Museums for Better Futures
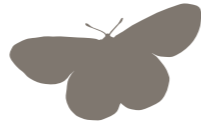
Taking action for sustainable development

Henry McGhie, 2020 Churchill Fellow

CURATING TOMORROW

the CHURCHILL fellowship

Peace, dignity and equality on a healthy planet. Commemorating the 75th anniversary of the Universal Declaration of Human Rights.

HUMAN RIGHTS 75

CURATING TOMORROW

Curating Tomorrow supports the Sustainable Development Goals

Curating Tomorrow is a consultancy for museums and the heritage sector, helping them draw on their unique resources to enhance their contributions to society and the natural environment, the Sustainable Development Goals, climate action and nature conservation. Curating Tomorrow also applies the museum-based skill of curating to thinking about and addressing real-world challenges, not necessarily involving museums or museum collections. Curating Tomorrow draws on high-quality information and research; combines creativity and imagination with focus, selection and attention to the real world; and has a strong focus on supporting positive change. Depending on the context, this could involve curating collections, research, ideas, partnerships, exhibitions, events, consultations, policies and/or strategies together to address key challenges and questions. It will always involve enhancing your social and environmental impact through focused action directed to positive goals.

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I am most grateful to Mike Whittam, for endless patience with me.

About the Author

I am a museum consultant, with a background as an ecologist, museum curator and manager. I have worked with nature conservation agendas throughout my career (30+ years), and with sustainable development agendas and climate action for over 20 years. I set up Curating Tomorrow in 2019 to help empower museums and their partners to contribute to sustainable development agendas more effectively. I have done a lot of work on museums and climate action, including organising conferences, co-editing books, developing and delivering training programmes, developing exhibitions and related public activities, working with local and international policy workers, as well as presenting at UN Climate Change conferences and workshops. I was a member of the team behind Reimagining Museums for Climate Action, developed for the UK's time as host of COP26. I was a member of the International Council of Museums Sustainability Working Group (2018-23), and am a member of the IUCN Commission on Education and Communication, and UNFCCC Education, Communication and Outreach Stakeholders. I work extensively with the Sustainable Development Goals (SDGs), and work in many countries and internationally. I write an open-access series of guides on museums and sustainable development topics that circulate widely, and that aim to empower museums and their partners to take part in these programmes.

Abbreviations

ACE	Action for Climate Empowerment (part of the UNFCCC and Paris Agreement)
DRR	Disaster Risk Reduction
ECOS	Education, Communication and Outreach Stakeholders
GBIF	Global Biodiversity Information Facility
SDGs	Sustainable Development Goals, the delivery mechanism for Agenda 2030
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change, 1992

The author on Mount Fugen (volcano), Shimabara, Japan.

What was researched?

I wanted to provide museums with a framework to help them to accelerate their activity for sustainable development and sustainable development agendas, including the Sustainable Development Goals (SDGs), Disaster Risk Reduction (DRR), human rights, climate action and environmental action. In order to develop this, I aimed to explore how sustainable development challenges and opportunities are brought to life locally and practically, and how museums and similar institutions are playing or could play a role in these activities. I was interested in establishing whether action for these is rooted directly in the agreements and their implementation, or by achieving their outcomes independently of the agreements. I wanted to understand what kinds of relationships - with history, agendas, institutions and communities - promote sustainable development effectively. In terms of climate action and environmental conservation and restoration, this involved attending policy-shaping summits in Stockholm and Bonn. I also wanted to find out how culture and heritage can contribute to sustainable development by contributing to the understanding and reduction of disaster risk. The UK - with a mild, oceanic climate - has not historically faced major disasters, meaning there is little experience here of dealing with disaster situations. This lack of experience puts society - lives, property and more - at risk of losses. A large part of my Churchill Fellowship was spent in Japan, which has to deal with multiple major natural hazards in an ongoing way, and has also experienced great human tragedy, from both natural and human-induced sources of disaster.

Key questions were:

· How can people and communities live alongside and restore nature?

· How can people and communities prepare for and reduce risk, whether intensive risk (disasters) or low-level extensive risk?

· How can museums contribute more effectively to these sustainable development outcomes?

The overarching aims were:

· To support the conservation, restoration and responsible use of nature.
·
· To take up adaptive, future-facing approaches in the face of disaster risk.
·
· To understand and mobilise the potential of museums in these two activities.

You can read about my Churchill Fellowship in three blog posts on the Churchill Fellowship website, on 'Sustainable Development and Museums', 'COP26, Climate Action and Cultural Institutions', and 'Building a Culture of Peace in Harmony With Nature, One Museum at a Time'.

EXECUTIVE SUMMARY

WHAT WAS RESEARCHED?

Major findings

- Environmental protection and restoration, and strengthening support for human rights, are twin, mutually supporting pillars of sustainable development.

- Sustainable development is primarily about securing human rights and environmental protection and restoration in the wider world, rather than simply how natural resources are used efficiently within an organisation.

- There are multiple calls for multilateral action to secure sustainable development, including biodiversity conservation and promoting sustainable use of biodiversity, climate action and everyday peacebuilding.

- Drawing on international perspectives is extremely enriching for sustainable development outcomes.

- History and heritage can be an important enabler of sustainable development outcomes. However, they can also be a drag on action and thus disable sustainable development.

- Every country, every community and everyone faces disaster risk to different degrees.

- Risk-informed approaches enable people to thrive alongside sources of risk.

- There is no such thing as a natural disaster: disasters occur as a failing of social, political and economic systems to meet events.

- Recovery from disasters is difficult: reducing risk and being prepared is the best approach to manage disaster risk.

- Learning the lessons of past events is crucial, yet difficult when people have no direct experience to relate to.

- Working with the future in mind, and drawing on the past and recent experiences, alongside current and future scenarios, enables strong sustainable development action.

- Disasters tend to share common features, and there is a process of recovering from disasters, although recovery rarely returns to a previous state, but to a new state.

- While recovery often focuses on 'hard solutions' (buildings, infrastructure), social infrastructure – relationships, groupings – are more difficult to preserve or maintain, but are essential for recovery.

- The UK's lack of experience of major, or even minor, disasters means that people, communities and government responses are in a position of great vulnerability.

- The UK can learn from Japanese approaches to culture, tradition and heritage, which draw on history and heritage to manage current and future disaster risk, and promote sustainable development.

- Museums can play multiple roles at all stages of sustainable development, environmental restoration, and DRR.

MAJOR FINDINGS

Recommendations

In order to help support these major findings, museums, funders, partners and related organisations – and every museum worker – should:

1. Connect museum work with sustainable development agendas and approaches more concretely, including the Sustainable Development Goals (SDGs), human rights and rights-based approaches, Action for Climate Empowerment (ACE), environmental action and/or Disaster Risk Reduction (DRR).

2. Recognise that it is not enough to 'support' sustainability or sustainable development: there needs to be clear goals, plans, and mechanisms for reporting and communication for accountability. Communication should cover both successes and challenges.

3. Think global and act local. Connect with international initiatives such as the Decade of Ecosystem Restoration and Decade of Ocean Science for Sustainable Development, with international days, and with local initiatives.

4. Use the outcomes of Stockholm+50, the Glasgow Work Programme on Action for Climate Empowerment, and Japanese experiences with managing disaster risk as templates and practical tools to support rights-based environmental action and DRR.

5. Restoring nature is good for people, communities and for nature. Involve people in environmental action that brings people together in a common endeavour, promoting mutual understanding, respect and compassion for one another, as well as action for nature.

6. Recognise the potential of culture and heritage as tools and opportunities to empower people to take environmental action and reduce disaster risk. Also recognise their potential to be barriers to action, either from an incomplete understanding of them, or as a barrier to change.

7. Make use of museums as information centres and platforms for sustainable development, environmental information and DRR information.

8. Make sure that activity is rights-based in terms of acknowledging that people have their own ideas, aspirations and goals, individually and collectively, and avoid coercive programming, however well intended. People have rights regarding environmental matters and DRR: undertake activity that respects and fulfils these rights.

9. Make sure that museum activities are appropriate and sensitive to the needs of people, communities and contexts, especially in post-disaster or high-risk situations.

10. Recognise that while DRR is often thought of as needing to balance the needs to forget and to remember, in addition, it is important to create and to imagine, to develop alternative options for desired future states. As disaster situations are in many ways too late to develop these, it is important to do so in advance, as part of being prepared.

RECOMMENDATIONS

Intended readership and aims

This report is intended to provide museums, the museum sector, funders, partners and related organisations with some guidance and suggestions on how to enhance their contributions to sustainable development, including environmental conservation, restoration and sustainable use of nature, DRR for building resilience, and using human rights-based approaches.

The overarching aims were:

· **To support the conservation, restoration and responsible use of nature.**

· **To take up adaptive, future-facing approaches in the face of disaster risk.**

· **To understand and mobilise the potential of museums in these two activities.**

All of these are part of sustainable development.

What was researched for this Fellowship?

My Churchill Fellowship was concerned with understanding how people and communities can be empowered to support environmental conservation and restoration, promote peace, and to face and reduce disaster risk, from both natural and human sources.

The main questions of my Fellowship were as follows:

· **How can people and communities live alongside and restore nature, supporting futures where people and nature thrive together?**

· **How can people and communities prepare for and reduce risk, whether intensive risk (disasters) or low-level extensive risk?**

· **How can museums contribute more effectively to these sustainable development outcomes?**

Background: from sustainability to sustainable development

Sustainability, in its broad sense, means the ability to last or continue, but has come to mean a balanced state considering social, environmental and economic aspects - people, planet and prosperity. However, the term is often used in a vague and unconvincing way, and discussions get confused when people are considering the sustainability or continuity of different things: budgets, organisations or relationships for example, none of which necessarily support a better future. Sustainable development is fundamentally different. It is not concerned with getting lost in how to define sustainability (as often happens), but in supporting action for a better future for all, and creating a better balance of people, planet and prosperity - the basis of sustainable development.

While sustainability is often thought of as using resources efficiently or sparingly, sustainable development is really more about a rights-based approach, aiming to help more people enjoy their human rights, as well as protecting and restoring nature, and creating an economy that works for and benefits everyone.

INTRODUCTION TO THE PROJECT

Sustainable development embraces a vision of a future where people and nature don't just survive, or people 'do no harm', but where both flourish. So, while sustainability is often thought of as doing less, sustainable development is also about doing more - of the beneficial things - as well as removing negative impacts. It is about 'doing more good, and doing less harm'.

Sustainable development approaches - bringing together human rights and rights-based approaches, environmental protection and restoration, DRR and resilience building, goal-based and inclusive approaches - give us a much wider horizon for collaboration and providing public services.

Sustainable development is the pathway to achieve a better balance of considerations of social, environmental and economic challenges, opportunities and realities. The main programme to secure sustainable development is called Agenda 2030, supported by 17 Sustainable Development Goals (SDGs). While these were set out as an invitation to all countries, all sectors and indeed all people to collaborate in building sustainable development, they have made variable progress in different countries and sectors. Unfortunately, they are not nearly widely enough known, denying people the opportunity to even be aware of them, let alone to take part in achieving them. That is to deny people their rights to contribute to the cultural life of the community, to participate in public affairs, and their right to development.

