

1st Asia Pacific Regional Heatwave Meeting Report



Photo: Indian Red Cross/RCRC

"This is not an academic exercise - heatwaves are a collective issue, we all must act upon".

IFRC Asia Pacific Regional Head of Health

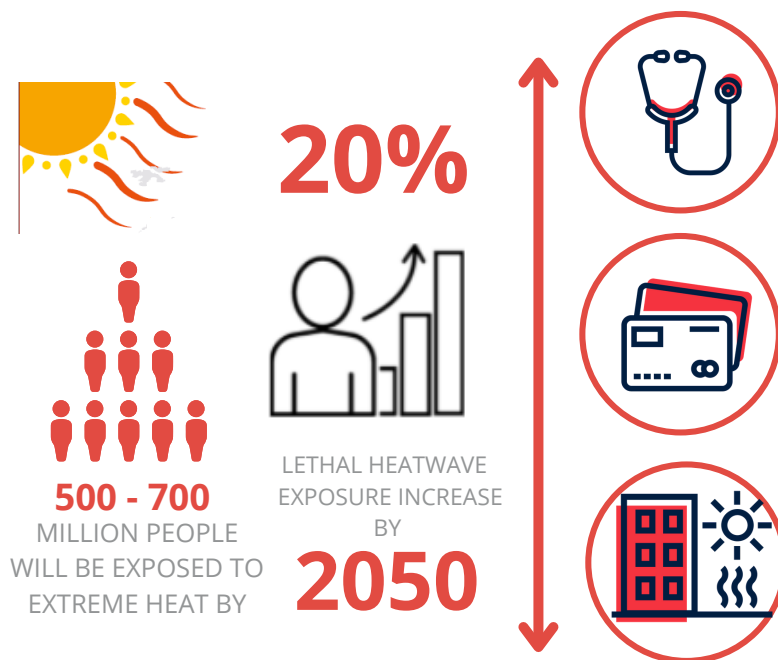
Heatwaves, or silent disasters, are increasingly common and can seriously affect human health, well-being and livelihood. In the past decade severe heatwaves have claimed numerous lives in Asia Pacific. Heatwave exposure will continue to increase, even in countries where heat has not been an issue in the past, and as a result of climate change heatwave exposure will increase.

On May 11 - 12, the 1st Regional Heatwave Meeting, convened over 75 participants, spanning RCRC National Societies, Research and Academia, UN, City Networks and IFRC Country and Country Cluster Delegation staff. The following report outlines key highlights from the 1st Asia Pacific Regional Heatwave Meeting.

On Day 1 attendees received a cross-cutting overview of regional heatwave impacts in Asia Pacific, vulnerability of specific groups to heat and practical actions to save human lives within the mandate of the Red Cross Red Crescent. Throughout, participants engaged in discussions regarding needed technical and thematic support.

Day 2, participants learned from practical examples how timely, simple, low-cost and at scale actions can drastically reduce impacts due to extreme heat from practitioners. Following, participants received an overview of the latest, cutting-edge heatwave research underway, and opportunities for RCRC and partners to harness regional and global collaboration.

Why Heatwave Action in Asia Pacific?



HEATWAVES IN ASIA PACIFIC....

impact health and correlate to increased mortality and morbidity. Those most at risk are the elderly (1 in 4 in Asia Pacific by 2050), pregnant/ lactating women, those with pre-existing health conditions, as well as outdoor day laborers, or those living in poor conditions with limited access to cooling devices and basic services. Heatwaves place social and psychological duress on the already vulnerable, the isolated, displaced, and can increase stress, anxiety and depression.

impact livelihoods and come at a human, social and psychological, and economic cost. 68% workforce in Asia Pacific are informally employed, 85.2 % in rural areas (primarily in outdoor agriculture) and nearly 50% in urban areas. Heatwaves will disproportionately affect the poor, from crop yields to food price volatility, and the inability to pay for cooling devices and basic services. India lost 75 billion hours due to heatwaves in 2017, 60 billion hours from the agriculture sector alone.

impact urban areas and subject urban dwellers to amplified heat-health risks with the heat island effect. The majority of the population in Asia Pacific (2.3 billion) live in urban areas. Over half a billion people live in slum areas and rapid urban growth continues to pose a critical challenge for local governments. High rates of poverty, urbanisation, and high heat conditions make those in Asia Pacific a region highly vulnerable to the impact of heatwaves.

