<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors/Contributors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>What can the aid sector do to anticipate and adapt to the major changes ahead?</td>
<td>Véronique de Geoffroy &amp; Lisa Daoud</td>
</tr>
<tr>
<td>10</td>
<td>Current scientific projections regarding global warming and rising sea levels</td>
<td>Dominique Raynaud</td>
</tr>
<tr>
<td>12</td>
<td>interview</td>
<td>with Bruno Jochum, Fellow of the Geneva Centre for Security Policy</td>
</tr>
<tr>
<td>20</td>
<td>Reducing the ecological footprint of the international aid sector: ethical and practical issues</td>
<td>Aurélie Ceinos &amp; François Delfosse</td>
</tr>
<tr>
<td>28</td>
<td>The Drastic Changes Facing Food Systems</td>
<td>Philippe Thomas</td>
</tr>
<tr>
<td>34</td>
<td>point of view</td>
<td>So far so good... by Michaël Carrier</td>
</tr>
<tr>
<td>36</td>
<td>Towards a territorial approach to resilience and vulnerability: 2011 Tsunami, Kamaishi</td>
<td>Diane Alalouf-Hall</td>
</tr>
<tr>
<td>47</td>
<td>Collapse scenarios: degraded contexts and degraded mode</td>
<td>François Grünewald</td>
</tr>
<tr>
<td>53</td>
<td>The ‘Low-tech with Refugees’ project: aid in a degraded context</td>
<td>Marjolaine Bert</td>
</tr>
<tr>
<td>58</td>
<td>interview</td>
<td>with Pablo Servigne, independent researcher, author and speaker</td>
</tr>
<tr>
<td>66</td>
<td>bibliography</td>
<td></td>
</tr>
</tbody>
</table>
The aid sector faced with climate change, multiple crises and the risk of collapse: this subject, which was not dealt with at the major conferences on climate change and international aid, was the focus of the 12th Autumn School on Humanitarian Aid, organised by Groupe URD on 25-27 September 2019, where 70 people took part. This special issue of Humanitarian Aid on the Move explores some of the issues that emerged during this particularly stimulating event.

Just as we were about to publish, we have been caught up by current events. Will the aid sector be capable of managing a global and systemic crisis such as the coronavirus crisis? Humanitarian actors are used to working in degraded contexts, but from a stable home base, with considerable financial and logistical resources. Will they be able to adapt? With staff no longer able to travel, and the risk of an economic crisis, there is a need to adapt and innovate, not only in technological terms, but also in terms of organisation, action and behaviour.

Beyond the current health crisis, there is a need to prepare for the response to the challenge of climate change and a growing number of crises. It is high time that we took action: climate change is already affecting the lives of millions of human beings, and particularly the most vulnerable people in the most exposed regions: Africa, Asia, Oceania and Latin America. We are also beginning to feel its impact in Europe (drought, heatwaves, torrential rain, etc.).

Scientific projections say that there will be warming of between 2 and 7°C and a rise in sea levels of between 40 and 110 cm by 2100. Biodiversity loss, and the peak in fossil fuels and many other raw materials, such as phosphate, make the situation even worse, with a real risk of global food crises and an increase in the number of conflicts related to access to increasingly scarce resources...

What if sombre collapse scenarios were to come true?
Within a few decades, all environmental indicators have turned to red (rise in temperature and sea levels, pollution, the mass extinction of species, soil degradation, water shortages, deforestation, the melting of the polar ice caps, of permafrost, etc.). Peak oil was reached in 2008 according to the International Energy Agency, and it is estimated that there will be 9.8 billion human beings in 2050. What is more, many prospective analysis reports predict that crises related to failed states, the persecution of minorities and epidemics will get worse. It is in this context that a science has emerged – collapsology (from the latin collapsus meaning ‘to collapse’) – although this is not a completely new discipline. Indeed, it is the continuation of the collapse theory which was first mentioned in the 1972 report commissioned by the Club of Rome, The Limits to Growth, which focuses on a subject that humanity is loath to face up to: the imminent collapse of our thermo-industrial civilisation. Having witnessed the terrible impact of disasters caused by nature’s wrath and the destitution of people caught up in conflicts, poverty and political crises, the aid sector will be in the frontline of the response if global systems collapse.

**Four Principle Scenarios for the Future**

The following theoretical scenarios were developed based on the work of David Holmgren and Pablo Servigne. These authors have developed different ideas
about how our societies will evolve, whether at the planetary, regional or city level, due to the effects of climate change, biodiversity loss and declining fossil fuel reserves. The timescale and location of these scenarios therefore change depending on geographical areas and their exposure to climatic risks, as well as the population’s level of resilience. Looking at these different scenarios is neither an exercise in science fiction, nor an attempt to tell the future: it is a way of identifying certain trends that are already underway and looking ahead in order to develop the right approach to these possible changes.

---

**The green utopia scenario**

The slow decline of oil reserves and changes in mentality allow societies to improve the way they manage ecosystems and to gradually pursue their transition towards renewable energy, which limits global warming and reduces pollution. In this first scenario, modern societies succeed in carrying out their energy transition, but also, more globally, their environmental transition (waste management, the development of organic farming, changes in consumer behaviour, etc.) while maintaining a certain level of prosperity and material comfort. The main characteristics of the green utopia scenario are the transition to renewables, the re-localisation of economies, the development of resilience and the preservation of a stable global governance system.

---

**The self-organisation scenario**

Following the depletion of the world’s oil resources, globalised economies collapse. This has a domino effect: the economic crisis leads to the breakdown of supply chains which in turn leads to serious political crises and drastically weakens the role of state authorities who, eventually, are no longer able to fulfil their functions and lose their legitimacy to govern so that their countries become chronically unstable. In this fragile context, it is societies that are the most dependent on the thermo-industrial system that are affected. Urban societies reorganise themselves to form autonomous local communities while rural societies reinforce the traditional village system.

---

**The climate apartheid scenario**

Here, climate change is sudden, leading to numerous natural disasters: major droughts, violent hurricanes and floods caused by rising sea levels. These phenomena are made worse by the devastating effects of contaminated soil, air pollution and accelerated biodiversity loss. Governments continue to exploit resources and attempt to gain as many as possible, leading to tension between states, weakened global governance and the rise of nationalism. Tensions lead to spatial segregation between the elites and the rest of the population. Islands of opulence are formed in parallel to the development of slums; governments
become authoritarian and restrict freedoms in order to protect the interests of a minority.

**The planetary chaos scenario**

A succession of disasters, feedback loops, black-outs...: terms that describe the world as it might be in a scenario that would resemble an apocalyptic Hollywood film. The planetary chaos scenario involves genuine climatic cataclysms that destroy a large part of the resources and infrastructures that are necessary to the survival of modern man. In this scenario, the collapse is not caused by the end of fossil fuels but rather by the scale and continuous nature of natural disasters. In this hypothesis, there is a drastic reduction in the world population which is unable to survive major climatic disruption and the spreading of epidemics and famine. Only a few clans manage to organise themselves in a world that has become very hostile to human and animal life.

**What impact could this have on the practices, strategies and policies of the aid sector?**

These scenarios imply changes at different levels for aid sector practices, strategies and policies, which may be considered necessary in the long term, but could also involve more short-term changes. In the following paragraphs we look at what these changes might be.

**Consequences for aid policies and the international aid sector**

**Adaptation and preparation: new strategic (and policy) priorities for the aid sector?**

In order to meet current challenges and anticipate future risks, whether we are heading for a favourable scenario or we have to prepare for the worst, it seems urgent to re-orientate aid policies and funding towards climate change mitigation and adaptation strategies, as well as disaster preparedness. As such, aid actors need to start thinking about their responsibilities, as Médecins Sans Frontières has begun to do with the Lancet, for example, in conducting prospective analysis about the impact of climate change in relation to future health risks⁴. What roles will humanitarians have in these areas, whether of a technical nature (supporting adaptation and preparation), or a political nature (denouncing the political and economic causes of what is happening)?

**The rise of identity politics and nationalism: the end of solidarity as we know it?**

Pessimistic scenarios question the very principle of international solidarity and its future. Hans Morgenthau⁵ suggests that international relations will deteriorate and the interests of states will take precedence over any other form of action. What is more, within these same states, the struggle to take control of the remaining resources will take precedence over solidarity. In the IARAN report, ‘The Future of
Aid: INGOs in 2030’, the ‘Narrow Gate’ scenario is characterized by the rise of nationalism, leading to a decline in the relevance of global governance institutions, and where the humanitarian ecosystem is challenged by the politicisation of crises, particularly those in areas of chronic fragility. Are the reduction of humanitarian space and the criminalisation of those providing assistance to migrants in the Mediterranean and in a variety of European countries not already signs of such changes? How should we therefore organise ourselves to assert the principle of humanity and the central importance of human dignity in such contexts in the face of such changes?

The power of mutual assistance and the mutations of aid architecture: the need for localisation?

In their book, ‘L’entraide, ou l’autre loi de la jungle’ (Mutual Assistance, or the Other Law of the Jungle), Pablo Servigne and Gauthier Chapelle underline the fact that there is both competition and cooperation within the living world. Indeed, ‘when a sudden disaster takes place, individuals who are stressed or in a state of shock look for security first and foremost; they therefore do not tend to be violent’. This phenomenon explains why it is rare for people to panic when disasters take place: on the contrary, mutual assistance appears to be common (spontaneous assistance, support for the weakest, cooperation for access to food and energy...).

By reducing inequality of wealth, this scenario opens the door to greater solidarity, but the sudden decline in petrol reserves makes exchanges over long distances more complicated (in-kind assistance, sending expatriates). As a result, the central factor of resilience is the reinforcement of societies’ ability to self-organise with regard to energy and food, and also politically. This perspective would accelerate the localisation of international aid via the emergence of new local actors, the re-localisation of decision-making, and the reinforcement of collaboration between local and international organisations.

The consequences for aid strategies

Restoration and preservation of the environment: a central aspect of resilience?
For a number of years, there has been widespread acceptance that reinforcing resilience is a way of tackling both disaster risks and poverty, which are intimately linked, in an integrated manner. Working on resilience therefore brings together actors with a variety of mandates, and, as such, it can be a useful concept, even though it is difficult to operationalise.

What the ‘collapse’ concept brings to the ‘resilience’ approach, due to the systemic risks that it introduces, is the central strategic importance of preserving and restoring the environment. Systems whose resilience depends on external actors and mechanisms, such as social security nets, appear vulnerable to the shocks that are being forecast. It is therefore necessary to invest massively in food-producing agriculture, urban or peri-urban agriculture, the preservation or restoration of ecosystems, etc.

Local assistance: more than ever at the heart of risk management
The survivors of a disaster have a central role as humanitarian actors can testify. In the initial stages of a disaster, before the initial relief effort arrives, individuals take action: inhabitants, elected representatives, teachers, doctors from the local health centre... According to Fernando Briones, Ryan Vachon and Michael Glantz, these ‘zero-order responders’ make crucial decisions based on their own resources and skills. The work of these researchers highlights behaviour and considerations that could provide aid actors with useful lessons. For example: in at-risk situations, individuals make decisions that take into account both immediate and long-term needs; social cohesion and organisation are the foundations of resource management and the distribution of roles; and, lastly, individuals use improvisation, innovation and creativity to meet their primary basic needs. As mutual assistance within a group relies on a fragile balance which can change radically in an instant, what are the conditions that are necessary and the organisational principles that should be encouraged to promote solidarity between individuals and groups, if, as Servigne and Stevens argue, cooperative groups survive better?

“What the ‘collapse’ concept brings to the ‘resilience’ approach, due to the systemic risks that it introduces, is the central strategic importance of preserving and restoring the environment.”
The consequences for aid practices

Degraded mode: adopting a low-tech approach

The aid sector is not immune to the mutations of the hyper-industrial society that the majority of aid organisations come from. For about ten years now, new technologies have entered the day-to-day lives of humanitarian workers and the idea of innovation has almost become synonymous with new technologies. Different sections of the aid sector have become increasingly dependent on technology, and therefore on energy and materials that include a lot of rare-earth elements (spreadsheets and word processing tools; the collection, management and use of data on mobiles; emails, Skype and webinars; electronic cards for beneficiaries; medical imaging...). How can this model be revised in the context of a climate emergency where any energy that is used contributes to the carbon footprint of our civilization, and where there is a danger that dependence on tools that use rare-earth elements will make access to technology prohibitive? What would a ‘degraded mode’ of assistance look like? That is to say, assistance that only used the most efficient and environmentally-adapted techniques or technologies? How would the high-tech practices described above evolve?

Genuinely ‘green’ aid practices

Faced with these prospects, there is an urgent need to review aid practices from the perspective of their environmental impact and their sobriety in relation to the consumption of natural resources. Should reducing the environmental footprint of aid not be seen as a veritable cross-cutting issue and the concrete application of the principle of ‘doing no harm’? In order to be coherent between what humanitarian actors promote among crisis-affected populations and their own internal practices with regard to climate change adaptation, the humanitarian sector needs to look at its operational methods (travel, partnerships, types of programme, etc.). Current efforts to reduce the impact of humanitarian operations need to be further developed: the use of green energy to run offices, local purchases without packaging, carbon off-setting for emissions that cannot be reduced, etc. Is it not the role of humanitarian actors to be exemplary in this area, to adopt green practices and minimise their environmental impacts, whether visible, invisible, observable in the short- or long-term, directly linked to their operations or attributable to their partners and service providers?

Conclusion

It seems more and more evident that preserving the environment and reducing poverty are two sides of the same commitment to reduce the dangers facing the Earth. Therefore, in order to avoid getting bogged down in pessimistic visions without solutions, we need to explore the
opportunities that will come from the depletion of fossil fuel reserves and the growing awareness of our dependence on the environment. Are the risks of collapse not a unique chance to reconcile Humanity and Nature? We are convinced that new priorities are going to emerge, and that it is therefore essential and urgent to continue to discuss our doubts and our visions for the future in order to establish strategies that will allow us to prepare for the risks ahead.

