CLIMATE SCENARIOS WORKSHOP REPORT

MEDICAL HUMANITARIANISM FOR THE "ERA OF CLIMATE AND OTHER CONVERGING CRISES": TOWARDS AN INTEGRATED PLANNING APPROACH FOR STRATEGIC AND OPERATIONAL RESILIENCE

Brussels, 05-06 February 2024

As the Covid-19 pandemic and recent high-intensity conflicts demonstrate, MSF and other humanitarian organizations are increasingly facing unprecedented challenges resulting from the convergence of geopolitical, socioeconomic, technological, health, climate, and environmental crises. The heightened intensity of these multiple crises separately—and together—affect MSF's emergency medical-humanitarian operations, yielding a need for new integrated approaches to address a shifting contextual environment. Recognizing that these crises are multifactorial in nature, there is a need to develop within the organization better and smarter understanding of their nature, interaction and the expected behavioural changes to address them in the future, specially of climate change and environmental degradation, as stressors of medical humanitarian resiliency.

While MSF has been striving to address the impact of anthropogenic climate change and environmental degradation for some years, committing institutionally in 2019 to adapt operations, mitigate its footprint, contribute to advocacy, and bear witness to field realities of climate change,[1] progress in each element has been cautiously incremental at best. The institutional commitment to reduce its footprint by 50% by 2030 compared to 2019 baselines and the signing onto the Climate Charter[2] are important steps forward for MSF's mitigation efforts. Considering the unpredictable nature of converging crises and the repercussions they entail, some of which irreversible, it seems imperative for MSF to undertake adaptation efforts. This is essential to ensure we can effectively respond to the ever-growing challenges of unforeseen and unprecedented polycrisis situations.

With current emergencies already overwhelming MSF teams and the new Strategic Planning and Resource cycle approaching, it was especially relevant and useful to begin reflecting on what the humanitarian landscape might look like in the next 3-10 years. Following the MedOp platform discussions in March 2022 during the Climate Operations Reflection Day, it was envisioned that the MedOp would hold a workshop to define clear, grounded and tangible next steps regarding environment and climate change related actions.[3] To contribute to future-proofing MSF's emergency response in a climate-smarter way, this 2-day Climate Scenarios Workshop was therefore planned as a first foray into thinking strategically with foresight and collectively conceptualize how MSF should/could position itself and what it needs to/must do and invest in to safeguard the appropriateness and relevance of the organization in the years to come, especially in the setting of unprecedented Climate Change and Environmental Degradation impacts.

What is Strategic Foresight?

Mr. Sanjay Khanna, Strategic Advisor and Futurist (who is the Chief Futurist at SK Futures Inc. and internationally recognized for foresight projects, thought leadership, evidence-based research on complex intersecting trends, and strategy and leadership education for the "era of converging crises"), introduced the concept and the value of Strategic Foresight, as "*the deliberate, methodical, imaginative exploration of what the future may hold, incorporating various methods to craft responses to major trends, weak signals of change, multiple scenarios, and other realities that could disrupt organizations and their stakeholders*". By looking at multiple plausible future scenarios, for instance, decision makers can reflect on the investments and actions the organization needs to do today to face any one of the scenarios and be prepared for the risks and opportunities they present.

Adding to ongoing Environmental and Climate Change, many other trends contribute to an integrative view that the current era is one of converging crises that include Socioeconomic Reordering, Technological Acceleration, Physical and Mental Health Declines, and Geopolitical Instability & Vulnerability. Sanjay introduced the term "TUNA" (Turbulent, Uncertain, Novel, and Ambiguous) to describe the radical uncertainty

[1] IGA Green motion 2019, Environmental Pact 2020 and Enacting the Environmental Pact 2022.
[2] https://www.climate-charter.org/
[3] MedOp Operations Reflection Day on Climate.

faced by decision makers.[4] It refers, for example, to the turbulence in the world system, in the environment, in the geopolitical context, to the uncertainty about the wars and geopolitical rivalries that are occurring in the Middle East, in Ukraine and many other places, to the confusing novelty around new technologies and to the ambiguity of what to expect next.

Particularly focusing on Climate Change, the cumulative scientific evidence is unequivocal about the fact that it is a threat to human wellbeing and planetary health, and that the delay in concerted anticipatory global action on adaptation and mitigation misses the brief and rapidly closing window of opportunity to secure a livable, sustainable future for all.[5] From an operational standpoint, tools like scenario planning grant the ability to understand the future risk-opportunity landscape in greater detail so individuals, organizations and communities can decide how to use their resources now to be strategically prepared for the range of contextual environments that may emerge in the coming years.

The use of such plausible scenarios is important to facilitate communication and to have broad multi-stakeholder dialogues contributing to learning and enhancing resilience by having an early recognition and alignment on the strategic use of resources. From Sanjay's viewpoint, there are two main drivers to engage and build capacity on strategic foresight: first, to prevent harms and suffering, and second, to increase the chances of positive long-term outcomes for human development, human rights and protection, ecological stewardship and protection, and human population health.

Sanjay acknowledged that since everything is so uncertain/unpredictable, it is difficult to build trust among stakeholders, because part of the strategic foresight consists of using inclusive dialogue and imagination to build the scenarios. In addition, particularly on the climate crisis, it is generally observed that the resources put towards addressing the problem are more symbolic than they are substantive, which further breaks down trust. However, this trust can be built through proper preparedness and planning, supported by reliable information and data, and good coordination to deal with vacuums of knowledge and information that occur when there is a crisis. Also, it is important to note that much of the work of scenario planning and foresight is very relational, and the practice that is used comes out of the Social Learning Theory, considering that we are all learners because none of us has lived in the world of the predicted catastrophic climate change yet, so we have to work together and inter-sectionally in developing plausible future scenarios based on the current evidence on, for instance, the trends mentioned above (i.e., the Socioeconomic Reordering, Technological Acceleration, Physical and Mental Health Declines, Geopolitical Instability & Vulnerability, and Global Change & Climate Change) and on the engagement with multi-stakeholders such as Internal Experts (e.g., Administrative, Scientific & Technical, and Functional), External Experts and Stakeholders (e.g., Academia, Business, Government, NGOs, and Strategic Partners), Internal Stakeholders (Executive, Strategic, and Operational), and Systems Thinkers (e.g., Cross-cutting Experts, Complex systems modellers, Arts and culture representatives, Traditional/local knowledge holders, and Independent innovators).