Asia Pacific Regional Heatwave Action

The 1st Asia Pacific Regional Heatwave Meeting featured a wide range practical actions to reduce heatwave impacts:



Urban Anticipation/EWEA

Anticipatory humanitarian actions triggered by an impact-based heatwave Early Warning System (EWS) allow for early action based on a forecast and protect those most vulnerable. Asia Pacific is a leader in urban heatwave anticipation as demonstrated by Vietnam Red Cross, Bangladesh Red Crescent and the HANDS/START Network.



Public awareness and public education (PAPE)

Public awareness and public education are integral to preventing heat-related deaths and illness, Hong Kong Red Cross Branch, Japan Red Cross and Indian Red Cross shared innovative methods to capture public awareness and scale up heatwave education for enhanced community resilience.



First aid training

Japan Red Cross Society shared how to seize low-hanging fruit, integrating heatwaves into regular programmes such as Trainings for Trainers and awareness raising activities. These FA trainers are often invited by schools and communities to provide short-time lectures on heatstroke for community members.



Emergency services

Australia Red Cross TeliCross REDi service includes an early warning text message advising people served and their emergency contacts to prepare for the heat. Messaging is also included within the phone call, alongside health-related questions incorporating Psychological First Aid principles. If a person is unreachable, an escalation procedure is engaged to confirm the welfare of the person.



Heat-health Action Planning

Red Cross Climate Centre how Heat-Health Action is institutionalizing heat risk management in cities in Nepal and Bangladesh. Plans build capacities of the respective city authorities, Health Service Providers, Civil Society Organisations (CSO), and the volunteers/staff of the respective branches of the Red Cross Red Crescent National Societies to heat risk and action



Nature-based Solutions

Nature-based Solutions and their immense potential to reduce exposure to disasters and climate change impacts, including heatwaves, in urban and rural areas and provide critical resilience dimension to the RCRC work, as demonstrated by IFRC and Indian Red Cross' Eco-DRR activities.



Regional - global heatwave research and collaboration

Within and beyond the RCRC Movement, collaboration is key. Research and academia offer vast benefits for humanitarian heatwave work. For example, improved Heat-Health Warning Systems, as presented by Beijing Normal University, to cool Infrastructure and effective physiological solutions to beat the heat, underway in Singapore University and LMU Munich. IFRC Asia Pacific Regional Delegation continues to support RCRC heatwave endeavors in Asia Pacific. Partnerships with the Global Heat Health Information Network, and UNDRR foster the nexus of research, policy, and humanitarian practice and the mainstreaming of local to global heatwave action.

Day 1: Heatwaves Impacts

Regional Heatwave Meeting co-hosts, **IFRC Jerome Faucet, Lucy Price, and Catalina Torres**, welcomed participants and the keynote speaker, **Deputy Regional Director, Gwendolyn Pang**, who set the tone with the following regional context:

- In the past decade heatwaves have been responsible for numerous fatalities in the Asia Pacific, including 1,000 deaths in Japan and Korea in 2018, over 1,500 deaths in India in 2015, and 230 deaths in Myanmar in 2010.
- By 2050 500 – 700 million people in Asia will be exposed to 20% increase in lethal heatwave probability. In South Asia, heatwaves are likely to increase five-fold over the next few decades
- Unlike other natural hazards, 'heat' is particularly difficult to identify. The human impacts of heatwaves are also notoriously difficult to quantify and therefore are largely underestimated.

Deputy Regional Director Pang concluded with words from IFRC President, Francesco Rocca, "this silent emergency is preventable - and, low-cost actions can save lives during episodes of extreme heat".

Heatwave impacts: who is most vulnerable?

Madhab Uprety, Red Cross Red Crescent Climate Centre, noted that although anyone can suffer from negative health effects or even death due to extreme heat, certain groups of people are typically at a higher risk. These include the elderly, very young children, pregnant and lactating women, people with pre-existing medical conditions, lower income populations, people working outside or cooking indoors in densely built areas such as informal settlements and shared occupancies, and people who are homeless. People in these groups may be more exposed to the heat and/or their bodies may have a harder time regulating the heat.

Covid-19 has further compounded heatwave risk, especially for the elderly and those with pre-existing health conditions. RCCC and the Global Heat Health Information Network's [Heat and COVID-19 Information Series](#) has developed practical steps National Societies can take to protect staff, volunteers and vulnerable people from heat extremes.

