by the International Federation of Red Cross and Red Crescent Societies and material published in Lithuania in 2015.<sup>7</sup> The guidelines published in the UK in 1980 were also used as a reference, lest any important goods or groups of goods be neglected; no guidelines have been published in the UK since the end of the Cold War.<sup>8</sup>

It is important to note that the above documents do not discuss stockpiling at national level but, rather, recommend that the necessary goods should be acquired and stored by people themselves. The approaches taken by the countries mentioned were somewhat different, but overlapped to a large degree. The recommendations of the International Federation of Red Cross and Red Crescent Societies were rather general and somewhat less relevant for climatic conditions in Estonia. Sweden and Norway, for example, treat food and emergency goods together, but do not recommend precise selections or amounts.

<sup>5</sup> Ministry of the Interior, “Käitumisjuhised kriisiolukordadeks (Elanikkonnakaitse rakkerühma väljatöötatud juhised)” [Guide for conduct in crisis situations: Guidelines drawn up by the task force on the protection of the population], Ministry of the Interior, [https://www.siseministeerium.ee/sites/default/files/Kriisireguleerimine/elanikkonnakaitse\\_toogrupi\\_poolt\\_valjatootatud\\_kaitumisjuhised\\_kriisiolukordadeks.pdf](https://www.siseministeerium.ee/sites/default/files/Kriisireguleerimine/elanikkonnakaitse_toogrupi_poolt_valjatootatud_kaitumisjuhised_kriisiolukordadeks.pdf) (accessed 20 May 2019); Ministry of the Interior and Government Office, *Käitumisjuhised kriisiolukordadeks* [Guide for conduct in crisis situations] (Tallinn: Ministry of the Interior and Government Office, 2018), [https://www.siseministeerium.ee/sites/default/files/dokumentid/Kriisireguleerimine/kaitumisjuhised\\_kriisiolukordadeks.pdf](https://www.siseministeerium.ee/sites/default/files/dokumentid/Kriisireguleerimine/kaitumisjuhised_kriisiolukordadeks.pdf) (accessed 20 May 2019).

<sup>6</sup> Swedish Civil Contingencies Agency (MSB), *If Crisis or War Comes: Important Information for the Population of Sweden* (Karlstad: Swedish Civil Contingencies Agency (MSB), 2018), <https://www.dinsakerhet.se/siteassets/dinsakerhet.se/broschyren-om-krisen-eller-kriget-kommer/om-krisen-eller-kriget-kommer---engelska.pdf> (accessed 20 May 2019); City of Västerås, “Är du beredd? Hur agerar Västerås i händelse av kris eller krig” [Are you prepared? How the city of Västerås functions in a war or crisis], City of Västerås, 2018, [https://www.vasteras.se/download/18.7886115c164b342cbe163ac/1535031334208/Folder\\_%C3%A4r%20du%20beredd.pdf](https://www.vasteras.se/download/18.7886115c164b342cbe163ac/1535031334208/Folder_%C3%A4r%20du%20beredd.pdf) (accessed 20 May 2019); Norwegian Directorate for Civil Protection, “You are part of Norway’s emergency preparedness: Advice on emergency preparedness,” Norwegian Directorate for Civil Protection, 2018, [https://www.dsb.no/globalassets/dokumenter/egenberedskap/brosjyrer-og-plakater-uten-logo/dsb\\_beredskap\\_brosjyre\\_originalutvikling\\_engelsk\\_utenlogo\\_print\\_fogra39\\_nbb.pdf](https://www.dsb.no/globalassets/dokumenter/egenberedskap/brosjyrer-og-plakater-uten-logo/dsb_beredskap_brosjyre_originalutvikling_engelsk_utenlogo_print_fogra39_nbb.pdf) (accessed 20 May 2019).