It was further explained that different methods can be used within the Strategic Foresight, including Horizon Scanning, Megatrends Analysis, Visioning (and Backcasting), Scenario Planning, Policy Gaming and Design Futures.

Focusing on Scenario Planning, Sanjay highlighted that, as the climate crisis and multiple converging crises coalesce and amplify each other, it can be very useful and critical for the resiliency of many MSF functions, namely Strategic Planning, Operations & Logistics, Near-Term Forecasting, Humanitarian Innovation, Political Analysis, Communications, Fundraising, and Country Operations. Because the Earth system is no longer stable, leading to impacts for all of MSF and the populations it serves, what is essential for MSF capacity building is to

[4] Other commonly applied decision-making frameworks include VUCA (Volatility, Uncertainty, Complexity, and Ambiguity), BANI (Beliefs, Assumptions, Norms, and Institutional Constraints) and RUPT (Rapid, Unpredictable, Paradoxical, and Tangled). Other sources describe TUNA as "Think, Understand, Narrow down, and Act", and BANI as "Brittle, Anxious, Non-linear, and Incomprehensible". For more details, refer to this comparative analysis: A Comparative Analysis of VUCA, TUNA, BANI, and Pre, During, and Post Crisis Decision Making | by NicLim | Medium and to this article: VUCA, BANI, RUPT or TUNA ~ VUCA-WORLD.

[5] Climate Change 2022 Impacts, Adaptation and Vulnerability: Summary for Policymakers," Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 27 February 2022, p.35.

have a clear and nuanced understanding of how MSF can use strategic foresight most effectively for addressing climate and multiple converging crises to benefit MSF's mission and movement.

What is Climate Adaptation?

Léo Tremblay, Lead of MSF's Humanitarian Action for Climate and Environment (HACE) presented the concept of Climate Change Adaptation, linked with strategic foresight. As defined by the Intergovernmental Panel on Climate Change (IPCC) in 2018, climate change adaptation is "*the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities*." Recently, the *'This Scorching Heat: How MSF experiences and responds to climate change'* report has been published as a result of an extended collaboration between researchers at the Heidelberg University Institute of Global Health (HIGH), MSF-Canada, and MSF's HACE, and some provoking questions were raised, such as "*So what? The negative health and social impacts of climate change are clear, but does that really matter for how MSF conducts its operations? Should MSF change — adapt — in any way to the undisputed reality of climate change, or is MSF's tried-and-true modus operandi already adapted to respond to all manner of humanitarian needs, be they climate-induced or not?*". Léo mentioned that indeed asking these questions internally is very important, because many people in the Movement are not convinced that adaptation should be put forward or resources put into it.

The report asked MSF's project colleagues *what they think, what do they see, and what do they observe related to the climate crisis.* In total, 49 MSF colleagues from 30 countries where MSF works were interviewed. The main findings were: i) staff perceived the devastating impacts of climate change and environmental degradation on the communities where they work, including injury, death, disease, mental health problems and livelihood disruptions, ii) MSF teams are beginning to adapt to the impacts of climate change, but they're doing so in the absence of established frameworks or strategic planning and often in an *ad hoc* manner and without recognized or resourced support, and iii) there is an opportunity for MSF to fill this adaptation gap, and ample room for MSF to adapt its operational response without compromising its core identity as an emergency medical humanitarian organization.

Another output of that piece of work was the framing of the concept of adaptation tailored to MSF needs. As part of this, the Climate Change Adaptation Continuum was born to frame the different stages of adaptation depending on the timing, reactivity, vulnerability addressed and resilience. It consists of Maladaptation, Survival/Coping, Adaptation, and Resilience. The report also identified different levels of response as: knowledge and awareness, infrastructure and technological solutions, operational adaptation, and policy and advocacy. In terms of operational adaptation, examples of each one of these categories are[6]:

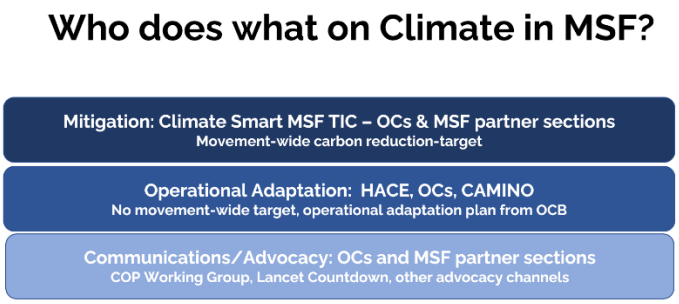
- Maladaptation: implement a medical program that relies heavily on diesel-powered generators in a region experiencing prolonged heatwaves, despite other energy options being available.
- Survival/coping: respond to outbreaks of climate-sensitive diseases as they occur.
- Adaptation: establish early warning systems and improve disaster response protocols.
- Resilience: contribute to the development of climate-resilient and sustainable health systems in health care facilities supported by MSF.

[6] For other examples of these categories related to Knowledge and Awareness, Infrastructure and Technological Solutions, and Policy and Advocacy, refer to Léo's presentation.

