Climate Change, Culture and Cultural Rights

In Preparation for the Report by the UN Special Rapporteur in the field of cultural rights, Karima Bennoune

Memo / Expanded Outline

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May 15, 2020

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I. Introduction/Overview

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Cultural patterns can shift over time and are not locked into one monolithic definition but rather are lived, reaffirmed and edited by the people who form the culture by participating in it. Drastic change, however, can present deep challenges to otherwise generally cohesive narratives or patterns of behavior, disrupting traditional activities ranging from subsistence to recreation. Individual participation in cultural life can be severely limited by physical changes to the local environment including perturbed seasonality and increased competition over resources. Variations in responses to these challenges can fracture cultural groups as individuals make choices about how to seek stability and prosperity in new contexts. Previously existing divisions may be exacerbated, or new conflicts may arise as each as each person responds to their threatened interests. Even groups of individuals that largely agree on how to respond will face pressing challenges to successfully adapt to the changes resulting from a rise in global average temperature. Specific changes to local conditions are difficult to predict due to the complexity of the natural systems involved and their relationships to one another. This chaotic disruption to balance threatens the very concept of tradition.

At the same time, all humans now find ourselves within a critical time period of roughly the next 10 years (until 2030) in which collective actions of the global population can actually *change* the trajectory to prevent catastrophic climate change. Even as it is imperiled, culture remains an important key to successful climate adaptation. Traditional knowledge about how to interact with and care for natural systems is indispensable. Indigenous understanding in particular will be pivotal to stabilizing the climate. Contradictory on the surface but often complementary in practice, a rising culture of change pushes for local and global responses that prioritize climate mitigation and adaptation through changed consumptive behaviors, new green infrastructure, and a just distribution of access to resources. Implementing these preemptive changes will be critically important for effectively preserving the climate as humans have known it throughout the history of the species.

Culture has a critical role to play in humanity's reaction to climate change. In this time of forced editing of cultural practices, individuals and their values will be put to the test. What will be preserved? What will be sacrificed? What people decide to prioritize individually, locally, regionally and internationally will determine what *change* will look like.

a. Introduction to Subject Matter

"Climate adaptation refers to the actions taken to manage impacts of climate change by reducing vulnerability and exposure to its harmful effects and exploiting any potential benefits. Adaptation takes place at international, national and local levels. Subnational jurisdictions and entities, including urban and rural municipalities, are key to developing and reinforcing measures for reducing weather- and climate-related risks. Adaptation

implementation faces several barriers including lack of up-to-date and locally relevant information, lack of finance and technology, social values and attitudes, and institutional constraints (*high confidence*). (IPCC, 2018, p. 51)

The global transformation that would be needed to limit warming to 1.5°C requires enabling conditions that reflect the links, synergies and trade-offs between mitigation, adaptation and sustainable development. These enabling conditions are assessed across many dimensions of feasibility – geophysical, environmental-ecological, technological, economic, socio-cultural and institutional – that may be considered through the unifying lens of the Anthropocene, acknowledging profound, differential but increasingly geologically significant human influences on the Earth system as a whole. This framing also emphasises the global interconnectivity of past, present and future human–environment relations, highlighting the need and opportunities for integrated responses to achieve the goals of the Paris Agreement." (IPCC, 2018, p. 52)

b. Summary of Report, importance of addressing the nexus of climate, culture and human rights

"Society's response to every dimension of global climate change is mediated by culture. … [C]limate change threatens cultural dimensions of lives and livelihoods that include the material and lived aspects of culture, identity, community cohesion and sense of place. … [T]here are important cultural dimensions to how societies respond and adapt to climate-related risks. … [C]ulture mediates changes in the environment and changes in societies." (Adger, W. Neil; Barnett, Jon; Brown, Katrina; Marshall, Nadine; O'Brien, Karen, 2013, p. 112)
"Culture is important for understanding both mitigation of and adaptation to climate change, and of course plays its part in framing climate change as a phenomenon of concern to society. Culture is embedded in the dominant modes of production, consumption, lifestyles and social organization that give rise to emissions of greenhouse gases. The consequences of these emissions—climate change impacts—are given meaning through cultural interpretations of science and risk. Culture is no less central to understanding and implementing adaptation: the identification of risks, decisions about responses, and means of implementation are all mediated by culture. Cultures are dynamic and reflexive and so are in turn shaped by the idea of climate change. Hence culture, and its analysis, is central to understanding the causes and meaning of, and human responses to climate change." (*Id*.)

"Culture is a common good that broadens everyone's capacity to shape his or her own future. All individuals are vehicles of culture, as well as participants in its development. Culture itself is a process that allows us to understand, interpret, and transform reality." (UCLG- United Cities and Local Governments, 2015, p. 11 ¶2)

"The New Urban Agenda acknowledges that culture and cultural diversity are sources of enrichment for humankind and provide an important contribution to the sustainable

development of cities, human settlements and citizens, empowering them to play an active and unique role in development initiatives. The New Urban Agenda further recognizes that culture should be taken into account in the promotion and implementation of new sustainable consumption and production patterns that contribute to the responsible use of resources and address the adverse impact of climate change." (New Urban Agenda, 2017, p. 4 ¶10)

c. Inextricable relationship between human rights and health of the environment

i. Culture is reciprocally integrated with ecosystems.

"Human culture is strongly influenced by ecosystems, and ecosystem change can have a significant impact on cultural identity and social stability. Human cultures, knowledge systems, religions, heritage values, social interactions, and the linked amenity services (such as aesthetic enjoyment, recreation, artistic and spiritual fulfillment, and intellectual development) have always been influenced and shaped by the nature of the ecosystem and eco-system conditions in which culture is based. At the same time, humankind has always influenced and shaped its environment. Rapid loss of culturally valued ecosystems and landscapes lead to social disruptions and societal marginalization, now occurring in many parts of the world." (Millennium Ecosystem Assessment, 2005, p. 457)

"The importance of cultural services and values is not currently recognized in landscape planning and management. These fields could benefit from a better understanding of the way in which societies manipulate ecosystems and then relate that to cultural, spiritual, and religious belief systems. This realization is reflected in the emphasis placed by many international organizations, such as UNEP, UNESCO, FAO, IUCN, and WWF, in recognizing ''cultural landscapes,'' ''cultural agro-ecosystems,'' World Heritage Sites, and Biosphere Reserves. The so-called ecosystem approach implicitly recognizes the importance of a socio-ecological system approach, and policy formulations should empower local people to participate in managing natural resources as part of a cultural landscape, integrating local knowledge and institutions." (*Id.*)

"Places and territories are social constructs; the fruit of the historical interaction of human groups in their appropriation and transformation of the natural landscape. They reflect the history, identity, and values of the populations that inhabit them. Cultural conceptions of place are essential for the quality of life of their inhabitants. Land-use and urban planning are therefore cultural acts, in that they acknowledge, invent, and harness natural and cultural resources, in line with a society's aspirations for the future." (UCLG- United Cities and Local Governments, 2015, p. 12 ¶9)

Culture & the Environment: "Recognizing the importance of culture in sustainable development means exploring the connections between culture and the environment. Culture influences our understanding of the environment and our relationship with it on a deep level. Concern for the

welfare of future generations is already explicitly environmental; it should also be cultural." (UCLG- United Cities and Local Governments, 2015, p. 24)

People modify the ecosystems around them through cultural practices, values, and visions of the world. Human activities depend on and use "natural" spaces and biological resources that could otherwise disappear, such as agricultural heritage. Spaces and resources are bearers of culture partly as reminders of history, practical knowledge, and identity (e.g. food heritage); contribute aesthetic values (e.g. urban or rural landscapes); and condition the capacity for resilience. The knowledge people have of their surrounding ecosystems is of immense value. For centuries, their practices have shaped urban and rural landscapes. This traditional knowledge should be recognized and used to better understand how cultures and ecosystems interact, and enter into dialogue with academic knowledge, particularly in the context of regional development projects that may impact the ecosystem. These forms of knowledge must be developed and shared in order to promote ecological thinking and the values of sustainable development. Nature and culture have evolved alongside one another and form a constantly evolving balance. Cultural diversity and biological diversity are therefore closely related." (*Id*.)

1. Both culture and the environment are crucially place-based.

"The cultural and social values carried by the planet's land and seascapes are closely interlinked with its natural values (and affiliated bio-cultural practices)." (ICOMOS Climate Change and Cultural Heritage Working Group, 2019, p. 3)

"Culture and place are often closely tied, and this remains so even as they become increasingly trans-nationalized through globalization." (*Id*.)

Culture, Urban Planning and Public Spaces: Planning cities and regions with cultural awareness and meaning: "Places are the result of interaction between humans and their environment. In so far as it is marked by [its] human inhabitants and their vision of the world, a territory is a bearer of history and meaning and is, therefore, cultural. This cultural dimension is made up of the practices and customs of citizens: heritage, architecture, design, public art, landscapes, the shaping of the natural environment and the organization of space. Cultures are a powerful instrument for the construction of spaces in which citizens can understand themselves and each other and freely embark on their life projects." (UCLG- United Cities and Local Governments, 2015, p. 30)

"Urban planning and public spaces are essential in the transition to sustainable cities and regions. Urban planning that does not explicitly consider cultural issues has negative impacts on the preservation of heritage. It also prevents the exercise of memory, creativity, and coexistence, promotes homogenization, and limits opportunities to access and participation in cultural life. Contemporary urban planning must evaluate cultural impacts, in the same way that it started to evaluate environmental impacts in the twentieth-century." (*Id*.)

"Other consequences of the relationship between culture, urban planning, and public spaces include: (a) the need for urban and regional development projects to adapt to their cultural context. One such example is the use, where possible, of local knowledge and traditional construction techniques that add personality and distinctiveness to the city, rather than using models from elsewhere; (b) the need to recognize the potential of cultural activities and suitably designed infrastructures to contribute to urban regeneration, and (c) the balance among large and small facilities, city centers and decentralized neighborhoods in resource distribution and cultural planning; and (d) the participation of a citizens from the earliest stages of urban and regional planning." (*Id*.)