Véronique de Geoffroy  
Groupe URD’s Executive Director

Lisa Daoud  
Researcher at Groupe URD

With the contribution of Romane Vilain  
(trainee at Groupe URD)
1 - https://www.lemonde.fr/blog/petrole/2019/02/04/pic-petrolier-probable-dici-a-2025-selon-lagence-internationale-de-lenergie/
2 - Future Scenarios: How communities can adapt to peak oil and climate change, David Holmgren, Chelsea Green, 2009 and
3 - See, for example, the work of Mark Jacobson from Stanford University (Wind, Water and Sun scenario).
4 - See, for example: Climate Change and Health: an urgent new frontier for humanitarianism, MSF and the Lancet, November 2018.
7 - Servigne, P. Chapelle, G., L'entraide, ou l'autre loi de la jungle, 2019.
8 - Ibid., p. 49.
9 - A study by the universities of Berkeley and Toronto showed that people from lower social classes are more prone to generosity and mutual assistance than those from higher classes. Inequalities also tend to reduce the level of solidarity. (In Servigne, P. and Chapelle, G., L'entraide, ou l'autre loi de la jungle, 2019, p. 86).
10 - According to Servigne and Chapelle, ‘decentralised, horizontal, changing and organic’ in nature, p. 159.
11 - See the special issue of our review, Humanitarian Aid on the move, on ‘Resilience’ (n°11, 2013).
12 - See the real-time evaluations carried out by Groupe URD in numerous disaster contexts: Hurricane Mitch 1998, Tsunami 2004, Haiti 2010, etc.
15 - Particularly the existence of a feeling of equality, according to Pablo Servigne and Gauthier Chapelle.
16 - Briones, F. Vachon, R. Glantz, M., Local responses to disasters: recent lessons from zero-order responders, 2019. According to the article, coping with disasters could even help to develop societal skills.
18 - See, for example, Groupe URD’s work on this issue online and the special issue of the review, Humanitarian Aid on the move, on the aid sector’s approach to the environment (n°12, 2013).
CURRENT SCIENTIFIC PROJECTIONS REGARDING GLOBAL WARMING AND RISING SEA LEVELS
by Dominique Raynaud

BACKGROUND

The 2013 IPCC report estimated that human activity had caused global warming of 1°C compared to pre-industrial levels and that average sea levels had risen 19 (17-21) cm between 1901 and 2010.

At the end of 2015, the 21st Conference of the Parties (or COP21) established the objective of reducing man-made greenhouse gas emissions in order to limit global warming to 2°C or less compared to pre-industrial levels by the end of this century.

PROJECTIONS FOR THE MIDDLE AND THE END OF THE 21ST CENTURY

These projections are based on trajectories of greenhouse gas, ozone and aerosol concentrations: Representative Concentration Pathways (RCP). Climatologists use these trajectories as entry data for models that simulate the future climate, which makes it possible, for example, to simulate global warming and sea levels at the end of the century.

By the middle of the century, it is probable that global warming (average temperature at the earth’s surface) will reach +1.5°C compared to pre-industrial levels (IPCC Special Report on Global Warming of 1.5°C, 2019).

By the end of the century, if we take two ‘extreme’ trajectories – the first pessimistic (RCP 8.5) which represents a high level of emissions and is commonly referred to as ‘business as usual’, and the other (RCP 2.6)
involving the reduction in emissions needed to limit global warming to 2°C – we get the following simulations by 2100 (IPCC report 2013):

- global warming of between +2 and +6°C compared to the pre-industrial period (1850-1900);
- rising sea levels of between 30 and 80 cm compared to the period 1986-2005.

THE LATEST DATA

Since the 2013 IPCC report, a study carried out using French models (Climeri-France, 2019) shows that the higher trajectory of 6°C of global warming by the end of the century could be one degree higher (around 7°C).

Regarding sea levels, given recent data on the loss of mass of the Greenland and Antarctic ice sheets (IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, 2019), sea levels could increase by over a metre (110 cm) by the end of the century compared to the period 1986-2005 if emissions are high (RCP 8.5).

Dominique Raynaud
Emeritus Director of Research at the CNRS Institute of Environmental Geosciences (IGE), at Grenoble Alpes University
Former member of the Intergovernmental Panel on Climate Change (IPCC) created by the UN in 1988
Climate change is also a public health issue (due to its impact on population displacement, air quality, heatwaves, etc.). In the face of such concerns, the medical journal, The Lancet, declared that “Combatting climate change could be the greatest global health opportunity of the 21st century” (2015). How do you understand such a statement?

Bruno Jochum: The main idea behind this statement is that many climate change solutions, or factors that could stabilize the climate in the coming decades also have very significant impacts on the health of populations, and vice versa. The different forms of pollution that come from the production and consumption of energy, and from industrial and agricultural products, have direct health consequences. For example, take the example of air pollution related to greenhouse gas emissions or other particles: by reducing them drastically in the transport sector, we mechanically reduce the harmful effects on people’s health that are currently very significant in big cities. Climate change is principally a form of environmental degradation resulting from atmospheric pollution on a massive scale, even though farming systems and deforestation also play a role. By taking action on fossil fuels to stabilize the climate, we also tackle one of the major causes of respiratory infections or other pathologies related to the main forms of environmental pollution, whether in Paris, New Delhi or Lagos. This is why the Lancet says that it is both the biggest threat and the biggest opportunity in terms of global health. On the one hand, allowing the causes to increase and the situation to get worse would lead to significant impacts for the health of the most exposed populations. On the other hand, stabilizing the climate, by stopping certain forms of atmospheric pollution or by transforming the farming system, would help to resolve certain critical public health issues. And this reasoning can be extended to food issues as there are extremely strong links between diet and a whole series of chronic illnesses that are currently becoming more prevalent around the world, whether it is different forms of cancer, cardio-vascular diseases, obesity, etc. Adopting sustainable diets that are compatible with the
stabilization of the climate, with less meat, more vegetables and vegetable protein, is a way of preventing a whole series of chronic diseases. A change of trajectory would therefore be very beneficial. Thirdly, we can mention improved access for women to education and reproductive health, which has a significant impact on the climate due to its effect in stabilizing population growth. We know that population growth along with the emergence of a large middle class at the global level, increases land use and the consumption of natural resources and, as a consequence, greenhouse gas emissions. In this area, contrary to what we sometimes hear, the solution is not birth control, but ambitious policies that promote equal rights, access to education, and access to health. These are levers that are altogether more powerful and respectful of liberties. In the end, there are numerous shared benefits between climate action, health, education, rights and respect for the environment.

In this context of climate change and public health, what role do you see for NGOs?

B. J.: They have a number of key responsibilities: beyond providing assistance to adapt, the first of these is to bear witness about the impacts of the climate emergency on vulnerable people because, very often, NGOs are on the frontline in the most affected contexts (tropical areas, regions that are repeatedly subject to extreme weather events, are affected by disturbed water cycles or by the increase in temperatures). They can easily act as a relay to describe the human impacts of climate change; the way that the climate issue is perceived needs to evolve by putting the accent more on the serious risk faced by human populations. NGOs therefore have legitimacy and credibility on this issue, perhaps even more than medical NGOs. But establishing links of this kind is not always easy. It is easier in some cases, but this generally implies having partnerships and collaborating with research institutes who are able to describe long-term developments, whereas humanitarian organisations tend to observe short- and medium-term impacts. I feel that, working to increase understanding of impacts, and their visibility, showing that it is a problem now, and not just in thirty years’ time, is an essential role to play. The second responsibility is to take a political stance by coming back to basic principles. Humanitarian organisations have a legitimate role to play in denouncing blatant and completely cynical negligence with regard to populations whose vulnerability is going to deteriorate significantly in the years ahead, and despite the fact that alternative policies exist. It is definitely not up to humanitarian organisations to recommend such and such a specific solution to stabilize the climate, that is not their area of expertise, but they can advocate in favour of what is called ‘duty of care’
in the medical sector, and denounce the fact that whole populations will be sacrificed. In Bangladesh, for example, scientists are convinced that 10-20% of its territory will be under water by the middle of the century, which means that millions of people will be displaced. In Sub-Saharan Africa, even though regional predictions are not precise in terms of the water cycle, the increase in temperatures will have very harmful consequences. Though there is no shortage of examples, it is important that humanitarian organisations are prudent about scenarios and do not fall into the trap of quantitative forecasts announcing precise numbers of people who will be affected, in millions or hundreds of millions. Though this may be useful for institutions to engage in long-term planning, or to grasp the scale of risks, the methodologies used need to be critically reviewed on a regular basis. This should not detract from the most important issue: there is no doubt that the increase in temperature – which is an established fact, the unknown being how high it will rise – will have massive negative impacts on numerous vulnerable populations.

What alternative policies are you thinking of?

B. J.: Numerous solutions exist today, and organisations and territories, though marginal in number, have made huge progress. Certain local governments and businesses have reduced their emissions by 50%, and even 80%. Possible ways forward are therefore relatively well known and can be implemented. Continuing with the same energy and farming models will lead to a world that is 3 or 4 degrees warmer than the pre-industrial period. There is also the question of using resources sparingly. There is significant debate about access to resources in the near or distant future and the long-term sustainability of a system based on economic growth. Will the resources be available to establish renewable energy on a very large scale within 20 to 30 years? But this is not where humanitarian organisations’ added value, foundations or legitimacy resides.

To achieve carbon neutrality by 2050, as recommended by numerous institutions, you suggest that we should proceed in stages

“
It is definitely not up to humanitarian organisations to recommend such and such a specific solution to stabilize the climate, that is not their area of expertise, but they can advocate in favour of what is called ‘duty of care’ in the medical sector, and denounce the fact that whole populations will be sacrificed.
”
and establish realistic, shorter-term objectives, such as reducing greenhouse gas emissions by 50% in the next ten years. Can you describe what this would involve concretely for relief NGOs, particularly medical NGOs as we know that they have a number of specific characteristics (such as the crucial role of supplying medicine and equipment)?

B. J.: First of all, we have to be careful with the term ‘carbon neutral’ because it can be understood to mean different things. For some, this corresponds to emissions minus compensations, which means that we can emit as much as before by buying compensations. But the aim really should be to reduce emissions to as close as possible to zero by the middle of the century. This roadmap is based on the IPCC’s scientific consensus, which is behind the Paris Agreement, and has inspired states to fix objectives to reduce emissions. To stabilize the climate at +1.5 or 2 degrees, there is no other choice but to reduce emissions to almost zero within twenty to thirty years, and achieve negative emissions after 2050. Any additional emissions will contribute to a higher level of warming. More and more states are integrating this roadmap into their legislation, but the problem is that it is not just a final objective. The trajectory is just as crucial. Emissions need to be divided at least by two each decade in order to start an exponential reduction. That is why the countries that are the most advanced on the subject are aiming for reductions of between 40 and 60% by 2030.

In the end, humanitarian organisations are not so different from other kinds of actors. Concretely, a collective roadmap for reducing greenhouse gas emissions needs to be implemented by every organisation in a society. As such, the responsibility of a humanitarian organization is the same as that of a hospital in France, or the fire service or any other public service that is subject to certain constraints. Humanitarians cannot use their social mission as a reason to avoid a responsibility that everyone has to fulfil. How could we justify that humanitarian associations, who are on the frontline in addressing vulnerabilities, could be less ambitious than states on measures to stabilize the climate? The question, rather, is ‘how’? Humanitarian organisations work internationally, with a number of big blocks of emissions: transportation (staff and supplies), which, of course, involves a lot of planes, but not only; food distributed (to staff in cantines and to beneficiaries during distributions); energy for buildings (heating, air-conditioning, building materials), which is an issue where there is a lot of leverage; IT, which is more complex, but which is a crucial area; and, lastly, the whole supply chain which is often specific to different organisations. Certain municipalities – including state capitals – are heading for ‘net zero’ by 2030 despite having to deal with much more complex supply chains than those of humanitarian organisations. I think that it is extremely important for humanitarians to adopt the right long-term objective, but especially to have a demanding intermediate target for
in five or ten years, such as reducing emissions by half by 2030, by working on what is known as ‘low-hanging fruit’. Though it is difficult to achieve a 100% reduction, it is relatively simple to reduce emissions by 30 to 40%, then 50%. That is the first lever of action to activate: short- and medium-term victories, while, in parallel, working on more complex areas, that is to say, the operational model that will need to be adopted.

Air travel has increased enormously in the last fifteen years, as it has throughout the world, due to lower prices and the arrival of ‘low cost’ airlines. People now travel non-stop to go to meetings, some expatriates go home four or five times a year… Our relationship with travel is not at all the same as it was fifteen or twenty years ago. Imposing much more restrictive travel policies would not affect operational effectiveness. As for energy and buildings, we could, for example, rapidly end the use of fuel-powered generators in the majority of contexts. By replacing them with better solutions, we will very quickly be able to see the local advantages in terms of sustainability and even sometimes in terms of cost effectiveness. The most complicated area is the supply chain because it requires more technical approaches to identify where potential gains are and to apply environmental purchasing criteria. We have to find...
a way out of the intellectual impasse according to which it is not worth taking action on the first level of reductions as long as we have not found a systemic solution to completely reduce our carbon emissions. This would be a strategic error: on the contrary, we should tackle the first level very quickly while giving ourselves the time to think about operational models that produce fewer greenhouse gas emissions.

**What do you mean by the need to examine humanitarian organisations’ operational model in detail?**

**B. J.:** Our operational model uses a lot of energy because of long-distance deployments, notably for emergency relief organisations who have very centralized supply chains, and all the more so in the medical field in order to have quality medicines and medical equipment. The question is therefore: how can we change the model while maintaining a high level of quality and reactivity? This requires more decentralised approaches that require less transport, staff training in the field, and the empowerment of national staff (still insufficient). This cannot be done from one day to the next, but over a number of years and in stages, while taking care not to implement ideas that initially seem to be solutions but, in the end, are not. IT solutions, for example, have often been presented as a way to reduce our consumption of resources, but we now know that they sometimes lead to more energy being used. Positive and negative experiences, expertise and support should be shared between humanitarian actors in communities of practice. Humanitarian organisations, like many companies and local governments who do not have a critical mass, do not all have the means to have internal technical teams and sustainability experts. As many countries have not yet created agencies to provide operational support for the transition, it would probably be useful to pool operational support and to establish networks. Inspiration can also be drawn from other fields. In the health sector, there is the very impressive example of the National Health Service (NHS) in England which has just announced a ‘net zero’ roadmap, that is to say, reducing greenhouse gas emissions as completely as possible. There is no reason why humanitarians cannot be similarly ambitious.

**What do you mean by lack of expertise within the humanitarian community, and how do you think this can be resolved?**

**B. J.:** There are two issues here: on the one hand, reducing emissions and good practices in terms of sustainability; on the other, the question of programme expertise, for example, in the medical field, with environmental pollution and the health crises it can cause. I think these are issues where humanitarian medical organisations can reinforce their capacities. Regarding climate change, many consequences are the result of a range of classic activities where the aid sector knows what
to do, the issue being volume rather than of a technical nature, such as malnutrition and displacements. But in other fields, such as extreme air pollution in vulnerable countries, these are new operational areas. We need to integrate the environment and the climate into our contextual analysis. Many development NGOs already do this, but it is very rare among relief organisations. Factors related to conflicts, violence, lack of access to food or water are very quickly taken into account in field assessments, but this is rarely the case for more complex environmental issues. Analytical frameworks need to evolve and staff need to be given the right tools – which often already exist – to do their work. They need to appropriate them.

