RISK ZONES

BEFORE / **DURING** / **AFTER**

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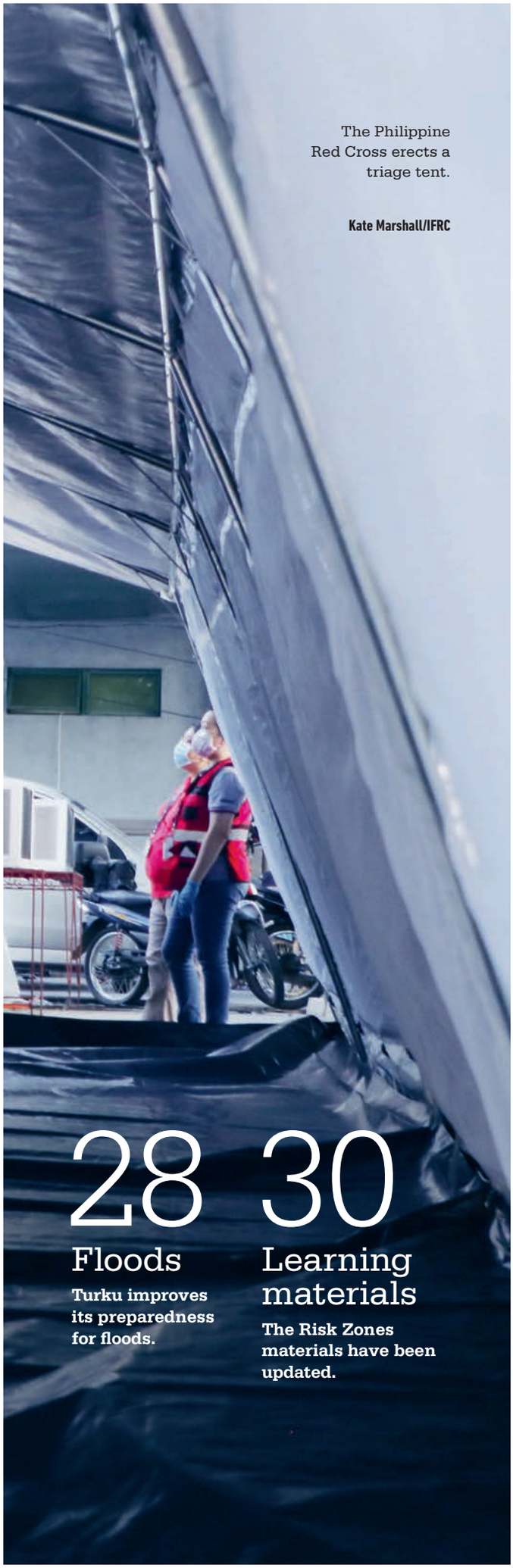

The Philippine Red Cross erects a triage tent.

Kate Marshall/IFRC

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The need is sufficiently dire

According to the UN, the monetary value of the need for humanitarian aid increased from approximately USD 30 billion in 2019 to a little under USD 40 billion in 2020. Despite the increased need, the portion that was left unfunded almost doubled.

Above all, the increase in need can be explained by the Covid-19 pandemic. The pandemic also explains why aid funds decreased. In 2020, the main financers of humanitarian aid were forced to devote significant resources to recovering the costs that they incurred due to the pandemic. During the worst stage of the pandemic, the Red Cross and Red Crescent societies spent up to 87% of their funding on operations in their own countries.

The pandemic was an exceptional episode, but 2020 also signalled future development. It is likely that climate change will increase the need for aid manifold. At the same time, those who are funding humanitarian aid will need to use an increasing amount of resources responding to the impact that climate change has on themselves.

The gap between the need for aid and the resources available is already wide, and its effects can be seen in the crises around the world. An increasing number of people are having to leave their home region in hopes of a better and safer life. People's movement is described as mass migration with significant global impacts. According to the UN Refugee Agency UNHCR, there are currently 82.4 million refugees in the world. Due to the events in Afghanistan, the actual number is probably much higher.

Climate induced displacement is not born overnight. We still have time to solve these problems in advance and proactively. The Global Commission on Adaptation, which promotes adaptation to climate change, has calculated that the world should spend up to USD 2 trillion to respond to and mitigate the most likely impacts of climate change this decade.

This is an enormous sum. However, the Covid-19 pandemic has shown us that when the need is dire enough, we can find the financial resources needed. It is important to realise that the need related to the most likely impacts of climate change is already dire enough.

Even though the amount of financial and other resources available for climate work is an important benchmark, , how these resources are used is ultimately even more important. With climate change, it is essential that we both mitigate it and adapt to its impact. We need to take care of both sides of this equation: both stopping global warming before it becomes disastrous and adapting and responding to the impacts that will become reality. The Red Cross aims to do its part by helping the most vulnerable people adapt to and prepare for the impact of climate change.

The Red Cross movement has also observed that only a fraction of climate funding is currently directed to countries that will suffer from the change the most. Similarly, the proportion of climate funding directed to grass-roots level is even smaller. We believe that practical climate action is always taken locally, and our success rate in the end will be the sum of these local achievements.

Kristiina Kumpula
Secretary General

Photo: Jarkko Mikkonen

Text: Sanna Ra
Photos: Eve Savonkari, Joonas Brandt, IFRC

Eve Savonkari surveys the new and durable houses built to replace destroyed ones.

The Philippines, the university of disaster response.

Tropical storms, floods, earthquakes, and volcano eruptions are a daily occurrence in the Philippines. People in the island nation have learned to anticipate and prepare for disasters of all kinds.

A small propeller plane rises towards the clouds and tries to find its place in the cloud mass. Earlier, an alert was issued about a tropical storm, but the plane still receives clearance for take-off. Up in the clouds, the plane rocks so violently the flight feels like a roller coaster. The heavy shaking lasts about fifteen minutes, after which the plane reaches the clear sky above the clouds. Eve Savonkari lets out a sigh of relief.

The disaster management delegate sent by the Finnish Red Cross was returning from the Camarines Sur & Albay area in Central Philippines, known as the passageway of typhoons. The super typhoon Goni had swept over the area, and Savonkari was there to survey the damage together with the locals. There are four volcanoes in the area, and the typhoon had also caused an ash landslide. Many houses were buried up to their roof.

The Philippine Red Cross has launched a rebuilding project in which engineers teach beneficiaries, carpenters, and Red Cross volunteers more durable construction techniques. "This way, the houses can better withstand heavy storms in the future, and the construction skills can be utilized later in the communities," Savonkari says.

Her job is to monitor the disaster situation in the land and maritime areas of the Philippines, and it includes both natural and man-made disasters and conflicts. She works at the Philippine country office of the International Federation of Red Cross and Red Crescent Societies (IFRC). Her tasks also include assisting the Philippine Red Cross with preparing emergency appeals. Funds are needed, as the Philippines is one of the most disaster-prone countries in the world.

Tropical storms, typhoons, are the most frequently monitored types of disasters. On average, 20 storms rumble over the country every year. "They are extremely unpredictable, since the low pressure can develop and intensify in just a few hours," Savonkari says.

DURING THE REBUILDING PROJECT, ENGINEERS TEACH BENEFICIARIES, CARPENTERS AND VOLUNTEERS MORE DURABLE CONSTRUCTION TECHNIQUES TO HELP THE BUILDINGS BETTER WITHSTAND HEAVY STORMS IN THE FUTURE.

Rebuilding efforts are made by both beneficiaries and local carpenters.

Eve Savonkari listens to a beneficiary's story interpreted by a local colleague.

The staff of the Philippine Red Cross headquarters monitor weather forecasts closely.

ALL OF THESE NATURAL DISASTERS HAVE MADE THE PHILIPPINE RED CROSS AN EXTREMELY EFFICIENT AND QUICK OPERATOR.

However, not all storms prompt early action protocol before the typhoon strikes. Prior to the measures, certain factors are assessed: what kind of damage is expected, what level of wind will cause a specific impact, can people stay at home or do they need to be evacuated and build shelters.

"When anticipating the damage caused by a typhoon, the criteria are very specific: what is the wind speed, rainfall, wave height, and what kinds of flood areas will be affected. How much water there will be, how much rain will come down and how many people are living in the area. The local meteorological institute aims to predict where the typhoon will hit, and what kinds of buildings there are. The goal is to minimise damage," says Jukka-Pekka Kaasinen, preparedness coordinator at the IFRC Asia Pacific regional office in Manila.

In addition to this, housing can be reinforced in advance, cattle can be evacuated and taken to a shelter, and, if possible, crops can be harvested in advance and storage facilities can be moved out of the floods' way. The Philippine Red Cross leads the early action measures and works closely with local authorities. "In Finland, authorities also work the same way, but in the Philippines, the state cannot take care of everything, so the Red Cross meets them halfway," Kaasinen says.

Criselda Longga, Head for Disaster Response Unit at Philippine Red Cross, plays a key role here. Based on the instructions from Longga, Savonkari prepares the emergency response requests, i.e., funding. "My work involves monitoring information from my meteorological and volcanic departments. Often the areas at risk of flooding and storms have a risk of volcanic eruption," Longga says.

As if this were not enough, several small earthquakes of a magnitude of 2–3 erupt daily in the the Philippine mainland and maritime areas. All small earthquakes cannot be felt, but often, they shake the buildings. This multitude of natural disasters has made the Philippine Red Cross an extremely efficient and quick operator.