Based on this framing and with a clear focus on operational adaptation, HACE defines adaptation as "developing and implementing healthcare and emergency response strategies that account for the evolving health risks and challenges posed by climate change and environmental degradation to effectively deliver humanitarian aid to affected populations." Leo indicated this is a working definition likely to change as the Movement integrates these practices. There are different tools and adaptation measures depending on the timescales, ranging from short-, medium-, and long-term time scales, including strategic foresight (see Table below).

Time-scale	Tools	Adaptation measures (non-exhaustive)
Short-term	Short-term weather predictions, disease predictive models, vulnerability/risk assessments	Early warning mechanism/support, anticipatory action mechanisms
Medium-term	Seasonal forecasts, horizon scanning, vulnerability/risk assessments	Seasonal climate monitoring and predictions
Long-term	Climate projections, Strategic foresight, demographic trends	Adapting long-term strategies, emergency preparedness, feeding in strategic plans

As an example of short-term anticipatory action mechanisms, Léo introduced the concept of Anticipatory Action, developed by the IFRC Anticipation Hub in 2010, which is "*an approach in which humanitarian actors implement 'actions to prevent or mitigate potential disaster impacts before a shock or before acute impacts are felt'*. These actions are based on forecasts on when and where a hazard will occur and linked with pre-agreed funding mechanisms (forecast-based financing/FBF) which allow the action plan to be implemented once forecast thresholds or consensus triggers are met. For this to take place, an organization needs to develop an anticipatory mindset, "*which is proactively identifying risks and thinking of ways to reduce and prevent risk. This may entail horizon scanning, the development of contingency plans, the establishment of roles and responsibilities during scenario planning*".[7]



HACE was created to support MSF's trajectory towards a more climate adapted operational landscape. HACE's main mission is to bolster Climate Adaptation within MSF by igniting change and enabling action on climate adaptation, developing climate services tailored to MSF's operational needs, and supporting climate adaptation research in humanitarian settings. In addition to HACE, there are other active groups within MSF working on climate adaptation and mitigation (see image) Léo highlighted the need to collaborate and coordinate action to maximize benefits. [8]

A document that is being developed by HACE is the seasonal briefing of targeted regions where MSF operates. Léo shared the example of the Eastern Africa briefing, which includes the context of the last few months, the rainfall forecast, and other climate related predictions based on evidence, and recommendations on adaptation and/or anticipatory actions that can be taken prior to the forecasted events.

Silvia Dallatomasina, MSF CAMINO Cell Responsible/Deputy Executive Director, shared a positive experience using a climate briefing in Central America to support strategic foresight. Information from the briefing was integrated into the E-prep planning, particularly for malnutrition cases. As Silvia explained, historically acute malnutrition cases were not observed in Central America, but MSF started to see cases within migrant populations, associating it with the consequences of the El Niño, and identifying hotspots where the most vulnerable populations were. Initially, the project teams questioned this strategy, but with a shift in their mindset, they understood how important it was to integrate the climate lens into the operational planning.

Another example of a climate adaptation action from MSF CAMINO/OCG was shared by **Lachlan McIver**, Tropical Diseases & Planetary Health Advisor, on the arbovirus prevention project in Tegucigalpa, Honduras. Dengue, for instance, is arguably the most important mosquito borne virus in the world, not only because of its current global reach in terms of the billions of people exposed globally, but because it is very climate

[7] Definition by the Red Cross Climate Center.

[8] The list of internal MSF initiatives on climate adaptation, mitigation and advocacy presented in the picture is not exhaustive.

sensitive. In collaboration with the World Mosquito Program (WMP) and local partners including the Ministry of Health and the National Autonomous University of Honduras, MSF is utilizing a naturally occurring technology, a bacteria called *Wolbachia* that occurs in most insect species including most mosquitoes, but not in *Aedes aegypti*. *Aedes* mosquitoes infected by these bacteria have greatly reduced capacity to physically transmit arboviruses.

Since Wolbachia is also transmitted vertically, female mosquitoes transmit it to their offspring. The infected mosquitoes are then released into the environment and, after many generations, over a few years, a reduction of dengue transmission is observed, leading to virtual eradication in some areas, as was the case in Queensland, Australia. The MSF project in Tegucigalpa aims to demonstrate that the technology that the World Mosquito Program has developed can be implemented in terms of its distribution in the community at a much lower cost than the WMP had been able to do in other settings. The MSF team has built a customized insectarium where they are breeding these mosquitoes from egg capsules imported from Colombia and releasing them into the community after months of very intense community engagement, with a level of acceptance greater than 90% (MSF is also working on basic WASH and community prevention to reduce waste and stagnant water). It has been observed thus far that around 60% of mosquitoes in the region are infected with *Wolbachia*. When it reaches 70-80%, a tangible reduction in the transmission is expected. Longer-term epidemiological studies will be continued for the next couple of years to monitor the impact in the transmission of dengue and to a lesser extent other arboviruses. It is important to note that the dengue expert community do not expect this to be a silver bullet, but certainly one of the most promising methods to control, contain, reduce, and possibly eliminate one of the most important climate-sensitive infectious disease in the world.

Furthermore, **Azzurra D'Incà,** Expert Environmental Health in OCB, has shared a climate adaptation strategy adopted by MSF in Maban, South Sudan, related with floods specifically. A few years ago, OCB was confronted with an incapacity to respond to an emergency caused by heavy floods in South Sudan, in which teams were not even able to access the affected areas to deliver care and supplies. Since then, OCB has been reflecting on how to adapt the E-prep to respond accordingly and developed strategies focusing on WASH. Noting that a main cause of morbidity among children under 5 years is diarrhea, the team looked into reinforcement of surface water treatment and setting up groundwater teams to work during the dry season, drilling new adapted flood-proof boreholes (or repairing old ones) to secure/ensure a safe water supply in the aftermath of an event. Azzurra further explained that the tricky part about the flood in this region is that they are not caused by direct rainfall. The sky may still be blue, but water keeps coming up because of the swells in the Nile River basin flowing from neighboring countries. With this in mind, adaptative alert strategies were used: one of which was to activate a GIS cooperation to do 24-hour satellite monitoring of the level of water in different hotspots; another was tapping local knowledge and coping mechanisms, as often the locals were able to know 40 hours in advance that there would be flooding for the simple reason that they had relatives in Ethiopia who knew from previous experiences that when water reached a specific tree in their specific village in Ethiopia, it meant that the river would be breaking its bank further downstream. Based on this, Health Promotion from different sides and countries in the region have created a networked communication system for monitoring and early warning.