To conclude, I would say that the tragedy of the response to the climate crisis is the failure to take responsibility. People tend to think that it is too huge, too global and too technical, and that, in the end, it should be dealt with at the macro level: government, finance and industry. And it is true that political, normative and financial levers are the most powerful mechanisms. But it will take some time before they are able to meet the challenges at hand and even longer before they have an impact. Given the seriousness of the situation, we are now beyond the stage when we can wait for everything to come from above; we have to take direct action. There is a major risk that the tragedy will accelerate if each of us stays confined to their role, their social mission, and doesn’t adapt despite the systemic crisis unfolding before our eyes. Faced with this situation, every organization in society should be questioning its actions and assessing its own sphere of responsibility, and everything that it controls. And for the areas that it doesn’t control, it should try to influence others through its example, high standards and the domino effect. The spheres that we control are often much larger than we think. We quite simply cannot wait for the macro policies which, of course, will eventually be adopted due to the pressure of events, but we don’t know if this will be in ten or fifteen years. We are all taking the risk of wasting precious time because there is a considerable delay between the moment that the political decision is made, its implementation, its concrete effects and its impact on emissions.
Reducing the ecological footprint of the international aid sector: ethical and practical issues

by Aurélie Ceinos and François Delfosse

Environmental degradation and the climate emergency are the major issues of our time, and the international aid sector cannot ignore the challenges involved. This article briefly covers the dilemmas and opportunities that these issues bring. It is based on discussions that took place at Groupe URD’s 2019 Autumn School on Humanitarian Aid involving representatives of NGOs, United Nations agencies and donors.

It is essential that the international aid sector reduces its ecological footprint

The issue of the international aid sector’s environmental and climatic footprint may seem marginal because of the minimal responsibility of the sector compared to other economic sectors, and also because of our social mission, particularly the imperative to save lives, here and now. It can also seem marginal in relation to the numerous risks of collapse. However, there are several reasons for the sector as a whole to be more exemplary. Firstly, the obligation to ‘do no harm’ and the need for coherence between our international aid projects and our practices, which are sometimes potentially harmful for the environment. The environmental footprint of the aid sector should thus be considered as a symptom of our dependence on thermo-industrial production methods, which we currently need to implement our social mission, but which are responsible to a great extent for our greenhouse gas emissions. Reducing our ecological footprint, over and above the imperative of doing no harm, is a way of preparing for a possible future when our operational models will need to be revised. As such, reducing the sector’s footprint with a view to a transition or a collapse scenario – for example, material and energetic decline as described by Arthur Keller – will lead to a virtuous circle where new operational methods, new forms of solidarity, and ways of functioning in degraded mode, which are less dependent on fossil fuels and thermo-industrial production systems, will be able to be developed. Reducing our footprint is therefore an imperative that needs to be considered in parallel to collapse scenarios in order to help to limit – at our level – the probability of the worst scenarios.
A drastic reduction is necessary

Though it is necessary to reduce both the aid system’s carbon footprint, and more widely, its environmental footprint (waste, the use of water, timber, cement, and its material footprint in a broad sense taking into account the lifecycle of goods and the material resources needed to produce them, particularly in connection with extractive/mining industries...), this article focuses on reducing the sector’s carbon footprint given the urgent nature of the situation but also the overall impact of decarbonising all the sector’s activities.

—

Massive, urgent and long-lasting reductions

Despite the climate negotiations that have taken place in recent years, greenhouse gas concentrations in the atmosphere reached a new record in 2018 according to the World Meteorological Organisation². The climate crisis is already upon us. The United Nations speaks of ‘a lost decade’³ (2009-2019) and this inaction has major consequences for the efforts that are necessary to respect the objective that was fixed by the Paris Agreement to limit global warming to 1.5°C. To reach this goal, countries have to reduce their carbon emissions by 7.6% each year between 2020 and 2030 – or a reduction of more than half in ten years – and pursue their efforts to achieve carbon neutrality by 2050⁴. Twice the effort is therefore needed than if they had taken action as of 2010, and all the more difficult as emissions have risen an average of 1.5% over the last decade. If current practices continue, the increase in the average global temperature will be over 4°C by the end of the century.

Thus, in addition to the physical risk that comes from the growing number of extraordinary natural phenomena, climatic risk also includes a ‘transition risk’ which comes from the need to limit greenhouse gas emissions, a risk that is principally linked to our use of energy. Energy has been and continues to be an essential factor in the development of societies, but it is also a crucial issue in terms of reducing the environmental footprint of all the functions of societies. Massively reducing global emissions of greenhouse gases in order to contain the climate crisis therefore means proportionately reducing the consumption of fossil fuels, while it is important to underline that such a reduction is complex due to its systemic and multi-sectoral nature (we will return to this below).

—

Global accumulation

Another reason to single out greenhouse gas emissions in terms of reducing the aid sector’s ecological footprint has to do with their physical properties. Indeed, regardless of their origins, their nature and the geographic location of the emitters on the planet, all emissions become part of the global accumulation of greenhouse gases in the atmosphere, thus contributing to
systemic climatic risk. In other words, all the activities of the aid sector are concerned and their direct and indirect environmental and carbon impact at all levels need to be taken into account. This therefore concerns: means of transport – from home to headquarters, from headquarters to the field - , the supply chain and the life cycle of products, waste production and management, the construction, rehabilitation and use of buildings, food and non-food item production and use, medicines and medical equipment, water management, energy generation and use for operational purposes, and, lastly, information and communication technology use...

Drastically reducing the sector’s carbon footprint is both a huge, systemic challenge and a source of opportunity, including in terms of leverage with other sectors (for example, in terms of the capacity to negotiate with suppliers, as the ICRC does⁶). Without forgetting the other forms of local environmental pollution, such as the production of non-recycled plastic waste or untreated waste water.

Steps towards an exemplary aid sector

Different areas of action are listed below: these should not be tackled in a linear way, but in interaction with each other, in the hope that this will generate positive feedback loops. Moreover, some of the proposed areas of action are inter-dependent and/or implemented at the same time.

Build awareness-raising narratives and tools

While numerous aid organisations are beginning to commit themselves, or have already committed themselves to reducing their ecological footprint, there is an urgent need to build a common narrative in order to bring the whole sector on board and convince all organisations to go further given the nature of the emergency. The reticence that exists in the sector needs to be deconstructed. Ethical issues related to the imperative to reduce emissions and the choices that will have to be made need to be discussed. This can be done by
developing awareness-raising tools, writing articles and developing case studies that show the relevance and feasibility of new approaches with a reduced environmental footprint. It should be pointed out that this internal awareness-raising effort also concerns donors.

Reinforcing and then extending the community of action, structuring and systematising the sharing of information, expertise, resources and tools to help actors take the leap

Numerous organisations are already taking action. The aim should therefore be to capture, map and document the good practices already taking place, but also to build bridges and dialogue between actors. Lesson learning and sharing has begun between French-speaking organisations via the Humanitarian Environment Network and Coordination Sud’s Climate and Development Commission. At the international level, there is the OCHA/UNEP Joint Environment Unit. However, this effort to create synergy needs to accelerate and needs to include actors from the private and public sector, at the international, regional and local levels, and, of course, environmental organisations, universities and research centres. For example, medical sector NGOs could learn from initiatives such as the Global Green and Healthy Hospital network and Health Care Without Harm, which are important sources of know-how, and can be replicated.

This lesson-sharing should allow case studies to be produced to document and show the feasibility of tried and tested approaches, so as not to re-invent the wheel or conduct a lot of separate pilot projects. The objective is to deconstruct arguments regarding technical complexity and the idea that certain environmentally-friendly options are incompatible with an emergency response, and also, if required, to explain the return on investment (of energy efficiency measures, in particular). Even though this may be derisory compared to the challenges ahead, it is often a necessary step within organisations in order to introduce changes, and it is necessary to be pragmatic in order to be efficient. This could also be a way to establish a catalogue of good practices (BEPO: Best Environmental Practical Options) that take into account financial, financial, financial,...
Regarding ‘Digital Obesity’

“Digital technologies now emit 4% of greenhouse gas emissions (GHG), that is to say more than civil aviation. This share could double from now to 2025 to reach 8% of all GHG emissions, i.e. the current share of car emissions. Reducing the threat of climate change requires drastically reducing global greenhouse gas emissions in the next few years; however, the energy consumption required for digital technologies is increasing by 9% a year [...]”. (Source: The Shift Project, 2018) The so-called «dematerialisation» of practices and the growing use of new information and communication technologies (NICTs) thus has a material and energy impact, and therefore a «carbon» impact that must be taken into account in the alternatives proposed for the sector.

Donors have a crucial role to play in terms of ensuring that such criteria are taken into account, suggesting incentives (for example, making funding available for structural costs) or encouraging and/or funding these experience-sharing exercises.

In order to act quickly and reduce emissions significantly, this community of actors should consider pooling financial, logistical and human resources. This will involve discussing improvements together in order not to duplicate efforts and to coordinate and carry out joint actions to limit our impact. For example, a joint supply system that aims to limit the impacts related to the transportation of merchandise, the development of joint projects to reduce waste and improve its management, or the sharing of human resource practices in order to share good practices...

Drawing up an environmental charter with concrete objectives

It is crucial that a group of international aid organisations makes a clear commitment in the form of an environmental charter, which other organisations could then sign up to. The aim would be to build momentum within the sector, without waiting until every actor was ready to commit themselves. Signing up to the charter would be based on commitments from each actor, and eventually this charter could become restrictive.

In this regard, we could refer to the Global Green & Healthy Hospital network and how organisations sign
up to it: any medical organisation or body can join the GGHH by sending a letter of intention stating the organisation’s support for the GGHH programme and/or its commitment to meet at least two of its sustainability goals\(^9\). Signing up gives access to a documentary and technical database, as well as a platform to discuss good practices with the other members of the network. These commitments should lead to proactive communication in order to encourage the rest of the sector to do the same and to show other sectors that an ‘alternative’ model is possible.

This charter should also include clear objectives and a trajectory for reducing the carbon footprint in keeping with the scientific consensus. To do this, it is necessary to have guidelines for measuring the main environmental impacts of the sector. Indeed, actors need to identify the main areas to work on and actions that can be put in place quickly and will produce a significant impact, or ‘quick wins’, in order to prioritise actions. This framework should also make it possible to control the evolution of practices and measure the effectiveness of reduction measures. This point is all the more important because once the ‘quick wins’ have been dealt with (such as the reduction of unnecessary flights, to take the simplest example), the actions needed will be more and more complex to implement and will require greater effort and reform. The capacity to measure progress is important to raise awareness internally (so that people are really conscious of the environmental impacts), and also to be accountable to donors, partners, employees and affected people.

It will also be necessary to define the boundaries of the sector’s carbon footprint, and relatively quickly extend this to indirect emissions. These are the emissions indirectly produced by an organisation’s activities, including the complete value chain of its activities, before and after. This represents a significant percentage of the sector’s footprint as it includes, for example, suppliers. It could follow the example of the ICRC, which has negotiated with its suppliers to reduce the use of palm oil, reduce its footprint in terms of raw materials, and ban the distribution of GM seeds or products. By making a commitment to environmentally- (and socially-) friendly production and supply chains and taking the whole lifecycle of products into consideration, the impact could be systemic and global, extending beyond exemplarity and beyond the sector.

Lastly, the charter could include a commitment to compensate for incompressible emissions via a compensation programme based on recognised standards\(^{10}\) or via the payment of a carbon tax, while recognizing the risks involved in such practices, which should be a last resort and not seen as a way of avoiding a genuine reduction in the sector’s environmental footprint. Why not consider, as CARE has done, instigating a carbon tax system within the sector that would allow mitigation activities to be funded?
CONCLUSION: ESTABLISHING A QUANTIFIED ROADMAP WITH DEDICATED RESOURCES

The points presented above should feed into an environmental, global and cross-sector roadmap that aims, principally, to organize the energy transition, promote and implement the best environmental practices, and reflect on operational approaches.

A roadmap is a framework for action and should describe concrete actions as well as the resources needed to implement them. It will complement the charter, and should define the main areas of action identified as priorities for the sector, such as: managing energy and carbon, supply chains and waste, life cycles, transporting people and merchandise, managing water, managing waste, construction and renovation project design, organisational development, the management of staff, partnerships and networks, or even governance and finances.

Above all, this roadmap will help to highlight opportunities and coordinate activities so that a transition plan can be implemented at the local, regional, national and international levels. Many of the proposed measures will result in a more efficient use of the organisation’s human and financial resources. The investment needed for the transition could therefore be partially compensated by significant savings in terms of transport or fossil fuel costs. And, of course, the cost of certain products could increase significantly if a carbon tax is implemented.

Lastly, the roadmap will be based on all the case studies and good practices that have been shared. Drafting and implementing it will require everyone’s support and it is only by working together that we will be able to make the sector exemplary. In any case, if we wait any longer, we will fail to meet the challenge facing us. Establishing an ambitious objective (and fulfilling it) as of 2020 is therefore the only option available if we want to stay below +1.5°C.

Aurélie Ceinos (CARE), Resilience & Climate Change Specialist
François Delfosse (MSF-Suisse), ‘Environmental Roadmap’ Project Manager

NB: The opinions expressed in this article are those of the authors and do not necessarily reflect those of CARE International or MSF.
1 - In their text, Humanitarianism in the Anthropocene, Sverre Molland and Darryl Stellmach describe “humanitarian action [as] an industrialized response to suffering. The same tools and techniques that power global capitalism also enable humanitarian action: transnational supply chains, administration, media and communications mobilize personnel and materials to faraway places.” Available at the following address: http://somatosphere.net/2016/08/humanitarianism-in-the-anthropocene.html

2 - Arthur Keller trained as an aerospace engineer and now specialises in societal vulnerabilities, and ecological transition and resilience strategies.