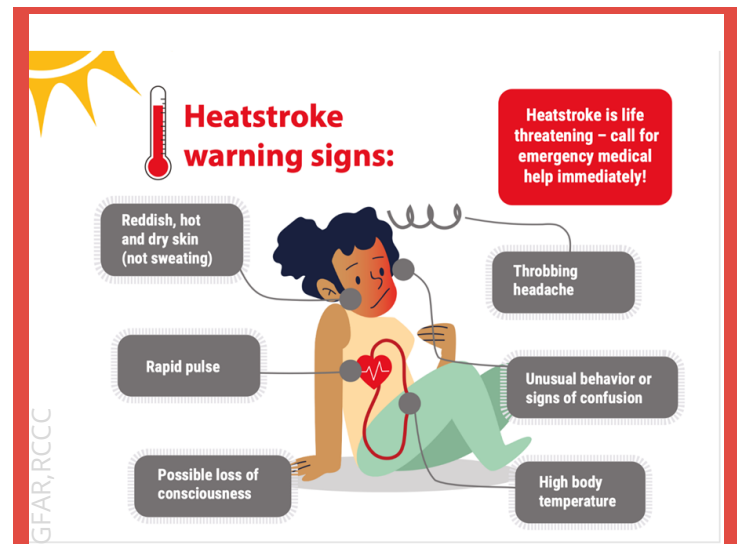
What is the correct definition of a Heatwave?

Trick question! There is no single universal definition for a Heatwave, Jerome Faucet explained.

Heatwave can best be defined as a period when temperatures, or temperature in combination with other factors, are unusually high and hazardous to human health and well-being. Heatwaves typically have a noticeable start and end, last for a period of days and have an impact on human activities and health. In addition, heatwaves are fundamentally linked to impacts - a composite effect of many factors beyond just temperature.

How to recognize and prevent impacts?

Global First Aid Reference Centre, Pascal Cassan and Salome Boucif outlined how to recognize and prevent negative health impacts from extreme heat.



Appropriate first aid and emergency medical care save lives during a heatwave, especially for heatstroke. The IFRC GFAR stressed the importance of the inclusion of heatwave management in National Societies first aid courses. As a starting point, it is paramount to recognize the signs between heat exhaustion and heat stroke, as both require different treatment. In addition, GFAR colleagues shared measures for heat prevention, including wearing loose clothing and shifting outdoor activities to cooler times.

GFAR is also partnering with RC3 Science Connected for Humanity, contributing to a global baseline of heatwave impacts, locally applicable thresholds, shelter and infrastructure solutions for people-centred approaches to heatwave prevention and action.

Day 1: Livelihood and Urban Context

IFRC APRO Subhendu Pratihari, and Lucy Price presented the cross-cutting impacts of heatwaves and compounding effects of climate change on livelihoods and urban dwellers. **Pratihari** outlined the negative impact of heatwaves on human, social, natural, financial and physical capital, and amplified losses incurred by climate variability. Female-headed households, small farmers and informal workers, of whom comprise 68% of the Asia Pacific workforce, will continue to be most effected.

Cities in Asia Pacific, as hosts of the majority of the population, primary GHG emitters, and rapidly urbanizing host complex systems of compounding hazards and cascading risks. By 2050 regular exposure to heat extremes in cities will increase by 700 percent. **Price** presented on how and why urban areas magnify heat exposure and contribute to urban heat islands, expected regional demographic trends, and the challenge for the humanitarian sector operating in urban contexts, and opportunities for humanitarian preparedness in urban areas.

EWEA and Anticipation

Nearly 5 billion people live in regions hosting predictable seasons, and have the ability to forecast heatwaves days or weeks in advance. This ability makes it possible to take anticipatory actions to reduce the impact to their occurrence. However, the difficulty to quantify the health impacts and the reliability of heat-related mortality data, limit the development of impact-based thresholds for Heatwaves Early Warning System (EWS) . and subtropical and tropical regions typically rarely have appropriate heat wave and heat-health warning systems. **IFRC Jerome Faucet** explained how a heat-health EWS with triggers for actions and an effective Early Action Protocol, can protect those most vulnerable from extreme heat, using the case of the Vietnamese Red Cross (VNRC) led and German Red Cross Urban Forecast-based Financing (FbF) project. In particular, Faucet walked participants through the VNRC FbF trigger methodology applied in Hanoi, Hai Phong and Danang, and shared how mapping, setting triggers, selecting early actions based on a forecast and impact contribute to robust systems of anticipation.