<sup>7</sup> “Chapter 4: Minimum Standards in Shelter, Settlement and Non-Food Items” in *Humanitarian Charter and Minimum Standards in Disaster Response* (Geneva: Sphere Association, 2018), [https://www.ifrc.org/PageFiles/95884/D.01.02.a.%20SPHERE%20Chap.%204-%20shelter%20and%20NFIs\\_%20English.pdf](https://www.ifrc.org/PageFiles/95884/D.01.02.a.%20SPHERE%20Chap.%204-%20shelter%20and%20NFIs_%20English.pdf) (accessed 20 May 2019); Ministry of National Defence, *Prepare to Survive Emergencies and War: A cheerful take on serious recommendations* (Vilnius: Ministry of National Defence, 2015), <https://kam.lt/download/51276/ka%20turime%20zinoti%20en.pdf> (accessed 20 May 2019).

<sup>8</sup> Home Office and Central Office of Information, *Protect and Survive* (London: Her Majesty’s Stationery Office, 1980), <https://digitalarchive.wilsoncenter.org/document/110193> (accessed 20 May 2019).

The emergency goods listed in the Swedish and Norwegian material have also been included in the Estonian guidelines. While the approach of Estonia, Sweden and Norway to crises is that people should stay at home if possible, Lithuania has adopted a different approach and gives recommendations on items to be taken along

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in the event of an evacuation. It is no surprise that restrictions on the quantity of goods and the recommended list of items vary according to the approach taken. For example, it is natural that clothing and furniture are needed in a crisis situation but, since people already have these items, they were omitted from the survey.<sup>9</sup> People who are evacuated without being able to take necessary clothes with them when they leave their homes may need clothing but such cases are likely to be limited and it should be possible to get new clothes from the supply chain. Based on the principle of reasonableness and the need to keep the list to an optimal length (first, it is not possible to acquire and store a list of items that is too complex; second, there is no need for it; and third, its inclusion would have expanded the sample of the population survey beyond what was planned), the list of items prepared for the conduct of the study was similar to that in the guidelines prepared for the population by the Ministry of the Interior and the Government Office.<sup>10</sup>

On the security of food supply, the analysis focused on the examples of Finland and Norway, which have similar climatic conditions to Estonia. In Finland, the responsibility for ensuring the security of food supply is divided between several levels and sectors. At the national level, the Ministry of Agriculture and Forestry, in cooperation with the Ministry of Employment and the Economy, prepares and manages the use of resources in order to ensure the security of food production and supply in the event of serious supply difficulties and crisis situations.<sup>11</sup> Finnish local authorities, major food producers and participants in the supply chain develop preparedness for crises in their respective areas of responsibility. Centralised organisational and broad coordination powers, including for international cooperation, have been assigned to the National Emergency Supply Agency

*Finnish local authorities, major food producers and participants in the supply chain develop preparedness for crises in their respective areas of responsibility*

(NESA), established in 1992. In Norway, the responsibility for ensuring the security of food supply lies with the Ministry of Trade, Industry and Fisheries. At the same time, various ministries are responsible (as in Estonia) for the existence and organisation of appropriate supplies in their respective areas. The field as a whole is governed by the Business and Industry Preparedness Act (2011).<sup>12</sup> It is important to note that this act governs the security of supply of goods and services comprehensively, i.e. during peacetime, wartime and all other intermediate states of preparedness.

<sup>9</sup> It is possible that a small proportion of the population, e.g. people with antisocial lifestyles, do not have such goods. However, it is also unlikely that they would have an urgent need for such goods in the event of a crisis.

<sup>10</sup> Ministry of the Interior and Government Office, *Käitumisjuhised kriisiolukordadeks* [Guide for conduct in crisis situations] (Tallinn: Ministry of the Interior and Government Office, 2018), pp. 22–24, [https://kriis.ee/contents/ui/theme/pdf/Elanikkonnakaitse\\_A4\\_et.pdf](https://kriis.ee/contents/ui/theme/pdf/Elanikkonnakaitse_A4_et.pdf) (accessed 20 May 2019).

<sup>11</sup> Finnish Government, “Government Decision on the Security of Supply Goals,” Finnish Government, Finnish Statute Book 857/2013, 5 December 2013.