7 - www.reseauenvironnementhumanitaire.org

8 - www.ehaconnect.org

9 - The ten goals are as follows: 1. LEADERSHIP: Prioritize environmental health; 2. CHEMICALS: Substitute harmful chemicals with safer alternatives; 3. WASTE: Reduce, treat and safely dispose of healthcare waste; 4. ENERGY: Implement energy efficiency and clean, renewable energy generation; 5. WATER: Reduce hospital water consumption and supply potable water; 6 TRANSPORTATION: Improve transportation strategies for patients and staff; 7. FOOD: Purchase and serve sustainably grown, healthy food; 8. PHARMACEUTICALS: Safely manage and dispose of pharmaceuticals; 9. BUILDINGS: Support green and healthy hospital design and construction; 10. PURCHASING: Buy safer and more sustainable products and materials. (See: https://www.greenhospitals.net/sustainability-goals/)

10 - United Nations-Carbon offset platform, UN certification of emission reductions, https://offset.climateneutralnow.org/uncertification

Renewable Energy Skills Development project, Somalia. ©Care Somalia
The Drastic Changes Facing Food Systems
by Philippe Thomas

The debate between the ‘doom-mongers/collapsologists’ and the ‘optimists’ is a red herring that is distracting us from the real issues: globally, scientific evidence shows that agricultural and food systems are not sustainable, are faced with unprecedented risks and will need to go through a transition towards systems that are capable of sustainably meeting the nutritional needs of a growing population, despite the fact that natural capital is steadily deteriorating. The only relevant question concerns the nature of this transition and its feasibility. The European Commission’s Green Deal aims to meet this challenge.

The Lack of Sustainability of Food Systems

Agricultural production has continually increased since the 1960s, to such an extent that there is enough food available to meet the needs of the global population. And yet, undernutrition has been increasing regularly since 2015, whereas it had been falling continuously for decades. Around 820 million people went hungry in 2018, one in three people suffered from malnutrition, 600 million people were considered obese and annual food waste represented a third of global production. The current structural imbalances of global agri-food systems are increasingly obvious, but that is not all: the prospects for the future are that these systems will face unprecedented challenges, with 2.5 billion extra people to feed by 2050, as well as the potential impacts of climate change and biodiversity loss, including those directly related to the intensification, and artificialisation, of agricultural production.

Indeed, food systems are faced with several simultaneous threats that could lead to an increased number of food crises:

- The soaring population growth in certain countries is going to increase the demand for food and lead to added pressure on the earth. This growth will be particularly high in low income countries, notably in Sub-Saharan Africa.

- Changing diets, and particularly the increasing demand for meat in growing urban contexts, mean that the triple burden of malnutrition (under-nutrition, deficiencies and diseases caused by excess) will need to be managed, as well as new (microbiological and chemical) health risks.

- The increasing demand for work, particularly in rural parts of low-income countries, is a major issue at stake for food security. On the one hand, food systems, and notably processing, are a significant potential source of jobs and income,
particularly for women. On the other hand, there is frustration among young people in rural areas due to the lack of jobs available, which leads to socio-political instability.

- **Environmental degradation is accelerating, is being made worse by climate change**, and is affecting all countries. This is threatening agricultural production via several factors that are contributing to lower yields and a drop in global productive potential: i) the loss of soil fertility due to its rapid degradation; ii) the loss of agricultural land due to the expansion of urban and industrial areas, and the flooding of areas due to rising sea levels; iii) the rapid decline in the number of pollinators and other aspects of biological diversity; iv) the reduced availability of water that can be used for agricultural production due to changes in water systems and rainfall, the over-exploitation of water basins, pollution, etc.; v) the emergence of new diseases and their increased geographic mobility; vi) the increased frequency and intensity of extreme weather, and, consequently, the greater impact of natural disasters.

- There is a risk that **international markets** will be under greater stress, and, above all, more volatile in the future due to changes in farming conditions and the increased demand for products, and also due to the effects of financial mechanisms as was seen during the 2008-2011 food price crisis.

- **Man-made disasters** (conflicts, violence, insecurity...), which destroy food markets, reverse development gains and lead to displacement and migration, are the main reason that food insecurity has begun to rise again. Displacements threaten the security and socio-economic stability of host areas, with a negative impact on food systems,

Diagram 1: peak Phosphorus curve (Source: Cordell et al., 2009)
which can cause a domino effect and further crises.

- **The predictable depletion of non-renewable natural resources**, notably mineral phosphate, also shows that the current agri-food system is not sustainable. According to experts, the exploitation of mineral phosphate could peak around 2030-2040. In concrete terms, this means that, to increase food production, it will be necessary to find other sources of phosphate, for example, by returning to the increased use of organic fertilizer.

All these things are contributing to change at the global level, but which nevertheless takes different forms from one region to the next. Within the same country, there are agri-food systems that are affected by different kinds of constraints. Generally speaking, countries in the Global South need to increase their production in order to meet the challenges of population growth (there is agreement among experts that food needs will increase by 50% by 2050), whereas regions like Europe need to manage excessive intensification which, though it has helped to avert the threat of shortages, has brought major negative externalities, notably of an environmental nature.

As underlined by Sandrine Dury (co-author of the joint CIRAD-EU-FAO report, ‘Food systems at risk: trends and challenges): “This combination of risks puts us in an unprecedented situation in which snowball effects have been observed and the point of no return has been reached in some fields, such as biodiversity”.

**BEYOND IRREFUTABLE FACTS, THE FUTURE REMAINS TO BE BUILT**

Even those who are the most sceptical about climate change cannot deny that agricultural and food systems will need to adapt to all these current and future changes.

A consensus is therefore beginning to take shape based on two major strategic areas:

- First of all, by being more attentive to resilience trajectories and local/territorial solutions: many populations already live with these constraints and we therefore need to be more attentive to their resilience capacity because they are inventing new solutions and applying existing ones. In the face of global risks, solutions cannot be limited to the universal and general level. They also depend on local situations, both in the North and South, and should recognize the importance of local actors. As such, the circular economy brings obvious environmental and social added value.

- The other area is the systemic approach: whereas, up till now, we have dealt with sector-based risks individually, we are now facing systemic risks which, though they are concentrated in certain areas that are already fragile, they increasingly affect the rest of the
world: Europe, the United States, Canada, Australia, and the most developed countries in Asia are also beginning to be concerned. The accumulated effects of the different combinations of these risks and the way that they are evolving, the speed of the changes taking place, which are always worse than researchers’ most pessimistic predictions, with thresholds being passed, and the emergence of complex negative chain reactions increasing the risk of more serious crises. It is therefore urgent that we mitigate these risks, insofar as it is still possible to do so...

Carrying out this transition towards sustainable systems will require major investment, notably in terms of research and innovation. The private sector will have an essential role to play, but only those who are ‘blissfully optimistic’ continue to consider (or want us to believe) that the current system – and particularly ‘economic liberalism’ – is the solution to meet the challenges ahead, without needing to make any major changes in terms of policies or public investments. Another myth is that we can return to a golden age (which perhaps never existed), as if the solutions of the past could solve the problems of the future. Conscient of these challenges, the Secretary-General of the United Nations has called for a World Food Systems Summit to be held, which should take place in September 2021, during the United Nations General Assembly. Only the future will tell
if this summit will really be able to create a new global dynamic.

THE EUROPEAN UNION’S RESPONSE

For its part, the European Union did not wait for this evidence to be established before acting. It has made food and nutritional security and sustainable agriculture the main focus of its development aid by raising more than 8 billion euros over the period 2014-2020. Four complementary areas help to accompany agri-food systems towards greater sustainability: i) innovation and research, ii) inclusive investment, iii) food crisis prevention and response, and iv) the fight against malnutrition, notably stunting.

Numerous studies, such as those carried out by the Global Network Against Food Crises (a network that was launched by the EU, with FAO and WFP, and which has been joined by numerous other partners), are key references that help to clarify the challenges ahead and also to define and implement the approaches that need to be developed urgently. The DeSIRA initiative – ‘Generating and exchanging knowledge and fostering innovation-support to climate relevant Development-Smart Innovation through Research in Agriculture’ – is another flagship project that aims to overcome environmental and climatic challenges and establish global food and nutritional security.

Nevertheless, more needs to be done, and faster: the proposal drafted for the Commission’s next financial framework is even more ambitious, with the ‘European Green Deal’, which aims to meet the challenges of the ‘Sustainable Development Goals’. This approach aims to improve shared assets related to the stability and resilience of global food systems, beginning with the revision of internal policies, for example, by pursuing the reforms that have begun of the Common Agricultural Policy (CAP), to make Europe the first climate neutral continent by 2050. The CAP has evolved a great deal in the last decade and the ‘Farm to Fork’ section of the Green Deal will accentuate these changes.

Though the European Commission has shown that it has woken up to the dangers of climate change, the change of paradigm will still need to be ambitious and it will need to be put into place rapidly.

“Though the European Commission has shown that it has woken up to the dangers of climate change, the change of paradigm will still need to be ambitious and it will need to be put into place rapidly.”
change of paradigm will still need to be ambitious and it will need to be put into place rapidly. This would mean not only that the Member States of the European Union were prepared to follow this political impetus and that they provide it with the necessary means, but also that Europe is followed by other regions and continents. The clock is ticking and the risk of a major crisis – in the form of ‘systemic collapse’ – is becoming more and more real: pack ice and glaciers are melting more and more quickly, there are more and more mega fires, pollinating insects are disappearing, earthworm and soil arthropod populations are rapidly becoming smaller... Collapse is not inevitable, but the longer we fail to take action, the more probable it becomes.

Philippe THOMAS,
European Commission,
Directorate-General for International Cooperation and Development,
December 2019

N.B.: The views expressed in this article do not necessarily reflect the official position of the European Commission or its General-Directorate for International Cooperation and Development, and are those of the author alone.

References:

So far so good...

by Michaël Carrier

The thoughts of an aid worker who began working in the sector at the end of the 1990s, when there was a sense that anything was possible (the end of the war in the Balkans, the end of the conflict in Northern Ireland, the emergence of a strong, solidarity-based Europe, the Global Justice movement, etc.), and who is still committed today. A lot of things may be collapsing, but not the mobilisation of citizens from all kinds of backgrounds in favour of a fairer and more sustainable world.

“Heard about the guy who fell off a skyscraper? On his way down past each floor, he kept saying to reassure himself, ‘so far so good’, ‘so far so good’... How you fall doesn’t matter, it’s how you land.” (introduction to the film, La Haine, by Mathieu Kassovitz – 1995)

I am the person who is falling but doesn’t change – or very little – because I think, “so far so good”. I am the European who has never experienced the violence of war. I hear talk about ‘global warming’ but the area where I live has not been affected (yet). I live ‘above my means’, but my standard of living and my personal freedom are important to me. I see the crises in Europe and elsewhere, but those in charge ask me to continue producing and consuming, and not to change anything.

I am the citizen who helps migrants and ends up on trial for the ‘crime of solidarity’. I demand more justice (social, economic, and environmental), but my demands fall on deaf ears. I want to be open to the world, but borders are closing and there are more and more walls. I want to live responsibly, but different lobbies (energy, agriculture, politics, etc.) encourage me not to produce and consume differently, not to change anything.

I am the humanitarian who sees more and more people and societies caught up in violence, extreme poverty and chaos, but this has no – or hardly any - effect on my loved ones and my ‘little world’. I help to build the capacity of these people and societies to recover and cope with future crises, but I don’t do this at home – or hardly at all. I see other forms of solidarity emerging here but I continue to take action elsewhere, without changing the way I work in any way.

I am humanity, which ‘lands’ and finds itself at the crossroads, having thought “so far so good”. With the gradual destruction of the different lifeforms on earth, climate change, economic fragility, the financial bubble that has not been resolved since 2008, natural resource depletion, pollution,
the proliferation of arms, the increase in the number and intensity of conflicts, the rise of extremism... the world is not going through a temporary crisis but a transformation that will have a major impact on the daily lives of the whole of humanity. We will have to adopt new practices because access to basic needs such as water, food, housing, energy, mobility, health and security will be increasingly difficult.

I can refuse to see what is happening around me and take advantage of the progress that was made in the last century (in agriculture, economics, social issues, health, etc.) until I ‘crash land’ when resources run out or a disaster takes place.

I can hide behind my borders, my beliefs or my fears, and let authoritarian regimes decide how I live, or take refuge in a ‘survivalist quest’ to prepare for the chaos of a ‘Mad Max’ future.

I can also decide to act now with others, because “we must take change by the hand, before it takes us by the throat” (Churchill). We can try to ensure that change takes place on our terms, so that a future becomes possible.

I am the 21st century woman or man who changes so that they can continue to say “so far so good”. I limit my comfort to contribute to the survival of the earth. I take action with other citizens of the world so that the interests of individual nations or lobbies do not override the general interest. I get involved in reducing inequalities. I produce and consume differently to reinforce local resources and wealth. I try to influence my leaders so that “major societal and economic transformations [...] take place in the next decade to make up for the inaction of the past.”

I take part in political debate to defend the values of peace and democracy. Through my actions and my commitments, I promote the law of mutual assistance rather than the law of the jungle, and though I might lose certain advantages, I gain in terms of solidarity, security and proximity.

I am the aid worker who changes so that future generations will also be able to say, “so far so good”. Current forms of solidarity, like the ‘international aid sector’, need to contribute to this transformation, while transforming themselves at the same time. The hostile reactions to Greta Thunberg’s speeches by certain world leaders show us that these changes will not happen without conflict or the testing of power relations. But faced with the law of the jungle promoted by state or private lobbies, only engagement and mutual assistance can help us to stop the pointless and endless forces of violence in order to overcome a problem that defies intelligence. As the spontaneous mobilisation of European citizens to assist migrants showed, it is engagement and imagination that lead to active reflection and solutions.

“The greatest glory in living lies not in never falling, but in rising every time we fall.” Nelson Mandela

Michaël Carrier
Researcher at Groupe URD

---

2 - See L’entraide, l’autre loi de la jungle by Pablo Servigne and Gautier Chapelle (Les Liens qui Libèrent, 2017).
Towards a territorial approach to resilience and vulnerability: 2011 Tsunami, Kamaishi
by Diane Alalouf-Hall

Many of the urban areas along Japan’s east coast were hit by the 2011 tsunami’s deadly waves. In Kamaishi, one of the cities located in this area, a ‘miracle’ took place which was the result of common sense and the way young people had been educated. The lessons from Kamaishi provide food for thought regarding the territorial approach to resilience and vulnerability.

Climate change has an impact on the lives of millions of human beings, particularly the most vulnerable populations and the most exposed territories. The most recent projections say that there will be global warming of between 2 and 7°C and a rise in sea levels of between 40 and 110 cm by 2100. These projections will inevitably affect the security of the populations of countries that are considered to be economically and politically strong. Already in 2012, Margareta Wahlström, the UN Secretary-General’s Special Representative for Disaster Risk Reduction pointed out that affluent countries were not immune to this situation: “Certain very rich, highly developed countries, with economies that are entirely interdependent with the world economy, have been very severely hit, from New Zealand to Japan, by way of Australia.”