Although Agenda 2030 and the SDGs are already half way through their 2015-30 period, our world is off track in many ways. The Global Risks Report 2023, from the World Economic Foundation, reports "The first years of this decade have heralded a particularly disruptive period in human history. The return to a 'new normal' following the COVID-19 pandemic was quickly disrupted by the outbreak of war in Ukraine, ushering in a fresh series of crises in food and energy - triggering problems that decades of progress had sought to solve." Failure to reduce greenhouse gas emissions that cause climate change, to adapt to climate change, extreme weather and loss of biodiversity are presented as the top four long-term risks to human society; yet, they are also among the risks that society is least prepared for.

UNEP's 'Making Peace With Nature' report (2021) highlighted five key messages regarding the natural environment, which set a good foundation for the present report and its aims:

1. Environmental changes are undermining hard-won development gains by causing economic costs and millions of premature deaths annually[...]

2. The well-being of today's youth and future generations depends on an urgent and clear break with current trends of environmental decline. The coming decade is crucial. Society needs to reduce carbon dioxide emissions by 45 per cent by 2030 compared to 2010 levels and reach net-zero emissions by 2050 to limit warming to 1.5°C as aspired to in the Paris Agreement, while at the same time conserving and restoring biodiversity and minimising pollution and waste.

3. Earth's environmental emergencies and human well-being need to be addressed together to achieve sustainability[...]

4. The economic, financial and productive systems can and should be transformed to lead and power the shift to sustainability[...]

5. Everyone has a role to play in ensuring that human knowledge, ingenuity, technology and cooperation are redeployed from transforming nature to transforming humankind's relationship with nature[...]

The UK context of sustainable development

UK society faces a number of challenges, most of which have worsened as a consequence of the COVID-19 pandemic. These can be summarised as follows, using the PESTLE framework:

Political context: widespread failures of governments (UK and elsewhere) to secure sustainable development; UK departure from the EU; hardening and coarsening of political stances; challenges to civil and political rights, and human rights in general.

Environmental context: ongoing decline of biodiversity and failure to address climate change in terms of both mitigation and adaptation, environmental degradation (e.g. sewage pollution of rivers and coasts and loss of biodiversity), and pollution.

Social context: growing signs of intolerance and growing inequality in the UK; cost-of-living crisis and energy cost crisis.

Technological context: growing digital divide, in terms of increasing use of IT while some social groups and geographies are excluded from accessing or using digital services; opportunities and challenges presented by increasing digitalisation and social media.

Legal context: sustainable development weakly embedded into the work of sectors, including the museum sector; increasing likelihood of closer regulation/tighter reporting of climate- and biodiversity-related activity.

Economic context: economic challenges as a result of the COVID-19 pandemic, high costs of goods and energy, funding crises in public sector organisations, demands for greater commercialisation of public services, economic model still predicated on unsustainable growth.

Unfortunately, the UK as a whole (notably England) has been slow to fulfil its commitments to inclusive sustainable development, and slow to make much use of the SDGs. Sustainable development is scarcely written into the work of sectors, including the cultural sector. UK Government departments have produced Outcome Delivery Plans that highlight their contributions to sustainable development. However, these plans rarely factor in the work of the departments and agencies - various types of 'arm's length bodies' - that they fund, let alone organisations themselves, where action happens 'on the ground'. There is insufficient opportunity, or requirement, for arm's length bodies or organisations to set goals, develop plans, or monitor or communicate activity in sustainable development terms.

The challenges of securing sustainable development in the UK are well summarised in the SDG Index Annual Report, issued every June. This is not a formal report for the SDGs, but a shadow report by the Sustainable Development Solutions Network that uses a summary set of indicators. Progress with the SDGs is presented below as a dashboard for the 17 SDGs from the 2023 report, using a traffic light system for red (major challenges), orange (significant challenges), yellow (challenges remain) and green (SDG achieved or on track to being achieved). The arrows, in the same colours, represent the direction of progress, with green meaning significant progress, through to red, meaning it is going in reverse. The picture for the UK is rather typical for European countries and OECD countries, in that climate action and responsible consumption and production are among the most significant challenges. The UK scores relatively badly in terms of SDG 17 (Partnerships for the Goals) through high levels of secrecy in relation to tax havens and the potential for tax evasion. In summary, sustainable development is not making enough progress in the UK. There are a number of major challenges, not enough action to address them, and some programmes of action are stalling or even going in reverse.

United Kingdom
OECD member

BACK   OVERVIEW   INDICATORS   FACT SHEET   POLICY EFFORTS

SDG Index Rank
11 /166

SDG Index Score
81.7

Spillover Score
65.8

SDG Dashboards and Trends
Click on a goal to view more information.

Dashboards: ● SDG achieved ● Challenges remain ● Significant challenges remain ● Major challenges remain ● Information unavailable

Trends: ↑ On track or maintaining SDG achievement ↗ Moderately improving → Stagnating ↓ Decreasing •• Trend information unavailable

UK country profile from the SDG Index 2023
Available at https://dashboards.sdgindex.org/profiles/united-kingdom
(Creative Commons license CC-BY-NC-ND 4.0)

The UK, with a mild oceanic climate, few major natural hazards and as a wealthy country, has little direct or systemic experience of disaster situations, although large sectors of society face extensive (chronic or lower-level risk) as a result of poverty (absolute, relative and multidimensional), discrimination and marginalisation. This means that the UK is very unprepared for increasing levels of risk, from domestic and global sources. With little experience to draw upon to reduce personal levels of risk; little experience to draw on to empathise with others to support public action for others facing risk; and little knowledge of local, national or global risk, people and sectors are not prepared. However, disaster risk already exists, and climate impacts are worsening. For example, the Climate Change Committee (the UK Government's independent advisor), reported in 2023 that *"The impacts from extreme weather in the UK over the last year highlight the urgency of adapting to climate change. The record-breaking temperatures seen in summer 2022 brought unprecedented numbers of heat-related deaths, wildfire incidents and significant infrastructure disruption. These, and impacts from other events, highlight the UK's critical exposure and vulnerability to extreme weather even today."*[1] In the same report, the Committee proposes a framework for climate adaptation action relevant to many sectors, including museums and the cultural sector, and highlights how planning to protect these institutions from losses, let alone to thrive, is currently insufficient (Chapter 12 of the report). Museums could support the adaptation actions in many ways, both in terms of adapting themselves, and supporting public and cross-sector climate adaptation.

The UK and people in the UK have many opportunities to support other people and countries to face risk and disasters, but these opportunities are not fulfilled, maintaining inequality. Learning from other countries, and greater international co-operation, would both benefit the UK and address historic and contemporary inequality (the principle of Common But Differentiated Responsibilities). Nature, which could be a powerful ally to reduce climate impacts and mitigate climate change, and reduce other risks, is in decline, with insufficient action to protect and restore nature, domestically and internationally, let alone to support nature-based climate adaptation and DRR.

The UK cultural sector still generally uses or refers to the older approach of 'sustainability', rather than embracing sustainable development as an approach. This is particularly evident in England. This is problematic, as 'sustainability' is often conceived as meaning organisations taking action to be 'more sustainable', which is a misleading idea, as you either are sustainable or you are not. Also, simply aiming for 'something' (a museum or anything else) to last a long time does not necessarily mean it is contributing positively to the world, or that it is addressing the most pressing challenges. This makes for an impoverished approach that does not do enough to address social challenges, for example poverty, hunger or inequality, locally or globally, nor does it achieve the better balance that is at the heart of sustainable development activity. The UK cultural sector is also not well plugged in to environmental action, in terms of understanding environmental challenges and goals, forming strong relationships with relevant sectors, or communicating environmental action. Museums present many possibilities to contribute positively to sustainable development and environmental action, but they also create many problems, through high use of resources and where they do not serve all of society. Sustainable development, rights-based and risk-informed approaches are practically unknown and are hardly used in the sector, if they are used at all. This report aims to provide some recommendations and suggestions to help remedy this shortcoming, to benefit society and the environment, and museums themselves.

[1] Climate Change Committee (2023). Progress in Adapting to Climate Change. Report to UK Parliament, available at https://www.theccc.org.uk/publication/progress-in-adapting-to-climate-change-2023-report-to-parliament/

Approach and methods

This report draws on a range of sustainable development approaches including:

· Agenda 2030 and the Sustainable Development Goals

· Human rights and rights-based approaches

· Disaster Risk Reduction

· International agreements including the Framework Convention on Climate Change, Paris Agreement, and Convention on Biological Diversity, as goal-based agendas.

Information was gathered through visits to museums and cultural organisations, and by participation in political summits including Stockholm+50 and the UN Climate Change summit held in Bonn in June 2022, including formal and informal discussions with those working on sustainable development topics. I visited Japan for a month in March 2023 to visit museums and disaster-affected sites, and to talk with researchers and practitioners working on DRR, in the context of multiple and ongoing sources of disaster risk. Places visited included Sendai, which suffered a major earthquake and tsunami in 2011; Fukushima, which also suffered from a nuclear disaster when the Fukushima Daiichi Nuclear Power Plant was damaged as a result of the earthquake and tsunami; Hiroshima, which suffered from the first atomic bombing, and Nagasaki which suffered from the second; Mount Unzen, a volcano that has been periodically active for many thousands of years, and last erupted during 1990-95; Kobe, which suffered from a major earthquake in 1997; and Tokyo, which suffered a major earthquake and subsequent firestorm and public violence in 1923. All of these places had suffered from intense, destructive disasters, causing loss and misery for many people. These places have had to learn from the experience of disasters first-hand.

This report provides recommendations and suggestions, presented in two formats. The first is in terms of an eight-part 'action propellor' that I was developing over the course of my Churchill Fellowship; the second takes seven key activities, which were set out in 'Museums and the Sustainable Development Goals' (2019) as museums' main opportunities to support sustainable development topics and agendas. This framework can be used to set goals, develop and deliver plans, and monitor and communicate activity in sustainable development terms and in terms of the SDGs and their targets. Either approach can be used, alone or together, and tailored to your context and challenges.
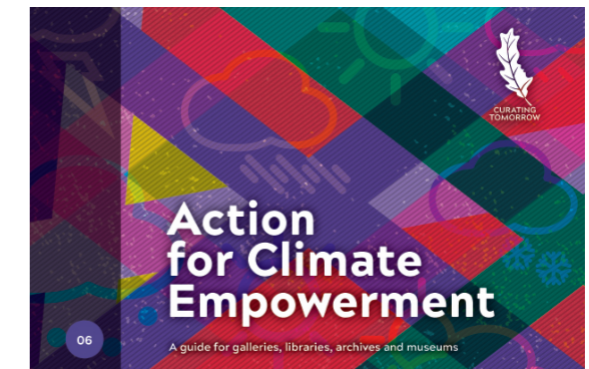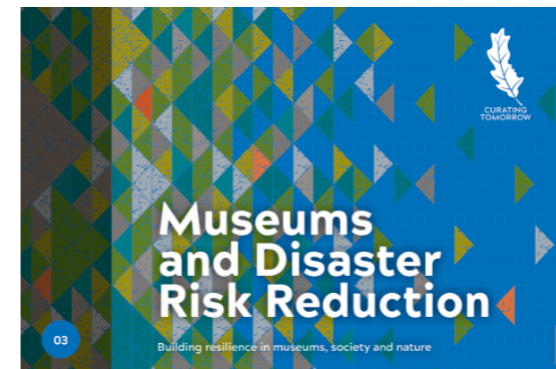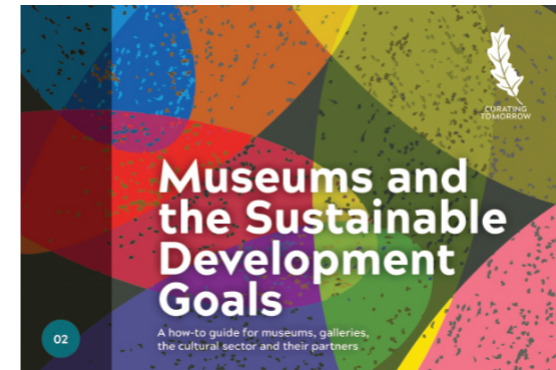
Key concepts and definitions

Empowerment: the process by which people gain control over the factors and decisions that shape their lives. It is the process by which they increase their assets and attributes and build capacities to gain access, partners, networks and/or a voice, in order to gain control. (IPBES Sustainable Use Assessment.)