Exchanging perspectives on future challenges and foresight experiences with external guests

Aaron Rosa, Futures and Foresight Researcher at the Fraunhofer Institute for Systems and Innovation Research, shared the definition of Strategic Foresight used by the European Commission: "*Foresight is the discipline of exploring, anticipating and shaping the future to help build and use collective intelligence in a structured, and systemic way.* ***Strategic Foresight is not about predicting the future; it explores different possible futures, alongside the opportunities and challenges they might present.*** *Ultimately, it will help us act in the present to shape the future we [collectively] want.*"

Based on this definition, strategic foresight as a practice helps users in the present bring in past experiences and knowledge both individually and collectively to shape images of what might happen down the line of time. Deciding collectively on a preferable image of the future vision that an organization may want to work towards gives not only a sense of being prepared for what might happen or what could happen, but also the agency to invest on what the organization would like to see happening. Apart from a preferred future, Aaron also asked people to consider what they think is preposterous and outside the scope of possibility that they believe, voice

their anxieties and include them within the range of future possibilities. Having a set of many different scenarios allows organizations to decide how robust and how resilient they are in any of the given scenarios.

Margaux Mathis, Epidemic and Pandemic Preparedness and Prevention (EPP) Technical Officer at the World Health Organization (WHO), talked about the WHO foresight initiative for improved pandemic preparedness that was launched in 2021 amid the COVID-19 pandemic. For the WHO, **applying foresight strategies equals to being better prepared collectively to tackle future threats,** shifting from a reactive to a proactive response mode to infectious threats and being forward-looking. Moreover, by applying it to develop four future plausible scenarios (for more information, refer to this video), the WHO learnt that it is a methodology that allows the organization to be better prepared for the future, to "think the unthinkable", to connect with stakeholders beyond the organization's traditional circles and to build stronger partnerships ahead of crises. On the other hand, Margaux noted that something she and other colleagues still struggle with is the need to show the impact of these methodologies to get buy in from stakeholders, highlighting that evaluating the impact of foresight can be a challenge, especially if foresight is seen as a one-off exercise versus an integrated practice.

Melissa Kiehl, Innovation & Foresight Advisor at the International Committee of the Red Cross (ICRC), explained how ICRC has adopted, embedded, and successfully fostered an institutionalized approach of foresight to guide innovative thinking into the future, enabling staff from all departments to better identify what must be targeted and corrected in the present in order to reach a projected impact in the coming years. For ICRC, **strategic foresight is the pragmatic application of collective thinking**. It is about answering what is changing, why it matters, and what the organization can do about it. With this motivation and concept, ICRC set out its own framework for their internal strategic foresight initiative. It had four objectives: to build **foresight capacity** for individuals, to build a **culture of foresight** for the institution based on collective intelligence, to apply and **practice the application of foresight** across the house, and to **generate innovation ideation** that accelerates the institution's objectives.

ICRC started its internal literacy by reviewing internal and external reports on previous work in Strategic Foresight, by hiring Foresight and Innovation consultants to do desk reviews of academic research to provide a larger scope, and by gathering best practices and recommendations. After two years of specific training and institutional capacity building, notable findings and lessons were learned. First, all levels of staff benefited from the time and space to debrief and discuss problems regularly and multi-dimensionally. An actionable collective intelligence developed enabled direct engagement and impact on strategies and future planning. Second, having a neutral facilitation of a foresight event was found to be invaluable, as it allowed for clarity of focus and helped move beyond team dynamics to a more 360° analysis. Third, staff appreciated having a larger understanding of decisions and repercussions beyond their own work and their own teams. It brought a better coherence to team planning and the need for a foresight structure, including a repository for collective thinking to increase efficiency, as foresight ideally leads to better decision making and clear actionable next steps.

Currently, ICRC is using Strategic Foresight as a tool that not only aims to make the organization more anticipatory, more agile and logical in crises, but also more inclusive and transparent for staff about how the ICRC is preparing for the future.

Q&A and Discussion

Governance and decision making

Recognizing the impressive work done by ICRC, a question was raised as to whether foresight had led to a change in the organization's governance system and its decision-making process. Using a recent example, Melissa affirmed that it has, describing a forum held in Geneva in November 2023 with their Israel and Occupied Territory crisis team. With around 75 people in the room, they went through a full day of temporal projections on various matters that these teams would/could confront. The event was so positively received by the crisis team that ICRC is now considering whether such a foresight forum could be used in all crisis teams, especially given its capacity to engender a multi-dimensional perspective, the 360-degree view. They applied a structured way of thinking based on specific timelines (defining what was needed today, in three days, seven days, ten days, and so on), which was not the way that the crisis teams usually worked. Additionally, they structured their thinking as a multi-disciplinary team (medical, procurement, finance, etc.), complementing and supporting each other. It was a collaborative and very efficient way of moving forward. As a result, they

mapped out six months of activities for seven different teams. This forum has sparked an opportunistic showcase of the impact/value of strategic foresight.