The Philippine Red Cross wants every household to have at least one volunteer.

Philippines

- Capital: Manila
- Area: 300,000 km^2
- Population: 111,109,000
- Population density: 370.4/km^2

Fact:

The USA conquered the island state of the Philippines from Spain in the war of 1898 and granted the Philippines autonomy in 1935. The Philippines became a sovereign state in 1946.

The Philippines is one of the countries most likely to experience natural disasters. The area sees 20 typhoons per year on average, and it is also located in the tsunami zone of the Pacific Ocean. It is also home to at least 16 active volcanoes, and earthquakes are common.

The Philippine Red Cross is the Finnish Red Cross's partner in disaster preparedness. When the super typhoon Haiyan struck the Aklan province in 2013, the programme implemented proved its worth. There was widespread material damage, but few casualties.

"We are an island nation and it's challenging for us to support all the islands, but we have been able to establish an office in every province. Our aim is that every household has a Red Cross volunteer and that every community can be resilient on their own," Longga says.

Longga says.

Resilience is necessary as climate change has already increased the frequency and intensity of natural disasters. "When I was a child, the Metro-Manila saw floods once in five or ten years. Now, there are floods every year, and the water can rise several metres, up to two stories," Longga recounts.

The weather phenomena La Niña and El Niño increase the risk of disaster. Whereas La Niña used to occur at an interval of 5–10 years, it now occurs every two years. When it coincides with the monsoon season, it poses a higher risk of long-term heavy rain and mudslides caused by the rain. Conversely, El Niño brings a drought that affects agriculture. The yield is smaller, and farmers have to rely on food aid.

"Natural disasters are a part of life here," says Kaasinen, who has worked in the Philippines for 2.5 years. The people's communal spirit in the middle of an emergency has impressed him. "You may not see it in the day-to-day, but as soon as something happens, people take neighbours and others into consideration, look after their friends, and may even offer someone shelter under their roof, instead of just looking out for themselves."

When a typhoon or flood is approaching or an earthquake strikes, people will receive a message from the authorities on their phone, accompanied by the phone vibrating: Emergency alert! Stay home! The local meteorological institute publishes status reports on its social media channels every three hours.

To prepare for such situations, Kaasinen and Savonkari have at least two weeks' emergency supplies and several canisters – dozens of litres – of water at home. They also have a waterproof evacuation backpack that includes supplies to manage a night outdoors.

"Some shelter, such as a large plastic bag, a copy of my passport, cash, some food, a water bottle, a helmet, a small set of hygiene supplies, mosquito repellent, surgical masks, gloves, a head lamp, a power bank, sunscreen..." Kaasinen lists. They keep their shoes by the door in case they must leave in a hurry.

In addition to these, Savonkari also has a Finnish speciality in her backpack.

A packet of Sisu liquorice pastilles. ■

Text and photos:
Tiina Leinonen

A doctor carried Jameslee Thermitus, 11, home from the hospital located next door. His leg was hurting after cleaning the deep open wound.

A simple realization can save lives

Aid worker Tiina Leinonen kept a journal of the aid operation in autumn 2021 following the earthquake in Haiti.

21 SEPTEMBER.

In the city centre of Les Cayes, a block of flats housing 15 families was brought crashing down by the earthquake. Destroyed buildings can be seen here and there by the roads, but it is difficult to tell which were destroyed by the powerful earthquake in August 2021 and which by the previous earthquakes or hurricanes. Haiti is located at the intersection of tectonic plates and along the route of hurricanes. As such, earthquakes and hurricanes are common.

Directly after the disaster, Red Cross experts studied regions where the need for help was the most urgent. The field hospital sent by the Finnish and Canadian Red Cross societies was founded in Les Cayes in southwestern Haiti, the area where the earthquake ravaged the most.

22 SEPTEMBER.

The earthquake of 2010 in the capital city of Port-au-Prince and the 2021 one in Les Cayes were of similar magnitude. In Les Cayes, the earthquake destroyed homes, schools, and hospitals. About 130,000 homes were rendered unhabitable, but this earthquake took significantly fewer lives than the earthquake that swept the capital just over a decade ago.

Aid workers are bustling about the area, surveying the damage and need for aid. I pull at the sleeve of the president of the regional branch of the Haitian Red Cross, Amos Luis, and ask him a few questions. However, he does not wish to compare the two powerful earthquakes that have hit Haiti, since they occurred in different regions.

Port-au-Prince has a population density of almost

35,000 people per square kilometre, whereas Les Cayes is less densely populated with 220 people per square kilometre. In comparison, Finland's population density is around 18 people per square kilometre. In Les Cayes, the earthquake came as a surprise, since they did not have previous experience of large quakes.

23 SEPTEMBER.

Haiti has learned from the earthquake in Port-au-Prince. A local doctor working at the Red Cross hospital shares one reason for the number of casualties being much lower this time.

Ten years ago, people would seek shelter from indoors when the earth started shaking. Since 2010, people have been instructed to run outside, unless they are in an especially sturdy building. Sometimes, such a simple realization can have great life-saving impact.

The Red Cross has also held training sessions and shared a consistent message with the government about evacuating from a collapsing building. On the television, public service announcements have also instructed people to avoid stairs, since they often are the first part to collapse. I observe this in the places ravaged by the earthquake. Half of the buildings have collapsed at their stairwells.

Many people living in the countryside of Les Cayes say they escaped from the collapsing building to their backyard. A man I met when distributing aid packages also did the same thing. The family had a tent-like shelter built in their backyard. They continue to live there.

24 SEPTEMBER.

In earthquake areas, authorities also advise people to prepare a bag that is easy to grab in the event of an earthquake: medication, money, a mosquito net, a change of clothes, a whistle (which you can blow if you end up buried in the rubble) and other important belongings. The bag provides temporary aid when it is the most needed. Nevertheless, it cannot rebuild a life.

Many upper-class people ended up poor in an instant when their homes were destroyed. Some of them live in hut-like structures that you can see by the road crossing the southern province. Their lives literally fell apart.

The majority of Haiti's population is poor, and families living in the slums suffer the most from natural disasters. The local Red Cross aims to help them first. Aid was given first to families with several children, pregnant women or children who lost their parents.

Immediately after the earthquake, the local Red Cross in Les Cayes started distributing tarpaulins and construction supplies for the families to build emergency shelters with.

Haiti:

- Capital: Port-au-Prince
- Area: 27,750 km2
- Population: 11.4 million
- Population density: 335/km2

Fact:

Haiti is a former colony of France. Its structural poverty has its roots in the 19th century. Haiti is the poorest country in the western hemisphere and one of the poorest countries in the world.

The infrastructure and Haiti's struggling economy suffered further in the earthquake of 2010 and when the country was ravaged by the hurricane Matthew in 2016.

Furthermore, political unrest and gang violence are causing instability and insecurity.

The Finnish Red Cross provided aid for Port-au-Prince earthquake in 2010. Back then, a field hospital was sent to the site, as was done in 2021.

MANY PEOPLE SUFFERED BROKEN LIMBS IN THE EARTHQUAKE. HAITI ALSO NEEDS TO GET BACK TO ITS FEET, SOMEHOW.

The solution is temporary, of course, but temporary things tend to become permanent in Haiti. Some say they have lived in their tarpaulin shelters for years since previous disasters. Haiti is one of the poorest countries in the world, and the government does not support those who have hit rock bottom.

25 SEPTEMBER.

The Haitian Red Cross has 4,000 active volunteers in Les Cayes region, as well as a thousand 'dormant' volunteers. Many of the busy volunteers have also lost their home. Still, they feel that helping others is valuable.

The International Federation of the Red Cross has arranged the distribution of hygiene, household and construction supplies. Volunteers and aid workers are sweating in the tropical heat. A three-package kit of aid supplies weighs 40 kilograms.

Volunteer Ponfil Widson carries supply packages from the Red Cross distribution point to the aid recipients' mopeds. He has seen the different corners of his homeland when touring on volunteer missions for 11 years, even though he is only 25 years old. Recovering from disasters would be even slower without people like Widson.

Rose Darlene's second child was born on the hospital's maternity ward with local midwives' assistance.

Haitian midwives tour the hospital area with a doctor from the Finnish Red Cross, Leena Alanne.

26 SEPTEMBER.

I hear a patter of tiny feet inside. Many of the field hospital's patients are children; actually, almost all of them during the first week. Parents have dressed up their children in their best clothes. A doctor's appointment is a significant event.

The surgeon and physiotherapist remove plaster casts from both young and older patients whose limbs were injured in the earthquake. The time is right for physiotherapy. Sami Jukkala teaches patients how to walk with crutches or provides other treatment that supports their movement. The last patient of the day is unable to walk to the tent door with the crutches. He leaves the hospital using a wheelchair.

When preparing for a disaster, knowing what kind of help is needed is key. This is why national Red Cross societies operating in risk zones have to be prepared to request help from elsewhere.

27 SEPTEMBER.

The hospital looks wonderful when you look at it from the highest seats of the sports stadium next to it. A few dozen white domes rise out of the rocky ground, as if they appeared out of thin air. On a clear day, you can see swirls of smoke surround the peaks of the mountains nearby. The sight looks like a giant space station.