Natural disasters are increasingly intense and frequent in Japan. The last thirty years have been difficult for the country, with a succession of typhoons and torrential rains that have caused numerous victims and considerable damage. In addition, the Japanese population is highly concentrated in coastal and riverside areas, half its inhabitants (126 million people) living on 10% of the territory. It is important to point out here that certain coastal cities are partially built below sea level. Therefore, for all these reasons, although tsunamis are not directly related to climate change, the inhabitants of coastal areas are more vulnerable to these geological events.

This article focuses on the disaster that struck Japan in 2011, and more specifically on the city of Kamaishi, which was badly affected by the tsunami. We will analyse this natural disaster in connection with the initial results of a PhD project on the territorial nature of resilience and vulnerability. Firstly, we will look at the evolving nature of the concepts of vulnerability and resilience. Secondly, we will present an analysis grid that aims to establish the characteristics of territorial resilience based on the national and regional context in which a natural disaster takes place. Finally,
we will look at the approach that was adopted to manage the post-disaster situation in Kamaishi, an economically and politically strong area where local disaster prevention initiatives were given priority.

**THE EVOLVING NATURE OF THE CONCEPTS OF VULNERABILITY AND RESILIENCE**

Given the combination of natural disasters related to the natural life of the earth\(^5\) and those related to imposed changes (climate change)\(^6\), human populations have no choice other than to adapt and take action. This can take the form of an emergency response to a humanitarian crisis or a programme to increase resilience which aims to ‘increase resistance to shocks and constraints as well as recovery and reconstruction capacities’, (Sendai Conference, 2015)\(^7\).

It is worth pointing out two essential points here. Firstly, an event is only a ‘disaster’ if the affected community has difficulty in ‘coping’ with it. Secondly, the ability of a community to cope with a situation obviously depends on its exposure to a hazard and its economic and social capacity to deal with the shock. The weaker the resilience of a territory to the effects of a natural disaster, the greater the negative impacts will be.

Two conclusions emerge from this: on the one hand, territories with low socio-territorial capital will be at a great disadvantage to recover following a disaster. Territories are therefore not equal in relation to disasters, which adds a further dimension to the vulnerability factors that already exist. And on the other hand, this leads to a definition of vulnerability related to the issue of climate change. As such, vulnerability is, ‘The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity’ (IPCC, 2001). This definition has the merit of establishing three factors that characterize vulnerability: character, scale and rhythm. In the current context, vulnerability is no longer static, but of an evolving nature.

Finally, though the notions of resilience and vulnerability are not exchangeable – because they do not involve the same factors and do not have the same semantic roots - they are nevertheless interconnected. Indeed, the two notions are strongly interdependent in terms of recovering from a crisis: a population will be all the more resilient if they have learned from a crisis that has affected them and, at the same time, the worse the consequences of a disaster, the more it will challenge the resilience of a population by requiring more resources to be mobilized to cope with it. Resilience and vulnerability therefore tend to evolve together.
If resilience is understood as a response to fragility that is perceived to be real, awareness of this fragility has an effect both on the desire and the capacity to rebuild after the disaster and on the capacity to prevent future disasters. Theoretically, rebuilding exactly what existed before is problematic as it shows that the disaster has not been taken into account. On the other hand, a reconstruction that integrates lessons, or that adapts to disasters, is not an optimal solution either. Indeed, this only attempts to reduce the impact of vulnerability factors. But when vulnerability is of an evolving nature, so is resilience.

This leads to an evolving, more or less zero-sum, situation where it is possible to be both vulnerable to a shock and perfectly resilient when it takes place due to the prevention measures that have been taken. There are many examples of cities that were highly exposed to risks and were hit by disasters, and then managed to bounce back, recover, rebuild and re-establish stability. This is notably the case of Kobe after the earthquake of 1995 (Menoni, 2001) and Kamaishi in 2011 (Alalouf-Hall, 2019).

In contrast to the concept of vulnerability, which is passive, the concept of resilience encourages action as it provides a vision or a project that is both consensual and inclusive (Lallau, 2011) for different levels of government or of the international aid sector, which explains why it is so successful. Even though it can be defined in various ways, the concept is tangible and quantifiable, and is therefore reassuring (Djament-Tran
et al., 2011). Thus, resilience has been incorporated into the fields of evaluation and risk management through the creation of indicators, the development of ‘good practice’ guides, and the development of standards that aim to objectivize it.

Lastly, resilience focuses on the individual responsibility of affected people. As such, increasing resilience is merely a case of monitoring the relevant indicators. Thomas (2010) argues that crisis management policies see vulnerable people as citizens who are individually affected by disaster events; citizens who are expected to take part in their own rehabilitation. Unfortunately, this vision does not take into account the forces that have already been in place for several decades – local standards and practices – as if risk and disaster management practices were applied in ‘virgin’ territory.

**A PROPOSED COLOUR CHART FOR TERRITORIAL RESILIENCE**

In analysing vulnerability, we might expect a strong state to be more resilient. In reality, the level of resilience within any state is not uniform. Within each state, there are different levels of resilience: certain regions, towns, neighbourhoods and activities recover more quickly than others. We saw this recently in the United States following the major fires in California that destroyed rich, inhabited areas, and which were quickly rebuilt. The situation was quite different in Louisiana after hurricane Katrina in 2005, where it took a long time to revitalize the territory. Five years after the disaster event, only 20% of the city of New Orleans was considered to have recovered (Hernandez, 2010 and Huret, 2010). And yet, these two events affected the same country, thus raising the question of how we define ‘fragile’ and ‘strong’ areas.

Given that there are still doubts about the relevance of tools that measure the capacity of a system to adapt (Dauphiné, 2004), how can the general intervention capacity of a territory be evaluated? This focuses less on the state in which the people affected by a disaster event find themselves than on the processes that lead to this state in different types of territory.

According to Villar and Guézo (2017), territorial resilience to natural disasters comes from a territory’s capacity to adapt and organize, which allows the territory to overcome damaging events. Territorial resilience means that the relevant regulatory frameworks are in place allowing collaboration, bringing together expertise and know-how, and allowing differences to be overcome. The territory integrates these regulatory frameworks and reflects different types of capital, as well as weaknesses and shortcomings in terms of the capacity to take action.

In order to identify differences in the capacity to cope with a large-scale disaster, we have developed a colour chart that allows us to determine what a territory’s resilience might be. We have given an example of a
major event to illustrate each type of situation and territory.

A very resilient territory (++) is capable of anticipating upheaval, whether sudden or slow-onset, thanks to monitoring and planning ahead, and of mitigating its effects if it takes place. If an unpredictable disaster event were to take place, this type of territory is capable of recovering and bouncing back, learning from and adapting to the situation, through innovation, thus increasing its resilience and decreasing its vulnerability. Villar and Guézo (2017) describe them as ‘territories on the move’. In other terms, the more a territory is resilient, the more the actions of competent organisations will be adaptable and malleable. What is more, the relation to nature will be conserved more, as the inhabitants of such a territory are used to the vagaries of nature. And community ties, which are well established and operational, encourage acts of solidarity. Locally run initiatives have a greater impact here than initiatives run by foreign powers.

In contrast, in the case of territories with low or no resilience (--), it will be more difficult to have programmes designed by the international aid system alongside those implemented by local organisations. A territory with low or no resilience will have great difficulty anticipating upheavals, whether sudden or slow-onset, or to correct or mitigate their effects. The crisis linked to the disaster event will also last a long time. The relation to nature will not be a priority and community networks will be under stress.

The objective of the colour chart is to allow preventive assessments to be carried out in order to calibrate the actions to be deployed. Such calibration means that we can adopt a ‘listening’ position rather than a ‘bureaucratic’ one: the aim is to combine the capacity to take action
‘based on the territorial reality’ and to take into account ‘the disaster-related reality’ or the scale of the disaster. Universal operational guides, based on the scale of a disaster, can be improved. It is a case of coordinating different actors, while taking into account their respective strengths and weaknesses.

The Case of a Disaster in a Highly Resilient Territory (++): Kamaishi (2011)

On 11 March 2011, an earthquake of magnitude 9 hit the north-east of Honshu, the largest island of Japan. This earthquake caused a tsunami with waves of up to 40 metres. Following the tsunami, the Japanese authorities counted 19 000 dead and 6 000 injured. Half a million people found themselves without shelter. Explosions and radioactive leaks led to the closure of Fukushima Daichi and Fukushima Daini nuclear plants. This disaster produced a veritable reversal of roles in terms of international humanitarian aid. Indeed, more used to being a donor, Japan found itself in a sufficiently critical position to appeal for international help. According to the Office for the Coordination of Humanitarian Affairs Financial Tracking Service, Japan received more than 735 million dollars in donations, the highest post-disaster amount of 2011 apart from the donations assigned to the food crisis in the Horn of Africa.

In 2005, the coastal regions had been warned that a mega tsunami would happen within the next thirty years, and Kamaishi was directly concerned by these projections. In this region, it is said that each generation will witness a significant disaster. Kamaishi’s history has been linked to natural hazards for a long time: the Meiji Sanriku earthquake (1896) caused the deaths of around 60% of the population of the city and the Showa Sanriku earthquake (1933) caused the death of 164 people and the disappearance of 240 others.

The memory of these disaster events is ever present in the city of Kamaishi. There are plaques that show the level reached by the waves and memorials in various neighbourhoods invite the inhabitants and people passing through to remember what happened.
With such a history, a high level of resilience has been established due to the lessons learned and prevention measures taken after each disaster. Like other towns in Japan, Kamaishi invested in technological prevention and awareness-raising: the construction of dykes and shelters, the distribution of maps showing at-risk areas (Suppasri et al. 2013). Among these projects was the construction of a seawall that is so big that it is in the Guinness Book of Records (Trucker, 2013).

To complement these prevention projects, the town also decided to raise awareness among young people. Thus, in 2005, Toshitaka Katada, a Civil Engineering Professor at Gunma University and Disaster Prevention specialist, conducted an initial class at the Kamaishi Higashi Junior High School at the request of Kamaishi Educational Council. This led to the creation of a complete training programme in 2008, which is based on local knowledge, ‘Tsunami Tendenko’.

The disaster of 11 March 2011 was much worse than anything that had been predicted: a large part of the seawall collapsed when it was hit by the first wave, which was 20 metres high, leaving the city defenceless. There were 1064 deaths and a third of the 5000 houses were partly or completely destroyed. The fishing industry was also very badly affected with more than 97% of fishing boats damaged.

A distinctive characteristic of the disaster that took place in Kamaishi is that there were very few deaths among the young, the city stating that 99.8% of minors survived. People talk of ‘the Kamaishi miracle’. According to the local teachers and the city’s Educational Council, this is due to the disaster prevention programme that was launched a few years before (Birmingham & McNeill, 2012).

In 2011, pupils received at least

---

Table 2: The history of tsunamis in the region and the damage that resulted

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Magnitude (Mw)</th>
<th>Damage</th>
<th>Maximum height of the wave (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15/06/1896</td>
<td>Meiji Sanriku</td>
<td>8.2</td>
<td>Deaths: 21 959</td>
<td>38.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Houses damaged or destroyed: &gt; 10 000</td>
<td></td>
</tr>
<tr>
<td>03/03/1933</td>
<td>Showa Sanriku</td>
<td>8.1</td>
<td>D: 3 064 deaths</td>
<td>28.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HDD: &gt; 1810</td>
<td></td>
</tr>
<tr>
<td>22/05/1960</td>
<td>Great Chilean</td>
<td>9.5</td>
<td>D: 142</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HDD: &gt; 1625</td>
<td></td>
</tr>
<tr>
<td>11/03/2011</td>
<td>Great Tōhoku</td>
<td>9</td>
<td>D: 19 000</td>
<td>40.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HDD: &gt; 836 500</td>
<td></td>
</tr>
</tbody>
</table>

---
three years of training in prevention and were better prepared than older people to deal with such a disaster. The region’s natural hazards are studied in history, geography and physics programmes. ‘Survival’ classes are also given, the aim of the city and the teachers being to try to improve understanding of the region’s natural hazards and their effects so that they are no longer feared and can be lived with. The ‘miracle’ thus led to widespread recognition and praise for the Tsunami Tendenko (Kodama, 2015) and the school programmes.

The Great Tohoku showed that major earthquakes can still take place and that the Japanese coast is a vulnerable urban area. In December 2013, the Basic Act for National Resilience was adopted and its first article clearly states that its objective is to build Japan’s resilience nationally in terms of disaster preparedness. For its part, Kamaishi municipal authority has also reviewed its prevention measures: reinforcing the resistance of infrastructure, raising the ground level, transferring junior high schools to higher ground, and increasing food stocks and emergency blankets. The city even hosted some matches at the Rugby World Cup in a brand new stadium with a capacity of 16 000 spectators in September 2019.

**Conclusion**

The ‘Kamaishi miracle’ is not in any way miraculous: it shows that there is a need for reflection before and after a disaster. Admittedly, it took place in a region where, despite certain signs of underdevelopment, there was significant mobilization by the state, the population, civil society and businesses. Furthermore, the recurrence of ‘tsunami’-type events in the past, and subsequent reflection, meant that there was understanding of the behaviour to adopt in the event of a disaster. Local lessons led to low-cost behavioral standards that proved to be effective and superior to cutting-edge technological solutions. This specific case therefore shows the importance of taking into account local knowledge and the witness accounts of those who have experienced a natural disaster, and of looking for simple, affordable and realistic solutions. Reproducing the Kamaishi model is nevertheless a challenge, particularly in very disadvantaged or un-resilient regions.

Looking at the events of 11 March 2011 at different levels (regional or local), helps us to understand the nature of the disaster, and certain urban development, risk management and protection issues. Based on observation in the field, we are also able to see that with each disaster, the Kamaishi region has increased its expertise in terms of risk management, recovery and resilience. Though they are used to natural disasters, its inhabitants are aware that natural hazards are not one-off disturbances: they reveal flaws in the development model.

In a context where there is a lot of potential to create wealth, and where there are significant natural risks, the existing model is essentially based
on technological innovation and pays no heed to natural realities. It leaves little room for resilience to evolve. The region of Tohoku would have been very badly affected if the reactors of the two nuclear plants had exploded. Some situations, which are the result of human decisions, lead to absolute vulnerability...