Red Cross Climate Centre Resources



A tale of two cities taking Heat Action

The Red Cross Climate Centre has worked with numerous partners to develop a suite of valuable resources, including the Heatwave Guide for Cities and City Heatwave Guide for Red Cross Red Crescent branches, along with the Urban Action Kit for staff and volunteers, as presented by **RCCC Madhab Uprety**.

These resources are currently being applied under the RCCC Heat Action in Cities project, Nepalgunj City, Nepal and Rajshahi City, Bangladesh are currently developing city Heat Action Plans, as introduced by **Ramiz Khan, RCCC**.

The project, supported by Climate and Development Knowledge Network (CDKN), Asia (hosted by ICLEI South Asia) and UK Met Office – ARRC Programme, connects residents of the respective cities, especially the vulnerable, with City/local Authority, Health service providers, Civil Society Organisations (CSO), and the volunteers/staff of the respective branches of the Red Cross Red Crescent National Societies for collective action planning.

Project milestones include understanding the risk of extreme heat in the city, developing heat action plans, capacity building and awareness generation of stakeholders, including National Societies on heat actions.

Day 2: IFRC Asia Pacific Regional Priorities

Heatwaves: a Regional Strategic Priority for IFRC Asia Pacific

Day 2 commenced with **IFRC APRO DRM Manager, Sanna Samela-Eckstein**, who reiterated Heatwaves as a cross-cutting priority in the Asia Pacific. In order to meet the newly established global Movement target to protect 250 million by 2025 in at least 150 cities and towns, APRD has committed to supporting heatwave action under Strategic Priority 1: Climate and Environmental Crises, including via:

- Establishing a multi-sectoral Working Group on heatwaves (health, livelihood, DRR)
- Supporting knowledge exchange and capacity enhancement
- Providing technical support and quality assurance for Heat Action Plans and heatwave EWEA systems linked with local/national meteorological systems
- Promoting and supporting National Societies in developing climate-smart and multi-hazard Contingency Plans including Heatwaves

Above all, IFRC APRD will continue to support National Societies and partners throughout the region and beyond to collectively catalyze, share learning, and facilitate peer support to scale-up actions.



+CIFRC



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GLOBAL
CHALLENGES
STRATEGIC
PRIORITIES



STRATEGIC PRIORITY 1
CLIMATE & ENVIRONMENTAL CRISES

Day 2: Practical Solutions

Australian Red Cross is TeliCross REDi: Are You?

Eilish Maguire, Australian Red Cross, presented the TeliCross REDi program, which arose out of summer 2009, where many vulnerable people lost their lives or were hospitalised due to heat related illnesses. Australian Red Cross has an agreement with the South Australian Government that during declared heatwaves, a phone outreach service is activated.

The first of its kind service in Australia has been instrumental in contacting those most vulnerable many who live alone, and often slip through the gaps of other healthcare and disability support systems during heatwaves. The service includes a warning text message advising people served and their emergency contacts to prepare for the heat. Messaging is also included within the phone call, alongside health-related questions incorporating Psychological First Aid principles. If a person is unreachable, an escalation procedure is engaged to confirm the welfare of the person. The program was adapted during South Australia's COVID-19 Outbreaks, with over 28,000 calls made in the space of 100 days during the first wave.



250

MILLION PEOPLE



150

CITIES + TOWNS

people better protected
from heat in cities and towns by

2025

Note: baseline to be established in 2021



Photo: Aditi Kapoor, RCCC

Holistic Heat Action: Indian Red Cross

India has experienced a series of deadly extreme heat wave incidents in the last two decades. Following the 2015, loss of 2,248 lives to extreme heat, as **Bindu Aggarwal**, explained, **the Indian Red Cross (IRCS)** has since developed strong and innovative preparedness and long-term DRR activities to protect those most vulnerable from extreme heat.