Right next to it, the Haitian reality starts. The sports stadium houses 150 families in structures made of tarpaulins. It seems almost all sports fields and stadiums in Les Cayes are used for the same purpose. The earthquake only added to the number of families living in tarpaulin tents.

Many of the residents of the nearby stadium visit the field hospital to have their earthquake induced injuries looked at. In addition to fractures and wounds – visible injuries – many go through the earthquake in their mind. It's important to process their post-traumatic symptoms. Fortunately, the hospital provides an opportunity for this: psycho-social support is available.

28 SEPTEMBER.

A cream cake is decorated with a red cross and a red crescent. The balloons bouncing against the tent's ceiling say: 'I love you, mean it'. The local Red Cross has decorated the staff's recreation tent for a celebration. At the hospital's opening ceremony, president of the Haitian Red Cross and doctor Guiteau Jean-Pierre emphasises that the field hospital is the most significant aid provider for the victims of the earthquake in the area.

The field hospital supports public healthcare services since both local public hospitals and the least expensive private hospital were damaged in the earthquake. In addition to the hospital tents and equipment, the support package includes clinic and hospital services and medications free of charge to the patients. Public healthcare in Haiti is subject to a fee, and not everyone can afford it. Most Haitians have less than a euro to live on per day.

2 October.

Haiti has not been left alone in its hour of need. This is manifested in the premises set up quickly by international aid organisations and the organisations' cars swooshing down the bumpy roads of Les Cayes. Emergency assistance got underway quickly in Haiti since the government was prepared to request aid in case of a disaster.

I meet the president of the local Red Cross again. He has thought about my question and says this is one of the things learned from the other disasters. Knowing how to request international emergency assistance is a part of preparing for the worst. As soon as the earthquake occurred, the area received help from other organisations, including the Finnish Red Cross.

Many people suffered broken limbs in the earthquake. Haiti also needs to get back to its feet, somehow.

4 OCTOBER.

You can hear English, French, Creole and Finnish in the operating room. International and local nurses and doctors have been recruited to continue the hospital's operations. The Red Cross always cooperates with locals; otherwise, the aid is not sustainable. Anaesthesiologist Siru Vartiainen and surgeon Lotta Purola supervise the doctors' work during surgery. The local anaesthesiologist has worked for the Red Cross before, but the surgeons are new in their field. Purola praises their neat way of working.

The hospital routines are well underway, and the local care staff are assuming responsibility from the international aid workers. The Finnish aid workers who arrived in first rotation have already returned home. The field hospital is currently admitting two hundred patients a day, even though the criteria for receiving treatment are much higher than in a hospital in Finland, for example. ■

Text: Sanna Ra
Photos: Harri Pietarila's album

Our weather

The Finnish Meteorological Institute has for almost fifty years helped developing countries improve their weather forecasts. More accurate forecasts will help people be better prepared and able to avoid destruction.

A small and unassuming farmhouse high in the mountains of Kyrgyzstan, surrounded by lush and beautiful landscape. In the farmyard, residents from three generations: grandmother, grandfather, children and grandchildren. Cats, dogs, goats and sheep roam the yard and there is wonder at the international guests. This is not your ordinary weather station.

They show the visitors the observation device, which looks like a regular thermometer. The family have been reading it for decades, generation after generation, at specific times of day. The visitors enter the house to see how the observation data is transferred. There is an ancient Morse signalling device used for transmitting data to the on-duty weather services in the capital city of Bishkek.

This event from a decade ago has stuck in the mind of Harri Pietarila, head of the international consult services at the Finnish Meteorological Institute. He leads a unit that helps sister institutions in developing countries, meaning meteorological institutes and weather service institutes, make their weather forecasting operations more efficient so that they can distribute better forecasts for their citizens.

"Preparing for dangerous weather phenomena is important. You need to know when the storm will come and where it will hit to prepare for it," Pietarila says.

The assistance comprises of training the local staff and installing the systems and software developed by the Finnish Meteorological Institute. "We do not export theory, but practice, trying to develop the exact same functions as our institute has in Finland," Pietarila states.

Observing weather is the same everywhere, but in developing countries, the work is done manually and slowly, while in wealthier countries, the processes are largely automated. At the weather stations, the basic variables are measured: temperature, wind direction and intensity, air pressure, rainfall and air humidity.

In many countries, observations are recorded in a notebook by hand, and delivering the information may take weeks.

"If observations are not recorded very often, forecasting is difficult. For example, storms may form very quickly. To extend the anticipation time, you need to be able to use observations and forecasts in real time," Pietarila says.

He has been involved in the modernisation of meteorological competence in Nepal for over a decade. "At the beginning of the project, they prepared only one-day forecasts and not very well. We set the goal of three-day forecasts, which would benefit agriculture in particular," he says.

The project is a part of a major investment from the World Bank: USD 30 million for the modernisation of infrastructure. Finland has

Fact:

The Red Cross and the Finnish Meteorological Institute have worked together for a long time to improve forecasting operations, warning systems and preparedness in developing countries, such as Malawi, island states in the Pacific and Nepal.

In the cooperation model, the Finnish Meteorological Institute supports the countries' ability to produce reliable weather and climate data and advance warnings. The Red Cross sees to that the warnings are included in the national and regional early warning systems and that they reach people. The goal is to cover the entire value chain: promote better use of weather services and forecasts and ensure that the services are useful and comprehensible.

Select projects and expert collaboration are being planned.

The cooperation with the Meteorological Forecasting Division of Nepal has been ongoing for 20 years.

A new automatic weather station was built in Uzbekistan.

The Morse signalling device of the weather observation station in Kyrgyzstan is only used as a back-up device these days.

provided development cooperation funds for training, through which local staff learn how to use new devices and a numerical weather forecasting model, which is a computer program.

In Nepal, among other places, the Finnish Meteorological Institute has cooperated with the Finnish Red Cross, which has a partner organisation in Nepal, the local Red Cross. Pietarila praises the cooperation. For example, the Red Cross has devised how to present the warning so that people can understand it, and what is done with the information – in other words, how to prepare. "We have had great projects in which the entire value chain has been created, from observations and forecasts to warnings at community level. This means that there are now measures in place to save people's lives when a storm strikes," Pietarila acknowledges.

In many developing countries, the television meteorologists are educated professionals whom people trust, just like in Finland. In Nepal, some of the project funds were used to set up a television studio where meteorologists themselves can create weather forecast programmes and offer them to the local channel.

"Today, making forecasts as far as 10 days ahead is possible in Nepal. We are still working on how different users, such as operators in air traffic, agriculture and small communities, could use the forecasts," Pietarila says.

Spending over ten years in a single country may feel like a long time, but the Finnish Meteorological Institute has been operating in Sudan, for example, since the 1980s, and cooperation is still ongoing. Pietarila emphasises that working with developing countries is long-term work. "It takes patience to achieve sustainable results. Societies and their wealth do not develop in an instant, and meteorology cannot develop faster than the framework that allows the changes to happen." For example, upgrading all devices at once is not worthwhile, since they require maintenance and spare parts and the users also learn to operate the devices while they are being set up.

At the moment, the Finnish Meteorological Institute has about 20 projects underway. The first ones were launched in Africa in the 1970s, and they have now encompassed over a hundred countries in total in Africa, Asia, Latin America, the Caribbean, and the Pacific.

The World Meteorological Organization coordinates the projects, but support is often requested from Finland, specifically. "Finland is one of the major operators in meteorology globally, so official delegations often wish to visit our institute. We have a good reputation, and Finnish competence is appreciated," Pietarila says proudly.

In Finland, people are used to the changing seasons and surprises in the weather front. According to Pietarila, forecasting the weather in Finland is much harder than in many countries, for example in Africa, where the weather stays the same for a long period. In Finland, the forecast's accuracy can only extend to a few days, and you cannot make reliable seasonal forecasts here like you can in Africa.

As always with development cooperation, solidarity towards others is valued, as is the common good. "Weather is shared by all of us on Earth. What happens in the Pacific Ocean will affect the weather in Finland in a few days. To be able to forecast weather accurately in Finland, data all the way from Nepal is also necessary," Pietarila explains.

"No one can do this alone, which is why we also want to help others." ■

Nepal:

- Capital: Kathmandu.
- Area: 147,181 km^2
- Population: 30,386,000
- Population density: 206.4/km^2

Fact:

The Federal Democratic Republic of Nepal was a kingdom until 2008. The country went through a civil war in 1996–2006, and it is one of the poorest countries in the world: about a third of Nepalese people live below the poverty line. Floods, earthquakes and landslides are common in the northern mountain regions where 80 per cent of the population lives. The Nepal Red Cross Society has extensive experience of natural disasters, and its network spans the entire country. The Finnish Red Cross participates in development cooperation to improve people's health and supports the building of the Red Cross volunteer network in Nepal.

Text: Pekka Reinikainen
Photos: Benjamin Suomela and Victor Lacken

Skill, courage, and health literacy

Lessons from Ebola

Viruses do not follow the borders drawn on maps. Epidemics cannot be fought if ordinary people do not understand what is happening. When people can read the warning signs, preparing is easier.

Democratic Republic of the Congo

- Capital: Kinshasa
- Area: 2,345,410 km^2
- Population: 105,059,000
- Population density: 44.8/km^2

Fact:

This former colony of Belgium and the third-largest country in Africa was known as Zaire until 1997. The country's economy is based on mineral products and agriculture, and it is one of the poorest countries in the world. There are armed groups operating in the country, and the eastern regions are particularly restless. Over five million Congolese are living as internally displaced persons, and as many as 20 million people suffer from weak food security.