Disaster: a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.

Disaster risk: expressed as the likelihood of loss of life, injury or destruction and damage from a disaster in a given period of time.

Vulnerability: the characteristics determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

Hazard: a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. Hazards may be natural, anthropogenic or a combination.

Exposure: the situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas.

Capacity: refers to all the strengths, attributes and resources available within a community, organisation or society to manage and reduce disaster risks and strengthen resilience.

Resilience: in the context of disaster risk, the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including the preservation and restoration of its essential basic structures and functions through risk management.

Recovery: the restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and 'build back better', to avoid or reduce future disaster risk.

Reconstruction: the medium- and long-term rebuilding and sustainable restoration of resilient critical infrastructures, services, housing, facilities and livelihoods required for the full functioning of a community or a society affected by a disaster, aligning with the principles of sustainable development and 'build back better', to avoid or reduce future disaster risk.

Climate adaptation: adaptation is defined, in human systems, as the process of adjustment to actual or expected climate and its effects in order to moderate harm or take advantage of beneficial opportunities. In natural systems, adaptation is the process of adjustment to actual climate and its effects; human intervention may facilitate this.
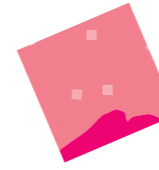
Disaster Risk Reduction: DRR is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.

While disasters and disaster risk are often thought of as relating to exceptional circumstances, from rare, often short-term events, risk-based approaches and risk reduction can also be considered in relation to low level and/or long-lasting risks.

The two types of risk are referred to as intensive risk and extensive risk respectively. It is worth recognising that everyone and every community, and every natural habitat, experiences risk, to different degrees, and risk reduction can be an ongoing, long-lasting or continuous activity.

Climate adaptation is closely related to resilience-building and DRR. DEFRA (2010) developed a set of principles for successful climate adaptation: that it should be sustainable (considering long-term impacts of adaptation actions); that climate impacts should be assessed as part of normal management activities; that it should be collaborative and open, bringing in many voices and stakeholders; that it should be effective, taking account of wider societal challenges; that it should be efficient, in terms of using resources wisely in adaptation options; and that it should be equitable, in terms of reducing inequality and that particular social groups don't bear the brunt of the cost of climate action and that they are not disenfranchised.

Human rights-based approaches are planning approaches which recognise that people have rights and organisations have responsibilities to support these rights. Activity aims to empower more people to enjoy their rights through their institutions, and involves people in the process of developing activity.

Raising ambition for multilateral environmental action: Stockholm+50

Stockholm+50 was an international summit to reflect on the 50 years since the ground-breaking Stockholm Conference on the Human Environment of 1972.[1] The aim of the conference was to strengthen ambition, and draw on perspectives from a wide range of stakeholders on what pathways can help achieve better environmental outcomes. The conference was attended by about 2,500 people, including representatives of countries as well as NGOs. I attended with two people from the Swedish museum sector. The conference followed the same format as other UN conferences, with a small number of large plenaries, and a larger number of side events. Stockholm+50 included an innovation - the three Leadership Dialogues - that helped to cut through some of the challenges these conferences face, which can be very one-directional, with large panels of people, each giving condensed speeches, and little time for interaction. The three Leadership Dialogues had preparatory meetings before Stockholm+50 itself, to provide greater opportunities for input, which also served to drive both awareness of the general feeling among participants, and greater ambition. Stockholm+50 was not a formal negotiation, as it was not linked to any particular international agreement, but it was described as a moment of pause and reflection ahead of the SB56 climate change meeting and COP27, the forthcoming COP15 of the Convention on Biological Diversity and other major political events.

Presentations were made by the King of Sweden (who had attended the original Stockholm Conference in 1972 with his grandfather the then King), UN Secretary General António Guterres, UNEP Secretary General Inger Andersen and Swedish Prime Minister Magdalena Andersson, with contributions from leading scientist Johan Rockström.

The conference noted how, in spite of a proliferation of multilateral environmental agreements (MEAs), nature continues to decline. The closing report stated that:

"Stockholm+50 has emphasized the global interconnectedness of the environment and the need to collectively address the triple crisis of our common environment - climate change, biodiversity loss and pollution - for present and future generations. Stockholm+50 has also underlined the urgent need for bold and deliberate actions as well as clear political will to accelerate action on these commitments, strengthen the multilateral system, increase ambition and solidarity, and set us on a credible path towards a healthy planet for all - leaving no one behind. The discussions during Stockholm+50, reaffirmed the importance of local realities and national implementation, and the need for a combination of incentives and policies, finance and capacity support to achieve sustainable development."

António Guterres

FINDINGS

The key outcome of Stockholm+50 is a set of 10 recommendations[3] that will serve as the basis for recommendations for the UK below. Among these recommendations, the aspect that received the most attention was the phase-out of fossil fuel use - the first time such a statement has appeared in a UN outcomes document:

1. Place human well-being at the centre of a healthy planet and prosperity for all, through recognising that a healthy planet is a prerequisite for peaceful, cohesive and prosperous societies[...]

2. Recognise and implement the right to a clean, healthy and sustainable environment[...]

3. Adopt system-wide change in the way our current economic system works to contribute to a healthy planet, through defining and adopting new measures of progress and human well-being, supported by economic and fiscal policies that account for the value of the environment[...]

4. Strengthen national implementation of existing commitments for a healthy planet, through enhancing environmental national legislation, budget, planning processes and institutional frameworks[...]

5. Align public and private financial flows with environmental, climate and sustainable development commitments[...]

6. Accelerate system-wide transformations of high impact sectors, such as food, energy, water, buildings and construction, manufacturing, and mobility[...]

7. Rebuild relationships of trust for strengthened cooperation and solidarity[...]

8. Reinforce and reinvigorate the multilateral system, through ensuring an effective rules-based multilateral system that supports countries in delivering on their national and global commitments[...]

9. Recognise intergenerational responsibility as a cornerstone of sound policy-making[...]

10. Take forward the Stockholm+50 outcomes, through reinforcing and re-energising the ongoing international processes, including a global framework for biodiversity, an implementing agreement for the protection of marine biodiversity beyond national jurisdiction, and the development of a new plastics convention[...]

[2]See https://www.stockholm50.global/resources?title=&type_of_publication=Report
[3]See https://www.stockholm50.report/

The Ambitious Environmental Action Propellor

What this means for the UK and for UK museums

Let us look at these recommendations in terms of the 'action propellor', both in terms of how they relate to the UK more widely, and to UK museums and other cultural institutions:

Awareness: raise awareness of the Stockholm+50 context and recommendations, using the resources developed (including films of the original Stockholm conference, https://www.stockholm50.global/) and the poet's film version of the Stockholm+50 scientific report, available here: https://www.youtube.com/watch?v=bJBW5G4ggPU. Empower people to understand environmental challenges locally and globally, and human rights related to the environment.

Ambition: Stockholm+50 was an important moment to reflect on the lack of progress in achieving effective environmental protection and sustainable development. We can take this moment, and the emergence from the COVID-19 pandemic, to raise ambition to genuinely protect our environment, rather than to 'fiddle round the edges' in a wholly unsustainable system. The museum sector - workers, institutions and organisations - can reflect on how it supports and impedes the 10 recommendations, and make much more ambitious plans to help achieve them.

Alignment: there are many opportunities that museums can connect with, locally and more widely. They can support the Decade of Ecosystem Restoration, the Decade of Ocean Science for Sustainable Development and other initiatives that empower people to participate in largescale environmental action and initiatives; these also help strengthen alliances, draw in different perspectives, and work in a spirit of enhanced co-operation with other countries.

Attitude and ability: support museums, their suppliers, and people more widely to understand the needs for enhanced environmental action. Focus much more on skills and cultivate positive attitudes to nature. Embrace nature connectedness approaches and perspectives to foster a positive relationship with/in nature. Empower people to seek environmental justice, everywhere. Embrace human rights and focus on what can be done, rather than what can't.

Activities: direct the many opportunities of museums towards environmental action, in terms of making collections available and accessible to those who could make use of them for environmental action. Museum funders can ensure that all their programmes and requirements are funding positive environmental action, not environmental harm, and to embed environmental considerations into all funding decisions. Support people, communities and countries to grow their natural capital, and to grow social capital in relation to nature. Make the assets of museums - notably collections information - widely available in a usable form, now, to support enhanced environmental action, and ensure they are developed effectively as knowledge and cultural resources. Use collections, exhibitions, events and museums generally for constructive activities linked to the Decade of Ecosystem Restoration and other activities mentioned above (under Alignment). Support local and global actions for biodiversity and people's relationships with it, including nature conservation, sustainable use of nature, and fair sharing of use of nature. Adopt the Nagoya Protocol and promote human rights relating to biodiversity and the environment.

Alliances: work with researchers, local nature conservation groups, and with others working directly with nature and the environment, and in relation to collections, to bring different stakeholders together, and to ensure museums are an effective infrastructure to support a number of activities that help conserve and restore the natural environment. Form strong relationships with communities to understand their aspirations and concerns, rather than simply regarding them as consumers of museums' products.

All-of-society: reach all parts of society, in terms of promoting people's understanding of their own environmental rights, and rights of others, of the variable impacts of environmental harm on different groups of people. Ensure that more people are aware of and have opportunities to take part in environmental action and decision making. Promote inclusive dialogue on environmental matters and in decisions relating to the local community and wider challenges and opportunities. Focus on the approach of 'leave no one behind' to prioritise the needs of those least well served and to rebalance activity to meet the needs of more of society.

Accountability: accountability is a strong element of trust, and also a strong driver of action. Hold institutions, the UK, the international community, museums and ourselves accountable for ambitious environmental action and for reducing negative impacts by sharing information openly on ambitions from all levels, actions to be taken, progress made and challenges remaining. Hold the institutions and ourselves accountable for considering international perspectives and intergenerational timeframes. Museums, as users of large amounts of resources, should make ambitious goals to reduce their negative environmental and social impacts, and make that information openly and honestly available. Empower people to understand historic and contemporary obligations of countries to one another, to ensure agreements and promises are kept. Museums can adopt stock indicators as opposed to flow indicators as measures of activity.