"Embracing in historic conservation practice the multiplicity of heritage values that support the attachment that people have to their places and community is one of the important predictors of how well our field responds to the responsibilities assigned to it in the Sustainable Development Goals (SDGs)." (ICOMOS Climate Change and Cultural Heritage Working Group, 2019, p. 3)

"Facing a changing climate puts a premium on bridging the divide between nature and culture practitioners and policies. It demands from conservation communities integrated nature-culture approaches on a global scale to help address the challenge of climate change and the planet's other looming crises. This imperative is given recognition in the Preamble to the Sustainable Development Goals which reads: We acknowledge the natural and cultural diversity of the world. This emphasis is borne out across the SDGs. In so doing, the SDGs recognize that integrated nature-culture approaches can advance sustainability objectives by improving conservation outcomes, fostering bio- and cultural diversity, and supporting the well-being of contemporary societies and future generations in both urban and rural areas." (*Id.)*

"…As culture and community are frequently rooted in place—from metropolitan areas through to marginal rural settlements—climate change impacts in these places may also change cultures and communities, often in ways that people find undesirable and perceive as loss." (Adger, W. Neil; Barnett, Jon; Brown, Katrina; Marshall, Nadine; O'Brien, Karen, 2013, p. 112)

"Place attachment may also shape adaptive responses. For example, Mishra and colleagues observe that people with high levels of place attachment were more likely to be motivated to prepare for climate change events such as flooding because of their social and economic investments within their region. Several other researchers have also suggested that attachment to place is more likely to result in pro-environmental behaviour. These observations suggest that place attachment may inspire citizens to develop or participate in climate adaptation planning processes." (Adger, W. Neil; Barnett, Jon; Brown, Katrina; Marshall, Nadine; O'Brien, Karen, 2013, p. 114)

"Culture also shapes values, and there is a considerable body of research in the social sciences and humanities that considers how values are related to culture, cognition and economic factors. This body of knowledge is reflected in recent climate change research that examines the relationship between values and adaptation choices. The emerging literature shows that differences in values may create tensions or discrepancies between adaptations that are deemed rational and effective by governments and planners, and those that are considered important to and desirable by individuals and communities. In climate change adaptation, as in development more generally, culture and politics interact to determine who has voice, whose values count and what information is legitimate." (*Id.*)

2. ***Like the fulfillment of human rights, climate action occurs on both the global and local level.***

-Universality; global concerted effort

-Unique localized circumstances and participants shape specific challenges and opportunities

ii. **"Climate change impacts human lives and livelihoods, culture and values, and whole ecosystems." (IPCC, 2018, p. 76)**

iii. **Human rights impacts due to climate change**

1. ***SR on extreme poverty and human rights report (Alston, 2019)***

2. ***SR on the human right to a healthy environment 2019 report §III (Boyd, 2019)***

d. **State of climate crisis: Culture under threat**

i. **Status quo impossible to sustain**

1. ***IPCC reports of anticipated impacts***

a. **Heat, Flooding, Drought, Storms, Searise, Ecosystem disruption, Refugees**

"Human influence on the climate system is clear, and recent anthropogenic emissions of green house gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems." (IPCC, 2014, p. 2)

"Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen. …

Over the period 1901 to 2010, global mean sea level rose by 0.19 [0.17 to 0.21] m (Figure SPM.1b). The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia (high confidence)." (*Id.*)

"Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20th century." (IPCC, 2014, p. 4)

"In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate." (IPCC, 2014, p. 6)

"Many aspects of climate change and associated impacts will continue for centuries, even if anthropogenic emissions of greenhouse gases are stopped. The risks of abrupt or irreversible changes increase as the magnitude of the warming increases.
Warming will continue beyond 2100 under all RCP scenarios except RCP2.6. Surface temperatures will remain approximately constant at elevated levels for many centuries after a complete cessation of net anthropogenic CO2 emissions. A large fraction of anthropogenic climate change resulting from CO2 emissions is irreversible on a multi-century to millennial timescale, except in the case of a large net removal of CO2 from the atmosphere over a sustained period.

Stabilization of global average surface temperature does not imply stabilization for all aspects of the climate system. Shifting biomes, soil carbon, ice sheets, ocean temperatures and associated sea level rise all have their own intrinsic long timescales which will result in changes lasting hundreds to thousands of years after global surface temperature is stabilized.
…
It is virtually certain that global mean sea level rise will continue for many centuries beyond 2100, with the amount of rise dependent on future emissions. The threshold for the loss of the Greenland ice sheet over a millennium or more, and an associated sea level rise of up to 7 m, is greater than about 1°C (low confidence) but less than about 4°C (medium confidence of global warming with respect to pre-industrial temperatures. Abrupt and irreversible ice loss from the Antarctic ice sheet is possible, but current evidence and understanding is insufficient to make a quantitative assessment." (IPCC, 2014, p. 16)

2. Threat multiplier

a. Loss of diversity, resource scarcity, potential for conflict

Analyzing potential impacts in terms of pathways of action (or inaction), the IPCC outlines what the no-action status quo pathway of increasing carbon emissions (RCP8.5) would entail.

"By 2100 for RCP8.5, the combination of high temperature and humidity in some areas for parts of the year is expected to compromise common human activities, including growing food and working outdoors (high confidence).

In urban areas climate change is projected to increase risks for people, assets, economies and ecosystems, including risks from heat stress, storms and extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, water scar city, sea level rise and storm surges (very high confidence). These risks are amplified for those lacking essential infrastructure and services or living in exposed areas.

Rural areas are expected to experience major impacts on water availability and supply, food security, infrastructure and agricultural incomes, including shifts in the production areas of food and non-food crops around the world (high confidence).

…

From a poverty perspective, climate change impacts are projected to slow down economic growth, make poverty reduction more difficult, further erode food security and prolong existing and create new poverty traps, the latter particularly in urban areas and emerging hotspots of hunger (medium confidence).

…

Climate change is projected to increase displacement of people (medium evidence, high agreement). Populations that lack the resources for planned migration experience higher exposure to extreme weather events, particularly in developing countries with low income. Climate change can indirectly increase risks of violent conflicts by amplifying well-documented drivers of these conflicts such as poverty and economic shocks (medium confidence)." (IPCC, 2014, pp. 15-16)

II. Relevant International Legal Standards

(3 pages)

a. Cultural Rights Standards

i. World Heritage Convention 1972

“The General Conference of the United Nations Educational, Scientific and Cultural Organization meeting in Paris from 17 October to 21 November 1972, at its seventeenth session,

Noting that the cultural heritage and the natural heritage are increasingly threatened with destruction not only by the traditional causes of decay, but also by changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage or destruction,

Considering that deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world,

Considering that protection of this heritage at the national level often remains incomplete because of the scale of the resources which it requires and of the insufficient economic, scientific, and technological resources of the country where the property to be protected is situated, …"

Article 1: For the purpose of this Convention, the following shall be considered as "cultural heritage": monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science; groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science; sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

Article 2: For the purposes of this Convention, the following shall be considered as "natural heritage": natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view; geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation; natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

Article 5 To ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory, each State Party to this Convention shall endeavor, in so far as possible, and as appropriate for each country: (a) to adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programmes; (b) to set up within its territories, where such services do not exist, one or more services for the protection, conservation and presentation of the cultural and natural heritage with an appropriate staff and possessing the means to discharge their

functions; (c) to develop scientific and technical studies and research and to work out such operating methods as will make the State capable of counteracting the dangers that threaten its cultural or natural heritage; (d) to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage; and (e) to foster the establishment or development of national or regional centres for training in the protection, conservation and presentation of the cultural and natural heritage and to encourage scientific research in this field.

Article 6: ...[The state parties] recognize that [such heritage] constitutes a world heritage for whose protection it is the duty of the international community as a whole to co-operate.

(UNESCO World Heritage Centre, 1972)

b. Environmental Law Standards

i. Stockholm Declaration

"The Stockholm Declaration set out common guiding principles for the preservation and enhancement of the human environment. Principle 1 underlined that "Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations." The governments also proclaimed in the concluding Stockholm Declaration that '[t]he protection and improvement of the human environment is a major issue which affects the well-being of peoples.'3" (OHCHR, UNEP, 2012, p. 10)

ii. United Nations Framework Convention on Climate Change (UNFCCC)

The United Nations Framework Convention on Climate Change (UNFCCC) establishes the objective of the "stabilization of green-house gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" in a timeframe sufficient for ecosystems to adapt, maintain food production, and support sustainable development. (United Nations Framework Convention on Climate Change (UNFCCC), 1992)

Under the UNFCCC, states have "common but differentiated responsibilities" to mitigate by managing their emissions and considering climate change in national policies and to implement the precautionary principle. States also commit to cooperating on adaptation to climate change.

iii. Paris Agreement

State party climate commitments under UNFCCC are further specified in the Paris Agreement, which seeks to limit the global temperature rise to a maximum of 2^{o} Celsius and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The Paris Agreement specifies processes for mitigating, ie through Nationally Determined Contributions, and includes adaptation and resilience in its objectives.

Article 7 outlines the adaptation objective by establishing the global goal of "enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2." (Paris Agreement to the United Nations Framework Convention on Climate Change, 2015)

Excerpts from the Preamble:

"...In pursuit of the objective of the Convention, and being guided by its principles, including the principle of equity and common but differentiated responsibilities and respective capabilities, in the light of different national circumstances, … [This section recognizes that state responsibilities vary based on development level, elaborated further in the agreement]

Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity,

Recognizing the importance of the conservation and enhancement, as appropriate, of sinks and reservoirs of the greenhouse gases referred to in the Convention,

Noting the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth, and noting the importance for some of the concept of "climate justice", when taking action to address climate change,

Affirming the importance of education, training, public awareness, public participation, public access to information and cooperation at all levels on the matters addressed in this Agreement,

Recognizing the importance of the engagements of all levels of government and various actors, in accordance with respective national legislations of Parties, in addressing climate change,

Also recognizing that sustainable lifestyles and sustainable patterns of consumption and production, with developed country Parties taking the lead, play an important role in

addressing climate change, …" (Paris Agreement to the United Nations Framework Convention on Climate Change, 2015)

Excerpts from Article 7 [Adaptation]:

“2. Parties recognize that adaptation is a global challenge faced by all with local, subnational, national, regional and international dimensions, and that it is a key component of and makes a contribution to the long-term global response to climate change to protect people, livelihoods and ecosystems, taking into account the urgent and immediate needs of those developing country Parties that are particularly vulnerable to the adverse effects of climate change. ...

5. Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate.

6. Parties recognize the importance of support for and international cooperation on adaptation efforts and the importance of taking into account the needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change. ...

9. Each Party shall, as appropriate, engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions, which may include:

(a) The implementation of adaptation actions, undertakings and/or efforts;
(b) The process to formulate and implement national adaptation plans;
(c) The assessment of climate change impacts and vulnerability, with a view to formulating nationally determined prioritized actions, taking into account vulnerable people, places and ecosystems;
(d) Monitoring and evaluating and learning from adaptation plans, policies, programmes and actions; and
(e) Building the resilience of socioeconomic and ecological systems, including through economic diversification and sustainable management of natural resources.”

Excerpts from Article 8 [Mitigation]:
“4. Accordingly, areas of cooperation and facilitation to enhance understanding, action and support may include:
(a) Early warning systems;
(b) Emergency preparedness;
(c) Slow onset events;
(d) Events that may involve irreversible and permanent loss and damage;

(e) Comprehensive risk assessment and management;
(f) Risk insurance facilities, climate risk pooling and other insurance solutions;
(g) Non-economic losses; and
(h) Resilience of communities, livelihoods and ecosystems." (Paris Agreement to the United Nations Framework Convention on Climate Change, 2015)

"[Paris Agreement] Article 7, section 5 provides: 'Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate.'66 Public participation plays a number of roles that are relevant for disaster risks. In the words of one commentator, '[i]n addition to counteracting cultural and cognitive biases, public participation can highlight omissions in scientific and engineering analysis, remind the agency of the limits of prediction under uncertainty, and in some cases even provide valuable technical information.'67 Because of the barriers to rational consideration of catastrophic risks in group decision-making, these correctives to decision-making procedures are especially important. It may be particularly difficult to ensure adequate participation by vulnerable and marginalized individuals in decisions about risk management. Achieving such participation may require 'direct and focused efforts to ensure that participation is timed and organized' as well as 'thoughtful outreach to traditionally marginalized communities to overcome the understandable perception that participation will be fruitless.'" (Farber, 2018, pp. 14-15)

iv. Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework has four priorities, which translate into state obligations: (1) understanding disaster risk, (2) strengthening disaster risk governance to manage disaster risk, (3) investing in disaster risk reduction for resilience, and (4) enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction. Specifically, 4(n) requires states to strengthen the sustainable use and management of ecosystems and implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction. (Sendai Framework for Disaster Risk Reduction 2015-2030)

v. Convention on Biological Diversity

Signatory states also are bound by the Convention on (CBD). The CBD sets out in Article I its objectives: "the conservation of biological diversity, the sustainable use of its

components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources…" (Convention on Biological Diversity, 1992)

The Parties eventually clarified that biodiversity was not limited to 8 the protection of individual species but rather should be accomplished by the "ecosystem approach." (Conference of the Parties to the Convention on Biological Diversity, Decision V/6: Ecosystem Approach, Annex, 2003); *See also* Decision VII/11 (2005).