Ebola is endemic in Congo, which means that epidemics occasionally break out. The worst epidemic in recent history was in 2018. The Finnish Red Cross has sent aid workers to support Congo's healthcare system in battling the epidemics.

Epidemics always start with a single person in a community, village or city. Similarly, epidemics always end the same way, with the last patient somewhere. There may be a dozen, or million, or two hundred million others between the first and last patients, but the beginning and the end are the same, with one person at each end of the line.

How many people end up falling ill depends on anticipatory action.

"If things are done right, a threatening epidemic that broke out as a dangerous disease can be suppressed where it started. In the best-case scenario, there would only be a few other patients between the first and last patients. If things fail thoroughly, there will be hundreds of millions of patients in-between, as we have seen during the Covid-19 pandemic," says Tiina Saarikoski, head of international operations at the Finnish Red Cross.

She is a top-level professional in disaster health who led the international Red Cross Ebola hospital in Kenema, Sierra Leone, in 2014, as well as the Red Cross Ebola operations in the Democratic Republic of the Congo in 2018.

Ebola is a dangerous haemorrhagic fever, for which a vaccination was developed only a few years ago. It is easily transmitted from one person to another via secretions, so the aid workers had to wear extensive protective gear. There also are various beliefs and mistrust related to Ebola, which is why the aid workers were sometimes met with hostility.

THE CHAIN OF ANTICIPATION

"For me, one the key lessons learned from Ebola is the understanding that epidemics and pandemics cannot be solved through regulations from the top down. People need to understand what is happening and what needs to be done, and then act accordingly," Saarikoski says.

Since there was much fear related to Ebola, people did not always know or dare to tell the authorities what was happening. When the first patients appear, the chain of anticipation should start.

"When a situation arises, there should be someone to flag that there is something wrong in our community. That too many people are dying here compared to normal, or that everyone has mysteriously fallen ill," Saarikoski explains.

The chain of keeping a situation under control starts from the grassroots level, among the populace, where the Red Cross and its volunteers are always present. According to Saarikoski, local communities should possess health literacy: people who have the ability and courage to bring information about unusual observations forward.

"In Finland, the steps are clear. If a contagious disease is detected, the wheels start turning, supported by legislation," Saarikoski says.

Things are different in the most

Tiina Saarikoski

SOMEONE HAS TO BE THERE TO FLAG THAT TOO MANY PEOPLE ARE DYING HERE COMPARED TO NORMAL, OR THAT EVERYONE HAS MYSTERIOUSLY FALLEN ILL.

fragile countries, such as Sierra Leone. There, the Red Cross's mandate is to provide support, but it cannot replace public healthcare.

LESSONS FROM EBOLA

The Ebola epidemic in West Africa was beaten, but another Ebola epidemic broke out in Equatoria, north-eastern Congo, a few years later. Ebola originates from Congo: the disease is named after the Ebola River.

Tiina Saarikoski recounts how the volunteers who had gained experience in Equatoria arrived in the city of Beni, by the Ugandan border, where Ebola next broke out. "We were doing pretty well in Beni. Next, cases were found in the city of Goma where the situation was more difficult, sometimes even threatening. Instead of distant villages in the jungle, the disease was suddenly at the threshold of highly populated areas."

The situation was controlled largely thanks to preparedness, early action and relying on previous experiences. However, Ebola is not completely beaten: there are news of new cases in Beni, so the work continues.

TOGETHER WE ARE MORE

The readiness for epidemics depends on how smoothly local healthcare operates. During the Covid-19 pandemic, there have been concerns in Finland about sufficient places in intensive care for everyone. At the same time, there are countries in the world which might have a meagre two life support machines in the entire country.

"It is not enough that there are world-class structures and services in the wealthy north. All countries in the world should have a public healthcare system that meets specific minimum criteria," Saarikoski states.

Achieving this is easier said than done. Wealthy countries understand the importance of global health coverage, but this has not prevented them from hoarding COVID-19 vaccines, for example.

"It feels natural, of course, that each nation is concerned with taking care of its own citizens. But no one can make their borders so airtight that some health hazards cannot cross them," Saarikoski states.

The International the Red Cross has emphasised that the vaccination coverage will not be sufficient anywhere until it is sufficient everywhere.

"It takes a lot of effort to make the world better for all of us, but ultimately, there is no other alternative to that. The sooner we get people to turn their inward gazes to the entire horizon, instead, the better." ■

The burial team of the Liberia National Red Cross carrying an Ebola victim in Paynesville during the epidemic in West Africa in 2014.

Text: Reetta Turpeinen

BEFORE / **DURING** / **AFTER**

The Finnish Red Cross and Science Centre Heureka venture into the world of disasters together

The Facing Disaster exhibition and the additional elements of the learning services of the Finnish Science Centre Heureka, the Risk Zones global education materials of the Red Cross, and the printed and digital versions of this magazine form an exceptionally extensive look into to the world of disasters.

On 20 November 2021, Science Centre Heureka will open the Facing Disaster exhibition, which will remain open until September 2023. The exhibition presents the world of disasters and delves into the questions of how to strengthen the resilience of communities suffering from these adverse events.

There are regions in the world where natural disasters occur repeatedly. For the residents of these areas, it is essential to know how disasters and the damage caused can be prevented or mitigated, and how these communities can best cope with inevitable natural phenomena.

The Finnish Red Cross has served as Heureka's partner in planning the content of the Facing Disaster exhibition. This magazine and the digital Risk Zones learning materials are a part of the collaboration between the Red Cross and Heureka. There is also cooperation on other things related to the exhibition.

Strengthening communities who are vulnerable to natural disasters and other catastrophes is a key part of the Red Cross's work. In this work, trained Red Cross volunteers play a major role: they are an integral part of their own communities. When disaster strikes, they are victims like anyone else, at first, but after the dust settles, they are the first to help. After the disaster, they strive to learn from their experiences and find the best ways of preventing or mitigating any future damage. The Red Cross is involved in all stages: before something happens, during the disaster and after it.

"The expert support of the Red Cross has been invaluable in planning the exhibition's content. From the project's start, many volunteers and employees working in various positions have answered our questions, attended our brainstorming sessions, and provided their expertise in various ways," says Exhibition Designer Emmi Huhtaniemi from Heureka.

The exhibition is suitable for everyone interested in the topic. An activity-based experience typical of Heureka also provides something new for visitors who are familiar with the topic. The majority of Heureka's visitors are families and schoolchildren, so a perspective suitable for children and young people was chosen to deal with this challenging subject.

The Facing Disaster exhibition combines science centre activities with experience-based art. A key element in the exhibition's storytelling are the audio-visual video installations by BordosArtworks, which take visitors to the middle of the forces of nature.

"Cooperating with Heureka Science Centre has been deep and inspiring from the very start. The exhibition itself, the elements connected to it by Heureka's learning services, the Risk Zones global education materials of the Red Cross in the www.sproppimateriaalit.fi portal, and the printed and digital versions of the Risk Zones magazine complement each other wonderfully," says Pekka Reinikainen, advocacy specialist, who coordinated the cooperation from the Red Cross's side.

The issue of the Risk Zones magazine you are now holding focuses on how people prepare for the risk of disaster and how the resilience of communities vulnerable to disaster can be improved before something happens.

The next issue of Risk Zones, published in September 2022, will show what happens when the risks actualize and disaster strikes. In January 2023, the Risk Zones magazine will deal with the challenges after the disaster: how to best learn from the experiences, and how these lessons learned can be turned into actions to minimise the damage in the future.

The free of charge Risk Zones magazines will be available in the premises of Heureka Science Centre, among other places. ■

Text: Pekka Reinikainen
Photo: Ziaul Haque Himel

Where is the resilience?

In the end, resilience is a simple matter. Those without an umbrella gets wet, but those who have anticipated and prepared for rain stay dry. This same idea works also for more complex themes.

According to the World Bank, every US dollar invested in resilient infrastructure yields savings of four US dollars when the loss caused by disasters is included in the calculations. Heureka's Facing Disaster exhibition encourages visitors to think about the basic elements of resilience present in our everyday life and that we can all influence.

The humanitarian aid available is not sufficient for everyone in need. This is the situation today. Sadly, the gap between the needs and the resources available will only widen in the future, particularly due to the sweeping effect of climate change.

Somewhere, there is a line beyond which humanitarian distress might become intolerable. The consequences would be unpredictable. Such situations need to be prevented.

Humanitarian aid is needed when all other measures have either been neglected, or everything else has failed. When preparedness and early action have failed.

Consider floods, for example. Flood protection and prevention is the most effective response to the challenge posed by nature. In the best case, floods can be prevented altogether. To achieve this is a long-term project.

If, as is often the case, spring tides or urban floods are not prevented completely, the damage caused needs to be minimised. To succeed in this, proactive preparation for the most likely consequences is also necessary.

Humanitarian aid is needed when all else has failed. Humanitarian aid cannot solve the root causes of problems. The purpose of the aid is to sustain life and take care of basic needs.