IRCS and the Indian Meteorological Department have been working closely on heatwave forecasting and early warning since 2017. IRCS has also employed Flash Mobs (combining song and dance) in hotspots of New Delhi to capture public attention with simple, effective, early warning messaging, coupled with distribution of IEC material, cold beverages and awareness campaigns. In Gujarat, IRCS has been linking Covid-19 vaccination, heatstroke campaigns and blood donation 2021 in Andhra Pradesh.

70% of India's geographical area is classified as drylands, and extreme weather is increasingly incurring livelihood disruptions, underscoring the need for long-term DRR solutions. The Eco-DRR Project aims to increase household and community-based resilience to extreme weather conditions in Gujarat, the state home to country's second largest arid and semi-arid land mass. Households and communities supported through capacity building on restoration of pastures, establishment of fodder banks, agroforestry, also training on Agromet services and EWS. The program links to the Government's Soil Health Card Scheme, soil health card, and ongoing pond restoration and tree planting projects.

Enhancing Community Resilience to Heatwaves: Hong Kong Red Cross Branch

Temperatures in Hong Kong have been steadily record breaking. 2020 marked the hottest summer on record to date with 40 days of extreme heat.

Irene Lui, Hong Kong Red Cross Branch shared the multifarious ways HKRC is responding. The Hong Kong Red Cross branch in particular has ramped up Public Education and Awareness. HKRC has trained over 10,000 participants since 2019 on the impact of climate change and heatwaves, set up roving exhibitions and smart games in various districts of Hong Kong,

in addition, social media, publicity and online games on climate change and heatwaves, including a learning module on Heatwaves on the HKRC Disaster Preparedness Knowledge Mobile App are helping to raise awareness and protect those most vulnerable of all ages.

Hong Kong Red Cross Branch in addition provides direct service to high-risk groups. Since 2018, HKRC has been conducting "humanitarian caring summer visits", visiting roughly 150 elderly residents, as well as those living in sub-divided flats each summer to pass on heatwave and home safety information and conduct heat protection assessment. Lui concluded her presentation with the recommendation to make use of every channel to enhance public awareness and advocacy.

Cool Cooling Centre SOPs - Transferable Lessons from Vietnamese Red Cross in Urban Anticipation

Vietnam Red Cross has elicited a reputation as a global pioneer in anticipatory heatwave action. Following intensive heatwave impact-based mapping, the VNRC devised a range of early actions from the provision of cooling centers for outdoor workers, to mobile cooling busses and slum care visits, to reduce heat related impacts on outdoor workers health. The four Cooling Centres established in previous simulations received 1787 visits in four days of early activation.

Hoa Nguyen GRC/VNRC FbF Manager, dedicated the presentation to a deeper dive into the Standard Operating Procedures developed by VNRC to be rolled out in multiple cities in Vietnam.

The guideline for procedures, and caring protocol offer standardized and clear training for volunteers on heatwave first aid, and have proven to be key for scaling up the early actions in other urban cities.

Challenges ahead include the improvement of internal procedure on procurement, warehouse management, as well as fund transferring and early warning mechanism are all key for the success of EA implementation. **Nguyen** also called upon the importance of strengthening links between longer-term DRR measures, such as slum retrofits with cooling roofs and devices, to compliment anticipatory early actions.



Examples of Vietnam Red Cross' devised Cooling Centre caring protocol as a component of Heatwave SOPs

Practice makes perfect: Simulating FbF for Heatwaves in Dhaka, Bangladesh

Urban populations are at risk from extreme heat worldwide, and Bangladesh, one of the most disaster prone countries, is no exception. Under the GRC FbF project, the **Mohammad Shahjahan, Bangladesh Red Crescent** presented their current advances in their urban FbF Heatwave project. The objectives of the project to reduce risk of heat stress and heat stroke, reduce related health expenses, reduce loss of working hours and ensure livelihood stability will be met through anticipatory action. In May 2021, BDRCS simulated FbF early actions, engaging in awareness messaging, land distributing cash assistance to 197 Households based on a threshold of 38 degrees Celcius. BDRCS has an MoU with the Hyrdo=Met Department, and the simulation and piloting has helped to sensitize government authorities on heatwaves and their impacts for future work.



Bangladesh Red Crescent GRC FbF Heatwave simulation, Dhaka, May 2021



Image: Japan Red Cross

START Network: all HANDS on deck to anticipating Heatwaves in Karachi, Pakistan

In 2015, roughly 1,500 Karachi residents died as a direct result of a June heatwave. **Sumera Javeed, HANDS Pakistan** presented how the **START Network** has been implementing disaster risk financing to manage extreme heat in Pakistan.