The Aichi biodiversity targets that have emerged from the CBD are also critical considerations in regards to climate change mitigation and adaptation. Particularly Target 14, that "by 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable." (Aichi Biodiversity Targets, Convention on Biodiversity, 2010) While 2020 has arrived and this goal has clearly not been satisfied, the target continues to provide useful guidance for compliance with the CBD.

c. Standards that address the intersections of climate and culture (i.e. Pocantico call to action)

d. Work by relevant UN human rights bodies

"The protection of the environment and the promotion of human rights are increasingly seen as intertwined, complementary goals, and part of the fundamental pillars of sustainable development. The two fields share a core of common interests and objectives indispensable for sustainable development. Each human being depends on ecosystems and the services they provide, such as food, water, disease management, climate regulation, spiritual fulfillment, and aesthetic enjoyment. At the same time, all human activities have an impact on the environment.

…

Human activities have changed ecosystems more rapidly and extensively in the past half-century than in any comparable period of time in history. While this transformation has contributed to substantial net gains in human well-being and economic development in many regions of the world, not all people or regions have benefited equally; indeed conditions for many have deteriorated." (OHCHR, UNEP, 2012, p. 6)

"If the enjoyment of human rights depends on environmental protection, in turn, environmental protection depends on the exercise of certain human rights, such as the rights to information, public participation in decision-making and access to justice. Effective compliance with environmental laws and standards necessitates knowledge of them as well as of environmental conditions. In addition, local communities play a vital role in preserving the resources upon which they depend. Allowing those potentially affected to participate in

decision-making processes concerning harmful activities may prevent or mitigate the threatened harm and contribute to public support for environmental action, as well as lead to better decisions consistent with sustainable development." (OHCHR, UNEP, 2012, pp. 6-7)

"Environmental defenders are often ordinary citizens exercising their rights." (UN Environment Policy on Environmental Defenders, 2018, p. 1)

"UN Environment considers an environmental defender to be anyone (including groups of people and women human rights defenders) who is defending environmental rights, including constitutional rights to a clean and healthy environment, when the exercise of those rights is being threatened. Many environmental defenders engage in their activities through sheer necessity; a number of them do not even see or regard themselves as environmental or human rights defenders." (UN Environment Policy on Environmental Defenders, 2018, pp. 1-2)

"The disparity in power, resources and information available to powerful commercial enterprises and businesses as opposed to environmental rights defenders further contributes to a culture of indifference and even impunity with regard to environmental harms and the people they affect.

…

Thus, more and more ordinary people are finding themselves on the frontline of the battle to defend their environmental rights from violations by corporate or state actors, and from unsustainable exploitation. In July 2017, statistics released by Global Witness revealed that, on average, three environmental defenders are being killed per week. Around 40-50% of all victims come from indigenous and local communities who are defending their lands, and their access to the natural resources their communities depend on for survival and livelihoods.3 Women environmental defenders are especially vulnerable. In fact, all forms of discrimination can lead to the targeting or vulnerability to violence of women human rights defenders, who are prone to multiple, aggravated or intersecting forms of discrimination.4" (UN Environment Policy on Environmental Defenders, 2018, p. 2)

e. Work by relevant regional human rights bodies

This is a detailed plan for a localized response to protect World Heritage from the threats that climate change entails. The plan also references important general standards: "Recognizing the Strategic Development Goals of the 2030 Agenda adopted by the United Nations Summit on Sustainable Development in September 2015, call the international community to "Strengthen efforts to protect and safeguard the world's cultural and natural heritage", highlighting that the conservation of natural resources drives sustainable development and that the World Heritage Convention is an important tool to achieve these goals." (UNESCO, World Heritage Convention, 2015, p. 2)

"Recalling the SAMOA Pathway Outcome Document of the 3rd UN International Conference on Small Island Developing States (SIDS) (Samoa, September 2014) recognizes that SIDS possess a wealth of culture, which is a driver and an enabler for sustainable development. In particular, indigenous and traditional knowledge and cultural expression, which underscores the deep connections among people, culture, knowledge and the natural environment, can meaningfully advance sustainable development and social cohesion, strongly supporting the efforts of SIDS to promote cultural diversity, intercultural dialogue and international cooperation in the cultural field in line with applicable international conventions, in particular those of UNESCO and to develop and strengthen national and regional cultural activities and infrastructures, including through the network of World Heritage sites, which reinforce local capacities, promote awareness in SIDS, enhance tangible and intangible cultural heritage, including local and indigenous knowledge, and involve local people for the benefit of present and future generations." (UNESCO, World Heritage Convention, 2015, pp. 2-3)

f. Work by relevant national bodies

Standards to be addressed may include:

i. Universal Declaration of Human Rights (Article 27) (1948)
ii. **International Covenant on Economic, Social and Cultural Rights (1966) Art. 15**
iii. **Recommendation concerning the Preservation of Cultural Property Endangered by Public or Private Works (1968)**
iv. **World Heritage Convention**
v. **Recommendation concerning the Protection, at a National Level, of the Cultural and Natural Heritage (1972)**
vi. **Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas (1976)**
vii. **Convention on the Protection of the Underwater Cultural Heritage**
viii. **Convention for Safeguarding of Intangible Cultural Heritage (2003)**
ix. **Convention on Protection and Promotion of Diversity of Cultural Expressions**
x. **Convention for the Protection of Cultural Property in the Event of Armed Conflict (1954)**
xi. **Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property**

III. The Negative Impacts of Climate Change on Culture, Cultural Heritage and Cultural Rights

(5 pages)

Consider including:
-examples from many different regions and types of impacts
-impact on the totality of cultural rights of everyone; existential nature of threat
-impact on cultural rights of indigenous and traditional or rural populations
-impact on cultural rights of women
-impact of cultural rights of migrants and displaced persons
-impact on persons with disabilities

a. Impacts on cultural practices

i. Disruption of cultural life

1. Loss of stability

Translated excerpts from *Environmental and Cultural Implications of Climate Change for Indigenous Peoples:*

“Indigenous peoples inhabit the most fragile ecosystems on the planet, such as: tropical humid forests, deserts, tundras, mountains and islands, among others, constituting the most vulnerable groups against the effects of global warming. The impacts generated by climate change endanger our Mother Earth, culture, environment, and livelihood. These changes are the result of a western development model, based on a voracious capitalism that does not contemplate respect for Mother Earth. In this century, it is estimated that the average temperature will rise from 1.8 to 4.0 degrees Celsius, accelerating the impacts of climate change on indigenous peoples. We reiterate that the industrialized countries are the only ones responsible for these changes that are deeply affecting Mother Earth and therefore we reject any insinuation that holds our indigenous peoples responsible "(Declaration of Qollasuyo, La Paz, Bolivia, March 17, 2008).” (Implicaciones Ambientales y Culturales del Cambio Climatico, los Pueblos Indígenas, p. 18)

“The seventh session of the United Nations Permanent Forum on Indigenous Issues (April 21-May 2, 2008) focused on "Climate Change, Biodiversity and Livelihoods: Guardianship by Indigenous Peoples and New Challenges". The preparation of the Forum included meetings and expert documents, which in general raise the serious consequences of climate change for indigenous peoples and the lack of inclusion of these in global debates and policies.

The most general effects are evident in the alterations and transformations in the rainy seasons and in the winds, increased fires and increased de-icing and desertification processes, which are the result of changes in temperature, with the consequent effect on the diversity of species and

the possibilities of accessing them, in addition to changes in the routes of migratory animals. Additionally, it was found that the increase in diseases was associated with an increase in the environmental temperature (malaria, dengue, yellow fever).” (Implicaciones Ambientales y Culturales del Cambio Climatico, los Pueblos Indígenas, p. 19)

Destabilizing impacts of climate change can include potential disruption of food chains, travel, and energy sources, whether sudden or gradual.

For example, “current ecosystem services from the ocean are expected to be reduced at 1.5°C of global warming, with losses being even greater at 2°C of global warming (*high confidence*)” (IPCC, 2018, p. 179)

“Climate change could affect tourism, energy systems and transportation through direct impacts on operations (e.g., sea level rise) and through impacts on supply and demand, with the risks varying significantly with geographic region, season and time.” (IPCC, 2018, p. 242)

However, limiting the global average temperature increase has significant results. “Risks to natural and human systems are expected to be lower at 1.5°C than at 2°C of global warming **(***high confidence***)**. This difference is due to the smaller rates and magnitudes of climate change associated with a 1.5°C temperature increase, including lower frequencies and intensities of temperature-related extremes. Lower rates of change enhance the ability of natural and human systems to adapt, with substantial benefits for a wide range of terrestrial, freshwater, wetland, coastal and ocean ecosystems (including coral reefs) (*high confidence*), as well as food production systems, human health, and tourism (*medium confidence*), together with energy systems and transportation (*low confidence*).” (IPCC, 2018, p. 178)

2. Destruction of resources, both built and natural

I.e.: public spaces, native species

“Increased ocean temperature and acidification pose a threat to marine biodiversity. Many marine World Heritage sites are tropical coral reefs whose exposure to bleaching events is increasing, possibly leading to massive extinction of coral reefs. The increase of atmospheric temperature is also leading to the melting of glaciers worldwide (in both mountainous and Polar Regions). Lastly, terrestrial biodiversity may also be affected with species shifting ranges, changes in the timing of biological cycles, modification of the frequency and intensity of wildfires, migration of pests and invasive species, etc.

World Heritage cultural sites are also exposed to this threat. Ancient buildings were designed for a specific local climate. The migration of pests can have adverse impacts on the conservation of built heritage. Increasing sea level threatens many coastal sites. And the

conditions for conservation of archaeological evidence may be degraded in the context of increasing soil temperature. But aside from these physical threats, climate change will impact on social and cultural aspects, with communities changing the way they live, work, worship and socialize in buildings, sites and landscapes, possibly migrating and abandoning their built heritage.