If long-term anticipation is completely non-existent or only partial, the burden of the consequences is placed on others. Minimising the most likely damage is much more expensive than long-term anticipation, since minimising usually fails, at least partially. Sandbags do not get people very far.

The most expensive course of action is neglecting anticipation altogether and suddenly facing problems at their full force, which is what happened with the Covid-19 pandemic.

Anticipation builds resilience.

Preventing floods is possible. Buildings can be constructed on soil above the flood water level. Flood barriers and regulation basins can be built. Wetlands can be created and conserved. Protective vegetation zones, such as mangroves, can be shielded.

Prevention and preparedness have a price, but, according to the UN's calculations, investments in them are only a fraction of the cost of rebuilding after a flood disaster in its full force.

Investing in the resilience of disaster-prone communities yields a profit of 400 per cent, according to the World Bank, which specialises in fighting poverty and promoting sustainable development globally.

The Facing Disaster exhibition at Heureka Science Centre is about resilience and its significance. The exhibition encourages visitors to think about how they can best prepare for various threats by improving their own resilience and that of their community.

This magazine features four wonderful illustrations of four disasters: a flood, a storm, a wildfire, and an earthquake. All illustrations include elements that either increase or decrease the resilience of the area depicted in the picture.

In the exhibition at Heureka, the illustrations are displayed as large versions covering an entire wall. The challenge here is to find elements that influence resilience. What do you see in the illustrations? ■

Text and photos:
Fragkiska Megaloudi

When words can kill

– communication training in Niger

Niger, a sun scorched country located on the southern edge of the Sahara Desert, has a layer upon layer of history, ancient ways of life, rough desert in the North and green savannahs in the south. But Niger is also a country surrounded by chaos.

Six out of the seven countries it borders face conflicts that spill into Niger. Active jihadi and separatist insurgencies, violence and insecurity have their epicenter in the so-called tri-border area between Mali, Burkina Faso and Niger, and are spreading fast. And as if the war was not enough, Niger is made increasingly arid by the encroaching desert that brings punishing droughts and devastating floods.

Armed conflicts, food shortages, dramatic climate change and little opportunity to receive an education or find a job, are an everyday reality for many people in Niger, like for most of Africa's Sahel region, the vast semi-arid region that stretches from the Sahara Desert to the equator. The Covid-19 pandemic has further exacerbated the impact of the existing conflict and environmental degradation. People lost their jobs, incomes vanished overnight, livelihoods were disrupted, and already vulnerable communities, faced a new crisis within a crisis.

Therefore, the work of the Red Cross Movement to reduce the risks of these events and to help people prepare and recover from them, has never been more pertinent. Small communities cannot predict when conflict will break out or when disaster will strike, but they can take measures to protect themselves. Consequently, the work of the staff and the volunteers of the Niger Red Cross has a particularly important impact.

Niger

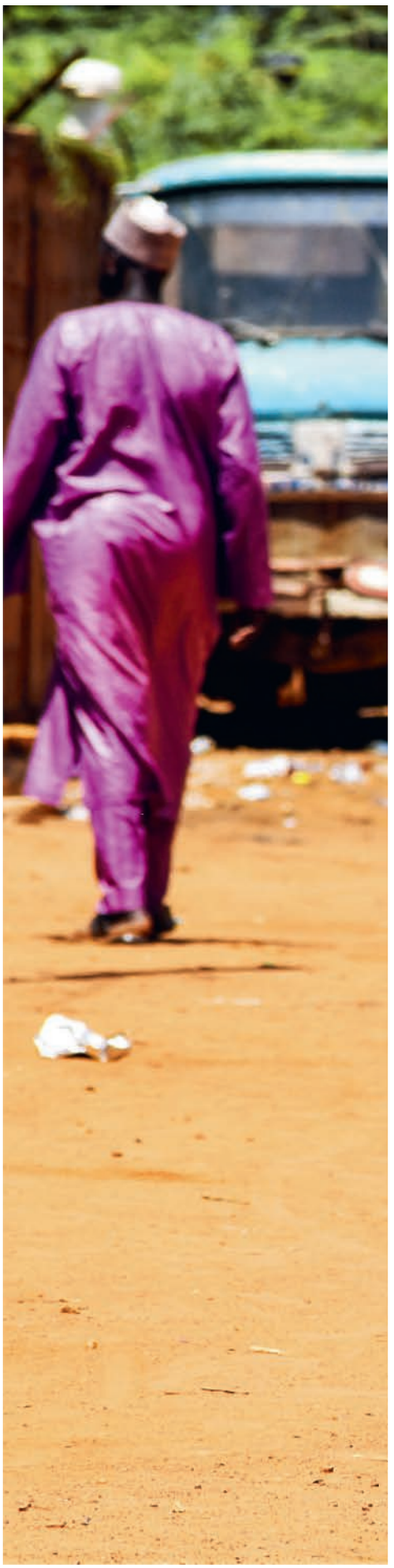
- Capital: Niamey
- Area: 1,186,408 km^2
- Population: 22,928,000
- Population density: 19.3/km^2

Fact:

Niger, a former colony of France, became independent in 1960, after which it was ruled by military dictatorship until the 1990s. Armed Islamic fundamentalist movements (Boko Haram, al-Qaida) in particular are moving about and perpetrating violence in the area.

Niger is one of the poorest countries in the world. The birth rate in Niger is the highest in the world: women give birth to 7.6 children on average. Population growth is also one of the highest in the world: 3.9 per cent annually. Almost four million people require humanitarian aid, and over half a million people have fled violence, to destinations both within the country and in neighbouring countries.

In Niger, the Finnish Red Cross supports the resilience programme and health work.



A woman is carrying a food basket in the Talagué district of Niger's capital, Niamey.

The team of the Nigerian Red Cross is discussing the plan of visits in the communities of Guida and Tallagué in Niamey.

Some 10,000 volunteers of the Niger Red Cross, representing all eight regions of the country- from the northern city of Agadez, the last barrier before the vast Sahara Desert to the sleepy capital of Niamey in the south - work in difficult, complex and often dangerous conditions.

Together with the Red Cross staff, they are the first ones to respond to a crisis, to prepare for the post-crisis situation and the recovery of the affected communities. Their preparedness and the crisis management training they have received before an event occurs can have a lifesaving impact.

The Finnish Red Cross is working with the Niger Red Cross and the International Committee of the Red Cross in Niger to ensure that they have received adequate training in crisis communication in order to prepare for the different phases of crisis.

A crisis is an event that occurs suddenly and unexpectedly and can harm the image of an organization, jeopardize the safety of its staff and its ability to support and reach people in need. A crisis is not just a medical, security or a reputation emergency: it is also upending the socio-economic life of a country.

Knowing the history and the political and social dynamics of the environment in which we work, offering continuous support to the communities in times of peace and taking into account their concerns, can help predict the type of crisis that might occur or at least trace a potential crisis in its early beginnings.

Crisis communication are the tools, processes and systems that we must have in order to handle an event before it escalates. Putting these systems and tools in a set of guidelines aiming to prepare the organization for an emergency, is what we call a crisis communication plan. These plans include steps to take when a crisis first emerges, how to communicate with the public, and how to prevent the issue from occurring again or at least mitigate its consequences.

The Finnish Red Cross in Niger facilitates crisis communication trainings and supports the Niger Red Cross to elaborate its crisis communication strategies. The Nigeriens have a long experience in dealing with challenges that arise from working in a region that faces multiple crisis. The trainings aim at building from the existing knowledge and creating expertise that will remain in the country.

Children in the Guida district, which suffered extensive damage during the floods in autumn 2021. Almost 500 buildings were destroyed.

During a recent training the participants were asked to share their experience in responding to different types of crisis (conflict, disaster, diseases) a process that can be healing and empowering all at the same time. When a Red Cross staff from Maradi district, a region from South-Central Niger bordering Nigeria, shared a story of how he was confronted with an impossible choice, everyone could relate to his experience.

He recounted how, as a young teacher, his village was attacked by two different armed groups. He chose to stay, instead of fleeing, in order to protect the school. He had to stay inside the building and negotiate with members of both groups in order to secure a safe passage for him and his colleagues. This experience was the turning point for him to join the Niger Red Cross, as he had witnessed of how being neutral and transparent can help earn the trust and acceptance of all and ultimately save someone's life.

During the trainings the participants identify potential crisis and establish communication crisis teams through case studies, role-plays and simulation exercises. They discuss how to verify and share information; analyze the environment they operate and learn how to use these skills to respond to the real needs in their communities.

When a crisis breaks out, information is vital and can save lives. It should be accessible to all, consistent, clear and reliable. In the insecure and conflict affected zones a false information or a rumor can escalate into a crisis of its own right, endangering the lives of Red Cross staff, volunteers, and those they are trying to help.

IN UNSTABLE AREAS SUFFERING FROM CONFLICTS FALSE INFORMATION OR RUMOURS CAN ESCALATE INTO A CRISIS OF ITS OWN RIGHT, ENDANGERING THE LIVES OF PEOPLE.

Therefore, the participants are tasked to organizing a crisis team that will collect, verify and share information when an event occurs and will monitor how the communities recovers. These exercises bring to life the scenes of real crisis response operations and this knowledge can then be transferred in their daily work. ■

Text: Sanna Ra
Photos: Sakari Piippo

Three days' home emergency kit

Everyone needs to prepare for the likelihood staying at home without electricity and water. This is why you should have food, drink and other supplies at home for three days.