<sup>12</sup> “Act on Business and Industry Preparedness (Kingdom of Norway),” 16 December 2011, No. 65, last consolidated version LOV-2016-05-27-14 from 1 January 2017, <https://lovdata.no/dokument/NLE/lov/2011-12-16-65> (accessed 20 May 2019).

## 2. STOCKS OF GOODS IN HOUSEHOLDS AND THE SUPPLY CHAIN

As regards food, the research was based on an existing study carried out in 2010 by the Estonian Institute of Economic Research and one from 2013 by Eesti Uuringukeskus, a market and social research company. According to these studies, each household typically had at home black and/or white bread, sugar, flour, butter and/or cooking oil and cereal products. Nine out of ten households also had pasta, potatoes, eggs, coffee, tea, milk (or yoghurt/kefir/cream/buttermilk) and jam or compote. Fewer than half of households had stocked up on preserved products, dried leguminous vegetables, canned and packaged soups and other canned food that had a longer shelf-life and were meant to be used in emergency situations.<sup>13</sup> According to a study presented to the Ministry of Rural Affairs, the food supplies of Estonian food manufacturers and retail companies are sufficient to cover the needs of the Estonian population for six to seven weeks without additional production.<sup>14</sup>

In order to find out whether households have any supplies of emergency goods necessary in crisis situations and to assess how long these would last, a survey was carried out by Kantar Emor in the context of the present study from 3 to 19 October 2018 among Estonian residents aged 15 and above. From the total research population of 599,832 households, a sample of 1,103 people across Estonia was interviewed (898 online and 205 by telephone). As the interviewees responded on behalf of their household, the survey results presented are also for households. The sample was weighted

by the size of household, the type of settlement and the region.

The study assessed how long the stocks of emergency goods required in a potential crisis situation would last in the Estonian supply chain, analysing some 20 product groups and taking into account the average normal daily sales in each product category. Furthermore, the sales channels and the supply chain of the product groups examined by Kantar Emor were mapped and, based on this, a sample was selected of companies whose data would allow extrapolations to be made of the stocks of the examined product groups in the supply chain in Estonia.

*Both the general public and participants in the supply chain are well stocked with a large proportion of the emergency goods that are sufficient for a short-term crisis*

The study sample comprised retail chains dealing in food products, emergency goods and construction products, retailers specialised in the sale of particular product groups (e.g. electronics, camping goods), wholesale companies and manufacturing companies that produce some of the examined product groups in Estonia (e.g. candles, matches).

A broad conclusion that can be drawn from the results of the study is that both the general public and participants in the supply chain are well stocked with a large proportion of the emergency goods that are sufficient for a short-term crisis. There are certain geographical variations: home supplies tend to be smaller in major cities compared to those in low-density areas. Based on the product groups currently used for the collection of statistics, it is unfortunately not possible to obtain a sufficiently detailed overview of all stocks held in the supply chain for planning crisis supplies.<sup>15</sup>

<sup>13</sup> Lia Lepane, Aet Vanamölder, Marje Josing, Mati Reiman, *Toiduainete omavaru olemasolu majapidamistes ning elanikkonna toimetulekuoskused kriisi-, häda- ja eriolukorras* [Own supplies of food in households and coping skills of the population in crisis, emergency and exceptional situations] (Tallinn: Estonian Institute of Economic Research, 2010), p. 15; *Eluks vajalike toiduainete tootmine ja kaubandus hädaolukorras* [The production of survival foodstuffs and trade in emergency situations] (Tallinn: OÜ Eesti Uuringukeskus, 2013).

<sup>14</sup> Heidi Ojamaa, "Uuring: Eesti ettevõtetel on toiduvarusid seitsmeks nädalaks" [Study: Estonian companies have food supplies for seven weeks], *Postimees*, 24 April 2013, <https://www.postimees.ee/1213376/uuring-eesti-ettevotetel-on-toiduvarusid-seitsmeks-nadalaks> (accessed 14 October 2019).

<sup>15</sup> For example, statistics on the import and export of product group 85131000 "Portable electrical lamps designed to function by their own source of energy" are maintained according to weight (in kilograms) and price (in euros); however, no statistics are available about the type and quantity of lamps that were imported to Estonia over a year.