The fact that climate change poses a threat to the outstanding universal values (OUV) of some World Heritage sites has several implications for the World Heritage Convention. In this context, the relevance of the processes of the World Heritage Convention such as nominations, periodic reporting, and reactive monitoring must be reviewed and suitably adjusted." (UNESCO World Heritage Centre, 2007, p. 10)

"Natural World Heritage properties in Africa are under threat. Of the 37 natural World Heritage sites in the region, 13 (35%) are on the List of World Heritage in Danger. This constitutes the largest number from any single region (in total there are only 18 Natural World Heritage sites on the World Heritage List in Danger). Challenges and threats to this natural heritage include desertification, land destruction, fire, loss of biodiversity, climate change, air pollution in urban centers, health issues arising from ecological destruction, and social conflicts causing internal immigration. In particular, the rapid human population growth is putting pressure on parks and resources, and therefore constitutes a threat to the existence of some ecosystems and may affect their sustainability.

[...]Climate change will have severe impacts on many WHSs –both cultural and natural –as well as local communities, potentially exacerbating the threat of unsustainable use and civil conflict and thus the degradation and eventual danger listing of the site. It is also not random –many African WHSs will be disproportionately impacted. Again, local solutions for ecosystem-based adaptation have proven effective and, in turn, natural WHSs can help with climate change mitigation. This demonstrates that the conservation of WHSs is not a luxury or optional extra, but the foundation of environmental sustainability for poor countries as much as –and often more than – developed countries." (ICCROM, IUCN, UNESCO et al, 31 May - 3 June 2016, pp. 29, 31)

"Several actions can be contemplated in the short term to prevent the impacts of climate change on World Heritage properties, define appropriate adaptation measures, and enhance the sharing of knowledge among stakeholders. Such initiatives should be conducted in close collaboration with relevant bodies already involved in climate change and/or heritage and conservation issues, such as the United Nations Framework Convention on Climate Change (UNFCCC), the Intergovernmental Panel on Climate Change (IPCC), the Convention on Biological Diversity (CBD), the UNESCO Man and the Biosphere programme, the Ramsar Convention on Wetlands and the UNESCO conventions dealing with cultural heritage." (UNESCO World Heritage Centre, 2007, p. 11)

3. *Displacement*

Climate apartheid

“Climate Change and Tribal Culture For indigenous communities, climate change can result in loss of cultural identity through loss of place and ways of life. For many indigenous communities, culture and cultural identity are emergent from landscape and based on relationships of reciprocity with animals, plants, fungi, and ecosystems (Anderson 2005, Whyte 2013, Wildcat 2009). The loss of place results in the loss of both ways of life and right to collective self-determination. Loss of ways of life occurs when environmental changes challenge the viability of cultural practices and thus cultural identity (Maynard 2014, Wildcat 2009). The IPCC, NCA, and other studies and publications have discussed the potential for climate change to shift species migration patterns; change the geomorphology of rivers, sea ice, and coastal areas; and lead to unpredictable precipitation and extreme weather events (Maldonado et al. 2013). Indigenous communities have struggled to maintain their cultural identity and cultural practices through initial and ongoing periods of colonialism, genocide, and forced assimilation. This history has provided many indigenous communities with valuable adaptation experience to inform climate-change adaptation, resilience, and resistance. As cultures continue to be threatened by climate-induced environmental changes, indigenous peoples ground resilience, resistance, and adaptation strategies in traditional knowledges and tribal sovereignty (Chief et al. 2014, Cochran et al. 2013). " (Norton-Smith, et al., 2016, pp. 12-13)

“Climate-change-related impacts are causing loss of tribal land and access to culturally important resources such as sacred sites, plant and animal species, water, and traditional homelands (Carothers et al. 2014, Cozzetto et al. 2013a, Lynn et al. 2013, Voggesser et al. 2013). The rights of tribes as they are acknowledged by the federal government exist within specific boundaries, including reservations and usual and accustomed areas. Williams and Hardison (2005: 10) asserted that “moving from these lands to adapt to large-scale environmental decline would cut them [tribes] off from their origins, the places of their collective memory, and the rights to self-determination the tribes possess as people.” This is a central concern for coastal tribes facing relocation (Bennett et al. 2014a; Maldonado 2014a, 2014b). There is a very high likelihood that coastal erosion, sea-level rise, melting permafrost, or extreme weather events will force many coastal tribal communities to relocate (Bennett et al. 2014a), with potentially detrimental impacts on indigenous communities, culture, health, and economic well-being.” (Norton-Smith, et al., 2016, p. 9)

ii. Threatened local/traditional knowledge and practices

1. *Fading accuracy of seasonal and place-based knowledge*

"Climate Impacts on Indigenous Peoples in the United States American Indians and Alaska Natives are already experiencing the impacts of climate change (Bennett et al. 2014a, IPCC 2014). Although these impacts differ by region, there are commonalities in how climate change is experienced by indigenous communities across the United States. For tribes in coastal areas, erosion and sea-level rise threaten vital community infrastructure and are leading to forced displacement and relocation (Callaway et al. 1999, CLTC 2012). For tribes in the Pacific Northwest and California, changes in streamflow and water temperature will increase the severity of existing declines in salmon and other culturally important species (Jenni et al. 2014, Montag et al. 2014). For tribes in the Southwestern United States, reductions in rainfall and the continued experiences of prolonged drought affect soil quality and ranching and agricultural practices (Cozzetto et al. 2013a, 2013b; Redsteer et al. in press, 2013a)." (Norton-Smith, et al., 2016, p. 1)

"Tribes across the United States are experiencing reductions in access to culturally important habitats and species. In Alaska, permafrost melting is making it more difficult for hunters to access traditional hunting grounds and is changing the migration patterns of certain species. In the Pacific Northwest, changes in the temperature and flow of water are exacerbating existing stresses on salmon and shellfish populations, which are vital to the economic, spiritual, and cultural health of communities. In the Southwest, the influx of invasive species and prolonged drought are disrupting subsistence practices. These impacts threaten traditional knowledges, food security, water availability, historical homelands, and territorial existence, and may undermine indigenous ways of life that have persisted and adapted for thousands of years." (*Id.*)

2. Loss of relevance and feasibility of practices

This report discusses the impacts of climate change on the indigenous coastal communities of Nicaragua. The report also discusses how these communities have responded to climate change. This report provides numerous specific examples of concrete changes to the social fabric of indigenous communities while reacting to environmental threats.

An interesting example of the cultural impact of climate change is found on page 20. This part of the report focuses on indigenous communities of the Río Coco. The report highlights how conflict resolution has been negatively affected by climate change. For example, in these communities, couples facing marital strife would often separate for two weeks. The husband would go off hunting with other males in the community. While the men were away, the women would get together to discuss the martial issues troubling the wife. The women would often go to lagunas.

However, the report notes that hunting is not such an attractive option anymore because many animals have moved further from the communities due to forest degradation. This has led to a reduction in the amount of time men choose to engage in communal. Moreover, some of the

local lagunas have dried up. This deprives women of a social space to gather and talk. Thus, this has interrupted the tradition of male-female separation in cases of marital strife.

(Cunningham et al Cambio Climático, 2010)

b. Impacts on cultural heritage sites: Destruction or degradation of sites

i. Imperiled existence

"Sea levels have been rising due to climate change since the end of the last glaciation during the late Pleistocene period. The relationship between rising sea levels and the vertical displacement of the earth's crust lead to changes in the sea levels on the continental margin. Thus, accounting for these changes is essential in planning and executing archaeological surveys on the continental shelf. Climate change can also lead to the destruction of many sites, due to a change in conservation patterns, change of currents and the introduction of new animal species in waters." (UNESCO, 2001)

ii. Identifying threatened local sites

Meeting in 2006, an expert meeting about the impacts of climate change on World Heritage Properties responded to growing concern.

"2. Recognizing the work being undertaken within the framework of the UN Convention on Climate Change (UNFCC), and the need for a proper coordination of such work with the activities under the Convention,

3. Takes note of the four petitions seeking to have Sagarmatha National Park (Nepal), Huascaran National Park (Peru), the Great Barrier Reef (Australia) and the Belize Barrier Reef Reserve System (Belize) included on the List of World Heritage in Danger;

4. Appreciates the genuine concerns raised by the various organizations and individuals supporting these petitions relating to threats to natural World Heritage properties that are or may be the result of Climate Change;

5. Further notes that the impacts of Climate Change are affecting many and are likely to affect many more World Heritage properties, both natural and cultural in the years to come; …" (UNESCO World Heritage Centre, 2006, p. 9)

"ANNEX 4: Predicting and Managing the Effects of Climate Change on World Heritage— A joint report from the World Heritage Centre, its Advisory Bodies, and a broad group of experts to the 30th session of the World Heritage Committee (Vilnius, 2006):

5. The fact that Climate Change poses a threat to the outstanding universal values (OUV) of some World Heritage sites has several implications for the World Heritage Convention. In this context, the relevance of the processes of the Convention such as nominations, periodic reporting, and reactive monitoring must be reviewed and suitably adjusted. It is also time to

design appropriate measures for monitoring the impacts of Climate Change and adapting to the adverse consequences. In the worst-case scenario, the OUV of a given site could be irreversibly affected (although it is recognised that Climate Change is one among a range of factors affecting the site), and the World Heritage Committee needs to consider the implications that this would have under the Convention.

6. Several actions can be contemplated in the short term to prevent the impacts of Climate Change on World Heritage properties, define appropriate adaptation measures, and enhance the sharing of knowledge among stakeholders. Such initiatives should be conducted in close collaboration with relevant bodies already involved in Climate Change and/or heritage and conservation issues, such as the UNFCCC, the IPCC, the CBD, the UNESCO MAB programme, the Ramsar Convention on Wetlands, UNESCO conventions dealing with Cultural Heritage, etc.

7. The management plans of all sites potentially threatened by Climate Change should be updated to ensure sustainable conservation of their OUV in this context. The impacts of Climate Change on World Heritage properties must be assessed through appropriate monitoring and vulnerability assessment processes. Potential mitigation measures at the level of the sites and within the World Heritage network should also be investigated, although mitigation at the global and States Parties level is the mandate of the UNFCCC and its Kyoto Protocol. The importance of Climate Change threats also justifies the need to implement appropriately tailored risk preparedness measures. As far as remedial measures are concerned, lessons learnt at several sites worldwide show the relevance of designing and implementing appropriate adaptations measures. The effectiveness of several actions has been demonstrated at a number of sites in the past, such as: increasing the resilience of a site by reducing non-climatic sources of stress, re-designing boundaries and buffer zones to facilitate migration of species, preventively draining a glacial lake to avoid the occurrence of an outburst flood, improving dykes to prevent coastal flooding, supporting traditional methods to protect a site from sand encroachment, etc.

8. Concerning the sharing of knowledge, research at all levels should be promoted in collaboration with the IPCC and other bodies involved in Climate Change research, especially for cultural heritage where the level of involvement of the scientific community is currently not as much as it is for natural heritage. The global network of the World Heritage sites is also an opportunity to build public and political support through improved information dissemination and effective communication." (UNESCO World Heritage Centre, 2006, p. 19)

"101. A two-pronged approach is required: first, the vulnerability of natural World Heritage sites, which are particularly at risk, should be assessed by the State Parties and specific site-level mitigation and adaptation strategies should be designed and implemented in partnership with relevant stakeholders. Second, State Parties and site managers need to look beyond the individual site level and develop and implement regional and/or transboundary mitigation and adaptation strategies that reduce the vulnerability of natural World Heritage sites in a larger landscape or seascape context. Natural World Heritage sites must be seen as core sites within

functioning regional networks of protected areas, conservation corridors and stepping stones. “Healthy” World Heritage sites can contribute considerably to “healthy” landscapes and seascapes that are better able to buffer Climate Change impacts. The World Heritage Centre and Advisory Bodies to the World Heritage Convention should encourage State Parties and site managers, in collaboration with relevant academic and research institutions, to accomplish these tasks and make available their knowledge and experience in the field of Climate Change adaptation and mitigation.