Your phone battery dies. You find a charger and plug the phone in. Nothing happens. You try another socket. Same thing: the phone's screen remains blank. You move to another room and try again. No power there, either. You decide to test other power supplies. You switch on the light, but nothing happens. You look around you and notice that not a single electronic device has an indicator light on. The electricity is out in your entire home.

You peek into the stairwell of your block of flats. The light in the corridor can't be switched on, and even the lift is dark. Through the window, you see that even the building opposite and the local grocery shop are dark. You can hear your neighbours opening their doors and asking about electricity. Groups of alarmed residents start walking out both from your building and the adjacent building.

A situation described here, an extensive blackout due a failure in the nationwide grid, is entirely possible. In fact, a prolonged blackout is the most likely disruption to occur in Finland. An autumn storm or snow burden, i.e., a heavy layer of snow, may cause the entire society to come to a halt, in the worst-case scenario.

Until the damage is repaired, people need to manage at home without electricity or water. You cannot flush the toilet or run water from the tap, since water pumps are electrically powered. But you can manage as long as you are prepared.

"Preparedness involves having specific supplies at hand and knowing ways of keeping warm in the cold and the dark. It also includes a feeling of security: I have prepared the supplies and gathered information, so if something goes wrong, I'll be able to do something," says communications specialist Sanna Räsänen from the Finnish National Rescue Association.

PREPAREDNESS INVOLVES HAVING SPECIFIC SUPPLIES AT HAND AND KNOWING WAYS OF KEEPING WARM IN THE COLD AND THE DARK.

She is in charge of the '72 Hours' campaign, which includes preparedness recommendations from the authorities and organisations specialised in preparedness. Households should have food supplies at hand to last 72 hours – three days. The food can be the same the family normally consumes. Canned food, biscuits, cereal and dried fruit or nuts – food you can eat cold or prepare with a camping stove. A battery-powered radio, a flashlight, candles, and a power bank to charge your phone.

"You should also remember your pets and ensure they have food and water, too. People can manage without water for some time, or drink something else, but animals cannot," Räsänen says. She also emphasises that preparedness at home is the adults' responsibility, not children's.

You can prepare for disruptions in the water supply by having a few litres of shop-bought bottled water at home. Unlike tap water, pre-bottled water keeps for several years, thanks to a proper cap. "When the expiration date draws closer, you can consume the contents of the bottle and buy a new one. This is a minor investment, and it could save your pet's life if there is no water available in hot summer weather, for example," Räsänen explains.

The water supply can be disrupted even in cities. Sometimes, sewage can get mixed up with drinking water, rendering it undrinkable. You should also keep an empty canister or bucket with a lid at home. During an extensive break in the water supply, the water facility will organise temporary water distribution points, which require people to bring their own clean containers with them.

During the Covid-19 pandemic, many people have gotten used to having reserve food supplies in the event they are suddenly unable to go shopping themselves, or there are

The food reserves at home should be the same kinds of things that the family usually eat. In addition to this, having a battery-powered radio is worthwhile: you can use it to listen to official announcements. Having candles, matches and a gas-burning camp stove at hand is also recommended.

FOOD REMAINS COLD IN A REFRIGERATOR FOR ONLY A FEW HOURS AFTER LOSING POWER. IN COOL WEATHER, YOU CAN ALSO STORE FOOD ON THE BALCONY.

queues for home deliveries. Räsänen also advises people to anticipate the availability of medicine in case of an emergency. “You should never end up in a situation where you only have one pill left. What if you get ill on the very day when you were planning to go to the pharmacy?”

Home preparedness is not a new concept. As far back as fifty years ago, the Finnish Civil Defence Association prepared a brochure aimed at consumers. It was the Cold War era, and the instructions reflected the threat of radioactive fallout, protection against radiation and civil defence shelters. Back then, the recommendation was to have two weeks’ worth of supplies at the ready.

“These days, it is no longer realistic to assume that an urbanised population living in high-rises and small flats could store two weeks’ worth of food. People don’t have cold cellars anymore,” Räsänen says. This is why the recommendation of 72-hour preparedness is more suitable for modern times. “If the recommendation is for a longer period, people may become passive and feel there is nothing they can do.”

In the future, climate change will increase the frequency of extreme weather phenomena. Storms increase the number of blackouts, which is why preparedness is necessary. Sanna Räsänen keeps a closed bag protected from dust in the storage room of her own home. The bag includes buckets with lids, water bottles, wet wipes and hand sanitiser. Preparedness absolutely does not require extensive resources – small actions can make a great difference.

During a disruption, children can also help others. For example, they can pick up a canister of water for an older lady next door, or check if anyone is stuck in the lift, talk to them to calm them down and seek help.

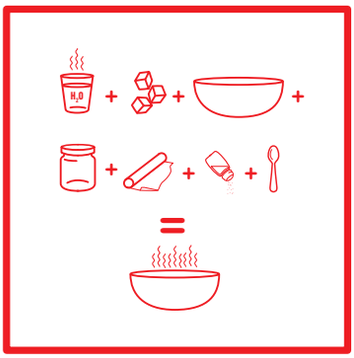
“Community spirit is a part of preparedness, and the warm feeling you get from helping someone else is immense,” Räsänen points out. “In an emergency, ordinary people turn into heroes.” ■

Things to keep ready at home:

- bottled water, juice, berry/fruit soup
- fresh fruit, root vegetables, other vegetables, canned food
- bread, crispbread, rice cakes, rusks
- cereal, muesli, flakes, nuts, seeds
- dried fruit, such as raisins, prunes and dates
- jams, purées
- milk and plant-based beverages that keep in room temperature
- canned fish, meat, and beans
- snack bars, biscuits, chocolates, crisps

D-O-I-T-Y-O-U-R-S-E-L-F

Exercises and text: Minja Lahdelma, Science Centre Heureka.
Graphics: Jussi Latvala



EVAPORATION EXPERIMENT

This experiment showcases evaporation, condensation and the origin of rain.

Supplies:

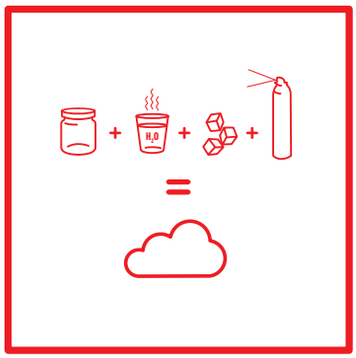
hot water
ice cubes
a large bowl of water
a glass jar
plastic film
salt
a teaspoon

How to do the test:

1. Pour warm water into a beaker.
2. Mix 1 or 2 teaspoons of salt into the water; stir until the water becomes clear.
3. Pour hot water into the large bowl.
4. Pour the salt water into the large bowl. Now you have ‘sea’ in the bowl.
5. Place the empty glass jar in carefully in the middle of the large bowl and seal the bowl with plastic film.
6. Place about 5 ice cubes on top of the film on the bowl.
7. We now have a sea in the bowl with the salt content of an average sea in the real world. What will happen in the bowl?

DIY EXERCISES

Science Centre Heureka has produced a multi-disciplinary learning material collection suitable for various subjects. The collection is designed for schools to expand on the themes of the Facing Disaster exhibition, and it includes a number of exercises that illustrate the themes. A sneak peek of these exercises is published in the Risk Zones magazine.



CLOUDS IN A JAR

This experiment illustrates the factors involved in the creation of a cloud.

Supplies:

a glass jar
hot water
ice cube bags
hairspray

How to do the test:

1. Pour hot water into the glass jar and put on the lid.
2. Place an ice cube bag on top of the lid.
3. Spray a little hairspray into the jar and close the lid quickly. Place the ice cube bag back on top of the lid. Do you see a cloud the in the jar? What will happen in the jar?
4. Finally, open the jar’s lid and see how the cloud is released and evaporates.

Background:

Clouds are liquid or solid water, i.e., tiny drops or ice crystals, which is why they are visible. In this experiment, the warm air and water vapour rise up in the jar after hot water is added, but we cannot observe this with the naked eye. To form the cloud, we need a condensation nucleus. This is why we added hairspray into the jar. In nature, a condensation nucleus may be dust or fine sand.

Text: Teija Laakso
Photo: Jussi Vierimaa

Antidote for climate anxiety

Cristian Tissari da Costa is one of the youth members of the Finnish Red Cross's Climate Influencers volunteer group. The group spreads information about climate change and arranges walks to pick up litter, for example. Activism can also help prevent climate anxiety.

Cristian Tissari da Costa, 15, from Naantali, has been watching news about climate change and heard his parents discuss the climate question since he was a child.

A few years ago, news about young people's climate strikes made him wonder if he should also do something to combat climate change. The answer was clear.

"Temperatures are rising, rain volumes are increasing, glaciers are melting, sea levels are rising. Science sends a clear message: now is the last moment to prevent a major disaster in the future. If we don't act, who will?"

Almost a year ago, Tissari da Costa found an opportunity to influence matters when he saw an advertisement for the Climate Influencers volunteer group of the Finnish Red Cross on social media. The group was looking for more members. Tissari da Costa joined.

Climate Influencers is a nationwide group of the Finnish Red Cross with about 40 members of various ages. The group spreads information about climate change, particularly on social media, shares tips about climate-related events and aims to have an influence within the Red Cross to make the organisation more climate-friendly.