Moreover, due to the nature of potential crises, the need for emergency goods (unlike food products) cannot be accurately predicted.<sup>16</sup>

## CONCLUSIONS AND RECOMMENDATIONS

The study identified a list of goods that the population would need in a serious crisis, the estimated average quantities held by households and the supply chain, and calculations related to prices and logistics. Based on the calculations and the experience of other countries, it can be concluded that it would be unrealistic and unreasonable to fund the purchase of long-term supplies of food products and all emergency goods for the entire Estonian population from the state budget. However, it is still necessary to stockpile crisis supplies and it would be reasonable to do so over a longer period of time.

When stockpiling supplies, it should be borne in mind that the inhabitants of apartment buildings in cities are the most vulnerable group: they have the smallest quantity of supplies and do not have feasible alternatives for sewerage, gas and central heating systems. At the same time, it is somewhat easier to inform these people in the event of a power or communications outage (e.g. by vehicles fitted with loudspeakers, or notice boards).

*It would be necessary to establish a reasonable reserve of food for rapid distribution, goods necessary in the event of an evacuation and non-mains radios*

<sup>16</sup> The survey and the calculations reflect consumption in normal conditions, but one needs to bear in mind that, in the event of a power outage, for example, the consumption of batteries and candles grows significantly, while in the absence of water and sewerage, the consumption of soap/shower gel/shampoo declines. The inventory data of the supply chain that are presented in the study reflect the situation as at November 2018, but one has to take into account that several goods are seasonal and are not stocked in for the following season. Similarly, the calculations were based on the current location of the population, but it must be borne in mind that, in the event of a long-term or serious crisis, this may change significantly (e.g. people may move to relatives or friends or to summer cottages). The price given for some goods is their purchase price, but there are also costs related to their use (e.g. torches and batteries). The actual discharge rate of batteries is unknown; an empirical test would have to be undertaken in order to find this out.

As for supplies purchased by the state, it would be necessary to establish a reasonable reserve of food for rapid distribution, goods necessary in the event of an evacuation (e.g. bedclothes) and non-mains radios. Food resources should include, in line with the recommendations to the public, cereal and preserved products. Radios, lamps and cooking equipment should only be stockpiled if there are also the batteries and fuel required for their use.

It is recommended that the stockpiling of some goods or foodstuffs be discouraged altogether, such as toilet paper (which is not essential and is expensive to store) and perishable foodstuffs. In areas with apartment buildings, public alternatives should be considered (e.g. public toilets and soup kitchens).

*International experience has shown that involving companies is key*

It would be reasonable to ensure the existence of a certain quantity of supplies of some other goods by means of pre-contracts. International experience has shown that involving companies is key. In the UK, for example, the central responsibility for crisis management has been assigned under the Civil Contingencies Act to the local level—Local Resilience Forums (LRFs), which comprise public organisations and representatives of the local private sector.<sup>17</sup>

“Local” in the UK context is not comparable with the size of Estonian municipalities (except Tallinn); there are 66 million inhabitants in the UK and 42 LRFs, i.e. on average one per 1.57 million people. Hence, Estonia could consider a similar system at national level.

Local authorities should not be assigned responsibilities that are clearly beyond their abilities. The preparations for major crises in the UK involve private companies via stand-by contracts or memorandums of understanding. In order to ensure the security of supply, an

<sup>17</sup> Cabinet Office, “The Role of Local Resilience Forums: A reference document,” Civil Contingencies Secretariat, Cabinet Office, July 2013 (v2), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/62277/The\\_role\\_of\\_Local\\_Resilience\\_Forums\\_-\\_A\\_reference\\_document\\_v2\\_July\\_2013.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/62277/The_role_of_Local_Resilience_Forums_-_A_reference_document_v2_July_2013.pdf) (accessed 27 December 2018).

ongoing dialogue should be established with businesses which would also support their motivation to cooperate (apart from their statutory and contractual obligations). This

*In order to ensure the security of supply, an ongoing dialogue should be established with businesses which would also support their motivation to cooperate*

should entail involving key partners from the private sector in regular training courses and exercises in order to identify shortcomings in the continuity of the system and ensure that the preparedness is real. Based primarily on the experience of the UK, Norway and Finland, the following are the main incentives for companies to cooperate.