102. An eight-step approach has been developed to guide vulnerability assessments of coupled human-environment systems (Box 9). This approach could be adopted easily for World Heritage sites and can also be used to guide future work on vulnerability under the World Heritage Convention. Most importantly, vulnerability assessments should not look at Climate Change impacts in isolation, but should rather assess the vulnerability of World Heritage sites to global change impacts in general due to the many interactions involved.” (UNESCO World Heritage Centre, 2006, p. 47)

iii. WHC Case Studies on Climate Change and World Heritage

This report includes case studies from five different categories: 1) Glaciers, 2) Marine Biodiversity, 3) Terrestrial Biodiversity, 4) Archaeological Sites, and 5) Historic Cities and Settlements.

Foreword: “The potential impact of climate change on the world's cultural and natural heritage is also a subject of growing concern. In 1972, UNESCO Member States adopted the Convention concerning the Protection of the World Cultural and Natural Heritage in order to create an appropriate framework for the preservation of our shared heritage for the benefit of current and future generations. At that time, the international community was not fully aware of the hidden threat of climate change to World Heritage properties. However, over the last two decades, leading experts have begun warning us that our planet's fragile ecological balance could be dramatically and irremediably disrupted as a consequence of certain unchecked human activities. The adoption of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage in 2003 reflected not only the growing awareness of the inter-dependence between the world's tangible and intangible heritage and the overall importance of safeguarding cultural diversity, but also the need to adopt an integrated approach to issues of environmental preservation and sustainable development.”

A case study—Chavin, Perú:

“The site of Chavín is the most significant and representative site of the Formative period (1500 to 300 BC) in the Peruvian Central Andes. It consists of stone-faced platform mounds, terraces, and sunken plazas and is characterized by a series of subsurface galleries. This former place of worship is one of the earliest and best-known pre-Columbian sites. Its appearance is striking,

with the complex of terraces and squares, surrounded by structures of dressed stone, and the mainly zoomorphic ornamentation. Therefore, it was inscribed on the World Heritage List in 1985, as an exceptional testimony of a civilization which has ceased to exist.

[T]his site is located in the Cordillera Blanca (Peru), in the vicinity of the Natural World Heritage site of Huascarán National Park. As elsewhere in the world, glaciers are melting in this area, leading potentially to the formation of glacial lakes, and incidentally to glacial lake outburst floods (see Chapter 1, p. 23). On 17 January 1945, the archaeological site and part of the modern town were re-interred completely when a catastrophic debris flow –known in the Andes as an aluvión– swept over the monument. The phenomenon occurred when, near the headwaters of the Wacheqsa River (on the eastern slope of Central Peru's Cordillera Blanca) the waters of Laguna Ayhuinyaraju were disturbed by a land-slide of snow and mud, causing the lake to breach the terminal moraine and empty into Laguna Carhuacocha. Like most lakes in this area, these lakes have a glacial origin. Their banks are made of accumulated moraine debris constituted by stone and clays and thus weak. In this particular case, the result was an estimated 900,000 m3slurry of ice, rock, earth, and water that descended the Quebrada Wacheqsa, at a speed of about 30 km per hour. At the Wacheqsa's terminus, where it feeds into the larger Río Mosna, the aluvión roared over the archaeological monument of Chavín de Huántar and a portion of the adjacent modern town of Chavín. The site was buried by up to 3.5m of sediment, and the extensive underground galleries were largely filled by the pressurized injection of aluvión material.

Catastrophes associated with geological phenomena have affected populations in the Cordillera Blanca. Over the last sixty years notable modern geologic disasters have included debris flows that swept through the Cordillera Blanca towns of Chavín (1945), Huaraz (1962), and Yungay (1970). Impacts on the conservation of the archaeological site of Chavín are mentioned above, but such events have obviously dramatic consequences for the people living in this area. Catastrophic rock avalanches triggered by melting glacier head-walls are the most destructive type of land-slides. Those of 1962 and 1970 resulted in 5,000 and 23,000 deaths respectively. Climate models project an increased rate of glacier melting in the future. It is thus critical to investigate further the geodynamics of glaciers, particularly in regard to the potential increase in the frequency and strength of land-slides, so that preventive and emergency measures can be adequately defined and, when possible, implemented." (UNESCO World Heritage Centre, 2007, pp. 60-61)

iv. **WHC Managing Cultural World Heritage**

v. **WHC Managing Disaster Risks for World Heritage**

vi. **WHC Managing Natural World Heritage**
-note regional disparaties; and within regions

c. Impacts on cultural diversity, language rights/diversity

"A further indicator of vulnerable cultural diversity are the local languages in SIDS. Statistics show SIDS' rich linguistic heritage. For example, Papua New Guinea is one of the most linguistically diverse and complex areas in the world, with close to 850 indigenous languages spoken, and at least as many traditional communities, among a population of about 6 million. Among these languages, UNESCO's Atlas of the World Languages in Danger identifies at least 98 as vulnerable, endangered, or even extinct. See Figure 2. Vanuatu, a much smaller country with a population of 240,000, still has 110 languages, 46 of which are considered to be at critical risk. Efforts to revitalize such languages notwithstanding, such findings appear to reflect a general trend. Table 1 lists the aforementioned selected indicators of protectable cultural heritage in SIDS, together with the net migration rate per country." (Kee, 2011, pp. 264-265)

IV. The Positive Potential of Culture, Cultural Heritage and Cultural Rights to enhance responses to climate change and build resilience

(5 pages)

a. Arts and culture

"This paper critically assesses the role and potential of the arts and humanities in relation to the '1.5 degree target' embedded within the Paris Agreement. Specifically, it considers the purpose of scenarios in inviting thinking about transformed futures. It includes a preliminary assessment of the Culture and Climate Change: Scenarios project, an example of arts and humanities engagement with a '1.5 C future'. The paper argues that integrating more culturally rooted contributions into the creation and deliberation of climate change scenarios would enrich processes of future-thinking beyond climate model outputs. It would also test and extend some established practices of climate research and policy anticipating and making futures. The paper suggests that the key characteristics of scenarios as a cultural form are that they provide space for collective, improvisational and reflexive modes of acting on and thinking about uncertain futures." (Tyszcuk & Smith, 2018, p. 56)

"This paper emphasises the importance of 'cultural work' on climate change. As Mike Hulme writes, 'however our contemporary climatic fears have emerged [. . .] they will in the end be dissipated, reconfigured or transformed as a function of cultural change.' It also aligns with Karen O'Brien's proposition that the transformational thinking required by climate change, involves cultural changes along with shifts in perspectives and practices: '(p)olicies and decisions associated with transformation extend beyond the status quo, and often challenge traditional ways of thinking about things, doing things, and planning for the future.'" (Tyszcuk & Smith, 2018, p. 57)

"Scenario thinking has long been a prominent strand in the work of the IPCC and the UNFCCC, and draws on predictive scientific knowledge, based on computer models and simulations. It is possible to trace a shift in the way the IPCC Assessment Reports have discussed scenarios: from predictions to projections to storylines and now pathways. The IPCC is careful to state that scenarios of human induced climate change and resource depletion are not intended as predictions: 'The goal of working with scenarios is not to predict the future but to better understand uncertainties and alternative futures, in order to consider how robust different decisions or options may be under a wide range of possible futures'." (*Id.*)

"IPCC's latest approach to emissions scenarios, or Representative Concentration Pathways (RCPs) is intended to serve as a way of 'opening the future', and to encourage people to shape the future they want rather than select from a set of predetermined futures. The new generation of scenarios includes the shared socio-economic pathways (SSPs) developed together with the RCPs and shared policy assumptions for mitigation and adaptation (SPAs). While RCPs make no assumptions about the kinds of society that generate global greenhouse gas emissions, SSPs describe plausible future conditions and alternative trends for 21st century society. Because SSPs are supposed to be plausible they cannot deviate from current societal conditions, or make any concessions for individual or collective agency, motives, emotions or the value-driven and deliberate transformations of cultural and societal change. In short these scenarios work to eliminate agency, conflict and non-linear change despite the fact that these are all key aspects of the uncertainties of living with climate change. Such scenarios are indicative of the 'cultures of prediction', which pervade the science and cultural politics of global environmental change and where other forms of knowledge (such as indigenous understandings), and meaning-making (for example via arts and humanities) are marginalised." (*Id.*)

"The term 'scenario' has its origins as a cultural form in the improvisations of Italian baroque street theatre, where it indicated the synopsis of a play. Scenarios were a prompt to performances that responded to the complexities of the everyday, revealing the relations, emotions, values and motives of societal conditions. In Hollywood's silent movie era 'scenarios' referred to screenplays. In the 1960s the word was borrowed to describe the strategic planning techniques that involved systems thinking, or 'scenarios' for nuclear warfare developed by Herman Kahn with the Rand Corporation. Kahn's techniques for thinking in terms of multiple possible futures set the standard. His futures included 'the unthinkable', and evaluation and selection of the most and least desirable futures, known as 'best-case' and 'worst-case' scenarios." (*Id.*)

"As 'anticipatory practices', scenarios are enrolled in varying ways of calculating, imagining and performing futures, in often disputed modes of 'pre-emption, prefiguration, and preparedness'. As such they contribute to processes through which the present is transformed, intervened in and ultimately governed in the name of the future" (Tyszcuk & Smith, 2018, p. 58)

"The concept of 'anticipatory adaptation' has emerged to refer to proactive strategies for preparing communities for future change. This is accompanied by a turn to scenario planning and analysis within government climate change adaptation initiatives that are attempting more reflexive approaches to futures. These include examples of integrated modelling of uncertainties and adaptive strategies, and participatory scenarios that attempt to integrate local knowledge with climate science. Among the grand challenges of the Future Earth programme — a consortium initiative of integrative global environmental change research [URL: http://www.futureearth.org] is to 'improve the usefulness of forecasts of future environmental conditions and their consequences for people'." (*Id.*)