For example, the group arranges walks where participants pick up litter discarded in nature and encourage others to join on social media.

Tissari da Costa is a member of the development group, which is tasked with finding new ways of increasing climate awareness.

"I'd like people to know what concrete action they can take to prevent climate change. For example, food waste is a big problem in Finland, which a lot of people are not aware of."

"AS A VOLUNTEER, YOU CAN DO GOOD IN MANY WAYS, AND YOU GET TO MEET NEW PEOPLE AT THE SAME TIME."

Tissari da Costa does not feel he has climate anxiety like many other young people.

"Of course, I sometimes think about where the world is going, but being involved in advocacy helps, since you can promote climate-friendliness through your own actions. It's therapeutic."

Red Cross youth activities

- Red Cross activities are open to all ages. Many volunteer groups are also open to youth.
- The local branches of the Finnish Red Cross have groups for participants aged 13–17 and 18–28.
- Young people can for example participate in friend visitor activities, instruct camps and clubs for children, practise their skills in the first aid or preparedness groups, contribute to social media communications, raise funds as box collectors or attend international youth activities.
- Climate Influencers is open to all ages.
- More information: www.redcross.fi/become-a-volunteer/

After comprehensive school, Cristian Tissari da Costa wants to become a paramedic and then apply for medical school. As an adult, he wants to be an infectious diseases doctor in developing countries.

VOLUNTEERING IS REWARDING

Despite his young age, Tissari da Costa can be called a Red Cross veteran. He discovered the organisation a few years ago when he did his introduction to working life at a reception centre maintained by the Red Cross.

Since then, he has joined the Red Cross first aid activities and the youth committee of the Southwest Finland district. He has also been involved in giving people directions to Covid-19 vaccination points at the Turku Fair Centre.

THE DESIRE TO HELP WAS SPARKED IN CHILDHOOD

"I lived in Mozambique for ten years and I saw a lot of injustice, violence and suffering there. I want to be an infectious diseases doctor in developing countries when I'm an adult," he says.

Volunteer work is rewarding, which is why he recommends it to others.

"Red Cross activities are fun in that you can always find something that suits your schedule and energy. As a volunteer, you can do good in many ways, and you get to meet new people at the same time." ■

D-O-I-T-Y-O-U-R-S-E-L-F

Exercises and text: Minja Lahdelma, Science Centre Heureka.
Graphics: Jussi Latvala

FLOOD SIMULATOR

The primary measures used in flood protection are preventive measures, such as construction planning and recommendations related to land use. In this experiment, you can test various factors that influence the likelihood of floods and the severity of potential flood damage.

Supplies:

an aluminium tray
a mug
play dough
tape
pencils
paper
scissors
a large plastic bowl
books or like create
the tilt.

Follow these steps:

1. Shape a riverbed out of play dough in the aluminium tray. Place the tray inside a large plastic bowl and elevate one end of the tray by placing a book under it.
2. Build houses out of paper and place them at different places on the riverbank.
3. First, test a slow flow of water: Pour water out of the mug so that the water stays inside the riverbed.
4. Test the flood situation: Pour a large volume of water quickly.
5. See if there is any damage.
6. If necessary, add safeguards used in flood protection to your riverbed, such as a flood channel (a channel beginning from the riverbed) or a flood bank (an elevated riverbank).
7. Try several alternatives. Alter the structure of the riverbed and see what happens. For example, you can try making a sharp turn into the riverbed or making it extra narrow at one point.

EARTHQUAKE SIMULATOR

When it comes to earthquakes, anticipation is an important part of preventing potential damage. The following experiment illustrates how you can use information based on math and natural sciences to make buildings more durable.

Supplies:

2 books/wooden slabs
4 rubber balls
4 elastic bands

Follow these steps:

1. Place the two books/slabs on top of each other.
2. Tie the books/slabs together with elastic bands. Wrap the bands around the books. Place two bands at each end.
3. Place four rubber balls between the books. If you can, place the balls close to the middle.
4. Your base for an earthquake
5. is now ready.

Test: Build a building that can resist earthquakes

Supplies:

your base for an earthquake
Blu-tack, tape or other adhesives wooden sticks/ building blocks/straws or other available materials
scissors

Your task is to construct a building that is as high as possible on the earthquake base. Check the durability of the building you have created by shaking it. Make changes to the building as needed.

Test which structure endures better: a triangle-shaped or a square-shaped one.

Text: Tiina Leinonen
Photo: Katri Lehtola

What would happen if a flood hit Turku?

Last summer, villages in Europe were submerged in water. In Finland also, people are preparing for floods. In Turku, volunteers have prepared a plan for evacuating the permanent and summer residents of the flood plain area within hours.

Ice has formed a dam in the Moisionkoski Rapids in the town of Salo. The water is so high the town's centre is flooded. The volunteers of the Red Cross and the voluntary rescue service, Vapepa, have been called in to offer help.

Preparedness volunteer Riitta Salonen from the Salo branch of Red Cross is shouting to the daredevils climbing the ice dams and telling them to leave because the Finnish Defence Forces are on their way to blow up the ice wall.

"They think they're immortal," Salonen huffs.

Injuries and other trouble were avoided through good preparedness – and the volunteers maintaining order.

One of the suspension bridges over the Uskela River flowing through Salo had been removed earlier, since piles of ice threatened to pull it with them and cause a hazard. Later, flat rocks were built into the river to break the ice, thanks to which spring floods should not bother the residents anymore.

The river flooding pushed the Turku branch of the Red Cross to realise that they also need to prepare better than before.

"When the water levels rose in Salo, we recognised that flooding is also a risk for us," says Mika Vilpo, volunteer head of preparedness and first aid operations.

Last summer, news reports showed footage of collapsed houses and villages submerged in water in Western Europe. In Finland as well, people started asking if water levels could rise as high and result in such floods. The Ostrobothnia region is famous for its spring floods, and rising water levels could ruin crops and homes there. Due to climate change, other parts of Finland also must prepare for floods. Southwest Finland is a good example of this.

The Finnish Red Cross consists of 12 district organisations, which are further divided into almost 500 branches across the country. The Turku district is the first of the districts in Southwest Finland to prepare for floods with a plan. Vilpo provides a tip: when making plans, it is a good idea to think about what kind of help the Red Cross can provide. This ensures preparation is efficient.

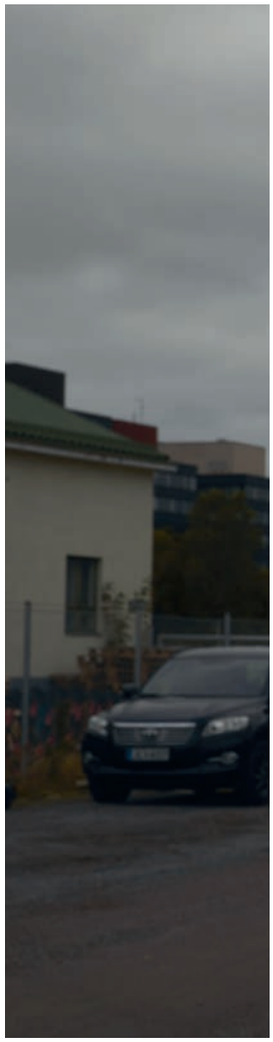
"For example, floods, public transport accidents and fires are different kinds of incidents, but each of them requires evacuation. However, you do not need separate evacuation facilities for each type of risk, since you can use the same place for various kinds of accidents," Vilpo clarifies.

"And if a flood or an extensive blackout occurs, you will need volunteers going from door to door to see what kind of help is needed in homes."

A carefully compiled preparedness plan guides volunteers to take appropriate action when accidents or natural disasters occur. Throughout Finland, Red Cross employees and volunteers prepare plans that define the risks in their respective areas. The plans also include instructions on how to help in the event of an accident or natural disaster.

In Turku, a flood could block roads and water flooding into the harbour area could prevent passengers from reaching the ships. In the inhabited parts of the archipelago, the water could reach people's homes. The flood would not threaten human lives, but it would make everyday routines difficult in many ways.

If there were indeed a flood in Turku, volunteers would be ready to help. The branch could mobilise about 30 volunteer helpers quickly. In a few hours, they could organise an evacuation, the registration of evacuees, emergency accommodation with beds and washing facilities,



Mika Vilpo is the head of preparedness and first aid operations at the Turku branch of the Finnish Red Cross. In other words, one of the key volunteers of the branch.

ON THE WEBSITE OF THE FINNISH FLOOD CENTRE, ANYONE CAN CHECK THE FLOOD RISK ASSESSMENT FOR THEIR HOME REGION.

dry clothes, food, hot drinks, and emotional support.

"With the plan, we can establish an evacuation centre in any location provided to us by the authorities. We've already practised setting up an evacuation centre. The locations are kept secret," Vilpo says.

They have held several preparedness drills in Turku, so Vilpo is able to assess the number of volunteers who would be ready to help. If more volunteers were needed, they could be called in from a wider area. It is known that the highest number of volunteers are available at weekends in the daytime, since it is difficult for them to leave their day jobs on weekdays.

"Regardless, we can start offering assistance at any time," Vilpo says.

In the event of a flood or accident, the supplies needed for assistance come from the Red Cross logistics centre located in Kalkku, Tampere, from where aid supplies are also sent abroad. The Southwest Finland district and branches also have clothes and beds ready in their own storage facilities to kick-start the assistance.