- **Potential economic benefit** – the state will become a major client of the companies, especially in a crisis.
- **Reputational benefit** – involvement and showing solidarity in a crisis situation may increase the companies' credibility and enhance their reputation.
- **Being informed and having an impact** – being involved in crisis preparations provides the business sector with an opportunity to be informed of and actively contribute to the development of the relevant regulatory framework. Having an impact on the regulatory decision-making process and the information obtained through this involvement provides businesses with an opportunity for continuous self-development. Consequently, they will be better prepared for potential rapid changes in the business environment and regulatory interventions (including sanctioning) by the state.

The availability of food products and emergency goods in a crisis situation is primarily ensured by a functioning supply chain. It must therefore be ensured that goods can be obtained without obstacles from major wholesale warehouses and that retail stores function properly. A similar logistics chain and warehouses are used for the supply and sale of both food products and emergency goods. For goods to be

accessed without disruption, it is recommended it be ensured that certain pre-identified stores function properly, so that goods can be distributed flexibly across Estonia and proportionally across different retail chains.

Serious crises, including national defence-related crises, may involve a major power outage which could paralyse warehouses and/or the entire network of retail stores. To prevent this, autonomous power supply should be ensured in major warehouses and retail stores (to be determined by a separate analysis), which would ensure at least the functioning of doors,

*The availability of food products and emergency goods in a crisis situation is primarily ensured by a functioning supply chain*

lighting (at least partial), computer systems for sales, warehouses and other purposes, and the possibility to charge the batteries of lifting vehicles, at least partial operation of freezers and other essential services. A state contribution to electricity generators would certainly be justified, so as to make sure that, in the event of a power outage, petrol stations, warehouses, retail stores and so on stay open for people to be able to replenish their stocks as normal, for logistics to work and for the state to deliver supplies.<sup>18</sup>

A proposal for particular products (and brands) to be included in emergency supplies was not an objective for this study; this would need a thorough empirical analysis. Before purchasing emergency supplies, optimal solutions must be found and **tested in advance**, bearing in mind the following issues.

- Radios and torches must use a type of battery that ensures the best ratio between capacity, durability and price.
- The reception capability of radios must be tested in advance in different locations in Estonia.

<sup>18</sup> A power or communications outage may of course give rise to a number of other problems, such as disruptions in card payments and in the operation of automated teller machines. An analysis of the impact of such disruptions was not part of this study.

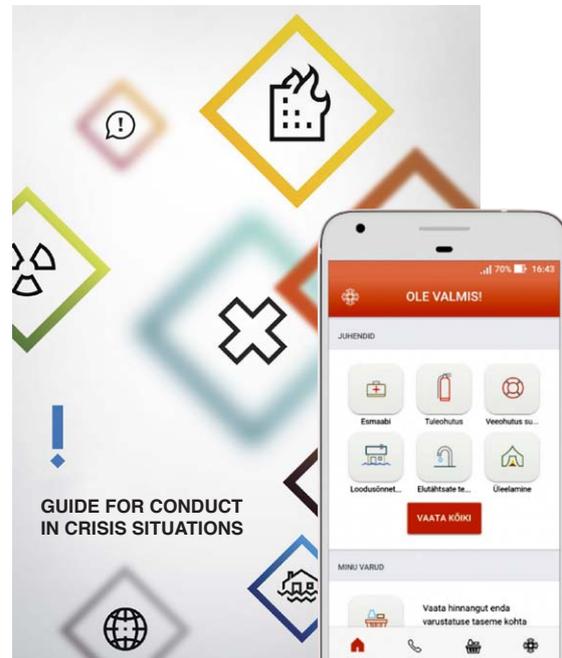
- Garbage bags should be of optimal size and strength so that they could be used in place of toilets in the event of sewerage outages.
- A reasonable price–quality ratio should be established for sleeping bags and blankets. Temperatures at which they ensure normal sleep and which products are best suited for that purpose should be tested empirically.
- Apart from the price and burn-time of candles, it is necessary to take into account fire safety and whether it is possible to use them for cooking.
- For alternative cooking equipment, there should be a reasonable compromise between the cost of purchase and storage and its fuel and safety. Provision of information/training on the safe use of the equipment is essential.