"Our work with the Culture and Climate Change: Scenarios project has generated some key insights. First, we con-tend that the presence or proximity of arts and humanities in relation to IPCC deliberations of ambitious policy goals can help to set the conditions for a more discursive, open, energetic and engaging account of this hugely ambitious body of research. In so doing the arts and humanities support a fuller understanding of what it means to craft shared futures with others through 'conscious social trans-formations', or indeed to 'make and unmake futures that impact on all life on this planet'. Second, the arts and humanities inhabit the (usually fractured) join between 'fact-making' and 'meaning-making' and we suggest that this position allows them to support future imaginings that might better reveal a world of multiple, differentiated and uncertain futures. Further- more, the arts and humanities are not a 'communications finishing school' for climate research and policy." (Tyszcuk & Smith, 2018, p. 60)

b. Traditional and local knowledge

"Traditional knowledges— The term "traditional knowledges" refers to both individual pieces of information and the traditional "knowledge systems" embedded in indigenous ways of life (CTKW 2014). Traditional knowledges emerge from reciprocal relationships between indigenous peoples and place, or what the Guidelines for Considering Traditional Knowledges in Climate Change Initiatives (CTKW 2014: 1) refer to as a "nature-culture nexus." Therefore, indigenous communities and knowledge holders have unique ways of knowing, experiencing, understanding and practicing traditional knowledges. These dynamic and diverse knowledges and knowledge systems share common dimensions represented by the term traditional knowledges (Houde 2007). As explained by the Guidelines for Considering Traditional Knowledge in Climate Change Initiatives (CTKW 2014: 7):[Traditional knowledges] broadly refer to indigenous communities' ways of knowing that both guide and result from their communities members' close relationships with and responsibilities towards the landscapes, waterscapes, plants, and animals that are vital to the flourishing of indigenous cultures. Traditional knowledges can encompass culture, experiences, resources, environment, and animal knowledge (Schuler 2013); are accumulated through "experience, relationships, and upheld responsibilities towards other living beings and places" (CTKW 2014: 7); and are passed down

generationally from elder to youth through oral histories, stories, ceremonies, and land management practices (CTKW 2014, Schuler 2013). These traditional knowledges are considered by many to be a gift and come with certain responsibilities, such as determining when and with whom they should be shared (CTKW 2014)." (Norton-Smith, et al., 2016, p. 13)

"Traditional knowledges inform tribal understanding of climate impacts and environmental baselines while providing observational evidence, and informing culturally appropriate adaptation strategies (Adger et al. 2007, Cochran et al. 2013, Williams and Hardison 2013). Redsteer et al. (in press) demonstrated how the knowledge of Navajo elders can be used to gain more holistic understanding of the impacts of climate variation on semi-arid environments and to identify changes to soil moisture and species migration unavailable in most meteorological and streamflow data. Similarly, Wilson et al. (2015) showed how indigenous knowledges can contribute to the understanding of hydrologic change by (1) providing long-term data when Western scientific data is unavailable, (2) identifying new areas of inquiry by observing changes previously unidentified by Western science, and (3) being used in conjunction with Western methods across different scales." (Norton-Smith, et al., 2016, pp. 13-14)

"Simultaneously, traditional knowledges are also vulnerable to the impacts of climate change (Whyte 2014). Traditional knowledges transform with changes in the landscape and may be degraded by rapid environmental change. Traditional knowledges may lose their ability to determine culturally appropriate times for ceremonies, plantings, and seasonal harvests (Cochran et al. 2013). Tribal cultural practices linked with phenological matches are occurring when subsistence practitioners and ceremonial leaders use species from different habitats, or with differential life history stages, to predict or plan activities." (Norton-Smith, et al., 2016, p. 14)

"For indigenous communities, the loss of connection to place and associated practices can threaten cultural identity and mental health. Sakakibara (2008) demonstrated how the Inupiat in Point Hope, Alaska, use contemporary storytelling as a critical form of cultural adaptation. Inupiat people at Point Hope are experiencing climate-induced changes to homeland, sense of place, and environmental kinship, that threaten culture and cultural identity. Storytelling reveals and fosters adaptation, allowing residents to maintain their connections to dramatically shifting places and cope with an uncertain future." (Norton-Smith, et al., 2016, p. 34)

"Although climate change is affecting indigenous cultures and ways of life, indigenous communities are extremely resilient (Bennett et al. 2014b, Nakashima et al. 2012, Wildcat 2009). The Intergovernmental Panel on Climate Change (IPCC) (2007: 880) defined resilience as "the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity of self-organization, and the capacity to adapt to stress and change." Although indigenous resilience does not eliminate the consequences of colonialism or climate-change impacts, it does demonstrate the ability of indigenous populations to examine impacts and develop strategies for addressing and adapting

to climate change. This resilience is embedded in traditional knowledges, diverse livelihoods, cultural values, and social networks that contribute to indigenous adaptive capacity (Chief et al. 2014, Nakashima et al. 2012)." (Norton-Smith, et al., 2016, p. 4)

"5.3 How can traditional knowledge systems for disaster mitigation help protect your property from disasters? Can you integrate these into the plan? Traditional knowledge systems for disaster mitigation may take one of several forms: • Indigenous management systems: in Kathmandu valley, Guthi lands are jointly owned by the community for fulfilling various social and religious functions. The returns from these lands provide resources for the maintenance and repair of historic temples, especially after disasters. •Indigenous monitoring systems: in Shirakawa Village (Japan), the community members share responsibility for going around the village daily to inspect any possible risk of fire. While on inspection they call out reminders of the need to be vigilant. • Traditional skills and techniques in building construction and periodic maintenance. Analysis of those constructions that had a higher rate of survival in the Kashmir and Gujarat earth-quakes showed how traditional construction techniques often conferred a good earthquake resistance on buildings (Case Study 18). • Local ecological relationships and indigenous planning systems may also contribute to sustainability and thus prevent disasters such as floods. For example, in Majuli Island in Assam (India), a large river island with unique local ecology, the vernacular housing in the area using locally available bamboo and constructed on stilts has evolved as a sensitive response to local factors, notably floods that inundate the island on a regular basis. The light bamboo structure enables easy dismantling and relocation, in the event that the area is affected by floods. • If such traditional knowledge systems exist, every effort should be made to integrate these into the DRM plan of a heritage property." (UNESCO World Heritage Centre, 2010, p. 40)

"Case Study 18, Traditional knowledge systems: earthquake-resistant construction in Kashmir and Gujarat On close inspection of earthquake-prone regions of Kashmir and Gujarat, we discover several examples of good-quality traditional constructions that survived the devastating earthquakes of 2005 and 2001 respectively. During the Kashmir earthquake, the traditional structures built using local building techniques of Taq (timber-laced masonry-bearing wall) and Dhajji Dewari (complete timber frame with one wythe of masonry forming panels within the frame), in part or in whole, performed much better than many poorly built 'modern' structures. Although there were many cracks in the masonry infill, most of these structures did not collapse, thereby preventing loss of life. Also some vernacular constructions such as wooden log houses, and those employing the use of well-laid masonry with through-stones and well-designed arches, trusses, tongue-and-groove joints and balconies resting on projecting wooden joists performed well in the earthquake. The traditional dwellings of the earthquake-prone Kutch region in Gujarat, the Bhungas, have also with-stood the earthquakes, thanks to their circular form, which is very good at resisting lateral earthquake forces. Moreover, wattle and daub constructions, especially where wood is used as reinforcement for the wall, have proved to be very effective. Many traditional structures in Gujarat built prior to the 1950s had floor joists extending through the rubble stone walls to support the balconies. These types of

structures were more successful in stabilizing the walls than those where joists terminated in pockets and performed much better during the 2001 quake. Sources: R. Jigyasu, 2002, Reducing disaster vulnerability through local knowledge and capacity, Dr. Eng. thesis, Trondheim, Norwegian University of Science and Technology." (*Id*.)

"2. Traditional knowledge, including that held by indigenous peoples and other communities and groups, can form the basis of a balanced, sustainable interaction between culture and natural ecosystems. As indicated by Culture 21 Actions, '[nature] and culture have evolved alongside one another and form a constantly evolving balance.' …
3. Creative projects can provide relevant, innovative responses to the challenges raised by climate change." (UCLG- Secretariat of the Committee on Culture of United Cities and Local Governments, 2016, p. 3)

"In addition, many individuals and groups around the world are carrying out informal practices in social and cultural innovation, which seek to foster a new balance between environmental preservation, citizen participation, social inclusion and contemporary creativity. Relevant trends in this area include the expansion of new gardening practices and other forms of occupation of public space which aim to restore a balance between human needs, natural resources and urban planning (see e.g. this collection of examples in the Ruhr region, as well as the School of the Commons project in Dakar, among many others)." (*Id.*)

"5. Traditional knowledge, artistic work on climate change and citizens' informal creativity point to the unique, intrinsic features of culture, those which connect cultural aspects and sustainable development.
These include the value of diversity, as a trait common to nature and culture (as in the UNESCO Universal Declaration on Cultural Diversity's assertion that ' (UNESCO, 2001) innovation and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature'); the ability of the arts and culture to connect with the deepest human emotions and strengthen resilience in a context of vulnerability ('… artists have the opportunity – and the power – to change the climate narrative. As a society we need to build the confidence to believe that a different, sustainable way of living is possible', Hannah Van Den Bergh); and the provision of a space where different forms of knowledge and action connect, including bridging the scientific, political, technical and cultural domains ('There is a gap between empirical knowledge that science gathers and the policy and personal action that is demanded in terms of a response. What the arts can do is create the empathy to bridge that gap, create the personal response…', Guy Abrahams)." (UCLG- Secretariat of the Committee on Culture of United Cities and Local Governments, 2016, p. 4)

c. Cultural Heritage

"The SDGs and the Paris Agreement recognize that cultural heritage can guide choices that promote human action in ways that support resilience and sustainability and by extension

climate-resilient development pathways." (ICOMOS Climate Change and Cultural Heritage Working Group, 2019, p. 2)

d. The Right to Science

e. Culture and cultural rights can lend strength to the fight against climate change and lead the transition to the necessary "societal transformation" called for by the IPCC to achieve pathways that limit carbon emissions.

"Scenarios and pathways are used to explore conditions enabling goal-oriented futures while recognizing the significance of ethical considerations, the principle of equity, and the societal transformation needed." (IPCC, 2018, p. 52)

"Adaptation and mitigation transition pathways highlight the importance of cultural norms and values, sector-specific context, and proximate (i.e., occurrence of an extreme event) drivers that when acting together enhance the conditions for societal transformation." (IPCC, 2018, p. 73)

"Artists and cultural professionals play a key role in sustainability in that their work explores the boundaries of the known and creates new meanings." (UCLG- United Cities and Local Governments, 2015, p. 20)

"Cultural factors shape the enabling condition for adaptation and mitigation including whether and how people respond to appeals for Climate Action. (ICOMOS Climate Change and Cultural Heritage Working Group, 2019, p. 2)

"Key to understanding this potential is an appreciation of the breadth of the concept of cultural heritage. Over time, the meaning of cultural heritage in professional practice has expanded from single monuments and sites identified as objects of art to cultural landscapes, historic cities, and serial properties. Contemporary practice further extends the concept of heritage beyond 'tangible heritage', to the intangible dimensions of heritage as well. This means the entirety of knowledge derived from the development and experience of human practices, representations, expressions, knowledge and skills; and associated objects and spaces that communities recognise as part of their cultural heritage." (*Id*.)