The table below aligns the Stockholm+50 recommendations with the Seven Key Activities from 'Museums and the Sustainable Development Goals' (2019), to highlight that there are many ways that museums can support the achievement of the Stockholm+50 recommendations.

SDG Key Activity	Stockholm+50 recommendation
Protect and safeguard cultural and natural heritage, both in museums and more generally	Place human well-being at the centre of a healthy planet and prosperity for all (1) Strengthen national implementation of existing commitments for a healthy planet (4) Take forward the Stockholm+50 outcomes (10)
Support and provide learning opportunities in support of the SDGs	Place human well-being at the centre of a healthy planet and prosperity for all (1) Recognise and implement the right to a clean, healthy and sustainable environment (2) Accelerate system-wide transformations of high impact sectors (6) Rebuild relationships of trust for strengthened cooperation and solidarity (7) Take forward the Stockholm+50 outcomes (10)
Enable cultural participation for all	Place human well-being at the centre of a healthy planet and prosperity for all (1) Recognise and implement the right to a clean, healthy and sustainable environment (2) Rebuild relationships of trust for strengthened cooperation and solidarity (7) Take forward the Stockholm+50 outcomes (10)
Support sustainable tourism	Adopt system-wide change in the way our current economic system works to contribute to a healthy planet (3) Accelerate system-wide transformations of high impact sectors (6)
Enable research in support of the SDGs	Strengthen national implementation of existing commitments for a healthy planet (4) Align public and private financial flows with environmental, climate and sustainable development commitments (5) Accelerate system-wide transformations of high impact sectors (6)
Direct internal leadership, management and operations towards the SDGs	All ten recommendations
Direct external leadership, collaboration and partnerships towards the SDGs	All ten recommendations

Remaining challenges

Environmental action remains insufficient in the UK, in terms of stemming biodiversity loss in the UK, in overseas territories (that the UK has obligations to protect), supporting environmental action and biodiversity conservation overseas, and recognising the high level of historic loss of biodiversity in the UK, so that the UK suffers from extreme natural depletion. The growth of new fossil fuel projects in the UK is of serious concern as it undermines the UK's own net zero target.

In terms of museums, and other related sectors:

·   They are often rather unaware of the work of international agreements and negotiations, or think they are someone else's work, or that they will not support their outcomes without attached funding.

·   Museums tend to move forward in an incremental manner from their present position, rather than towards ambitious goals rooted in the needs of sustainable development.

·   Lack of deep familiarity with environmental challenges impedes genuine, impactful action.

·   The loss of subject specialist staff (because of funding cuts and other priorities) exacerbates this problem.

·   Museums tend to be heavily geared towards transmitting information, rather than developing practical skills or fostering community empowerment to conserve, restore and use nature sustainably.

·   Enormous quantities of biodiversity information remain locked up in museums, inaccessible to the countries that could make best use of it, and with little interest from funders in prioritising the wide sharing of such information.

·   Funders may not necessarily be encouraging environmental action or responsibility in a holistic or impactful manner, but instead be encouraging organisations to be 'more sustainable'/'less unsustainable' (an impoverished approach). Funders may also be encouraging museums to expand or undertake other harmful activities (e.g. encouraging mass travel for visits to museums) that impede sustainable development.

·   Museums are unevenly distributed, with many communities not having ready access to cultural heritage or museums more generally.

·   Museums have a long way to go to genuinely shifting to fossil-fuel free operations and relationships, and will need greater encouragement to do so in line with Paris Agreement requirements.

Museums and Action for Climate Empowerment

I took part in the SB56 conference at the World Conference Centre in Bonn in June 2022, part of the process for the UN Framework Convention on Climate Change (UNFCCC). These conferences are formal negotiations, more of a political summit than the term 'conference' suggests (it refers to a meeting of the Parties, or countries, that have signed on to a particular convention - the UNFCCC in this case), and prepare the way for the better-known COP conferences. SB56 was important, in terms of climate action, as an action plan for the new Glasgow Work Programme on Action for Climate Empowerment was to be developed.

The Glasgow Work Programme was adopted at COP26 in Glasgow (November 2021), and is a framework to support the public-facing and all-of-society aspects of the Paris Agreement, referred to informally as Action for Climate Empowerment, or ACE. ACE has six elements - education, training, public awareness, access to information, public participation and international co-operation on climate change matters. The Glasgow Work Programme replaces an earlier (2012-20) programme that, while useful, didn't make sufficient progress (it was called the Doha Work Programme); the Glasgow Work Programme will run until 2031. The new Programme is a significant improvement on the Doha Work Programme, and was under development since 2018. I took part in a number of the preparatory meetings that led to the Glasgow Work Programme, in which museums are specifically mentioned. The new Programme retains the six ACE elements, but also includes four Priority Areas to support the effective implementation of ACE, and to achieve its goals. The Priority Areas are:

Priority Area A: Policy coherence
This Priority Area "has the aim of strengthening co-ordination of work under ACE" with other aspects of the Paris Agreement and with other UN Conventions, to strengthen collaboration and to promote efficiency, effectiveness and synergies.

Priority Area B: Co-ordinated action
"This Priority Area has the aim of continuing to build long-term, strategic, operational, multilevel, multistakeholder, intergenerational partnerships that bring together different expertise, resources and knowledge to accelerate ACE implementation."

Priority Area C: Tools and support
"This priority area is aimed at enhancing access to tools and support for building capacity and raising awareness among Parties, national ACE focal points and non-Party stakeholders with regard to ACE."

Priority Area D: Monitoring, evaluation and reporting
"This priority area is aimed at strengthening monitoring, evaluation and reporting of the implementation of all six ACE elements at all levels, according to Parties' specific priorities, needs and national circumstances."

After COP26, I wrote an open-access guide for galleries, libraries, archives and museums on the new Glasgow Work Programme, with funding support from Museums for Climate Action and the British Ecological Society (please use this!). The guide explores ACE and the new Glasgow Work Programme in detail, and makes suggestions on how to support its aims at a sector, institutional and individual worker level; and how to use the four Priority Areas and six ACE elements to plan and focus activities for effective climate action. The guide is available at: https://curatingtomorrow236646048.files.wordpress.com/2022/03/action-for-climate-empowerment-curating-tomorrow-2022.pdf

At SB56, I took part in the plenaries, the Action for Climate Empowerment Dialogue, and in a technical workshop to develop the new action plan for ACE; I sat in on three of the four negotiations of the new action plan. I also took part in a range of other meetings on different aspects of the UNFCCC and Paris Agreement.

Across the events, there was a strong emphasis on the need to foreground human rights in the action plan and related discussion. However, there was also a strong steer that simply talking about human rights in a too general way can be unhelpful, to the point of being undesirable. It is better to be very specific, in terms of which rights, who is affected and how. For example, the three access rights of participation (in public affairs) in decision making, the right to information, and to access to justice are the rights most closely associated with environmental matters and decision making, deriving from the Rio Declaration Principle 10, and incorporated into regional human rights law in the Aarhus Convention (Europe, including the UK, and Central Asia) and the Escazú Agreement (Latin America and the Caribbean). Other additional rights relate to the ACE elements, for example the right to education and the right to training, both derived from the Universal Declaration of Human Rights.

A big theme at SB56 was the need for much greater ambition from developed countries to support climate action, notably in relation to the theme of loss and damage (which is the name given to actions to address the economic and social impacts of climate change that are beyond the limits of adaptation, or, in other words, who pays for the losses and damages). There was a significant level of demands, mostly from civil society, for greater emphasis on loss and damage. The work around ACE was less contentious, but also did not reflect a high level of ambition, with countries putting great emphasis on the annual ACE dialogue as a mechanism for ACE, rather than as a platform for sharing progress with ACE (at least it seemed that way to me). Political negotiation did not seem to be a particularly effective way of developing action plans, and the Action Plan was not completed at SB56 (see https://unfccc.int/sites/default/files/resource/ACE_sbi56_i18_CF_note_0.pdf). However, what this does tell me is that it is extremely important for sectors - for example museums - to be abreast of developments and to make their own plans, both for the goals of the political decisions (that are made on behalf of society) to be achieved, and to ensure that the sectors, such as museums, play their part. This confirmed what I already suspected: that there is a broken chain between political decisions and implementation on the ground, accepting that action is not simply 'top down' nor uncritical of governments' stances or approaches, but that public affairs really do need public involvement, and opportunities to do so through relevant institutions, such as museums.

Significant numbers of young people and their groups (notably the constituency YOUNGO), and Indigenous and local communities representatives spoke at SB56 on the importance of the localisation of climate action.

As I was attending SB56, I was developing the 'action propellor' idea, in that many of these summits note the importance of ambition and accountability, but they are not connected at a local level to real implementation or action. The 'action propellor' concept can help strengthen awareness and accountability of countries' and authorities' decisions, and to plan impactful action across sectors. This approach works well with the four Priority Areas of the new Glasgow Work Programme.

What I also experienced is that political will can only go so far, and is not a necessary precondition for public action. In fact, political will is built from public demands, at least in part. For example, other countries that are far ahead of the UK in terms of ecologically minded societies do not necessarily make much more progress with ACE, at least from a top-down approach. The sectors really can play a part by picking up the slack and using the Glasgow Work Programme as a template for meaningful climate action activities.

What this means for the UK and for UK museums

Museums and other institutions can benefit in many ways by supporting ACE, using the four Priority Areas and six ACE elements as a framework, and climate action can benefit from museums' involvement in ACE, by helping museums to:

1. Play a part in an ambitious agenda to address climate change.

2. Contribute meaningfully to climate action, and to the related international agreements (UNFCCC and Paris Agreement), including both mitigation and adaptation, and promote climate justice and broader sustainable development.

3. Avoid 'reinventing the wheel'.

4. Find opportunities to connect with other sectors, and other countries, to work on common challenges using a common framework.

5. Contribute meaningfully towards the UK's international commitments.

6. Empower people to take part in climate action, and to enjoy their related human rights to participate in public affairs, to education, freedom of expression and access to information, and to justice.