To conclude, let us stress that territorial resilience raises the question of the relationship between disaster events, national and international institutions and the civilian population in an affected area. It is achieved by reconnecting with local knowledge from both the past and the present, and by changing the ‘spirit of the times’ based on the pursuit of wealth through economic growth for the sake of economic growth.

Diane Alalouf-Hall, PhD student at the Université du Québec à Montréal (UQAM)
Associate Researcher at the Canadian Research Institute on Humanitarian Crisis and Aid (OCCAH)

Bibliography:


Djament-Tran, G., et al. (2011), Ce que la résilience n’est pas, ce qu’on veut lui faire dire.


Kamaishi City Reconstruction Promotion Headquarters, Meeting on 20 July 2018 in the city of Kamaishi.


1 - Projections for the end of the century from IPCC and Climeri-France reports (2019) compared to the pre-industrial period (1850) referred to in ‘International aid and humanitarian action: what can be done in the face of impending catastrophe?’, Médiapart, October 2019.

2 - Press conference to mark the first anniversary of the Tohoku earthquake and tsunami, March 2012.


4 - I am conscious of the repetition in writing ‘city of Kamaishi’ as the ideogram ‘shi’, included here as a suffix, means ‘city’ in Japanese. We should really say, ‘the city of Kama’, but this would not respect the Japanese toponym.

5 - Geological events, for example, are to some extent natural manifestations located at the surface of the globe. Their connection to climate change has not been proven.

6 - According to the Inter-governmental Panel on Climate Change (IPCC), climate change is increasing the number of extreme meteorological, hydrological and climatic events: cyclones, hurricanes, droughts, heatwaves, torrential rains, storms, etc.


8 - Examples of this are: insurance law which determines the resources available for the recovery, international law which influences the reaction to major disasters, and the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters.


10 - Second Regional Japan Coast Guard Headquarters

11 - Tendenko in the local dialect means ‘each one’ or ‘individually’ (Yamori, 2014). This local prevention measure, passed from generation to generation, encourages people to protect their own lives by immediately going to a place that has been previously identified within their family. People do not look for each other, they meet directly at this meeting place.


13 - The Japanese office for resilience building, which the Prime Minister leads, was created based on the law of December 2013.
Collapse scenarios: degraded contexts and degraded mode

by François Grünewald

Faced with the increasingly realistic possibility of collapse, the humanitarian sector is not starting from scratch. It can rely on years of experience in difficult contexts with a wide variety of causes. However, an additional risk has recently been added: the belief that technology can provide all the answers during the response to crises.

A number of actors have developed specific approaches to difficult contexts where there are severe constraints in terms of temperature and humidity, and where there is a limited supply of energy, spare parts and maintenance support. These variously are ‘systems’ engineers, prospecting geologists in deserts or ice-covered areas, special operation military forces (who need to survive and operate without drawing attention to themselves) and health sector organisations in extremely poor countries where there is no infrastructure (energy, evacuation systems, etc.). The aim for these actors is to increase the resilience of their teams and their equipment in contexts that are durably complex. Though each has developed their approach separately, they share a number of common characteristics.

In particular, the resilience that they aim to establish is necessarily based on three key concepts: robustness, having backup options, and the ability to work in degraded mode.

For our part, during our numerous missions in the field, we have seen how little resilience the humanitarian system has: without communication, the essential functions of modern data collection, coordination and accountability become paralysed. Without energy, the basic tools for sending people and goods to emergency areas, the evacuation of those who need to be resettled, the provision of emergency healthcare (managing poly-traumatised patients and using medical imaging), and the supply of clean water become impossible or unusable.

THREE KEY ISSUES: ROBUSTNESS, REDUNDANCY AND A THE CAPACITY TO FUNCTION IN DEGRADED MODE

Robustness, so that the system does not break and put the operation and the survival of the victims in danger.

Anyone who has worked in a developing country, without even
speaking of crisis contexts, will have seen cemeteries of farming equipment, biomedical equipment or computers in ministry courtyards or the warehouses of too many projects. Unfortunately, there are many examples of this kind: fragile equipment requiring sophisticated maintenance and costly spare parts, etc.; second-hand hospital equipment that cannot be repaired without well-equipped biomedical engineers; vehicles propped up on supports because there are no spare tyres, etc. Humanitarian actors themselves often use sophisticated equipment that is difficult to repair in the field due to the short duration of their operations (the durability of the equipment is not necessarily seen as an important factor as there are lives to save in the short term) and the significant resources at their disposal (when something breaks down a replacement can be ordered). This equipment is generally left behind when the operation ends, leaving local actors with the hope that they will be able to reuse it, but above all, with the responsibility of dealing with this broken equipment that is sometimes dangerous to store. Robustness is rarely the main criteria for choosing equipment, other than for 4-wheel drive vehicles, which are essential to move around in the field and for which humanitarians there often have very precise criteria in terms of robustness (others, such as those who are based in capital cities, tend to give priority to comfort).

Redundancy, or the ability to have backup solutions

Port-au-Prince (Haiti), January 2010: a few days after the earthquake, a UN staff walking in the MINUSTAH’s car park at the airport heard the following call coming from a car radio: “Hello Port-au-Prince, this is Jacmel, do you receive me? What is happening over there? There’s quite a bit of damage here!” This was the first time that contact had been made between the two sides of the Mornes. For a number of years, everyone in Haiti had begun to use mobile phones and high frequency radio was only used for certain security procedures during displacements. As would be the case a few years later following hurricane Matthew in Jérémie, the telecom system was wiped out by the 2010 earthquake. It was a fragile system, without the possibility of redundancy (no plan B if the communication plan A did not work, and without a high frequency radio communication system using solar panels, as had existed in the past), as well as problems operating in a reduced function mode. After the 2010 earthquake, there was no organised capacity to manage extreme situations: the Haitian Civil Protection force was very weak at the time, without the capacity to engage in triage of the casualties around the healthcare facilities, and the state hospital system was in a very degraded state and had been replaced by a private system that only the elite could afford. After hurricane Matthew, several days were needed before the affected area was
able to communicate with the capital, the DIGICEL aerials having been blown over, the bridges destroyed, and high frequency radio still not in working order. Luckily, the prevention message got through before the hurricane arrived, often via national radio and television channels, telling the population to store water, food and tarpaulins to protect them from the rain, and, above all, to make their way to protected sites before the hurricane hit (but not to move once it had).

**The ability to operate in degraded mode**

The human body provides us with the perfect example of what a backup mode is. As a very complex biological system with internal mechanisms regulating its multiple functions, it shuts down what is not essential when it is under stress. Thus, when immersed in cold water, the human body will use all its energy to save its brain, heart and liver, but will consider all the rest to be superfluous. We can also learn from surgery in disaster contexts, which has been influenced by surgery in war contexts, and has become very sophisticated. For today’s armies, every person should be saved. On the battlefield, where it is not really possible to treat a patient, the objective of modern medicine is therefore to stabilize the injured person, to prepare them so that they can be transported, and then to send them to a ‘state of the art’ technical platform where they can be treated with all the sophistication of modern surgery. Mass Casualty Management
Techniques are therefore taught less and less in medical schools in developed countries. As a result, when the military or NGOs deploy young surgeons, they have difficulty working without all the observation equipment (medical imaging) and parameter sensors that they are used to. In contrast, NGOs who employ surgeons who are older or who are from Africa and who are used to working in these conditions are relatively effective. These surgeons know how to examine a patient without the expensive, fragile and sophisticated medical imaging equipment that does not last long in humid, dusty contexts with an irregular electrical current: equipment is damaged when the current is too high or too low, or when it alternates between too high and too low, and images are distorted when there is insufficient current, making the information they contain inaccurate. We have also seen in many contexts that designing tools that are capable of working in backup mode depends to a great extent on developing modularity which allows a tool to be adapted on a case by case basis depending on the tasks to be carried out, and the constraints and risks involved. Emergency hospitals provide some interesting lessons in this respect. Is it really necessary to have all the possible functions, which, in turn, requires the capacity to generate energy, fluids, and analyses to be transported in and out, as well as the means of securing all this in the field? Or is it possible to decide, on a case by case basis, the minimum that is needed and that can be integrated into existing bodies?

In this context, the different collapse scenarios raise a certain number of questions for humanitarian actors.

Technological’ humanitarian aid and collapse scenarios

Technology and connectivity have allowed a whole range of data collection and processing tools to emerge, such as tablets equipped with KoBo or other similar software. Whereas in the past, priority was given to experience, analysis and dialogue, today the aim is to be ‘data driven’. Now, all major NGOs have systems that can transfer data in real time (if connected by telecoms) or in delayed mode (as soon as staff return to the ‘base’ and its Wi-Fi connection) as if transmission speed, in itself, was a guarantee of quality. We often forget that these tools have biases (such as the fact that the quality of what they produce depends essentially on the quality of the information and the instructions that they receive), and as a result we overlook the need to screen the reliability of our information. What is more, these technologies contribute to de-humanising the sector: affected people have reported to us on several occasions that those who collect data no longer look at the people that they are questioning, and they no longer speak to them, simply asking questions and entering the data on their tablets. Forty years ago already, in his wonderful book, ‘Farmer First’, which was one of the first to explore participatory
approaches, Robert Chambers introduced two key principles: optimal ignorance (what really needs to be known to make the right decisions), and appropriate imprecision (it is better to be 80% right on time than 100% too late). The sector has clearly forgotten the first principle by building what often turns out to be data cemeteries, and does not apply the second, often holding up decision-making because the analysis takes longer than planned. But, above all, the sector places itself in a position of complete dependency vis-à-vis data transfer and processing systems which are actually extremely fragile: data centres, web hosts, data banks and clouds will no doubt be the first to be affected if there is an energy crisis as they are so dependent on it!

The increase in the amount of technology in the aid sector comes from the search for greater effectiveness and accountability. If systems were to collapse, it would very quickly affect two important new humanitarian sectors: cash transfer mechanisms and biometric recording systems. The first of these is developing quickly thanks to mobile banks and their multiple cash transfer options, both in their ‘routine’ mode (social security nets) and in emergency contexts (cash transfers), including via mixed tools (social security nets that are reactive to shocks that allow transfers to be increased to previously identified vulnerable people if there is a food crisis). Cash transfers are also becoming more common due to vouchers, including e-vouchers, which are almost bank cards with accounts set up by aid agencies for each beneficiary. These systems require effective control mechanisms which increasingly use bio-data (iris recognition, fingerprints, etc.). As such, the humanitarian sector is venturing into a very sensitive area regarding the protection of privacy (particularly as these operations generally take place in contexts where there are crises or very poor governance), as well as placing itself in a position of complete dependency with regard to energy and communication flows, and these would very quickly be affected if systems were to collapse.

All the points covered above therefore raise the issue of the simplicity and the robustness of aid methods as an area to explore or even as an essential path to take for the future. An interesting

“These technologies contribute to de-humanising the sector: affected people have reported to us on several occasions that those who collect data no longer look at the people that they are questioning, and they no longer speak to them, simply asking questions and entering the data on their tablets.”
sector to analyse is search and rescue in damaged urban environments (bombed cities, urban areas affected by disasters such as earthquakes or hurricanes). Indeed, technological innovations have been developed which can save a great deal of lives thanks to the use of video probes, infra-red radars and sonars to find pockets where there might be survivors. But the key to rescuing people often remains the capacity to clear rubble block after block, often with the help of ‘human chains’. Sophisticated equipment can be deployed, but the key to saving lives remains the capacity of teams to work at night, in the rain, in extremely difficult and trying conditions, with crowbars, wheelbarrows and struts. As such, the organisation the women and men working in rotation, the intelligence of the leadership per zone, the supply of water and food, and the establishment of minimal infrastructure allowing the rescuers to rest a little, are as important – if not more – than sophisticated body detection technology. And these measures will continue to function without the complex contribution from drones, connectivity and energy flows: in short, they are collapse-compatible.

**CONCLUSION**

No one knows how global systems will collapse, nor even if they will collapse. Will human beings find an energy-based solution that will allow them to overcome the dangers and risks presented above so that they do not need to take the ‘frugal’ route? Or will they be forced to emancipate themselves from these ever more complex, digital and connected trends? Will they find a route towards resilient systems: robustness, the development of redundancy options and the ability to work in degraded mode?

All this might seem a question of common sense, including for those who work on a daily basis in and on crisis situations, that is to say, very fragile and degraded environments, but alas, this is far from being the case. The siren song of technological innovation is often louder than that of social innovation. There are now a great number of ‘innovation labs’ and organisations who produce software and applications for the humanitarian sector. The wakeup call could be brutal!

François Grünewald, Director of Strategic Foresight, Groupe URD
Refugee camps are often typical examples of complex and degraded contexts. The Greek island of Lesbos, near the border with Turkey, is one of the European Union’s hotspots. In 2019, 27,000 migrants arrived from different Asian and African countries. The island, which was already facing a major economic recession, currently has almost 16,000 asylum seekers on it, even though the main camp, Moria, was built for a maximum of 2,500 people. Each year, the delay before asylum applications are assessed gets longer, so that it now takes three years to get a first appointment. During that time, the migrants live in extremely crowded and unhealthy conditions: there is no heating in winter, it is difficult to keep clean, there is physical and sexual violence, and there is tension between the communities.

Given the humanitarian emergency, aid organisations provide assistance that often creates aid dependency (the importing and distribution of food, clothes, etc.). What can be done, in such a situation, to preserve the dignity and autonomy of asylum seekers and to make the most of their skills and the time that they have on their hands? Could low-tech know-how, frugal innovation (also known as ‘juggad’) and the frugal economy reverse the positions of ‘beneficiary’ and ‘saviour’, ‘learner’ and ‘teacher’ and the relations between North and South?

Conventional humanitarian action does not take environmental issues into consideration a great deal (the daily distribution of tens of thousands of plastic water bottles and containers, blankets that are burned after being used, latrines set up over septic tanks that are emptied by a continuous flow of trucks, etc.). In an interconnected, interdependent world, the environment, the climate, and limited resources contribute significantly to the causes of migration: wars related to geo-strategic questions of access to oil,
the desertification and loss of fertility of farmland, political instability linked to the extraction of non-renewable metals that are needed to produce nuclear power, make telephones, etc. What can we do to make our actions effective and coherent, while limiting negative externalities?

In a context where resources are very limited, particularly financial resources, it is important to consider the efficiency of solutions, and not only their effectiveness. For example, distributing small electric radiators is effective to heat tents... except if electricity is only available four hours per day, they break down very quickly and they cannot be repaired in situ.