In 2020 HANDS Pakistan implemented a heatwave anticipatory response project in Karachi. The project, funded by START Network, operated in close collaboration with ACF International, Provincial Disaster Management Authority (PDMA) Sindh, and multiple media channels.

Anticipatory actions included awareness raising messages through FM radio, SMS and social media, which reached approximately 4.5 million people in six weeks. Early actions also included the distribution of approximately 70 printed umbrellas to the PDMA and traffic police, which provided shade alongside messages in congested public locations.

Following project completion, a Knowledge, Attitudes and Practices survey examined the most effective information channels to disseminate heatwave early warning information. Social media served as primary mode where the majority of people received heatwave information (60%), 30% television, 19% through FM Radio, 16% through a friend. Most (84%) respondents confirmed they were more likely to follow instructions as a result of the information.

Japan Red Cross: conquering Heatwaves with cuteness and competence - squirrel mascots and more

As **Yuki Aoki Japan Red Cross** presented, although JRCS does not have independently designed programmes for heatwaves, JRCS focuses on integrating heatstroke prevention into their regular programmes such as trainings for trainers and awareness raising activities, for example its mandatory First Aid (FA) training JRCS Official First Aid Textbook. These FA trainers are often invited by schools and communities to provide short-time lectures on heatstroke for community members.

Branches have developed their own Heatstroke awareness material, such as the JRCS Ishikawa and Hiroshima branches to deliver key messages on the increasing risk of heatstroke under the pandemic by drawing essence from the Japan Government's Heatstroke Prevention Guideline, as well as volunteers delivering messages as squirrel mascots.

Despite these efforts made by the JRCS and other organizations, more than 8,000 victims were recorded across Japan in last July. Hence, according to Yuki, we still have space for improvement on this issue by continuously trying to accommodate heatstroke components in existing operations and programmes where possible. In addition, JRCS recommends to strengthen coordination with local authorities and governments, as well as RCRC branding as heat aid service providers.

Day 2: Tackling Heatwaves Together: RCRC Partnerships & Heatwave Collaboration



The latter part of the day closed with messages from key partners from UN, research and academia and the Global Heat Information Network. Heatwaves require scale and systems-thinking; local and scientific knowledge; partnerships; linked to broader plans for disaster management and climate change. In the words of GHINN's Juli Trtanj, "You need engaged people, with the right knowledge, taking effective action". The following presenters demonstrate how it's done:

UNDRR: Connecting the dots of research, policy and practice for heatwaves

UNDRR Iria Touzon outlined how UNDRR is working with research, policy and practitioner's partners from climate change, humanitarian and risk reduction communities to raise political and policy awareness on heatwaves as an emerging risk with increasing impact in urban context in Asia Pacific.

Specific opportunities for RCRC to engage at the national and local level:

- enhancing the understanding of the risk and impacts associated;
- supporting local governments to scale up their preparedness and anticipatory action capacities for managing risks and events;
- and connecting efforts on local and community development such as sustainable and resilient livelihoods support programs with efforts on climate and risk management.

Additionally, building on previous presentations at the launching event of the Urban Hub, the intervention highlighted how National Societies can play a role in the global partnership under the Making Cities Resilient 2030, an initiative to raise awareness and support local governments on understanding the cascading nature of risks, increasing challenges with multiple overlapping crisis and compounding impacts.

IFRC Nature-based Solutions to combat heatwaves: systems-thinking at scale

IFRC Ninni Ikkala - Nyman introduced the characteristics of Nature-based Solutions and their immense potential to reduce exposure and increase resilience to disasters and climate change impacts, including heatwaves, in urban and rural areas.

Within cities NbS in Asia-Pacific:

- Urban green spaces (large): Purify air; regulate local climate by preserving heat, cooling air and humidifying, benefit both within and around green area (study of 8 cities in China)
- Green roofs: reduce heat transfer to buildings, esp. in summer, energy saving (Shanghai, HK)
- Sponge Cities: environmentally urban systems to absorb, store, infiltrate and purify rainwater. (so far 30 cities in China)

Beyond cities:

- Restoring upland forests can regulate water flows of large cities, help manage more extreme floods, economic savings (e.g. Tokyo)
- Sustainable management of agricultural lands to provide both food and water for cities (Ganges basin, India, Yellow River, China)

Work on how National Societies can engage in Nature-based Solutions is currently under development.