7. Find coherence with other sectors, and greater opportunities to share outcomes of activities both horizontally across the sector and with other sectors, and vertically both in terms of providing information to people and communities and to local, regional and national reporting on climate action.
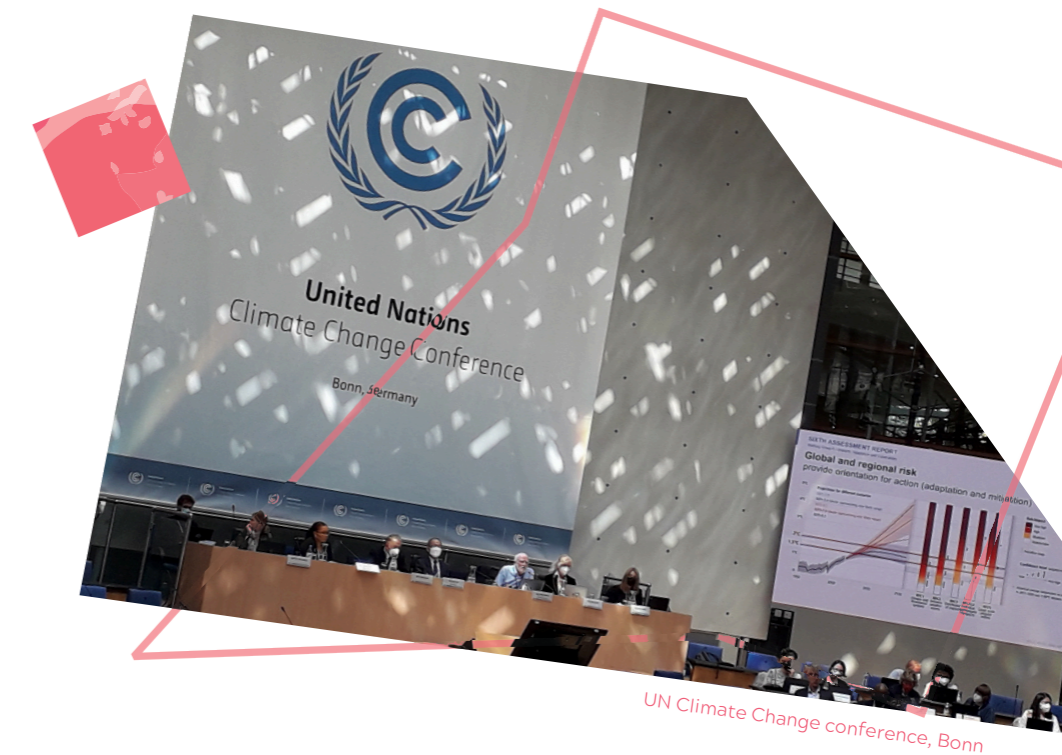
UN Climate Change conference, Bonn

Considering the various parts of an 'action propellor', ACE can support action as follows:

Awareness: raise awareness of ACE and of the role of museums in this. Empower people - including museum staff, decision makers and the wider public - to know about ACE and how it relates to their environmental rights.

Ambition: raise ambition for climate action, by connecting with Action for Climate Empowerment. Ambition can be taken to refer to both the level of focus and detail to connect with international action for climate empowerment; and a higher/greater/more impactful level of activity, alone and with others.

Alignment: there are many opportunities that museums can connect with, locally and more widely. Support the Decade of Ecosystem Restoration, the Decade of Ocean Science for Sustainable Development and other initiatives that empower people to participate in large-scale environmental action and initiatives, and that also help strengthen alliances, draw in different perspectives, and work in a spirit of enhanced co-operation with other countries. Use the Glasgow Work Programme to work in alignment with the UNFCCC and Paris Agreement, and to collaborate with other agencies, museums and countries. Use the six ACE elements to inform public-facing activities, to ensure fulfilment of environmental rights (rights to information, education, participation).

Attitude and ability: use the four Priority Areas and six ACE elements as a blueprint for staff skills development, notably the aspect on training. Empower staff to understand the UNFCCC and Paris Agreement, and how their work is part of it.

Activities: recognise that museums have many unique assets that can contribute towards ACE, and use the many opportunities for museums to promote the six ACE elements, drawing on collections and programmes, and connecting with other agencies to bring in additional aspects, for example recent environmental information from researchers. Museum development bodies and agencies can use the Glasgow Work Programme and ACE to inform their funding programmes and decisions, to ensure museums are developed effectively as a public resource for climate action.

Alliances: work with researchers, local nature conservation groups, and with others working directly with climate action, and in relation to collections, to bring different stakeholders together, and to ensure museums are an effective infrastructure to support a number of activities that contribute to climate action.

All-of-society: reach all parts of society in terms of promoting people's understanding of the realities of climate action, including both mitigation and adaptation, with a focus on what people can do themselves; identify options for adaptation for them and their communities. Ensure people are involved in decision making relating to mitigation and adaptation options. Draw attention to local and global challenges and who needs to do what to promote human rights everywhere. Recognise the great disparity in causes and impacts of climate change, and develop activities that are both sensitive to the needs and aspirations of people and communities, and that highlight the deep injustice whereby low consumers suffer most. Promote inclusive dialogue on mitigation and adaptation options and focus on the approach of 'leave no one behind' to prioritise the needs of those least well served, to rebalance activity. Learn from other contexts, notably places and countries that are badly impacted now, and highlight the importance of learning from those experiences. Support ambitious local and global climate action, for everyone.

Accountability: use the six elements of ACE and four Priority Areas as a blueprint for reporting on climate action, in terms of the public-facing and all-of-society aspects of climate action. Use the common framework of ACE to communicate both international and UK commitments to promote accountability of countries. Also use the framework to communicate museums' and other organisations' progress, to build their accountability to society. Use the Glasgow Work Programme to promote a virtuous circle of reporting, which includes public action, institutional action and national commitments to drive action forwards. The table below shows how the seven key activities from Museums and the Sustainable Development Goals (SDGs) can be used as a framework to embed Action for Climate Empowerment in the work of museums.

The table below shows how the seven key activities from Museums and the Sustainable Development Goals (SDGs) can be used as a framework to embed Action for Climate Empowerment in the work of museums.

SDG Key Activity	Action for Climate Empowerment (ACE) interactions
Protect and safeguard cultural and natural heritage, both in museums and more generally	· Climate change is among the most grave threats to cultural and natural heritage. Incorporating consideration of climate impacts in planning for care, management and development of cultural and natural heritage helps to mitigate climate impacts, and to ensure that cultural and natural heritage develop effectively in the context of a changing climate, and accompanying social and environmental changes.
Support and provide learning opportunities in support of the SDGs	· ACE is closely associated with education, including lifelong learning and work-related skills development, to ensure people have the necessary knowledge, motivation and practical skills to act on climate change. · Adopt and make use of Education for Sustainable Development (ESD) and Global Citizenship Education (GCED) approaches.
Enable cultural participation for all	· Ensuring everyone can be prepared to face climate impacts and contribute to climate change will be crucial to minimise the negative impacts of climate change, notably on the most vulnerable/marginalised in society. Building a more ambitious public mandate requires broad input across society.
Support sustainable tourism	· Tourism can be a force for good, but also carries great environmental harm in the shape of high greenhouse gas emissions. Moving to sustainable/responsible tourism means working to reduce emissions associated with tourism to prioritise low-impact tourism.
Enable research in support of the SDGs	· Collections can contribute to understanding and managing climate impacts, for example natural history collections can inform biodiversity management. Museums should prioritise digitisation/documentation of data-rich collections from countries and regions highly vulnerable to climate change, and share data directly with those places and in data aggregators such as GBIF (the Global Biodiversity Information Facility, an online data aggregator).
Direct internal leadership, management and operations towards the SDGs	· ACE includes workforce training, and museums should be directing every decision, every day, towards reducing negative environmental impacts and supporting climate adaptation. · Measuring emissions, using best-practice approaches and rigorous use of terminology such as net zero, and being clear on what is included in net zero claims and targets, will help to build ambition and accountability, and prevent 'greenwash'.
Direct external leadership, collaboration and partnerships towards the SDGs	· Participating in external initiatives, such as the Decade of Ecosystem Restoration and Decade of Ocean Science, and Decade of Action for the SDGs can build alliances and capacity for action. · Adopt and support external educational initiatives, such as UNESCO ESD 2030 Roadmap, Futures of Education, and similar initiatives. · Participate in external, rigorous reporting initiatives, such as Science Based-Targets Initiative, SME Climate Hub and UNFCCC Climate Neutral Now.

Remaining challenges

In terms of the UK, ACE has little profile, either in the UK as a whole or in the four constituent countries. It has little or no profile in the museum sector either, except for a growing interest and awareness of the Glasgow Work Programme in ICOM and in ICOM UK. None of the national museum associations or major funders make any use or reference to ACE, presumably arising from a lack of awareness. This hampers progress towards the goals of ACE, denies people their rights from the Aarhus Convention (on access to environmental information, decision making and environmental justice), and prevents people from supporting ACE, as well as under-utilising the opportunities for and resources of museums to play their part in climate action. The museum sector could play a significant role, if it embraced ACE. However, it will be a steep learning curve and involve a significant shift to factor ACE into funders' or museums' decision making and planning.

Living with disaster risk: building resilience in society and nature

A major part of my Churchill Fellowship was exploring how people, communities and organisations can prepare for and mimimise the risk of losses from disasters. I visited Japan for a month, to spend time in places affected by various types of disaster and living with disaster risk in different ways. I visited areas that had experienced disaster events a decade ago and that are still in the process of recovering and reconstructing from them (Sendai, Fukushima and Mount Unzen), events just within living memory (as in Hiroshima and Nagasaki), in the historic period (as with the Shimabara Catastrophe) and in prehistory (as with the prehistoric Mount Unzen earthquakes and volcanoes). The spread of times was important as the roles of memory institutions such as museums are radically different across the cycle of disaster preparedness, response, recovery and reconstruction.

Place	Disaster	Date of occurence	Number of fatalities and people affected
East coast of Honshu	Great East Japan Earthquake and tsunami	11/3/2011	19,617 people killed including 3,691 disaster-related deaths; 121,778 buildings destroyed and 280,926 damaged
Fukushima Nuclear Disaster	Great East Japan Earthquake and tsunami	11/3/2011	1 cancer victim, 18 injured; others died during evacuations. More than 28,000 people were still displaced in 2021, ten years after the disaster
Kobe, Hyogo	Great Hanshin Earthquake	17/1/1995	6,434 people killed plus 43,792 injured and 919 disaster-related deaths, and up to 310,000 displaced
Mount Unzen, Shimabara	Mount Unzen eruptions, including major pyroclastic flow	1990-95; pyroclastic flow 3/6/1991	43 people killed (scientists and journalists); 12,000 people evacuated; 2,000 houses destroyed
Hiroshima	Atomic bombing	6/8/1945	80,000 people killed plus 70,000 injured
Nagasaki	Atomic bombing	9/8/1945	40,000 people killed plus 60,000 injured
Tokyo	Great Kanto Earthquake, with firestorm in Tokyo, tsunami and violence against Koreans	1/9/1923	142,800 killed including c.6,000 Koreans killed in violence
Shimabara, Nagasaki	Shimabara Catastrophe, mudslide and tsunami	21/5/1792	15,000 people killed (estimate)
Mount Unzen, Shimabara	Historic and prehistoric eruptions	Eruptions over 200,000+ years, including the eruption in 1663	Unknown

Study visit to Japan, March 2023

Sendai, 1-12 March

Memorial museums preserve memory

Earthquake and tsunami in 2011

Visited coastal areas, museums, Bosai Forum, met city council and disaster researchers

Social networks important
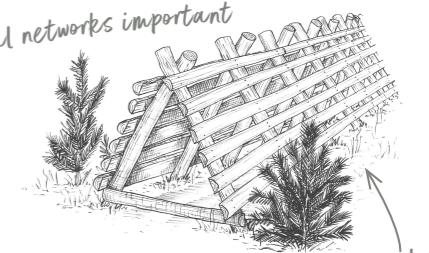
Coastal forest (Nature-based Solution)

'Self-help, mutual aid, public support'

Hiroshima, 13-14 march

'No more Hiroshimas'

Atomic bombing in 1945

Met Peace Memorial Museum staff, visited Peace Park

Recovery can take generations

Museum preserves memories of victims

Nature important in recovery (survivor trees)