In rescue operations, tasks are distributed so that the Red Cross's key job is helping and caring for people. Usually, the voluntary rescue service, Vapepa arrives to distribute food and beverages. They can also protect housing from water or fill sandbags to be used as flood barriers, for example.

The Red Cross volunteers to be alerted are a part of the Vapepa network. Through the network, more equipment, and trained volunteers from various rescue organisations and with various skills can be called in.

In the Turku region, other situations where evacuation may be necessary include widespread blackouts caused by storms, fires, and ship and air traffic accidents.

Climate change and the extreme weather phenomena related to it are some of the factors that affect preparedness. In Turku, flooding would be more likely in autumn if heavy rain and storms at the sea brought masses of water onto land.

Vilpo unfolds the flood map, which is based on the risk assessments by the Finnish Flood Centre. Anyone can take a look at it on the website of the Finnish Flood Centre.

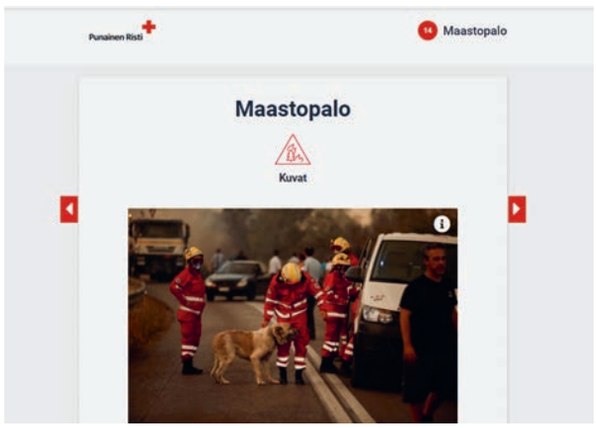
On the map, you can check what the flood risk assessment is like for your home region or where you spend your summers. It is good for people living or staying in flood risk areas to think about how they can personally prepare for potentially rising water levels. ■

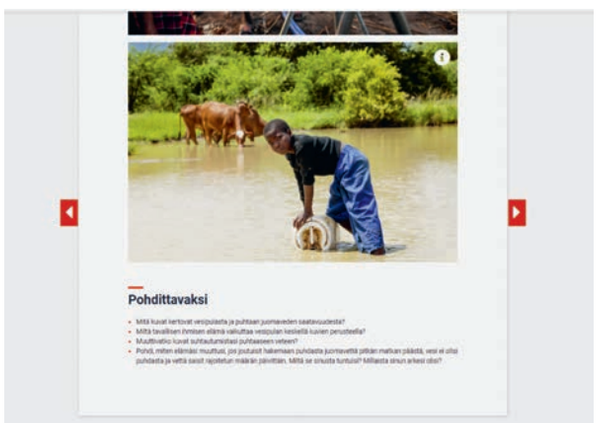
Varpu Salmenrinne presenting the Risk Zones learning materials at the Educa fair in Helsinki in January 2020.

Text: Reetta Turpeinen
Photo: Maria Santto

Updated Risk Zones learning materials introduce schools to global challenges

The Finnish Red Cross has now updated its Risk Zones learning materials. The learning material collection helps students learn about the challenges and threats facing humankind, such as natural disasters, conflicts, climate change and displacement. The learning materials now include three new risk types: water, food, and wildfires. The materials are intended in particular for students at lower or upper secondary school, but anyone can use the diverse information package to learn more about global risks.





In the learning materials, emphasis has also been placed on high-quality images.

The Risk Zones collection was prepared to support global education at Finnish schools. The materials help students understand the world and the challenges that are shared by all people and that affect each of us now and in the future.

"The Risk Zones materials illustrate for students the various realities in which people around the world live, while also promoting their global citizenship. In addition to this, the materials aim to evoke the student's desire to work actively for a more just, equal, and sustainable future," says Tiia-Riina Viinikainen, coordinator of cooperation with schools and educational institutions from the Finnish Red Cross.

PROFESSIONAL AND RELIABLE INFORMATION

The Risk Zones collection offers the Red Cross's expertise and reliable information to support learning at school, presented in a visually appealing way. "We have compiled global phenomena, which are sure to be familiar to most students from the media, but of which they may not have proper understanding or personal experience," Viinikainen states.

The collection offers excellent support for multi-disciplinary and cross-subject learning. The facts, images, infographics, and videos of the Risk Zones learning materials offer plenty of information about the risk zones around the world. The materials can be used as they are in more extensive lesson series or pick certain parts to enliven the teaching.

"In addition to facts, the materials showcase people's real experiences of the phenomena, which helps the students see that the phenomena are not just about figures and statistics, but that they also have a comprehensive effect on the people and communities who face them. In addition to raising awareness, one of the goals of the materials is to increase empathy," Viinikainen adds.

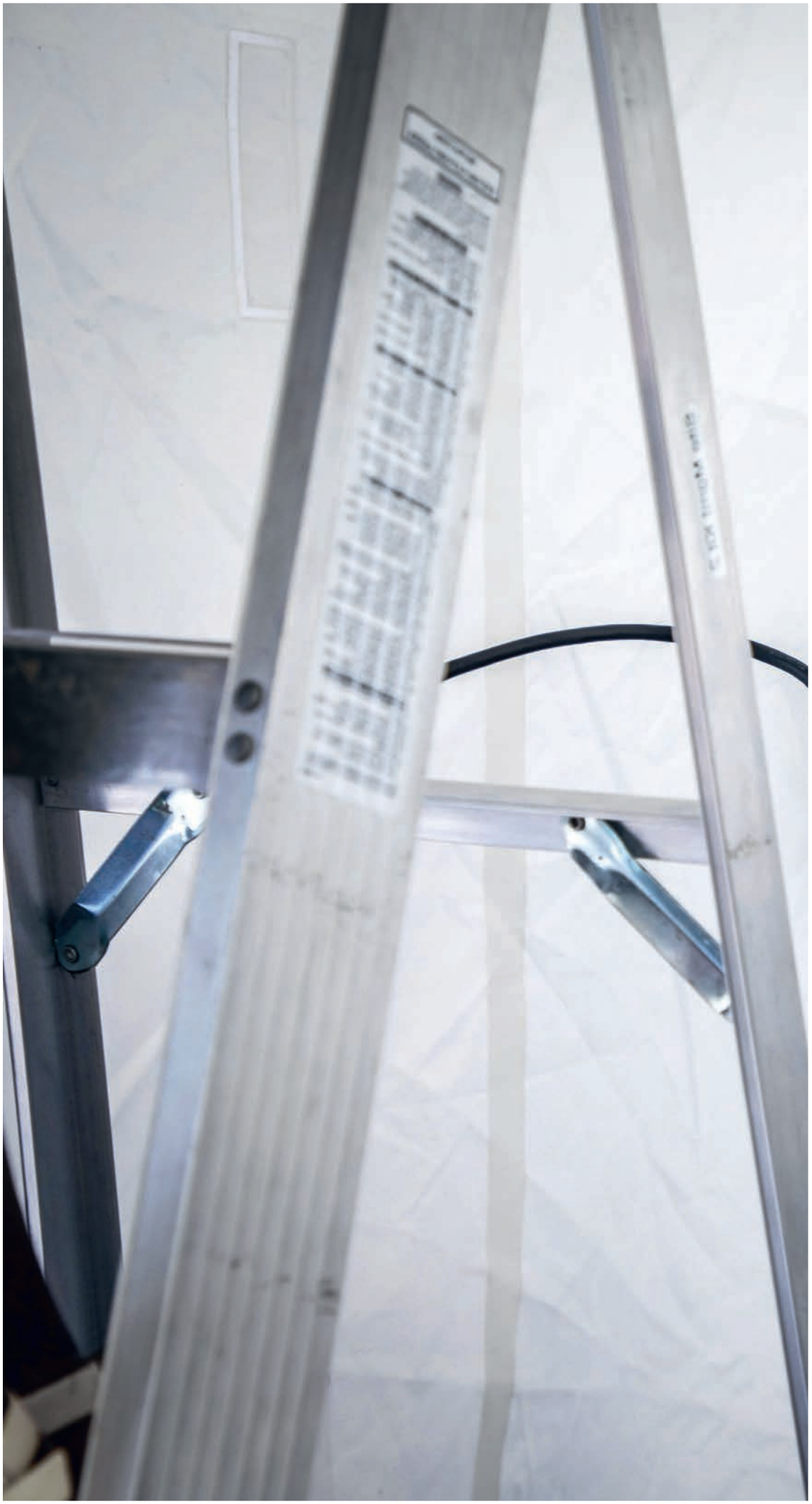
EASY TO USE AND TOPICAL

In the updated version of the learning materials, the content includes new features, up-to-date graphics, and insight into the risks from Finland's perspective.

The Risk Zones materials do not require teachers to make any advance preparations; instead, they are ready to use. By logging in, teachers can receive additional support and access to special teachers' materials. The exercises in the materials support the students' reading comprehension and thinking about their own world view. A special advantage is that the materials are available in three languages: Finnish, Swedish and English. ■
www.sproppimateriaalit.fi

Judelande Jusep, 23, from Haiti, installing electrical wires at the Red Cross field hospital in Les Cayes.

Photo: Adriano Valentini / IFRC



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