Research and academia: the key to advancing humanitarian heatwave work

Elsbeth Oppermann, LM Munich/National University of Singapore presented a brief overview of the value of engaging with social science research in addressing knowledge problems in the fields of humanitarian aid and disaster management, namely:

- Access to research-focused funding sources
- Novel, rich methods for evidencing and communicating that include and go beyond more familiar methods and applications such as KAP surveys, focus groups, programme evaluations

Regarding heatwaves, a review of the range of social science approaches, methods and disciplines have already contributed to research in the context of extreme heat. From quantitative and qualitative responses, multi-method and inter-disciplinary approaches. Recent projects that demonstrate heat-health relevant humanitarian aid-research collaboration, direct collaboration with the IFRC or applicable research designs for aid contexts include the: Moving Energy Initiative, Cool Infrastructures and **Project Heat Safe**.

Project Heat Safe addresses effective physiological and sustainable solutions to beat the heat, as presented by **Jason Lee, National University of Singapore**. Lee expanded on the importance of heatwave research, situating heat as a big problem for human health with equally big potential. Further scientific research should explore the differentiation between heat stress and heat strain, understanding that heat is a foe, but can also exploring how to make heat a friend, and the implications of heat on the wider society. Lee concluded reiterating the importance of understanding the systemic, interconnected nature of heatwaves and climate change.

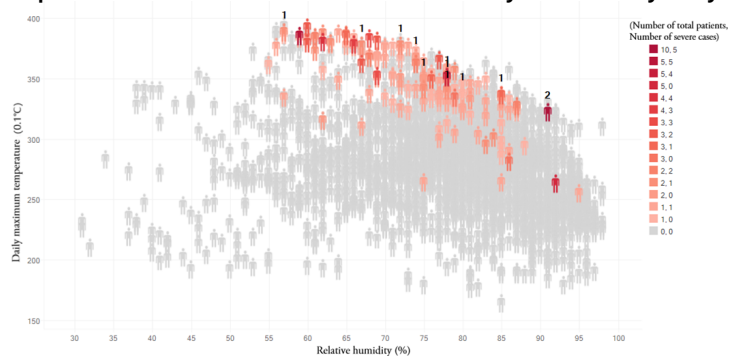
Working better together, faster: Global Heat Health Information Network

"The heat problem is big, silent, diffuse, and needs action across the globe", stated **Juli Trtanj, Global Heat Health Information Network, (GHHIN)**. By bringing together the work and progress of its members, GHHIN is helping to create a more holistic picture of the needs, science, and strengths across the network. Key activities include the improvement of the knowledge and capacity of governments, organizations, and professionals to protect populations from the avoidable health risks of extreme ambient heat.

Which Heat-Health System to choose? Ask Beijing Normal University

When it comes to Heat-Health Systems, no universally accepted indicators exist, and performance is rarely examined. **Professor Saini Yang of Beijing Normal University** explained how Heat-Health Warning System work at Beijing Normal University is filling this critical research gap.

Temperature is the dominant threshold in morbidity and mortality analysis



Distribution of heat-related illnesses in Shanghai in summer 2014-2015 under different combinations of daily maximum temperatures and relative humidities (Yang, 2021)

Testing is currently underway in Shanghai to analyze heatwave exposure, as well as perform a comparative analysis of prevailing systems, advancing research on who is most exposed, as well as early warning efficacy. For example, tests from 2014-2015 demonstrated the NOAA-heat index reports the highest percentage of heat related illnesses, and for an applied threshold of 35°C, a single metric of temperature outperformed the temperature-duration two-parameter method. Future work on the horizon for Beijing Normal University includes how to improve the performance of HHWSs with limited data sources, and the impact of climate change heatwave mortality, and the mental and physical consequences of extreme weather.