Nagasaki, 24 March

Second A-bombed city

Visited Atomic Bomb Museum and Peace Park

Factual accounts crucial

Fukushima, 9 March

Tsunami and nuclear disaster in 2011

Met museum staff, visited devasted area and town
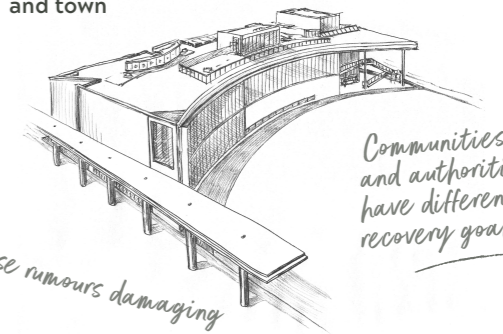
Communities and authorities have different recovery goals

False rumours damaging

Unzen Onsen, 18-23 March

Spa town on massive volcano

Visited springs, forests, volcano

Nature's gifts used for centuries

Beautiful, dynamic nature

Shimabara, 15-18 March

Town beneath a volcano

Visited disaster sites, nature, museums, castle

Mudslides and pyroclastic flows 1990-'95

Reconstruction is a massive process

Museums promote public awareness, tourism

Kobe, 25 March

Visited Earthquake Memorial Museum

Museum runs exercises to help people be prepared

Tokyo, 26-28 March

Earthquake in 1923, bombed in 1945

Visited museums, Sakura festival

Social tensions are amplified by disasters

Nature brings people together

Japan has been seriously affected by disasters arising from natural hazards and from human actions. Many museums and memorial sites have been developed, aiming to commemorate the victims, learn the lessons of the experience, and to reduce current and future risk. After the 2011 Great East Japan Earthquake and Tsunami, large numbers of memory sites were developed with government (national, prefectural and local) funding; there are probably hundreds of such sites, notably on the 'Densho Road' trail. They are not typical museums as they are often not based around a collection, but around the experience, and promote community coherence and public participation in commemorating and reconstructing after the disaster. Following disasters, large areas of land may be designated as uninhabitable, breaking up communities and putting the people at risk from a different source of risk, ie marginalisation. For example, a large swathe of coastal Sendai and Fukushima, several kilometres wide, are now considered uninhabitable, but recreational facilities (including museums) may be built there. Similarly, at Mount Unzen, a large area below the volcano that was smothered by volcanic flows is in an exclusion zone roughly 5km long by 1km wide, while in other areas the new land from the eruptions and cleared debris has been built on. A common feature of many disasters - including the Great Kanto Earthquake, Hiroshima and Nagasaki bombings, Fukushima disaster and Mount Unzen eruptions - is that false rumours spread rapidly, making recovery even more difficult, and often resulting in tension and violence between social groups. Different versions of history - of who did what to whom - may persist for long periods, with denialism of historical events.

The 3.11 Densho Road initiative identifies some characteristics of disaster memorial facilities that are useful to refer to. They are:

1) Facilities for understanding lessons from the disaster.

2) Facilities that contribute to understanding disaster prevention and preparedness.

3) Facilities for understanding the horror of disasters and the fearsomeness of nature.

4) Facilities with historic or academic value related to disasters.

5) Other facilities that communicate the facts of the disaster and the lessons learned from it.

Nagasaki Peace Memorial

The lessons of disasters are not easily learnt, as they may be unclear, people may not be able to relate them to their own experiences or context, and for a range of other reasons.

In the various sites visited, there were a number of common aspects that may be extrapolated to other situations:

1. The importance of communities relying on their own resources. Authorities in disaster situations are frequently overwhelmed and so people have to rely greatly on one another and community support. Strong community ties and collective responsibility for one another would seem to be important in supporting such a response.

2. Self-help, mutual aid, public support. Emergency preparations, even where these exist, may not work, as happened at Fukushima (the disaster control centre was also damaged by the earthquake). Simply relying on authorities or others is a dangerous strategy. Being self-reliant and also being prepared (willing and able) to support others are crucial parts of disaster response, as well as having effective public support.

3. Recovery and reconstruction are difficult, and different stakeholders often favour different reconstruction options. Recovery is difficult, and what constitutes recovery or reconstruction, let alone successful recovery/reconstruction, may well differ between different stakeholders. In several places visited (Fukushima, Yuriage, Arahama), divergence of recovery/reconstruction options was evident, with authorities wanting to demolish areas and reconstruct, while local people and communities wanted to restore their communities to something like their former state. Such a situation would seem to require significant cross/multi-stakeholder dialogue to reach a consensus and desirable outcome. This situation was worsened in places such as Arahama and Yuriage, where the people were not able to return to homes and communities, as these had been more or less completely destroyed, meaning that the community had relatively little opportunity to share views. False rumours were a common theme in different places; these hamper recovery and can result in violence.

4. Be prepared! While it seems obvious, the best way to avoid disasters is through careful planning and preparation BEFORE any possible event. Damage can be minimised in this way. In Japan, school pupils had Disaster Risk Reduction lessons from an early age, including practice drills and practical lessons, both in schools and in museums. Relying on others and assuming 'everything will be fine' is not a realistic strategy.

5. Disaster situations erode people's and communities' abilities to formulate options. Disasters make us think and behave differently. They are not the time to come up with new ideas, as creativity is diminished. Formulate options and scenarios before situations occur, so you can draw on them when you have less capacity to create them.

6. Remembering, forgetting, imagining and creating. Disaster recovery/rehabilitation is often thought of as a tension between remembering and forgetting the experience. While immediate disaster recovery may involve helping people come to terms with traumatic experiences, in the middle and longer term remembering the experience and lessons learnt are very important. In addition, before disaster events occur, it is important to consider options and prepare for these, ie to imagine and create. Museums and other cultural institutions are well placed to support these activities. Focussing on 'what works' can provide people with lessons, experiences and options to draw upon in their own lives. As outlined above (5.), imagination and creativity may be best applied before disaster situations occur.

7. Recovery and reconstruction are more than bricks and mortar, but about relationships and network s. While recovery and reconstruction are perhaps most often thought of in terms of physical infrastructure, whether repair of existing infrastructure or development of new infrastructure, social networks and communities are also very important for recovery. This may involve cultural activities, such as performances, gatherings, concerts, dances, traditional cultural activities, sports events, or other types of activity (most or all of which have been important in different places in Japan post-disaster). Building or rebuilding old relationships, and/or new ones with new communities brought together after disaster situations, supports people individually and collectively.

8. Disaster experiences can be very hard to imagine. As disasters are often out-of-the-ordinary events, and outside our own personal or collective experience, it can be very difficult to understand what happened. To give some examples, at Shimabara, a mountain collapsed 200 years ago, creating a large new area of land (on which much of Shimabara is now built). It was difficult for me to imagine what this must have been like. It was less difficult to imagine the impact of the mudslide from the Mount Unzen eruptions in 1990-95, as evidence of the debris flow could be seen, although even this was significantly different from the photographs taken at the time. Similarly, it was difficult to imagine that Mount Heisei Shinzan, now the highest peak, was only built during the 1990s eruption period: the lava dome, which must be over 100 metres in height, was all built during this time. Even seeing it with my own eyes, it was difficult to imagine that this was possible.

9. Personal experiences combined with scientific/factual information provide a strong framework for communication. In the context of the difficulty of being able to imagine disasters and their impact, personal experiences, ie accounts of direct experience, are arguably the most effective way to communicate the subjective impacts of these events. Standing on Arahama Elementary School, once surrounded by houses until the tsunami struck in 2011, it was very difficult to imagine the surging black water of the tsunami. The then head teacher acted as our guide, to communicate the event. Direct, personal experiences also serve both for truth-telling and to combat disinformation. The importance of personal accounts was seen in many places, for example in Hiroshima, Nagasaki, Fukushima and Kobe. However, personal accounts have limitations, in that they should not put people in the position of giving advice or recommendations beyond the limits of their experience or expertise. Science, expert and factual information can provide a framework for the objective understanding and management of disaster risk.

10. Nature can be a source of emotional support, and dynamic landscapes reveal to us that great change is possible. Dynamic landscapes can help people appreciate that great change is possible. This helps to avoid the fragility and brittleness from assuming that outcomes are 'fixed' and not possible. For example, coastal landscapes can be very dynamic places to see dramatic changes. At Mount Fugen, formerly the highest peak of Mount Unzen, you can look across to Heisei Shinzan ('new mountain') which now towers above Mount Fugen but was only built in the 1990s eruptions (as described above). If people are able to understand the change, then they may be able to conceive of other major transformations. Similarly, the survivor Gingko tree at Shukkeien Garden is indeed a miracle survivor of the atomic bombing, but just as miraculous is the fact that the many other trees that surround it have all grown since the complete devastation of the 1945 bombing. At Unzen Onsen, three sites show the great changes of the hot springs, with a currently active set of springs hissing and boiling away, an older set that is almost inactive (but still very acidic and lacking vegetation), and a rare sphagnum bog in a former spring site, revealing both the past and future of the different spring sites. More generally, nature is used to commemorate disaster events and provide spaces for people to reflect on and learn from disasters; examples include memorial parks as in Hiroshima and Nagasaki, and planting commemorative trees.

11. Disasters may have short-term direct causes, but long-term consequences. An important feature of disasters is that they often have complex impacts, because of the interplay of vulnerability and exposure with the hazard. Disaster can have very long-reaching and long-lasting impacts. The impacts of the Hiroshima and Nagasaki bombings are still felt today, for example where people developed cancers even long after the bombings, or where painful scars (keloids) cause chronic pain, or where people have ongoing physical and psychological wounds from worry about the impacts of the bombings on themselves and their descendants. Disasters can cause stigma, meaning that people (including victims) are marginalised, or live in shame either as a result of self-inflicted shame (such as survivor guilt) or ill-feeling from others.

12. There is no such thing as a natural disaster. While it can be common to consider natural disasters in everyday usage, disasters can be thought of as the failure of human systems - social, political and economic - to cope with natural events. There can of course be disasters resulting from natural hazards or natural events, but the disaster only comes from the failure of human systems.

13. There are different challenges over an 'arc of recovery'. Challenges of memorialisation and memory are different over time. In the immediate aftermath of disaster, a challenge may be to avoid traumatising/retraumatising people, or dealing with traumatised people, while over time the immediate memory of events fades and a challenge is keeping the memory alive, let alone accessing the lessons to be learnt, and/or making prevention an everyday practice. Consider this in relation to, for example, the 3.11 Great East Japan Earthquake (2011) and Fukushima Nuclear Disaster (from which thousands of people are still displaced), compared with the Hiroshima and Nagasaki Atomic Bombings, from which few original survivors and witnesses remain.

In 2020, before I was able to travel, I produced 'Museums and Disaster Risk Reduction', connecting museum activities for sustainable development with the main programme to localise DRR. This is based around 'Ten Essentials for Resilience' (which in turn supports an overarching programme called the Sendai Framework).
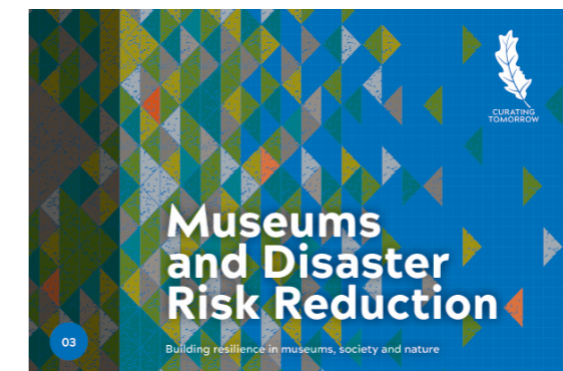
What this means for the UK and for UK museums

Museums and other institutions can support DRR in many ways, and empower people to be prepared for current and future disaster risk. Considering the various parts of an 'action propellor', they can support DRR action as follows:

Awareness: be aware of, and raise awareness of, current and future sources of risk, locally and globally, and of past experiences in dealing with risk, especially successful actions that reduced losses, reduced vulnerability, and supported sustainable development. Find out who else is working on resilience, and about local plans and relationships for DRR. Understand how your museum faces risk, and current and future scenarios to plan for.