**What are ‘low-tech’ solutions?**

Low-tech solutions are simple technical systems that meet basic needs: housing, access to energy and water, production and conservation of food, etc. A low-tech approach analyses needs, focuses on what is essential and discards what is superfluous. A low-tech solution, for example, could be a multi-function pedalboard, a solar cooker, or a small Piggott wind turbine, etc. They need to be accessible, both economically (cost of purchase, running costs, etc.), and in terms of skills (the ability to self-build and repair them, their ease of use, the availability of information in open source formats, etc.). As a result, needs (whether latent or expressed) can be dealt with as closely as possible to those most concerned (applying the principle of subsidiarity), and the wide dissemination of these solutions can contribute to the economic development of an area.

In addition, these solutions are ecological/sustainable, that is to say, sober (in line with the Negawatt scenario, and the 5Rs), solid, long-lasting, repairable, adjustable and evolving, with a low carbon footprint and low energy use over their lifecycle. What is more, they are made of renewable and recycled local materials, they produce little waste or pollution, can be recycled, etc.

Each technology is adapted to its context, both in terms of needs, material and human resources available and socio-cultural contexts. In Lesbos, the members of ‘Low-tech with Refugees’ make, for example, insulating mattresses for the tents made with foam from life-jackets washed up on the beaches, external batteries to recharge phones made with old computer batteries, desert fridges made with buckets and recovered material that allow food and medicine to be kept cool without electricity.

These accessible, reproducible and often self-built technologies can be appropriated by the affected people. They use their know-how, empowering them and contributing to greater individual and collective resilience. ‘Low-tech with Refugees’ has shown how important low-tech solutions are, not only to meet psychological needs, but also to...
increase dignity, reinforce self-confidence, provide a way to be socially useful to the community and use/develop know-how that could be useful to find work in the future.

‘Low-tech’ is not just a way of qualifying technical systems and know-how: it is a philosophy, a way of life and an approach. In the field, the relevance of a solution is only 30% based on the quality of the technical solution itself: it is essential to adapt and integrate it to the context, to needs, to the locally available resources and to the specific features of the culture. The way that the technical solution is deployed also needs to be as integrated, holistic and appropriate as possible.

To implement a low-tech solution, the Low-tech with Refugees project follows a five-step method:

- **Step 1:** Collaborative design and development of prototypes based on needs (the majority of the team members are beneficiaries/users themselves) and by analysing the locally available resources (materials, skills) to ensure that the solution is really adapted and not just copied.

- **Step 2:** Preparation of materials, including the organisation of ‘waste hunts’.

- **Step 3:** Collaborative workshops facilitated by members of the community to make low-tech objects and learn how to use them.

- **Step 4:** Using the solution and gathering feedback to contribute to continuous improvement.

- **Step 5:** Sharing lessons using an open source format.

Thus, for the ‘Low-tech with Refugees’ project, low-tech solutions and resilience are both the ends and the means of the project. Technological sobriety encourages us to focus on what is essential by coherently integrating the complexity and interdependence of societal issues in a single action.

**THE ISSUES AT STAKE IN A ‘LOW-TECH’ APPROACH**

The migrants coming to Europe generally expect more material comfort. As technological sobriety is caused by the degraded context and limited resources, it is endured rather than chosen. For example, the upcycled ‘desert fridge’, inspired by traditional conservation techniques, is used in the Moria camp, in the absence of a better option due to the lack of electric fridges. Sometimes, a technological preference is only due to the social image of the low-tech object, so there is a need to promote this image.

Beneficiaries are often focused on the response to their needs, and are not very interested in environmental issues. It is therefore not useful to promote these aspects, unless they lead to direct improvements in living conditions in the very short term. So, it is not important, for example, that efficient wood-burning cookers limit the cutting of olive trees in the groves around the camps; the advantage for
the beneficiaries is that they have less wood to carry and that it improves their relations with the neighbouring Greek farmers.

A low-tech approach means that you have to take numerous issues and factors into account, prepare the action, adjust it incrementally and collaborate with the ecosystem of local actors. Cost is not the only criterion to influence a purchase or a choice of means of transport. As a result, the implementation of simple solutions and the related communication, can be temporarily more complex: the general public will more easily understand why we should ‘save a refugee from drowning’ or ‘plant a tree’ than why we should ‘use low-tech solutions in camps’ or ‘manage the forest sustainably’. Awareness-raising and information should help to accompany a project and make it understandable.

In emergency situations, it is always simpler to make similar decisions to those already made in the past, to stick to familiar territory, and reproduce conventional solutions and ways of functioning. In order to introduce low-tech solutions and a low-tech approach, support is needed to accompany change and overcome different barriers, including those of a psychological and institutional nature. It may be useful to promote the organisational opportunities a low-tech approach brings in terms of agility, the implication of different sectors, limited costs in the short and long term, and in terms of fundraising, by meeting the requirements of donors who are sensitive to environmental issues and long-term impact, etc.

Regardless of an aid organisation’s field of activity, a low-tech approach helps to address societal issues and specific local characteristics through a simple, impactful action.

Marjolaine Bert, Founder and President of the association, EKO!, and the ‘Low-tech with Refugees’ project. She facilitates projects as part of the ‘Low-tech Lab’ collective, is a social entrepreneur and sustainable development project coordinator.

---

**EKO!**

‘EKO!’ is a state-approved charity (association reconnue d’intérêt général) that runs positive and innovative projects in favour of sustainable and solidarity-based development. It promotes individual and collective fulfilment and resilience that is respectful of nature and cultures. It runs the ‘Low-tech with Refugees’ project in the camps in Lesbos which has led to the creation of a ‘Low-tech Makerspace’, training in permaculture and bicycle repair, and low-tech workshops.
1 - Reception and selection centre where migrants are registered to request entry to the European Union
3 - For more examples of low-tech solutions, see the platform of tutorials by the ‘Low-tech Lab’ association: www.lowtechlab.org
4 - Open source is used to qualify a software, a work or content, which is copyright free and free to be redistributed, under Creative Commons licenses, for example. As the source code and the initial work can be improved by anyone, open source not only facilitates dissemination, but also collaboration.
5 - First issued in 2003, and updated several times since then, the négaWatt 2050 energy scenario for France is now a well acknowledged and recognised thorough piece of work to discuss the country’s energy future, and options to engage in a sustainable energy transition.
6 - The 5 Rs are: Refuse, Reduce, Reuse, Repair and Recycle
7 - For more information about EKO!, visit: www.asso-eko.org
What, in your opinion, can collapsology bring to the humanitarian sector?

Pablo Servigne: And the other way round! [laughs] Collapsology brings the humanitarian question to countries who are not used to it: rich and industrialised countries who generally feel that humanitarian aid is for other countries, you know, those at the bottom of the ladder... The idea of collapsology is to gather together all the scientific evidence, proof and facts that show that there may be risks of systemic collapse everywhere, including in rich countries. Different forms of collapse – it is important to underline the fact that there isn’t just one kind – are not something new. They have existed on earth for a long time: in the past, whether local or civilisational (empires), and in the present (Syria and Libya, for example), but also the collapse of stock exchanges, of animal species, of ecosystems, of climatic patterns, etc. These are the types of collapse that concern the past and the present.

As for the future, not only are the risks of short-term, local and partial collapse becoming more severe, the risks of systemic collapse are also increasing, that is to say, collapse that would affect non-humans, the poorest social classes, and also rich countries. Humanitarian action is therefore useful, first of all because there will be even more to do in the countries where there is already a lot to be done (poor, fragile, war-torn countries, etc.), but also because it will be needed in rich countries because of the destabilisation due to climatic and environmental disasters of all kinds! All of this could take place in the future. I am aware that this is an issue that can be disturbing and which, in any case, is difficult for us to imagine. But that is the goal. That is what is important: talking about risks and possibilities in order to challenge received ideas and prepare ourselves better.

The second thing that collapsology brings is a systemic vision. In short, complexity science has shown that complex systems (ecosystems, markets, societies, etc.) do not react in a linear way, or at least in a much less linear way than expected. In other words, breakdowns happen more unpredictably and more quickly than we might think. This means that we need to be more vigilant about the risk of breakdowns. What we were proposing...
when we created collapsology – which is the idea of an inter-disciplinary science to help us prepare for risks – was to prepare for three phases: before the disaster, during (resilience) and after (recovery). Because all these aspects need to be considered as of now. As I see it, humanitarian action has to do with the short term, in other words, vital and emergency issues. It is important, but it doesn’t cover medium- or long-term policies, which still need to be established. It is important to underline that thinking about the short term here or elsewhere does not prevent us from thinking about the medium- and long-term, on the contrary!

Lastly, collapsology brings the possibility of discontinuity in our lives. We are not used to discontinuity in rich countries, in contrast to countries already affected by disasters. Therefore, in addition to ‘continuist’ policies and visions, such as the plan to end fossil fuel use by 2050, we also need to plan for ‘discontinuist’ scenarios here, in other words, possible breakdowns, and who better than the humanitarian sector to do this?

**Having worked both on the concept of crisis and that of mutual assistance, what is your view of the humanitarian sector?**

**P. S.:** A paradoxical view, because I admire those who work in the field, who show courage and engage in mutual assistance, altruism even. I understand it and we need it, for vital emergencies. That said, I trained in ‘development’, as a tropical agricultural engineer, and in the development sector, I quickly became disillusioned. To me, it was the continuation of a certain form of colonialism where, on the one hand, rich countries destroyed existing subsistence farming economies and social fabric, and on the other, sent little ‘bandages’, including humanitarian aid, and neo-colonial policies (the IMF’s structural adjustment plans, etc.). In the end, development and humanitarian action can be seen as crutches for capitalism. This is what was often said of the sector in debates ten or fifteen years ago, within ATTAC¹, for example: making the situation a little bit better but allowing a structurally unfair situation to last. Which explains my paradoxical view: we need humanitarian action, but at the same time, it maintains an unjust or even toxic system, and can even be seen as supporting it. But it is obviously very difficult to say, “Let’s stop humanitarian and development aid…”

**Do you think organisations that work on climate change are sounding the alarm enough about the current ecological disaster?**

**P. S.:** The answer to that question has changed as the years have passed. Events are increasingly disastrous, so there needs to be a change in the message, and it is changing. It is not without reason that collapsology and the issue of collapse have been taken up by the mass media and the general public over the last year. People are talking about it, whether in a critical
way or not. Whereas ten years ago, it was much more difficult.

So the big question – which has been around for about forty or fifty years, since the beginning of the ecological movement – is, ‘Do we need to frighten people, be prophets of doom, in order to make things change?’ For my part, I would say yes and no (laughs), because two paradoxical things seem clear to me today. Firstly, our society is frightened of being frightened, which is a major barrier. A lot of people say that whistle blowers are too pessimistic, but, in fact, it is the facts that are! There is a metaphor to illustrate this. Imagine that your house is on fire, that your neighbours are shouting ‘fire!’ and that the fire brigade arrives. Should you say to the neighbours, ‘Sorry, but you’re being a bit too pessimistic’? And are you going to tell the fire brigade to stop their scaremongering? No, of course not. The whole of our society is frightened of being frightened: the general public, donors and even scientists who are frightened of frightening us. They are faced with alarming figures and are hit with full force by eco-anxiety, ‘solastalgia’², depression and all the feelings related to this loss and these disasters. A lot of people are frightened of sharing these negative feelings with the general public out of fear that they will lead to inaction. I therefore think that there is a place for frightening messages, and that they shouldn’t be swept under the carpet.

Secondly, I am convinced that there is a biodiversity of fears and psychological attitudes in response to fear. Several studies on fear show that, in general, fear is very useful to warn and inform people, but less useful, and even counterproductive, in terms of making people act. Alarm is not enough to make people take action. For example, to continue with the same metaphor, if the fire brigade arrive and shout ‘Fire!’ you are informed but you don’t know what to do. But, if they arrive and they say, ‘Fire! Take this, do that, etc.’, you will more easily take action. The biodiversity of fears means that there can be vigilance, worries, anxiety, short-, medium-, and long-term fears, and actually, within this biodiversity, certain fears are more likely to lead to action, and others less so. Anxiety can take hold and paralyse the person, preventing them from taking action, and even leading to denial by making them fed up with bad news. On the

“The whole of our society is frightened of being frightened: the general public, donors and even scientists who are frightened of frightening us. They are faced with alarming figures and are hit with full force by eco-anxiety, ‘solastalgia’, depression and all the feelings related to this loss and these disasters.”

² solastalgia: a term coined by the environmental philosopher Paul Sakrison in his 2006 book 'Solastalgia: Place, Loss, and芜湖'
other hand, vigilance, which is a form of concern about the longer-term future, allows you to prepare better and to make more relevant political and strategic choices. As for the biodiversity of postures, this shows that certain people need to feel fear and are stimulated by fear while others, who are much more sensitive, do not need fear, which may even be counterproductive in their case. In any case, whether fear is necessary or feared, it is there and is part of us as we are mammals. And fear is also good because it shows us our limits, points out dangers, and as such it is very useful. It can even show us the route to courage. So, I think that the real question, today, is ‘How should we deal with fear?’ It can be through discussion groups, rituals, or working on ourselves collectively or individually, because fear and alarm, warnings and disasters, they are going to be there throughout the century, and increasingly so. We are therefore going to have to get used to it...

Faced with collapse, you argue that we should develop small resilient units rather than wait for anything to come from ‘sustainable development’. Does that mean that you trust horizontal aid movements more than big institutions?

Briefly, regarding sustainable development: it is a catch-all notion that has been heavily criticised and that is too vague to lead to action. Anything can be passed off as sustainable development. What I find interesting in your question is the comparison between horizontal, local and decentralised, or ‘community-based’ bodies, and the big, hierarchical, pyramid structures. I wouldn’t be able to explain exactly why I prefer the former rather than the latter, but they are definitely in keeping with my political culture. I have always had doubts about, or even been suspicious of authority, of domination, of big hierarchical bodies. Without even taking into account the fact that when things begin to collapse, it is likely that these big bodies will fall apart.

With regard to breakdown and discontinuity, what creates fear and panic is the breakdown of the social order, the end of the belief in a shared future. That is dangerous. When something breaks down, whether it is a supply chain, or the social order, people need to be able to quickly find a form of organisation where they have some power, that they are familiar with, and that is functional. And, to date, there has never been anything better for this than the community level. This is exactly what Alexandre Boisson argues for with the association, SOS Maires: that the municipal level should be reinforced so that, if there are any major breakdowns, people will already be trained to do something. They know their elected representatives and their neighbours, and will be able to take part in emergency plans, training, and simulations before disasters take place. They will already have prior knowledge and won’t be helpless. This might help to avoid panic because, if we only count on the state level and neglect the lower
interview with Pablo Servigne

Borivali district (Mumbai, India) - July 2017 © Tushar Dayal
levels, we will be giving our power to people who do not always use it wisely, who hand over a lot of things to the private sector, and we will be less and less in control. But, most of all, we will encourage the accumulation of power and domination.