Providing another practical example, Melissa explained how her team was able to internally foster the virtual reality (VR) project (that was underfunded and overlooked for many years) using foresight. Working on background research and trend scanning, they mapped through the skill sets that were available at the time and needed to have, then used a business projection plan to show how virtual reality could be an effective product for ICRC. As a result, the VR team is now supported by the entire institution, enabling it to be self-sufficient financially.

Margot mentioned that from the WHO perspective, it should neither be an additional layer of planning nor an additional burden, especially for the member states, but rather be included/integrated in all WHO planning processes and for the teams to apply the foresight methodology to improve their functioning. As an example, at the end of last year the WHO had a big meeting with countries to update their pandemic preparedness plan post-COVID-19 and used the foresight exercise to make them think differently to expand their ranges of possible future scenarios, which really helped them to introduce new aspects they did not think before about pandemic preparedness. As a result, more than 100 countries updated their pandemic plan using foresight methodologies within a few months.

Aaron, in turn, highlighted the importance of having partners around the table that co-own these ideas of what types of futures they aim to be prepared for and, whenever possible, to achieve the level of intended change together, by adapting how an organization thinks about and approaches the future. Working with different agencies of the European Commission, Aaron described that at large the Commission has been trying to integrate strategic foresight as much as possible for the last four years. In terms of policy recommendations and policy actions, he observes that the agencies are adjusting their strategy and adopting foresight as an integrated practice. The European Environmental Agency (EEA), for instance, has been doing this for a long time, with a good track record and many scenarios mapped, while the European Centre for Disease Prevention and Control (ECDC) has started only recently.

Brice de le Vingne, Coordinator of Emergency Unit at OCB, commented that actually in the emergency unit they are doing the foresight analysis constantly, but not necessarily in a structured way as has been presented, and sometimes it is indeed difficult to get the buy-in from other departments. For example, he mentioned that last year the unit went through the revision of the scenarios of the E-Pool, and every item that has been included in the E-prep kits in MSF Supply reflect the way the team see the future, the way they imagine which will be the next crises and how they need to respond to them for the next four or five years. Brice acknowledged that while some MSF units already have a foresight mindset, the approaches are not as structured as done by the ICRC, for instance, and highlighted the importance of having the entire MSF Movement engaged synergistically into the response of major crises, as observed during the COVID-19 pandemic and the Ebola outbreaks, and the need to carry them out in a much more participative and structured way.

<u>Equal participation</u>

Another question raised was how to ensure that staff from different countries and cultures equally understand the concept and language around strategic foresight and how to guarantee equal participation from the multiple stakeholders.

Aaron commented that there is a very large body of literature inside future studies that speaks about how some of these processes are actually colonial in nature because they bring a way of thinking into a community that may not think the same way. It is essential to start conversations about longer term futures in a mode that makes sense to the people in the room and encourages participation, creating **"safe spaces for dangerous conversations"**, since many themes and topics that may come up in these future oriented conversations may take participants out of their comfort zones and distinct ways of thinking may create uneasiness. Neutral facilitation that can bridge those gaps in context and language is hence critical in these discussions.

Melissa commented that in ICRC one of the strategies adopted to overcome some of the cultural, linguistic and conceptual barriers was training a smaller number of 50 delegates that were then responsible for training their own staff in their own language, therefore enabling strategic foresight to be expanded to 27 languages.

Long-term investments

Considering timeframes that go up to 2035-2040 and eventually 2050, a participant asked how to manage appropriately the resources and track the actions, especially when there is high staff rotation and short institutional memory.

To support the development of long-term objectives that go beyond individuals and are embedded in the institutional memory, Aaron described the idea of focusing on the "preferred future", i.e., how the organization wants to position itself, what does it want to be able to do across the spectrum of possibilities, and which degree of agency it wants to have to effect change on the possible external futures. The next step would be applying backcasting, identifying which investments, partnerships and actions are needed in different timeframes, including today, to allow the achievement of this institutional preferred future. Melissa complemented, saying that in terms of developing and implementing long term objectives, perseverance and constant reevaluation are needed. It is important to keep sharing the concepts, and pushing, talking about, and publicizing the objectives.

It is important to note that on the concept of the "preferred future", some participants highlighted the fact that this idea can generate tensions related to power and positionality, i.e., "whose preferred future?". Having a good participation rate from many different stakeholders has been presented as part of the foresight strategy, but how meaningful is that unless the position of those who can set agendas, who can do the risk assessments, who can decide the priorities against those that don't, are weighted? Indeed, Aaron replied that strategic foresight in all of its different guises and modes helps bring those conversations to the fore and have them be **spaces where stakeholders can actually have constructive dialogue instead of power games**. If the design and planning are done together to shape those preferred futures, then hopefully some of the power dynamics can at least be balanced out.

In addition, Sanjay commented that many organizations focus on "**preferred futures" as being carbon neutral, healthy, and thriving futures for all the people.** However, this reality must be checked, as current evidence points to dire scenarios instead, for which considerable and urgent investments in adaptation actions are needed.

Collaboration

In their final words, Melissa, Margot, and Aaron mentioned that they are very interested in working with all humanitarian actors on looking at the future of humanitarian work and be part of the proposed community of practice to collaborate with MSF.

Climate Scenarios Practical Exercises

To put in practice the concepts learnt, participants were invited to work in groups and analyse two plausible future scenarios and identify how MSF could prepare and respond to them. Initially, Léo introduced some climate insights for the understanding of the two exercises presented. The recent sharp increase in oceanic and atmospheric temperature was presented and placed into the context of an acceleration of climatic extremes (e.g. cyclones). A new indicator to monitor global warming and climate extremes (equivalent potential temperature), incorporating humidity and latent energy, was presented, as well as its projected exponential increase and its unequal impact on earth, mostly affecting tropical and subtropical regions.