Ambition: raise ambition to support forward-looking action for better futures for people, communities and nature; and take responsibility to ensure your museum is both well-protected, and wants to secure better futures for people and nature.

Alignment: Support DRR principles and approaches, and use the Ten Essentials of Resilience (outlined in 'Museums and Disaster Risk Reduction') as a framework to localise DRR. Understand how your work contributes to building resilience, or how it could do so more effectively.

Attitude and ability: a positive, constructive approach that recognises that disasters and low-level risk can be prepared for, and their likelihood and impact reduced through museums' activity should be the focus. Become familiar with DRR approaches, as part of sustainable development. Build peace and sustainable development as a continuous, ongoing programme, one day at a time. Empower staff to empower others.

Activities: recognise that museums have many unique assets that can contribute towards DRR. This can be in terms of drawing on past experiences and experiences elsewhere, to promote people's education and access to information, to know, to care, and to act to promote people's ability to help themselves, to support others, and to access and demand public support for DRR. Undertake activities that reduce your museum's own levels of risk.

Alliances: work closely with other sectors to understand, manage and reduce risks facing people, communities and nature, and museums themselves. Effective relationships are best developed before times of crisis. Make sure other sectors know that you want to support DRR, and what you can offer during crisis times; ensure other sectors know what your museum would need in a crisis.

All-of-society: help all people understand the risks facing them, their property, their communities, other countries and nature, and empower them to know, to care and to act to reduce risk levels. Empower everyone to understand relevant human rights, to an adequate standard of living, of intergenerational equity, and to be safe from harm. Recognise that there is no 'one size fits all', and risk is different for different social groups. Involve people and communities extensively to identify sources of risk, and assets they can draw on in crisis times. Involve people and communities extensively in creating and imagining alternative options for their community and nature, to draw on during and following times of crisis. Support ambitious local and global DRR, for everyone. Remember that DRR must be focused on the rights of people as individuals, and that people's 'vulnerability' does not mean their weakness, but the extra exposure to risk that they face as a result of society's decisions.

Accountability: use the Ten Essentials of Resilience to plan for DRR. With people and communities, and experts, identify sources of risk and communicate openly what you are doing to reduce risk levels. Hold yourself accountable to understand and act to manage and reduce risk levels. Be honest and open about sources of risk, locally and globally, and how risk affects both the place your museum is in, and the museum itself. Be honest.

The seven key activities in 'Museums and the Sustainable Development Goals' can all play a strong role in disaster memory and DRR.

SDG Key Activity	DRR actions
Protect and safeguard cultural and natural heritage, both in museums and more generally	· Understand and manage current and future risk to cultural and natural heritage, both inside and beyond museums. Understand how cultural and natural heritage can be used to interpret disaster risk.
Support and provide learning opportunities in support of the SDGs	· Empower people to know, care and act to reduce risk, so people can be self-aware and reliant, support others, and understand public support available during times of crisis. Address both intensive and extensive risk.
Enable cultural participation for all	· Empower everyone to understand sources of risk and necessary actions to reduce it, and to be involved in shaping options for their community. DRR is focussed on reducing vulnerability, which is largely achieved through developing knowledge, attitudes and skills in groups facing higher levels of risk.
Support sustainable tourism	· Tourism can be a source of risk, notably through high emissions, and where it undermines local communities. Adopt sustainable/ responsible tourism as part of DRR.
Enable research in support of the SDGs	· Collections can contribute to understanding and managing DRR, for example by helping understand past experiences and how they were faced.
Direct internal leadership, management and operations towards the SDGs	· All staff should be aware of, and empowered to promote, DRR in their work. · Every decision, every day, can contribute to DRR, so long as you embrace it as an approach and commit to it as a basis for responsible management. · Communicating how you are facing and reducing risk, both for the museum and more widely, should be a part of responsible management.
Direct external leadership, collaboration and partnerships towards the SDGs	· Participating in external initiatives, such as the Decade of Ecosystem Restoration and Decade of Ocean Science, and Decade of Action for the SDGs, can all contribute to DRR. · Use the ten essentials of resilience as an international framework. · Be part of strong networks, locally and more widely, to promote DRR at all levels, and to protect your organisation from risk.

Remaining challenges

· Museums are often familiar with managing disaster events, in terms of localised, organisation-level events (for example, floods) that they themselves face, but are rarely connected with managing risk more widely in society, either locally or farther afield.

· Adopting DRR approaches will require a significant level of development for many museums and the museum sector generally.
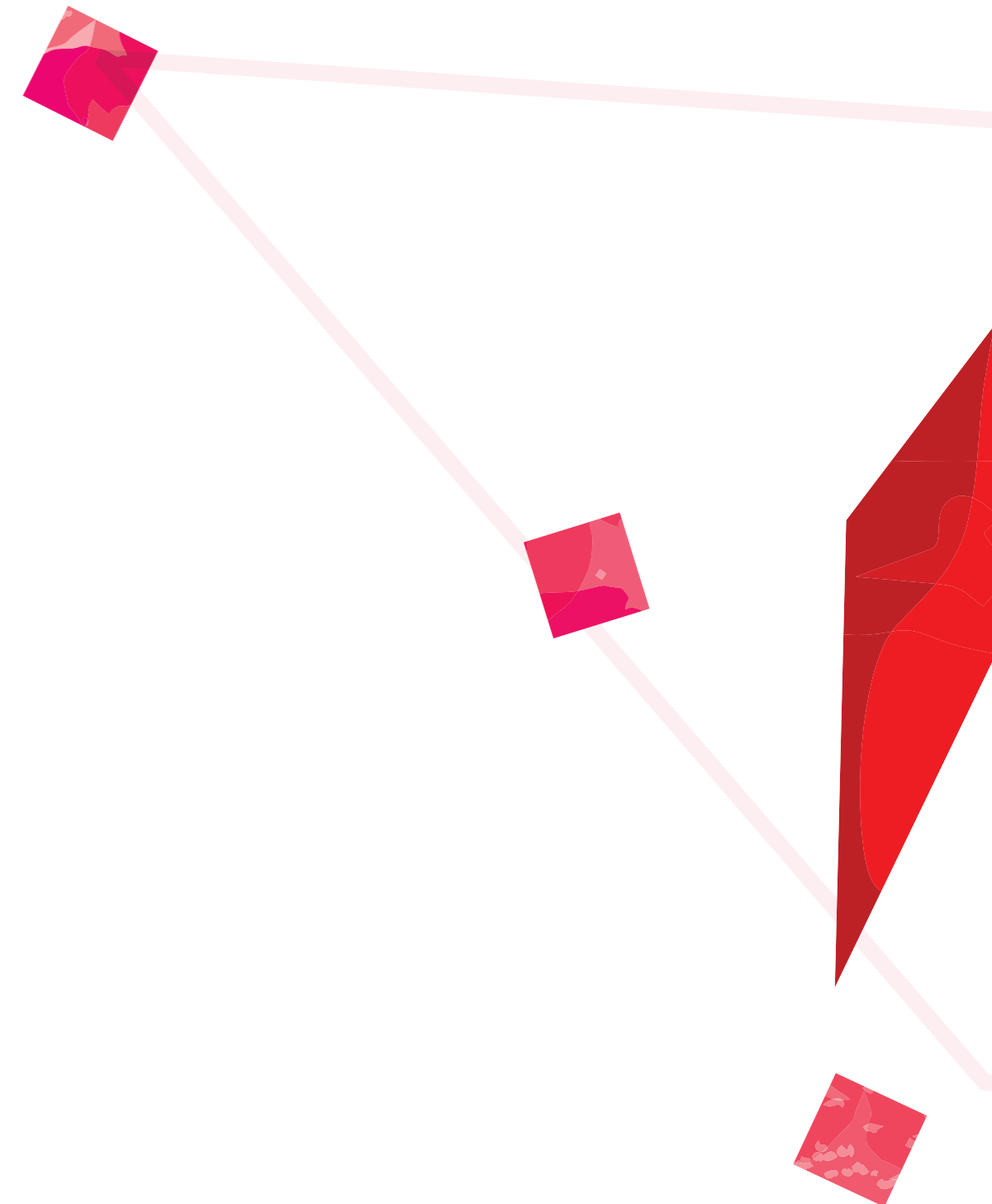
Major findings

Raising ambition for multilateral environmental action

· Environmental protection and restoration, and strengthening support for human rights, are twin, mutually supporting pillars of sustainable development.

· Sustainable development is primarily about securing human rights and environmental protection and restoration in the wider world, rather than simply how natural resources are used efficiently within an organisation.

· There are multiple calls for multilateral action to secure sustainable development, including biodiversity conservation and promoting sustainable use of biodiversity, climate action, DRR and everyday peacebuilding.

· Drawing on international and multilateral perspectives is extremely enriching for sustainable development outcomes.

Museums and Action for Climate Empowerment (ACE)

· The four Priority Areas set out in the Glasgow Work Programme are an effective framework to strengthen the development and delivery of effective policies for climate action (policy coherence), to take co-ordinated action both in museums and across society, to share and provide tools and support for people and sectors to take climate action, and to provide effective communication, monitoring and evaluation.

· The six ACE elements can be used as practical tools for both the public-facing and participatory aspects of climate action, and for staff training and development, used in conjunction with the four Priority Areas outlined above.

CONCLUSIONS AND RECOMMENDATIONS

Living with disaster risk: building resilience in society and nature

· Every country, every community and everyone faces disaster risk to a different degree.

· Risk-informed approaches enable people to thrive alongside sources of risk.

· There is no such thing as a natural disaster: disasters occur as a failing of social, political and economic systems to meet events.

· Involving people in nature restoration has multiple benefits, including risk awareness for preparation for events, DRR from natural hazards, community building and everyday peacebuilding, and protecting and restoring nature through habitat creation.

· Recovery from disasters is difficult: reducing risk and being prepared is the best approach to manage disaster risk.

· Learning the lessons of past events is crucial, yet difficult when people have no direct experience to relate to.

· Drawing on the past and recent experiences (and history and heritage), alongside current and future scenarios, enables strong sustainable development action, notably for infrequent events.

· Disasters tend to share common features, and there is a process of recovering from disasters, although recovery rarely returns to a previous state, but to a new state.

· While recovery often focuses on 'hard solutions' (buildings, infrastructure), social infrastructure – relationships, groupings – are more difficult to preserve or maintain, but are essential for recovery.

· Japan has a wealth of experience, of living with risk, experiences from disasters, and of using museums, culture and heritage in DRR and disaster recovery and reconstruction.