Communications must be maintained in order to encourage the public to purchase both food and emergency goods so as to be able to cope during longer crises. This will help not only to conserve the state’s resources but also save the time that would be spent on the transport and distribution of goods in a crisis situation. It should be ensured that the communications activities of different state authorities are coordinated, i.e. any campaign for purchasing supplies should not contradict any environmental protection or fire safety campaigns and vice versa. The impact of any campaigns should be tested by means of appropriate surveys.

*Communications must be maintained in order to encourage the public to purchase both food and emergency goods so as to be able to cope during longer crises*

It is recommended that the organisation of logistics and the involvement of and negotiations with logistics companies be conducted centrally, to avoid any risk that the Ministry of Rural Affairs and the Ministry of Economic Affairs and Communications try to compete with each other in negotiations over transport resources, especially at the beginning of a crisis. Even more chaotic would be a situation in which the task of providing transport for crisis relief is assigned to local authorities. In this case, there would be about 80 additional bidders negotiating with

logistics companies and the outcome would certainly not be reasonable or save public resources.



**Figure 3. Material intended to increase public resilience: “Guide for conduct in crisis situations” by the Government Office and the Ministry of the Interior; free app “Ole Valmis!” (Be Prepared!) by the Women’s Defence League.**

The recommended division of tasks between the national and local governments is as follows.<sup>19</sup> State-level tasks:

- Ensure that the goods required in a crisis situation exist through purchases or pre-contracts.
- Ensure the timely delivery of required food products and emergency goods to distribution points in municipalities (e.g. through pre-contracts with logistics companies).
- Support local authorities in planning the distribution of goods and test their preparedness by organising special exercises.

<sup>19</sup> Based on Article 6(2’) of the Local Government Organisation Act and Article 5(1) of the Social Welfare Act. See: Riigikogu, “Kohaliku omavalitsuse korralduse seadus” [Local Government Organisation Act], passed on 2 June 1993, *Riigi Teataja* [State Gazette], RT I, 22.11.2013, 3, <https://www.riigiteataja.ee/akt/105022019009?leiaKehtiv> (accessed 25 December 2018); Riigikogu, “Sotsiaalhoolekande seadus” [Social Welfare Act], passed on 12 December 2015, *Riigi Teataja* [State Gazette], RT I, 30.12.2015, 5, <https://www.riigiteataja.ee/akt/113032019155?leiaKehtiv> (accessed 25 December 2018).

Local government-level tasks (preparations for distribution of goods):

- Have an overview of the population and where people are.
- Determine and coordinate with the state level existing and potential additional distribution points that should be located in the vicinity of shopping centres or in other locations that people are used to visiting.
- Plan the local distribution of supplies and find relevant partners.

The distribution of food products and emergency goods in the event of a crisis could be carried out by local government employees and the partners identified by local authorities, e.g.:

- The Estonian Rescue Board.
- Non-profit associations (including religious organisations).
- Other formal and informal networks.

It may seem a simple solution to involve the Defence League (including the Women's Defence League) but this would work only in the case of a civil crisis; in the event of a national defence-related crisis, the personnel and means of transport of these organisations are likely to be needed for other tasks.

Bedclothes to be supplied in the event of an evacuation should be stored at or in the vicinity of expected evacuation destinations. The storage points must be agreed between the state and local authorities.

As explained above, transport is best organised centrally. In Finland, for example, there is a separate state agency for this—the National Emergency Supply Agency (NESA)—while in Norway the responsibility lies with the Ministry of Trade, Industry and Fisheries. Bearing in mind Estonia's size, establishing a separate body would perhaps be unreasonable. However, one might consider expanding the responsibilities of an existing body by adding the task of purchasing and distributing supplies.

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