Scenario 1: Sahel 2035-2040 (extreme heat)

Aina Roca Barceló, Climate Adaptation Specialist and Environmental Epidemiologist at HACE, introduced key concepts on heat & health: physiological thermoregulation, heat-induced illness, wet-bulb temperature, and the latest IPCC projections for extreme heat in the Sahel (changes in intensity, frequency and duration). The scenario was then presented: a 25-day long heatwave, including a few days of lethal temperatures (above 35*C wet-bulb) about to impact a 95,000 displaced population in a refugee camp in the Sahel. Time period: 2035-2040. Details about the project context (e.g., type of shelters, WatSan and health information), the social context, and the existing capacity that MSF and other organizations had to respond were shared. Participants were asked to think about the medical operational needs and the adaptation strategies MSF could adopt to respond more effectively to the reality described in the scenario in the areas of Coordination, Medical Response, Water and Sanitation, Logistics/Supply, and Advocacy. The outcomes of this exercise are described in **Annex I**.

Scenario 2: Cholera 2035-2040 (novel global hotspots)

Léo introduced how alternating periods of dry and wet period could change cholera transmission globally. The scenario was then presented: a world where cholera has become year-round in places where it used to be seasonal, and where the transmission area has expanded into previously unaffected countries – middle and high income. These changes were brought by the intensification of dry and wet periods and in parallel, an adaptation of the O1 El Tor strain to these new conditions. The outcomes of this exercise are described in **Annex II**.

Translating learnings and insights into planning and pragmatic actions: challenges and opportunities

Based on the information and concepts presented, participants were encouraged, in different moments within the 2-days, to share their impressions, and reflect on MSF's main challenges and opportunities to face the Climate Crisis applying the Strategic Foresight and Climate Adaptation. The main points highlighted throughout the Workshop were:

It is a complex and overwhelming topic: the anticipated changes are massive for MSF's organizational culture of being more reactive than preventive, there is no common language on the question, MSF-tailored knowledge transfer and training are missing, and the lack of proper communication across units and OCs was identified as a barrier.

There are practical questions to implement and operationalize action: there is a need for a clearer definition of MSF's responsibility to respond, to which hazards, in which contexts, with which magnitude, and how to prepare for that. The main areas identified were:

- Time frames of action and strategic planning should be adapted: in a fast-changing world, shorter revision cycles of strategic plans and protocols, for instance, may be needed as more information is available and new challenges arise. On the other hand, when long-term strategic investments that go beyond the current 4-year Strategic Plans cycle are agreed upon, MSF needs to safeguard them by developing a novel long-term strategic vision.
- Welcome the complexity-chaos continuum: important to consider not only the impacts on communities that are currently affected/vulnerable but also the impacts on global dynamics including the global economy and supply chains.
- Knowledge building/transfer:
    - Improve MSF's understanding of climate data and learn how to work with its certainties and uncertainties by continuously consulting with top Earth system scientists and climatologists.
    - Consider the role that misinformation linked to new technologies and platforms may have in MSF's work.
    - Foresight would enable MSF teams to be more predictive rather than reactive, better prepared, and able to respond quickly and more effectively, but to achieve this MSF will need to begin to build stronger internal technical capacity, including optimizing on the support the HACE and Climate Smart teams can provide, for instance. This may include developing training for emergency desks, sharing resources and databases, training on the use and interpretation of climate products, providing a framework on adaptation for MSF (what it means and how to implement it).
    - Local knowledge and community engagement should be at the center.
- Funding: the way in which MSF is funded now through mainly private donations may change with the outcomes of the increasingly convergent crises, so novel funding mechanisms may be required to carry out MSF's work.

- Partnerships:
    - Decide where/how MSF fits into this evolving landscape and foster internal and external collaborations, outsource resources or expertise when not available in-house and build stronger partnerships.
    - Engage more closely with community to better understand existing vulnerabilities/risks/ exposure and understand coping capacity already used for climate-related hazards.
    - If travel/mobility restrictions are imposed in the event of another pandemic curfew, consider the opportunity to start investing in national emergency societies to build adaptation and resilience. This would imply in a novel way of working for MSF.
- Spatial-temporal risk and vulnerability assessments including a climate perspective:
    - Reinforce collaborations as the OCA/Red Cross Climate Centre (RCCC) collaboration for developing a spatial vulnerability approach in Nigeria.
    - Expand on work as done by HACE on background work on the topic, compiling existing sources.
    - Translating data into useful tools as the INFORM risk-index subnational indices which have been transformed into maps by MSF-UK GIS
    - Elaborate further on the discussions had between the GIS Center Earth Observation team/HACE with Fathom, a private company developing high-resolution flood products.
    - Identify more key actors moving forward such as: GIS Center, RCCC, Epicentre and the Manson Unit for the spatiotemporal risks of CSIDs and NCDs, and HACE for the climate component.
- Advocacy: considering MSF resources and capacity are limited and are already not able to cover all the needs, clear advocacy strategies will need to be developed including in relation to the UNFCCC and COP processes. MSF should advocate adding the climate perspective to existing places of interdisciplinary exchange and/or create new spaces of exchange.
- MSF Governance:
    - Ensure that climate risks are factored in all MSF programming and planning in a structured and systematic way.
    - Include Climate Adaptation in the OCs Strategic Plans.
    - Endorse Climate Adaptation as an institutional goal to “steer the ship”, similarly to what has been done for the Climate Mitigation (carbon footprint reduction).
- Innovations/research:
    - Safeguard space and financial resources for research and innovation.
    - Follow water conservation innovations and test new technologies.
    - Innovation watches on key fields within MSF (e.g., Medical, Vector Control, Water and Sanitation) and opportunities on Health Resilience (e.g., adaptation of health systems and ecosystem rehabilitation).
    - Invest in Operational Research to overcome knowledge gaps. Current actions on the topic:
        - LuxOR’s current SORT-IT training focusing on Climate, Environment and Health (Climate communication, climate change and malaria, etc.)
        - The Heat Research project led by OCG.
        - The Malaria Anticipation Project on Anticipatory Action and Health (HACE).