"The World Heritage program presents a high profile global reach, integrated nature-culture approach" (*Id.*)

"Adopted in 1972, the World Heritage Convention contemplates that the sites inscribed on the World Heritage List will act as laboratories of ideas with the potential to set international standards in heritage management. Developing responses to climate change is just such a case,

where World Heritage Sites have an important role to demonstrate and share their climate action work with all communities. Indicative of this is the Policy Document for the Integration of a Sustainable Development Perspective into the Processes of the World Heritage Convention adopted by the General Assembly of States Parties to the World Heritage Convention in 2015, which recognized increasing disaster risks and the impact of climate change, and called on the member states to recognise that World Heritage represents both an asset to be protected and a resource to strengthen the ability of communities and their properties to resist, absorb, and recover from the effects of a hazard." (ICOMOS Climate Change and Cultural Heritage Working Group, 2019, p. 3)

i. Envisioning, modeling "adaption pathways" (IPCC, 2014, p. 19)

"Culture allows us to reimagine the world." (UCLG- United Cities and Local Governments, 2015, p. 30)

"This paper critically assesses the role and potential of the arts and humanities in relation to the '1.5-degree target' embedded within the Paris Agreement. Specifically, it considers the purpose of scenarios in inviting thinking about transformed futures. It includes a preliminary assessment of the Culture and Climate Change: Scenarios project, an example of arts and humanities engagement with a '1.5C future'. The paper argues that integrating more culturally rooted contributions into the creation and deliberation of climate change scenarios would enrich processes of future-thinking beyond climate model outputs. It would also test and extend some established practices of climate research and policy in anticipating and making futures. The paper suggests that the key characteristics of scenarios as a cultural form are that they provide space for collective, improvisational and reflexive modes of acting on and thinking about uncertain futures." (Tyszcuk & Smith, 2018, p. 56)

ii. Culture as a crucial tool for implementing climate change mitigation and adaptation strategies

1. Wide-reaching education method

- **a. i.e.: Popular theater, muralism, music, journalism, tourism**

"This understanding of the necessary approaches to climate change emerges from the recognition that sustainable development and climate change cannot be addressed exclusively through technical and technological measures, but rather require an approach that encompasses human beliefs, values and behaviour – since, as noted by Yasmine Ostendorf, '[we] have realised that climate change is – at least in large part – a cultural problem, an effect of our lifestyle and consumer behaviours…. Developing alternative structures to our current system requires a change in the way we live, embracing low tech, human solutions, as well as

high tech innovations.'" (UCLG- Secretariat of the Committee on Culture of United Cities and Local Governments, 2016, p. 3)

2. Synergies with conservation culture

a. Protected Urban Spaces

"2.5 Supporting ecosystem-based adaptation for longer term resilience Eco-DRR can be an effective approach to support climate change or more precisely ecosystem-based adaptation strategies. Ecosystem-based adaptation (EbA) is defined as the "sustainable management, conservation and restoration of ecosystems, as part of an overall adaptation strategy that takes into account the multiple social, economic and cultural co-benefits for local communities." EbA aims to maintain and increase the resilience and reduce the vulnerabilities of ecosystems and people in the face of the adverse effects of climate change. Ecosystem-based adaptation is most appropriately integrated into broader adaptation and development strategies." (Monty, 2016, p. 20)

3. Culture as a dynamic expression of values

iii. Cultural standards set norms/expectations/parameters for action

1. Behavioral science and anthropological reports

vi. Culture influences local and global economy (consumer culture), but must have access to options in order to flex decision-making power.

"…[A]s with other aspects of the global agenda, climate change is no longer a sectorial concern, but rather one which requires coordinated, transversal efforts in the environmental, economic, social and cultural spheres. It is understood that both the causes and the consequences of climate change lie in a wide range of areas, including production, distribution and consumption models, the distribution of economic resources, the availability of natural resources, migration, urbanisation, social and cultural values, and individual and collective behavioural patterns. The Committee on Culture of United Cities and Local Governments (UCLG) is no stranger to this discussion. Since the adoption of the Agenda 21 for culture in 2004, the Committee has favoured a multidimensional, integrated approach to sustainable development, where work towards environmental sustainability and cultural development, as well as economic development and social cohesion, should be closely integrated. By stressing that culture should be seen as the fourth pillar of sustainable development, UCLG has highlighted not only the importance of cultural aspects, but also how these and environmental preservation can reinforce one another.
In this respect, UCLG's Committee on Culture places its approach to climate change in the broader context of the exploration of the links between culture, the environment and sustainable development.

The global response to climate change requires a structural, cohesive approach, which should be inspired by cultural values and strengthened through cultural practices, in close coordination with efforts in other areas. The Culture 21 Actions toolkit, adopted at the UCLG Culture Summit in Bilbao, March 2015, argues that 'Culture influences our understanding of the environment and our relationship with it on a deep level… People modify the ecosystems around them through cultural practices, values, and visions of the world'" (UCLG- Secretariat of the Committee on Culture of United Cities and Local Governments, 2016, p. 2)

1. The illusion of choice and demand for real options

a. Current bias towards fossil fuel based consumption

Sweeping New Report on Global Environmental Impact of Plastics Reveals Severe Damage to Climate— Study Recommends Solutions, Including Phasing Out Single-Use Plastics (2019)

"In 2019 alone, the production and incineration of plastic will add more than 850 million metric tons of greenhouse gases to the atmosphere—equal to the pollution from 189 new 500-megawatt coal-red power plants, according to a new report, Plastic &Climate: The Hidden Costs of a Plastic Planet (https://www.ciel.org/plasticandclimate). The rapid global growth of the plastic industry—fueled by cheap natural gas from hydraulic fracturing—is not only destroying the environment and endangering human health but also undermining efforts to reduce carbon pollution and prevent climate catastrophe. This is the conclusion of a sweeping new study of the global environmental impact of the plastic industry by the Center for International Environmental Law, Environmental Integrity Project, FracTracker Alliance, Global Alliance for Incinerator Alternatives, 5 Gyres, and BreakFree From Plastic. The new report gathers research on the greenhouse gas emissions of plastic at each stage of the plastic lifecycle—from its birth as fossil fuels through refining and manufacture to the massive emissions at (and after) plastic's useful life ends—to create the most comprehensive review to date of the climate impacts of plastic. With the ongoing, rapid expansion of the plastic and petrochemical industries, the climate impacts of plastic are poised to accelerated dramatically in the coming decade, threatening the ability of the global community to keep global temperature rise below 1.5°C degrees. If plastic production and use grow as currently planned, by 2030, emissions could reach 1.34 gigatons per year—equivalent to the emissions released by more than 295 500-megawatt coal power plants. By 2050, the production and disposal of plastic could generate 56 gigatons of emissions, as much as 14 percent of the earth's entire remaining carbon budget. The rapid growth of the industry over the last decade, driven by cheap natural gas from the hydraulic fracturing boom, has been most dramatic in the United States, which is witnessing a dramatic buildout of new plastic infrastructure in the Gulf Coast and in the Ohio River Valley." (Center for International Environmental Law (CIEL), 2019, p. 1)

Quotes from the Authors:

Carroll Muffett, President, Center for International Environmental Law (CIEL): “Humanity has less than twelve years to cut global greenhouse emissions in half and just three decades to eliminate them almost entirely. The massive and rapidly growing emissions from plastic production and disposal undermine that goal and jeopardize global efforts to keep climate change below 1.5 degrees of warming. It has long been clear that plastic threatens the global environment and puts human health at risk. This report demonstrates that plastic, like the rest of the fossil economy, is putting the climate at risk as well. Because the drivers of the climate crisis and the plastic crisis are closely linked, so to are their solutions: humanity must end its reliance on fossil fuels and on fossil plastics that the planet can no longer afford.” (Center for International Environmental Law (CIEL), 2019, p. 2)

Courtney Bernhardt, Director of Research, Environmental Integrity Project: “Our world is drowning in plastic, and the plastics industry has been overlooked as a major source of greenhouse gases. But there are ways to solve this problem. We need to end the production of single use, disposable plastic containers and encourage a transition to a zero-waste future.” (*Id*.)

Matt Kelso, Manager of Data and Technology, FracTracker Alliance: “The overwhelming majority of plastics are produced from ethane, a component of natural gas and petroleum. The story of plastic’s contribution to climate change really begins at the wellhead, and we can therefore say that a portion of carbon emissions from oil and gas production is attributable to the creation of plastics. As gas travels from hundreds of thousands of wells through a network of millions of miles of pipelines on its way to downstream facilities, there are countless releases of carbon through leaks, venting, and flaring, mostly in the form of carbon dioxide and methane. But in order to get a full picture of these impacts, we have also examined emissions from trucks and heavy machinery that service this gigantic industry, as well as the removal of vast stretches of forested land, which can no longer ameliorate the carbon pollution of the industry. At a time when atmospheric carbon dioxide is spiking dramatically, we need to take a hard look at the consequences of extracting carbon from the ground in the first place, including for the production of plastics.” (*Id.*)

Doun Moon, Research Associate, GAIA: “There is no such thing as an “end-of-life” for plastic as it continues to pose a significant threat to the climate long after it reaches the final phase of its lifecycle. Waste incineration, also referred to as Waste-to-Energy, is the primary source of greenhouse gas emissions from plastic waste management, even after considering the electricity that can be generated during the process. The industry’s plans to massively expand both petrochemical production and waste incineration are incompatible with the urgent need for climate mitigation. Our analysis evidently shows that waste prevention coupled with reduced plastic production is by far the most effective way to reduce GHG emissions, and practically the only path forward in order to turn the tide on ever-intensifying climate change.” (*Id.*)

b. **Moving towards "Green" culture and products, DIY culture, Organics**

2. Earth-based economy

"A green economy and any institutions devised for it should focus fundamentally on the wellbeing of all people across present and future generations." (OHCHR, UNEP, 2012, p. 22)

"26. We commit ourselves to urban and rural development that is people-centred, protects the planet, and is age- and gender-responsive and to the realization of all human rights and fundamental freedoms, facilitating living together, ending all forms of discrimination and violence, and empowering all individuals and communities while enabling their full and meaningful participation. We further commit ourselves to promoting culture and respect for diversity and equality as key elements in the humanization of our cities and human settlements.
…
38. We commit ourselves to the sustainable leveraging of natural and cultural heritage, both tangible and intangible, in cities and human settlements, as appropriate, through integrated urban and territorial policies and adequate investments at the national, subnational and local levels, to safeguard and promote cultural infrastructures and sites, museums, indigenous cultures and languages, as well as traditional knowledge and the arts, highlighting the role that these play in rehabilitating and revitalizing urban areas and in strengthening social participation and the exercise of citizenship.
…
45. We commit ourselves to developing vibrant, sustainable and inclusive urban economies, building on endogenous potential, competitive advantages, cultural heritage and local resources, as well as resource-efficient and resilient infrastructure, promoting sustainable and inclusive industrial development and sustainable consumption and production patterns and fostering an enabling environment for businesses and innovation, as well as livelihoods." (New Urban Agenda, 2017, pp. 11, 13, 14 ¶¶ 26,38,45)

a. **"Sustainable Market" launched by Prince Charles of England in collaboration with the World Economic Forum (22 Jan 2020)**
b. **Europe's Green Deal**
c. **Recommendation of SR on the human right to a healthy environment to exclude fossil fuel industry from climate talks (Boyd, 2019)**

f. Success stories

i. SR Boyd's 2019 Climate Report Annex: Best Practices

1. **i.e.: Costa Rica's shift from fossil fuels (Boyd, 2019)**

ii. Nature Based Solutions - UNESCO, UN-Water; 100 Resilient Cities

This report emphasizes the value and potential of natural infrastructure in urban areas to build urban resilience, advocating for increased awareness around the breadth of values that ecosystem services provide. The report encourages increased implementation of natural infrastructure in a way that serves a broad range of human needs, including cultural and social services. It also includes case studies of facilitated public participation in the design of increased ecosystem services in urban areas, which is a cultural, creative act.