Recommendations

In order to help support these major findings, museums, funders, partners and related organisations should:

1. **Connect museum work with sustainable development agendas and approaches more concretely, including the Sustainable Development Goals, human rights and rights-based approaches, Action for Climate Empowerment, environmental action and/or Disaster Risk Reduction.**

   This could involve:

   · museum funders and the museum sector specifically referencing these in their guidance to museums and/or requiring that they commit to supporting and helping achieve them, as well as helping to platform and collate activity for reporting purposes

   · individual museums adopting them in their visions, missions or policies

   · individual museum workers identifying how their work both supports and impedes sustainable development activity to manage the benefits and impacts

   · other sectors working with sustainable development agendas to consider museums as partners, platforms or enablers for their work.

2. **Recognise that it is not enough to 'support' sustainability or sustainable development: there needs to be clear goals, plans and mechanisms for reporting and communication for accountability. Communication should cover both successes and challenges.**

   This could mean:

   · museum funders and the museum sector making, and requiring museums to make, clear statements of intent to help achieve sustainable development outcomes, and commit them to open reporting

   · individual museums making clear statements supported with clear plans and open reporting, including both successes and challenges

   · individual museum workers communicating progress and challenges of their work in relation to wider sustainable development challenges.

3.   **Think global and act local. Take part in and promote international initiatives, such as the Decade of Ecosystem Restoration and Decade of Ocean Science for Sustainable Development, and international days and local initiatives.**

This could mean:

·   museum funders and the museum sector connecting much more concretely with these opportunities, and promoting them widely to museums and museum workers everywhere;

·   individual museums, collectives of museums, individual museum workers and collectives raising awareness of these international initiatives and taking part in them, and highlighting what changes they are making in their own work to contribute to them more effectively. Set goals, make plans, do the work, and communicate it widely;

·   other sectors working with sustainable development agendas to consider museums as partners, platforms or enablers for their work.

4.   **Use the outcomes of Stockholm+50, the Glasgow Work Programme on Action for Climate Empowerment, and Japanese experiences with managing disaster risk as templates and practical tools to support rights-based environmental action and DRR.**

This could involve:

·   museum funders and the museum sector specifically using these templates and tools and/or directing museums towards them;

·   individual museums using them to plan organisational activity;

·   individual museum workers using them to plan their work.

5.   **Restoring nature is good for people, communities and for nature. Involve people in environmental action that brings people together in a common endeavour, promoting mutual understanding, respect and compassion for one another, as well as action for nature.**

This could involve:

·   museum funders and the museum sector focusing on and funding action that brings social inclusion/participation and environmental action activities together, rather than as two 'silos';

·   individual museums providing multiple opportunities for people from different social groups to collaborate on restoring nature;

·   individual museum workers bringing nature restoration into their social inclusion/participation work, and social inclusion/participation into their nature restoration work.

·   other sectors working with nature restoration to consider museums as partners, platforms or enablers for their work.

6.   **Recognise the potential of culture and heritage as tools and opportunities to empower people to take environmental action and reduce disaster risk. Also recognise their potential to be barriers to action, either from an incomplete understanding of them, or as a barrier to change.**

This could mean all parts of the museum sector:

·   developing an understanding of how museum collections relate to environmental goals, environmental change and sustainable use of nature;

·   understanding how culture and heritage are tools that should be used in rights-respecting ways, so that people can develop knowledge, motivation and practical skills to take sustainable development action, and do so in active, free and meaningful ways;

·   strengthening cross-sector and cross-topic collaboration and action, rather than thinking of culture and cultural participation as a 'stand-alone' activity;

·   recognising that culture is not one 'thing', and strengthening the aspects of culture and cultural participation that support sustainable development, and eliminate negative (over-commercial, capitalist or exploitative) aspects of the work of museums.

7.   **Make use of museums as information centres and platforms for sustainable development, environmental information and DRR information.**

This could mean:

·   museum funders and the museum sector supporting museums to be effective centres for sustainable development, environmental information and risk information;

·   individual museums having strong relationships with information providers and providing local and global information on sustainable development, risk sources and sources of support, through public events and training exercises;

·   individual museum workers sharing sustainable development, environmental and risk information as part of public-facing work;

·   other sectors working with sustainable development agendas to consider museums places to share and create information, including top-down, bottom-up and cross-society sharing of information.

8. **Make sure that activity is rights-based in terms of acknowledging people have their own ideas, aspirations and goals, individually and collectively, and avoid coercive programming, however well intended. People have rights regarding environmental matters and DRR: undertake activity that respects and fulfils these rights.**

    This could mean:

    · museum funders and the museum sector becoming more familiar with human rights and rights-based approaches;

    · individual museums and museum workers adopting human rights-based approaches, and to avoid top-down or paternalistic approaches that simply put the museum in positions of power or as the expert.

9. **Make sure that museum activities are appropriate and sensitive to the needs of people, communities and contexts, especially in post-disaster or high-risk situations.**

    In post-disaster or post-conflict situations, or situations of ongoing tension - whether large-scale or local/small scale - this could mean using museums simply as meeting places, and not expect 'too much' of people and communities, as they rebuild their networks and communities. Individual museum workers should take time to understand the needs of people and communities to avoid clumsy or distressing actions. Work with agencies more specialised in disaster response and recovery, and form relationships and partnerships ahead of disaster events.

10. **Recognise that while DRR is often thought of as needing to balance the needs to forget and to remember, in addition it is important to create and to imagine, and to develop alternative options for desired future states. As disaster situations are in many ways too late to develop these, it is important to do so in advance, as part of being prepared.**

    This could mean museums funders, the museum sector, museums and workers developing a clear understanding of current and future challenges and scenarios, to communities, society, the environment, the wider world, and to museums themselves, and emphasising the future-facing aspect of museum work.

Benefits of adopting these recommendations

These recommendations have been developed as a framework for museums to contribute effectively to sustainable development, including environmental action and DRR. Adopting them should:

· **Benefit funders and the museum sector**, by helping them support museums to make a positive difference to society, in rights-respecting ways, that are effective through their alignment with high-level goals from international agreements; efficient, through being strongly aligned with international agreements and recent developments to make good use of financial and other resources; and transformative, in using goal-based approaches linked to clear accountability.

· **Benefit individual museums, and museums collectively**, by helping them contribute to sustainable development action, put their resources to good use, and help them play a distinctive part in meeting local and global challenges. Greater attention to the wider world and to local realities should help fulfil a strong social contract between museums and communities.

· **Benefit individual museum workers**, by helping them direct their work to sustainable development outcomes in an effective, efficient and transformative way.

· **Benefit people - all people** - to have access to museums and museum services that recognise and fulfil their fundamental rights to take part in environmental action, to shape their communities, and to take part in wider sustainable development action. Adopting these recommendations should help get away from well-meaning but paternalistic approaches that deprive people of their most basic rights in society.

· **Benefit society and the environment more widely.** These recommendations are based on working to achieve sustainable development outcomes, in the wider world.

Next steps

I hope that your next steps are clear. Please, make use of these recommendations. They have been written to help you in your work. There's no need to ask permission or wait to be asked. Please make use of them as you can. Talk to your colleagues about them. If you need something from your museum or the museum sector more widely, ask for it. Sustainable development is built one day at a time. Make the days count.

My next steps are to work with museums and museum organisations to put these recommendations to work, bringing together a number of sustainable development agendas and approaches, and making them speak to both the local and the global.

A. Natori Museum, Yuriage
B. The author in Bonn
C. Tsunami markers, Natori Yuriage
D. Shukkeien Garden, Hiroshima
E. Genbaku Dome, Hiroshima
F. Hiroshima Peace Memorial Museum
G. Buried houses Museum, Shimabara
H. Kobe: learning from disasters

Background image:
Cherry blossom, Ueno Park, Tokyo

Further reading

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Appendix: Itinerary of places visited

IUCN World Congress (attended online), August 2021

Stockholm+50 Summit, Stockholm, June 2022

UN Climate Change Conference, Bonn, June 2022
·   Bundeskunsthalle, Bonn

·   Museum Koenig, Bonn

Japan, March 2023, including:
·   Yuriage Port, Natori City, tsunami coastal defences and coastal forest planting, nature-rich river and estuary, cleared areas of land where habitation is prohibited, tsunami refuges, economic redevelopment (commercial and cultural/recreational activities)

·   International Research Institute of Disaster Science, Tohoku University, Sendai

·   Lake Izunuma Ramsar wetland site and visitor centres

·   Sendai Disaster Resilient and Environmentally-friendly City Office, Sendai City Council

·   Arai Station Community Centre [tsunami memorial centre]

·   Arahama School Memorial Site, Sendai

·   Natori City Earthquake Reconstruction Hall and Earthquake Memorial Park, Yuriage

·   Sendai Mediatheque, including Centre for Remembering 3.11 and 'Remembering 3.11' exhibition

·   Bosai Forum (conference for Disaster Risk Reduction), 10-12 March 2023

·   The Great East Japan Earthquake and Nuclear Disaster Memorial Museum, and Futaba Business and Community Centre, Futaba, Fukushima

·   Shukkeien Park and Hiroshima Castle, Hiroshima

·   Atomic bombing survivor trees, Shukkeien Park, Hiroshima Castle, Hiroshima riverside

·   Hiroshima Peace Memorial Museum, Peace Memorial Hall and Peace Park

·   Shimabara Disaster Reconstruction Area and Mount Unzen Disaster Museum

·   Buried Houses Museum, Shimabara

·   Onokoba Mudslide Disaster Memorial Facility and former Onokoba Elementary School Memorial Site, Shimabara

·   Sabo works (debris flow/mudslide risk reduction works) at Onokoba and Nita, and Nita resettlement district

·   Heisei Shinzan Nature Centre and recovery area

·   Shimabara Castle

·   Shimabara Samurai Street

·   Shimabara City of Carp
·   Spring water public facility, Shimabara

·   Mount Fugen, Heisei Shinzan [volcano]

·   Unzen Onsen Visitor Centre and exhibition annex

·   Unzen Onsen hot springs, spa hotels, golf course, woodland and mountain walks

·   Nagasaki Atomic Bomb Museum

·   Great Hanshin-Awaji Earthquake ruins, Kobe

·   The Great Hanshin-Awaji Earthquake Memorial Disaster Reduction and Human Renovation Institution, Kobe

·   National Museum of Nature and Science, Tokyo

Museum collections and biodiversity conservation

Museums and the Sustainable Development Goals
A how-to guide for museums, galleries, the cultural sector and their partners

Museums and Disaster Risk Reduction
Building resilience in museums, society and nature

Museums and Human Rights

Mainstreaming the Sustainable Development Goals
A results framework for galleries, libraries, archives and museums

Action for Climate Empowerment
A guide for galleries, libraries, archives and museums

Understanding the Sustainable Development Goals and targets
A guide for galleries, libraries, archives and museums

Measuring and Reporting Greenhouse Gas Emissions
An introduction for museums and cultural institutions

Mainstreaming Biodiversity in Museums
Museums and the Global Biodiversity Framework

'Nature and Climate Change'
Low cost, low carbon illustration-based exhibition for hire

INFORMATION PACK
Nature and climate change
An exhibition for all ages and interests, based around specially commissioned illustrations, suitable for museums, zoos, aquaria, schools, colleges and other educational and community settings.

Design by
Hartland Design