Key Recommendations + Next Steps

1st Regional Heatwave Meeting Recommendations

This 1st Heatwaves Regional Meeting provided valuable insights on how to achieve the global RCRC Movement target to better protect 250 million people from heat by 2025 in at least 150 cities and towns, to start:

- **Address Heat-health as a National Society priority.** Integrate Heat-health within all existing Public Education and Public Awareness, First Aid, activities for heatwave prevention and management.
- **Heatwaves can be forecasted - anticipate impact and act early.** Anticipatory humanitarian actions triggered by impact-based Heatwave Early Warning Systems (EWS) yield positive outcomes to protect those most vulnerable from extreme heat.
- **Heatwave impacts are cross-cutting, demanding holistic action, across timescales.** Heatwaves impact health, livelihoods, ecosystems, resources and infrastructure, across rural and urban environments, and as we have seen with COVID-19, compound existing hazards and amplify risk. Their cross-cutting impacts must be addressed holistically, also as part of longer-term Disaster Risk Reduction strategies and plans, for example, linking to Nature-based Solutions to reduce exposure to disasters and climate change impacts.
- **Harness collective and collaborative action.** The scale and systems-thinking required to solve the complexities of heatwaves demand use of local and scientific knowledge, and benefit from dynamic local to global partnerships. For example, heatwave anticipation requires substantial support and collaboration with Hyrdo-Met Offices, science-based organizations to develop efficient heatwave Early Warning Early Action systems linked with local/national meteorological systems. Urban heatwave action will flourish from strong coalitions to address Heat-Health impacts in cities, and provide a viable entry point to increase awareness on heatwaves as an emerging risk, and advocate for the institutionalization of Heat-Health Action Plans. Engaging with social and health science research throughout our heatwave endeavors will give way to new insights on methods for evidencing and communicating the heat-health risks.

Call to Action: Strengthening Synergies Between Research, Policy and Humanitarian Action

Recognizing the interconnected nature of heatwaves and climate change, its diffuse nature, and the need of action across the globe and timescales, key partners from UN, research and academia and the Global Heat Information Network called upon strengthened synergies between research, policy and humanitarian action.

Highlighting the specific opportunities and roles for RCRC movement to engage globally and at the national and local level, the IFRC and National Societies, are uniquely positioned with it's people-centered approach to:

- enhance the understanding of the heat risk and impacts;
- support local governments to scale up their preparedness and anticipatory action capacities for managing risks and events and to;
- connect efforts on local and community development with focus on climate adaptation and risk management.

The relevance of addressing heatwaves in the Asia Pacific is clear, as is the willingness to tackle heatwaves jointly. Not only is there a high level of ambition, but also a diversity of regional good practices and expertise to support the wider RCRC Movement and global partners to reach the IFRC global target to protect 250 million in 150 cities by 2050 from extreme heat. Collaboration within and beyond the RCRC Movement will be the cornerstone of this global ambition.

リスさんと学ぶ 熱中症の予防について

～赤十字救急法等講習より～



Recordings of Day 1 & 2

Asia Pacific Urban Community Resilience Hub

<https://preparecenter.org/initiative/asian-pacific-urban-community-resilience-hub/>

Australian Red Cross

[Telecross REDI](#)

Global First Aid Reference Centre

<https://www.globalfirstaidcentre.org/>

Hong Kong Red Cross Branch

Tips Against Heatwave: <http://web.redcross.org.hk/games/DPen/index.html>

Indian Red Cross

Heatwave Flash Mob Video: <https://vimeo.com/227042448>

Japan Red Cross

Awareness raising video [JRCS Hiroshima \(Japanese\)](#)

Awareness raising video [JRCS Ishikawa \(Japanese\)](#)

National University of Singapore

Project Heat Safe: <https://www.heatsafe.org/>

The Heat- Corona Virus Nexus: Cool Infrastructures: <https://coolinfrastructures.com>

Red Cross Red Crescent Climate Centre

Heatwave Guide to Branches: bit.ly/branchesHWguide

Heatwave Guide for Cities: bit.ly/heatwaveguide

Start Network/Hands

Pakistan Heatwave KAP Survey: <https://startnetwork.org/resource/pakistan-heatwave-kap-study>

UNDRR

Making Cities Resilient 2030: <https://mcr2030.undrr.org/>

Urban Collaboration Platform

<https://preparecenter.org/initiative/red-cross-red-crescent-urban-collaboration-platform/>

Vietnam Red Cross

A Low cost, Anticipatory and Sciences-Based Approach to Reduce Heat Health Impacts on Outdoor Workers in Vietnam:

Cooling Centers: Illustrated Standard Operating Procedure For Cooling Centers:

Slum Visits: Illustrated Standard Operating Procedure For Slum Visits:

"FbF ready" Newsletter