For example, throughout the 20th century, our countries promoted relatively centralised distribution systems for energy and telecommunications. Nuclear power is the archetypal example. This makes things both extremely effective at the time, but, paradoxically, it makes the system vulnerable because it is not suited to change or taking complexity into account. That is why I am in favour of developing local and low-tech initiatives in terms of technology and energy. I think it would be very healthy and very resilient to deploy decentralised technical systems right now that will make people autonomous and do not require engineers from the big centralised industries. Take solar panels, for example: they can be high-tech, made with computers, rare-earth elements, complicated materials and software, in which case, centralisation, engineers, etc. are needed. But we can also develop decentralised solar panels and renewable energy that is specific to each region, to each micro-region, where each user is able to repair a major part of the equipment themselves.

I therefore think that it is more reasonable and coherent to reinforce small-scale initiatives, though this does not mean that it is the only solution. Above all, it is a more resilient solution if the big structures collapse!

Above all, it is a more resilient solution if the big structures collapse! Having said that, I am fully aware that not everything will be done locally. When the route of a railway line is drawn, you have to engage in politics, between towns, between regions, etc. You have to join forces, negotiate, and necessarily go through big structures. Political philosophy has a lot of things to offer in this regard: other types of mandate, body, power, etc. for these metastructures. Political imagination needs to be stimulated!

We really need to establish an empowering force at the grassroots level, at the level of the citizen, the neighbourhood, the village, the town, the town council, etc. just to regain people’s confidence. There is a major feeling of defiance against the public authorities because they seem
distant. This defiance, and the feeling of powerlessness have grown since Nicolas Hulot resigned, and this is a very toxic feeling because it leads to denial, apathy, fear and anger. Anger that is then aimed at those who have created this feeling of powerlessness. We can see this at the moment with the strikes.

Promoting small-scale initiatives does not mean that we are going to be inward-looking. This is often the major misunderstanding related to the fact that we are promoting small-scale and local initiatives in this period of universalism and modernity: there is a feeling that localism means a return to walls and nationalism, or being inward-looking. But, not at all! You can promote local initiatives while maintaining the capacity for large-scale exchange and organisation. It is totally possible.

For that matter, we know that there is not much centralisation in nature, very little even. For the 3.8 billion years that the living world has been experimenting, pyramidal hierarchies and centralisation are really very rare. Everything is decentralised, rhizomatic, mycorhizien, reticulated, because this is a much more resilient form of organisation. Pyramidal hierarchies are effective in the short term and for a stable environment. But today, we need to think about the long term and unstable environments. Pyramidal hierarchies and big structures are the first things that are going to collapse – they are not resilient. In my opinion, it is crucial that we de-centralise the way we are organised. Unfortunately, people don’t really know how to go about it. A great deal of research needs to be done at that level.

You consider myths and fiction to be very important to stop people being in denial and help change things. How do you think this approach could be useful for the international aid sector?

I am convinced that myths and stories are useful and essential for everyone. It is the story that we tell ourselves, and therefore of the horizon that we set for ourselves, to shed a little light on the path in front of us. It obviously has a founding quality, and it is an essential condition in order to be able to organise ourselves or to do politics. So, for me, everyone should look at this question. For humanitarians, it

“What I would like is to open up this story so that humanitarian action concerns all of the living world.”
is obviously important, but it is up to them to take this issue on board.

For example, I had a moment of insight after my studies in agricultural engineering. I was very interested in agroecology and permaculture as an agricultural engineer, and the idea of re-applying the principles of the living world to agriculture. I was also very interested in tropical regions and so in 2009-10 I went to Cuba and Venezuela on my own for five months. I saw a lot of extraordinary things there, such as incredible production units that you can’t find here in terms of permaculture and agroecology. I came back from that trip full of enthusiasm (though I am in no way defending authoritarian regimes!) because they are countries who have managed to innovate, who are really extremely bold in that area. And I also came back with a story that had been turned upside down: at university I had been taught that I was going to ‘develop poor countries’ and ‘feed the planet’ (that’s what they tell agricultural engineers) and, in fact, I realised that the agricultural programmes in Cuba and Venezuela were fifteen years ahead of us. Actually, the Global South was going to develop the Global North! Everything got turned around in my head, and this upside down story changed everything in terms of how I saw things. When I got back to Europe, I said to myself, “I’m going to develop Europe, do development here, because it is here that we need to promote agroecology, because we are decades behind”. If a story or a way of seeing things breaks down, it can change the way we see the world, and therefore how we act.

In terms of humanitarianism, there is one more thing that I’d like to say: I always considered that the word ‘humanism’ was divisive as it represents the ontological division with non-human lifeforms (plants, animals, fungi, bacteria…). For me, ‘humanism’ has an inward-looking connotation (on our species) that I do not like. And I find that the word ‘humanitarian’ has a similar idea: we are only going to save the humans. What I would like is to open up this story so that humanitarian action concerns all of the living world. Of course, there are already organisations who are going in this direction, but it would be a real change if, henceforth, all humanitarian action was to be based on this story of an enlarged living community. A type of ‘lifeformarian action’? [laughs]

1 - The Association pour la Taxation des Transactions financières et pour l’Action Citoyenne (Association for the Taxation of financial Transactions and Citizen’s Action, ATTAC) is an activist organisation originally created to promote the establishment of a tax on foreign exchange transactions.

2 - A neologism that describes a form of emotional or existential distress caused by environmental change.

3 - Nicolas Hulot is a French journalist and environmental activist who became Minister for Ecology in May 2017, but resigned in 2018. He said that his time in office had been an «accumulation of disappointments», and that he did not want to «create the illusion that we’re facing up to these challenges».
**GENERAL**


  The numerous major problems facing us in every domain (the environment, the climate, geopolitics, social issues, the economy...) are interconnected, feeding into and influencing each other. The most worrying aspect is that we have already passed several points of no return. The authors show that the growing systemic instability that we are facing means that there is a serious risk that industrial civilisation as it has established itself over more than two centuries could collapse.


  Some contend that ‘green’ technologies are the way to save the planet while maintaining economic growth. However, these technologies, which use a lot of scarce resources and which are difficult to recycle, will lead us into an impasse. The author argues that rather than aiming for continuous high-tech innovation, we should aim for a society that is essentially based on low-tech technologies, which are less productive but use less resources and can be managed locally.

**PROJECTIONS AND RISKS**


  This IPCC report looks at the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.

  https://www.ipcc.ch/sr15/download/#full

This report analyses the different issues related to anticipating non-intentional risks in different places, and at different times. It aims to clarify how the resilience of states and populations functions in relation to these risks, and provides maps at different levels by combining risks, both globally and for particularly sensitive areas of the planet.


HUMANITARIAN AID IN THE FUTURE


This report seeks to explore the drivers of change in the global humanitarian ecosystem, the causes of humanitarian need, and how this ecosystem could evolve by 2030. These future perspectives are explored in relation to the timetable for the implementation of the Sustainable Development Goals, in order to underline the significant role that the humanitarian ecosystem will play in achieving the 17 goals.

https://reliefweb.int/sites/reliefweb.int/files/resources/The_Future_Of_Aid_INGOs_In_2030-20.compressed.pdf

The cost of doing nothing: The humanitarian price of climate change and how it can be avoided, International Federation of Red Cross and Red Crescent Societies, 2019.

This study estimates the humanitarian needs and financial costs that will be caused by climate change in the coming decades. It presents a pessimistic scenario where investment in adaptation is insufficient and development models are uneven, which estimates at 200 million the number of people who will require aid each year by 2050, which is almost double the current figure. According to the study, if nothing is done, the price to pay will be much higher than any estimates that have been made so far. It recommends that long-term fragility needs to be reduced, early warning systems and relief operations need to be improved, and rebuilding and repair work needs to be carried out in preparation for future emergencies.

In April 2019, 500 people from 70 countries gathered at the instigation of the French Red Cross to discuss the topic of ‘Health and climate change: caring for humanity at +2°C’. Scientists, academics, humanitarians, political figures, entrepreneurs, future leaders, and members of the Red Cross and Red Crescent Movement exchanged views during twelve sessions on a wide variety of themes including heatwaves in urban contexts, mental health, epidemics, population movement, food insecurity, the protection of ecosystems, etc. This document presents the main ideas developed during this global conference as well as the concrete and innovative solutions that were proposed.


This analysis, which looks at the links between climate change and health, highlights the significant consequences that are already taking place, as well as the dangerous levels of humanitarian need that are likely if greenhouse gas emissions are not urgently brought into line with the Paris Agreement. This document is based on the field experience of Médecins Sans Frontières in managing the consequences of extreme climatic conditions, such as the transmission of diseases, malnutrition and the impacts on migrants.


ADAPTATION AND RESILIENCE

Climate action pathway: Resilience and adaptation, Executive Summary, Global Climate Action, United Nations Framework Convention on Climate Change (UNFCCC), 2019.

Faced with the uncertainties and risks related to climate change, this document underlines three objectives: resilient people and communities who will be able to adapt as well as possible; resilient ecosystems and protected biodiversity in order to guarantee, among other things, access to water and food; and lastly, resilient economies and investment, where climate risk is mainstreamed into all public and private sector plans and investments including into agriculture, infrastructure, transport, water, energy systems, etc.

https://unfccc.int/sites/default/files/resource/CAP_Resilience_and_Adaptation_ES.pdf
Adapt now: A global call for leadership on climate resilience, The Global Commission on Adaptation, 2019.

This report from the Global Commission on Adaptation, presided by Ban Ki-Moon, explores the different issues related to climate change adaptation and makes recommendations for key sectors such as food security, the natural environment, water, cities, infrastructure, disaster risk management, and finance. It aims to inspire action among heads of state and government officials, mayors, business executives, investors, and community leaders.


This review explores how climate resilience programmes and projects can be designed, established and managed to be resilient themselves in fragile and conflict-affected contexts. It combines evidence-based learning from over four years of implementation from 15 projects across 13 countries (including Mali, Niger, Myanmar and South Sudan). The review is structured around three themes: anticipating operational risks by improving understanding of local contexts; absorbing impacts by building resilience, conflict sensitivity and a ‘Do No Harm’ approach into the project cycle of climate resilience programmes; and aligning risk tolerance and project flexibility between donors and implementing partners, based on trust and clear communication, and establishing adaptive approaches and flexible funding mechanisms that enable the rapid adjustment of activities during crises.

http://www.braced.org/contentAsset/raw-data/436c81e8-67e9-448b-a33d-bf35c496ec73/attachmentFile


This Guidance Note takes as its premise that climate change is one of the greatest threats to global peace and security in the 21st century. It underlines the need to adopt integrated approaches to tackle the risks related to climate fragility. It aims to help develop resilience building strategies and policies while taking into account the connection between climate change adaptation, peace-building and sustainable livelihoods.

https://postconflict.unep.ch/Climate_Change_and_Security/CFRA_Guidance_Note.pdf

This document is complemented by a monitoring and evaluation guide and a toolbox:
LOCAL RESPONSE


This article focuses on the role of ‘zero-order responders’ during disasters. In the initial stages of a disaster, even before the rescue services arrive, survivors play a central role and make crucial decisions based on their own resources and skills. These considerations can provide humanitarian actors with useful lessons, for example in terms of disaster risk reduction and disaster management, which need to include local populations and knowledge more, and improve partnerships between communities and aid organisations. The authors based their research on two case studies: Peru after the 2017 floods, and Porto Rico after hurricanes Irma and Maria, also in 2017.

https://www.researchgate.net/publication/327797482_Disaster_Prevention_and_Management_An_International_Journal_Local_responses_to_disasters_recent_lessons_from_zero-order_responders_Article_information_For_Authors_Local_responses_to_disasters_recent_lessons_from_zero-order_responders_Article_information_For_Authors_Local_responses_to_disasters_recent_lessons_from_zero-order_responders

FINANCIAL TOOLS LINKED TO RISKS AND ADAPTATION


This report addresses the injustice of climate change with regard to vulnerable people, particularly in countries in the Global South who, for the most part, have contributed least to greenhouse gas emissions, but who are paying the highest price. The authors point out that current financial mechanisms are not sufficient to avoid losses and damage, and they analyse various criteria that could be applied in order to develop a strategy to fund losses and damages that is ethical, fair and effective.


This document presents the results of the study carried out by the NGO, Mercy Corps, in seven municipalities in Nepal to understand the role of local governments in the new political system. Nepal is exposed to multiple risks due to its geographical location (drought, flooding and mudslides). Recently, the country established a new governance system whereby municipal authorities are responsible for issues related to climate change adaptation, as well as disaster risk reduction and management, areas where local government investment is essential.

http://repo.floodalliance.net/jspui/bitstream/44111/3273/1/Policy%20Brief_Nepal%20Budget%20Governance%20Zurich.pdf
Groupe URD (Urgence – Réhabilitation – Développement)
Founded in 1993, Groupe URD is an independent think tank that specialises in analysing practices and developing policies for the humanitarian sector. Our multi-disciplinary expertise, based on continual field visits to crisis and post-crisis contexts, provides us with insight into the functioning of the sector as a whole. We believe in sharing knowledge and collective learning, and we help aid actors to improve the quality of their programmes.
www.urd.org

Humanitarian Aid on the move - a bilingual biannual review – aims to share the results of work on important issues currently facing the sector.
We regularly invite external contributors and provide links to other publications.
Further reading on certain topics and full articles by the authors can be found on the Groupe URD website:
www.urd.org/en/review-hem/

Produced within the Project « Apprendre et innover face aux crises - Phase 2 » with support from:

Director : Véronique de Geoffroy
Editorial board : Véronique de Geoffroy, François Grünwald, Lisa Daoud
Editorial secretary : Pierre Brunet
Translation: Etienne Sutherland

Printed by : Transcopy (Courthezon)
Design by : foli-o

ISSN : 2261-7124
Legal deposit : september 2012
Humanitarian Nº21
aid on the move

Groupe URD
La Fontaine des Marins
26170 Plaisians – France
TEL: +33 (0)4 75 28 29 35

urd@urd.org
www.urd.org

Contacts
To propose an article and/or receive the electronic version, please contact Pierre Brunet pbrunet@urd.org

©Frederic Bonamy/EU/ECHO