Excerpt from the Executive Summary:

"100 Resilient Cities—Pioneered by The Rockefeller Foundation (100RC) is dedicated to helping cities around the world become more resilient to the physical, social and economic challenges that are a growing part of the 21st century. This document provides a consistent framework, examples, and actions that local leaders, resilience practitioners, and partners around the world can take to accelerate the uptake of nature and natural infrastructure as key drivers of resilience in their cities." (100 Resilient Cities, Earth Economics, 2018, p. 4)

As an example of a case study, when Singapore transformed a Rail Corridor into a Green Corridor, the "Urban Redevelopment Authority (URA) embarked on one of its most extensive public engagement exercises to explore ways to develop the disused railway and its surrounding land." (100 Resilient Cities, Earth Economics, 2018, p. 21)

"Design workshops and competitions were also held to generate interest among students and design professionals. More than 2,000 secondary and polytechnic students participated in workshops to reimagine how the Rail Corridor could foster a sense of place and memory for youths in urbanised Singapore. These proposals then travelled around the nearby constituencies to gather feedback from the residents." (*Id.*)

"These residents—including seniors, children, and the physically challenged—also got to become 'planners' for a day when they were invited to draw up master plans to illustrate how stretches of the Rail Corridor near where they lived could be relevant to their needs." (*Id*.)

"The output of these consultations were distilled into planning and design goals to guide the conceptualisation and design of the Rail Corridor. As part of the request for proposal, "Rail Corridor—An Inspired and Extraordinary Community Space", a competition was held for design professionals to develop a Concept Master Plan and Concept Proposals for the Corridor. These proposals, informed by the extensive public consultation, produced designs that were better attuned to the needs of the communities living along the Rail Corridor." (*Id.*)

iii. Reinstating indigenous land management

1. Amazon Sacred Headwaters

Cuencas Sagradas Special Report

Translation: Initiative of the Amazon Sacred Headwaters

This is an indigenous initiative in the Amazon. Different indigenous communities that have bordering ancestral lands have come together that wish to promote regional governance guided by indigenous traditions/principles, harmony, and cooperation. To this end, the leaders of this initiative highlight the importance of fomenting a relationship between humans and the Earth.

Within the confines of this regional initiative, the participants wish to eliminate the extraction of natural resources at an industrial scale.

"Here, the regional Amazonian indigenous confederations of each country—CONFENIAE in Ecuador, and AIDESEP in Peru—have joined together to permanently protect 30 million hectares (74 million acres) of tropical rainforests via the Sacred Headwaters Initiative. It is the first macro-level initiative in both countries to unify disparate conflicts over rights and resource extraction in seeking alternatives and long term solutions to the commodity-based economies of each country, which have traditionally sought, unsuccessfully, to drill their way to prosperity one oil well or mine at a time" (Koenig, 2019, p. 12)

"The Amazon Sacred Headwaters Initiative seeks to create a mosaic of indigenous-titled territories based on their traditional knowledge of geographic ecological boundaries like rivers, mountains, flora, and watersheds that were historically used to delineate and manage their territories. The initiative will present a united front against the pressures on these indigenous territories and address climate change by keeping forests standing and fossil fuels in the ground." (Koenig, 2019)

2. *See also* Maya Biosphere Reserve in Guatemala

V. Cultural Rights Defenders and Climate Change

There is a critical intersection between Environmental Defenders and Cultural Rights Defenders. See for example the work of Xiuhtezcatl Martinez of Earthguardians, an indigenous youth artist and activist. See also poet-artists in Greenland paying tribute to melting glaciers.

VI. Climate Change, Cultural Change and Cultural Rights

(2-3 pages)

"Abstract: This article explores the interplay between climate change and cultural heritage, in particular the intangible aspects of cultural heritage, in international legal frameworks, either existing or under development. The prime focus of the current climate change regime of the United Nations Framework Convention on Climate Change (UNFCCC) is the reduction of greenhouse gas emissions, leaving certain aspects of cultural heritage rather on the sidelines of

debate and pol-icy. However, where climate change combines with generally weak law and policy for culture and traditions, countries vulnerable to climate change may face significant cultural loss in the years to come." (Kee, 2011, p. 259)

"Another illustration of protectable culture is provided by the Convention for the Safeguarding of Intangible Cultural Heritage (the ICH Convention) established in 2003, together with the Representative List of the Intangible Cultural Heritage of Humanity. Out of a total of 232 listed items, only six relate to SIDS: "Language, Dance and Music of the Garifuna" in Belize; "La Tumba Francesa" in Cuba; "The Cocolo Dance Drama Tradition" and "The Cultural Space of the Brotherhood of the Holy Spirit of the Congos of Villa Mella' both in the Dominican Republic; "The Maroon Heritage of Moore Town" in Jamaica; "The Lakalaka, Dances and Sung Speeches of Tonga"; and "Vanuatu Sand Drawing. The Vanuatuan item exemplifies the intangible heritage involved, its vulnerability, and safeguarding efforts. Proclaimed a Masterpiece of the Oral and Intangible Heritage of Humanity by UNESCO in 2003, Vanuatu's sand drawings are artful geometric patterns produced directly on the ground to transmit traditional knowledge about local history, indigenous rituals, kinship systems, natural phenomena, and farming techniques. Sand drawing also represents a means of communication among the members of various language groups in the north of the Vanuatu archipelago. Expert sand drawers possess intimate knowledge of the numerous graphic patterns and a deep understanding of their complex layers of meaning." (Kee, 2011, pp. 263-264)

"Emerging Climate Change Refugee Policy Proposals and Cultural Heritage Current international refugee law incorporates the principles of nondiscrimination and national treatment. According to the Convention Relating to the Status of Refugees (the 1951 Refugee Convention), the host country must not discriminate refugees on race, religion, or country of origin. Also, the host country is required to provide treatment 'at least as favorable as that accorded to their nationals with respect to freedom to practice their religion and freedom as regards the religious education of their children.' The latter principle of national treatment is also applied to the protection of industrial property and of rights in literary, artistic, and scientific works. A refugee must be accorded in the country in which he or she has his habitual residence the same protection as is accorded to the nationals of that country. In addition, the 1951 Refugee Convention provides for 'intergenerational transmission and the non-interference of this transmission' a right of association, and freedom of movement. One limitation of national treatment or most-favored nation clauses is that, if the host country does not offer its nationals adequate protection of cultural identity or heritage per se, climate change refugees can hardly expect better protection." (Kee, 2011, pp. 269, 272)

Civil Society Report on Climate Change and Rights of Vulnerable Groups in the Americas:
This source recognizes the impact climate change has on a broad array of human rights (including cultural rights). Consequently, the source highlights the need for a holistic, human-rights framework to address climate change. This source does not have a section dedicated to cultural rights. However, it was one of the documents that had language regarding the

interrelation between human rights, cultural rights, and climate change. This report was put together by civil society for public hearings carried out by the Inter-American Commission on Human Rights during its 173rd Period of Sessions (September 25, 2019).

It is interesting to note that the Civil Society Report lists certain rights that are particularly vulnerable to environmental degradation, including the right to participate in cultural life. (Fundación Pachamama, Dejusticia, AIDA, IDL, FUNDEPS, Engajamundo, Earthrights International, Alianza Hondureña ante el Cambio Climático, FIMA, CELS, DPLF, Conectas, FARN, CEMDA, La Ruta del Clima y CEDAT, 2019, p. 18)

The source also highlights an initiative by indigenous communities in the Amazon to promote the bio-regional and indigenous governance/administration of the Amazon region. (Fundación Pachamama, Dejusticia, AIDA, IDL, FUNDEPS, Engajamundo, Earthrights International, Alianza Hondureña ante el Cambio Climático, FIMA, CELS, DPLF, Conectas, FARN, CEMDA, La Ruta del Clima y CEDAT, 2019, p. 6)

VII. Climate Change, Climate Denial and the right to science

(1-2 pages)
-Sponsored narrative (Alston, 2019)

VIII. Conclusions and Recommendations

(3-4 pages)

a. **Invest in cultural expressions around climate change**

b. **Include harm to culture and cultural rights in any inventory of environmental harms resulting from or likely to result from climate change and in all environmental impact assessments**

c. **Fully explore the potential of culture, cultural heritage and traditional and local knowledge to enhance mitigation and adaptation efforts; ensure the free, prior and informed consent of relevant populations where relevant**

d. **Ensure that scientific knowledge about climate change, including its impacts on culture, is made accessible, including in local and indigenous languages and non-verbal modes of communication, and widely available**

e. **Engage with culture as a method of societal change that must occur in order to avert catastrophic climate change**

f. **Protect cultural workers (and cultural rights defenders) from being discredited when they oppose structures of status quo**

g. **Actually put youth and indigenous peoples in positions of power in which they can bring into effect the cultural changes that the world is asking for**

h. **Think regionally/globally; fund/implement locally; bring together global expertise and local initiative/ownership**

i. **Raise awareness about differential impacts of climate change; assess impacts of local climate action on other regions; need for system-wide approach**

j. **Prioritize climate action in policy-making; ensure effective implementation of environmental regulations and legislation at all levels; ensure transparency in environmental policy-making and avoid conflict of interest**

k. **Ensure that cultural institutions and officials and experts are involved in discussions of climate policy; and environmental experts are engaged in discussions of cultural policy; build and institutionalize bridges between cultural and environmental officials and experts**

l. **Call on human rights bodies, mechanisms and experts to systematically and urgently address climate change and its impacts on cultural rights**

IX. Possible section on COVID-19, culture and climate change

(2-3 pages)

X. Access, Equity

- **a. Ability of all states to participate**
  - **i. Fulfillment of sustainable development commitments**
  - **ii. Access to technology**
  - **iii. Accessible communication platforms (airtime for climate culture)**
- **b. Traditionally land-based / ecologically-embedded and indigenous cultures are especially positioned to suffer or alleviate climate change**
  - **i. Values: Earth as living being, care for seven generations**

ii. **Vulnerability and asset: intensified, immediate interdependence on natural systems; connection to sacred natural sites; techniques for living independently from fossil fuels**
iii. **Right to free, prior, informed consent**
    1. **Connection to sacred natural sites**

c. **Youth's ability to participate in the culture-shift**
    i. **Not just symbols of the future; participants in the present**

[Culture & Education] "Future planning for cities requires integrating all "new" citizens (boys, girls and young people) in cultural development. Children and youth are entitled to be treated as competent and engaged subjects, rather than as mere consumers. Education processes of today are both the result of culture and, at the same time, construct the culture of the future. In these processes, cities play a vital role in the recognition and capacity building of the people who make up the local educational community." (UCLG- United Cities and Local Governments, 2015, p. 22)

    1. **Gen Y & Z as messengers**
    2. **Millennials as fully adult citizens and professionals**
ii. **Skill with technology as means of viral communication and culture-shaping**
iii. **Catastrophe as the new normal**
    1. **Simultaneous disasters**
    2. **Costs of late, improvised reactions**
    3. **Benefits of a planned Just Recovery, Just Transition**

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