Strategic questions for MSF relating to its remit as a Movement are:

- MSF identity and added value: MSF needs to determine how it wishes to use foresight in relation to climate and other converging crises, including how strategic foresight capability could help MSF plan activities aimed at making the MSF movement fit for purpose in more challenging operating contexts.

- Duty of care to staff: safeguard MSF staff's (and their families') social protection and physical and mental health. Also consider the provision of climate adapted specialized clothing as needed and available to perform their tasks and have adapted working hours. Prepare staff with mass casualty planning for extreme weather events.

Operational Centers proposed prioritization

During the Workshop, participants also had the opportunity to discuss together within their specific Operational Center (OC) groups and, from the wide range of areas mentioned above, OC representatives reflected on specificities for their own OC and proposed priorities they could adopt:

Operational Center Amsterdam (OCA):

- Integrate climate and environmental elements in the country profile analysis.
- Develop vulnerability assessments which are as local as possible.
- Carry out more Anticipatory Action and Community-Led Adaptation (community-informed anticipatory action and decision making).
- Develop E-prep on heat, flood and drought, dengue, water insecurity, and malnutrition.
- Innovate on ways to address water scarcity.
- Establish monitoring of environmental pollutants.
- Enforce actions to address Mental health of staff.

Operational Center Brussels (OCB):

- Add a climate lens to emergency preparedness and response. As a pilot, select two or three projects where the climate briefings from HACE can be integrated and teams trained, guided and empowered to develop their climate adaptation literacy and analysis.
- Work on climate risks and vulnerability assessments, with support from HACE and other actors working on the topic.
- Integrate climate risks into the Emergency Response and Awareness Training (ERA).
- Ensure the Adaptation of climate-smart infrastructures and technological watch.
- Work on the Adaptation of E-prep kits and the supply chain as needed.
- Partner with other humanitarian organizations and mutualize resources whenever possible.
- Listen and connect with project colleagues and share climate adaptation initiatives happening from the ground.
- Organize a webinar on the concepts and terminology around climate adaptation. Of note, the Operational Adaptation Working Group in OCB developed a Glossary on Operational Adaptation, which was shared during the Workshop and is accessible to the whole MSF Movement.

Operational Center Barcelona-Athens (OCBA):

- Work on having an endorsed movement-wide statement on Climate Adaptation.
- Advocate to add climate on "risk registers."
- Develop a climate platform for the mutualization of climate information and foster adaptation work.
- Climate risk assessment added in every context analysis.
- Increase climate literary through learning and development.
- Adapt medical protocols for extreme weather events.
- Have a greater climate focus on advocacy messages and external positioning.
- Apply a People-centered Approach linked with climate and dignified care.

- Adapt the E-prep.
- Include Climate Adaptation as one of the strategic priorities.
- Advocate for each department to have climate activities with KPIs.
- Embed a climate lens across all of the programs and improve the surveillance capacity.

Operational Center Geneva (OCG):

- Adapt vulnerability assessments to include the climate perspective.
- Improve countries context analysis by adding climate components to the existing information.
- Adapt E-prep mechanisms accordingly.
- Establish the training of staff to increase literacy and awareness.
- Innovation watch: look at which type of technology is being used that may need to be adapted and invest in more operational research to strengthen understanding.
- Create a space for exchange within MSF of lessons learnt, build synergy, have a follow up and mutualization of tools.

Operational Center Paris (OCP):

- Improve epidemiological surveillance and environmental indicators at project level, district level and national level (mutualized).
- Safeguard access to Primary Healthcare and medical and non-medical supplies for vulnerable communities during Extreme Weather Events.
- Work on the mutualization of GIS, Surveillance System and Supply across the Movement.
- Advocate for more resources to respond to the needs, as MSF will not be able to cover all.

Conclusion – outcomes and action points

The workshop targeted different levels of interactions, from the executive to operational technical level with the aim of exploring climate and environmental pressures on medical humanitarian operations through strategic foresight methods introduced by Mr. Sanjay Khanna and experiences shared by other external experts. Participants were provided knowledge, tools, and opportunities to exchange on ongoing or planned work, identify gaps and solutions while contributing to understanding a wide range of short-term and long-term realities and risks. The workshop especially highlighted some of the ongoing work done by various members of the movement working on climate as MSF Canada's HACE and others who make up the current informal Climate Adaptation working group. By bringing together emergency desks, technical advisors, climate focal points and MedOp leadership, important understanding and clarifications were advanced. Key next steps identified were:

- It has been collectively agreed that having **a common platform to share knowledge** and discuss climate adaptation topics is urgent.
- A **community of practice, involving key colleagues from each OC** would be key to ensure information and lessons are shared, and blind spots and synergies identified in key areas of work, with regular follow-up meetings and field reality checks. Therefore, it was proposed that an intersectional community of practice be formalized within MSF to establish strong foundations moving forward in this iterative process. HACE has volunteered to host and coordinate it.

Moreover, with the new Strategic Planning cycle coming up this year, it is expected that **future foresight and climate adaptation become part of the OCs' strategy planning exercise.**

A regroup of the Workshop participants was suggested to be within 6 months' time to assess how this topic has evolved within the Movement.

Additional resources

Link to the workshop's concept note and detailed agenda.

Link to the supporting documents.

Link to the presentations.

Link to the recordings.

Annex I. Needs identified and strategies proposed by the participants based on the Sahel 2035-2040 extreme heat scenario in the areas of Coordination, Medical, Water and Sanitation, Logistics and Supply, and Advocacy.

Coordination	**Planning** • Ensure Emergency Preparedness plan, kits, trainings are in place (both for MSF staff and the local population) for extreme heat events in highly exposed areas where populations will be increasingly vulnerable. • Define heat thresholds for evacuation and relocation. However, would there really be options for this, considering a wide area around the camp could also be facing the same situation? Who to contact and prepare for this? • Ensure surveillance and early warning capacities for extreme heat (both in-house or outsourced, if the later, then good mapping of actors and action plan) – in connection with E-Prep. • Ensure discussion/collaboration with other humanitarian actors, MoH, Met Offices. **HR – duty of care for MSF staff** • Ensure HR measures adapted for these events – think about staff rotation, adapt the times of the day when our staff is working to lower heat stress (e.g., evening), as well as adequate and adapted clothing. **Collaboration** • Coordination with other humanitarian health actors. • Engagement with community – listen and learn on local coping strategies to heat.
Medical	**Curative – quality of care for our patients** • Improved understanding of direct and indirect impacts of extreme heat on health, including impacts on incidence and survival of other diseases such as malaria or cholera, malnutrition prognosis, mental health conditions, maternal and child health, non-communicable diseases, etc. • Improved access to Primary Health Care. • Improve understanding of the impacts of extreme heat on treatment plans and adjust them when necessary (e.g., medication that reduces sweating, vasoconstriction, increases heat production, among others.) • Adapting medical protocols for extreme heat events and other treatment of diseases who might be impacted by heat event – ensure cooling/hydration points in clinical areas, have an effective triage protocol, identify potential partners where patients can be referred to. • Medical watch on approaches/technologies suited for heat-induced illness. **Preventative** • Re-enforcing health surveillance – adapted to heat. • Mapping active actors on site, including existence of national response plans. • Developing preventative strategies and protocols for extreme heat (minimum standards). • Developing health sensitization approaches to the community. **Knowledge** • Better understand existing population vulnerabilities in relation with heat. • Technological watch on medical supplies/equipment targeting heat events.
Water and Sanitation	**Protocols** • Review if minimum standards for drinking water (20l/p/d) is sufficient for heat events. **Capacity** • Re-invest in MSF's drilling capacity and comprehensive regional groundwater assessments and monitoring of water stress areas more regularly. • Strategies to water conservation (more efficient use and/or reuse). • Have plans in place to cope with a sudden demand of water (e.g., for consumption, daily running of structures, response to fires, etc.).

	Knowledge • Better monitor water stress in the regions where MSF works, more groundwater quantity and quality assessments. • Technological watch on WASH innovations related to heatwaves, water conservation and innovations in using water more effectively. • Monitor specific threats that could arise in heat responses that involve sprinkling or spraying of water (e.g. legionellosis).
Logistics/Supply	**Protocols** • Reviewing logistical/supply protocols which may be relevant for heat responses. **Capacity** • Develop kits for heat responses. • Building of underground shelters. • Apply the termite technique to cool down shelters. • Tech-cooling shading areas with rehydration. • Adapted cold chains. **Knowledge** • Consider local knowledge. • Technological watch on shelter/infrastructure innovations adapted for extreme heat. • Map and monitor available infrastructure (internal or external to MSF) suitable to be used in case of emergency – e.g., religious buildings as cooling centers.
Advocacy	**Advocacy** • Raise awareness among humanitarian actors about contexts which will be increasingly exposed to extreme heat and where populations are highly vulnerable. • Prepare advocacy plans for hypothetical camp relocations. • Advocacy towards ensuring other organizations fulfill their expected roles, when needed, in complementarity to MSF, as MSF won't be able to cover all the needs. • Plan advocacy strategies in benefit of the most vulnerable populations, as extreme heat, for example, is also expected to affect more developed regions of the world, therefore preventing and/or denouncing inequities. **Knowledge** • Mapping existing actors' gap on extreme heat responses in humanitarian contexts. • Partnering with local communities and activists.

Annex II. Needs identified and strategies proposed by the participants based on the Cholera 2035-2040 global scenario in the areas of Medical, Water and Sanitation, and Advocacy.

Medical	**Curative – quality of care for our patients** • Adapting medical protocols and guidance to reflect the changes brought by the new strain and new climatic conditions – need for periodic systematic revisions. • Develop decentralized models of care adapted to multiple concurrent outbreaks, with less reliance on healthcare center. • Ensure good intelligence on key vulnerable groups (note that these may change with climate change), with an equitable lens for case management, service delivery. **Preventative** • Develop trainings to support Ministry of Health in mid/high income countries where MSF might not intervene directly. • Further develop community engagement within cholera responses. **Knowledge** • Create a medical watch on new vaccines and/or innovative medical products targeted at cholera.
Water and Sanitation	**Response** • Develop new agile approaches for multiple cholera outbreaks, allowing for quicker responses. • Improve NFI kits, including chlorination. • Improve surveillance strategies, including novel approaches such as wastewater monitoring to understand case load – consider partnerships for this. • Improve risk communication and advocacy to communities. **Capacity** • Re-invest in cholera response training for MSF staff, as the expertise is getting lost. • Invest in better, more systematic water sampling (microbial and other contaminants), and wastewater and environmental monitoring, possibly through partnerships. • Improve expertise in urban settings. **Knowledge** • Better monitor areas where there are gaps in water access and sanitation infrastructures (i.e., mapping of vulnerable communities), leading to higher cholera risks. An emphasis should be put on developing slums of urban areas in the global south. • Create an innovation watch for water filtration and wastewater management innovations. • Knowledge sharing within MSF and with external actors to learn from past interventions.
Advocacy	**Advocacy** • Advocate for and monitor an equitable distribution of medical supply and vaccines between low, medium, and high-income countries. • Further raise awareness on areas of the global south which are at high risk of outbreaks due to lacking water and sanitation infrastructures and high density. • Monitor global funding streams and the evolution of countries' governance, and advocate for needs.