



## Towards Transformative Disaster Education in an Age of Climate Change

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Sustainability Frontiers



## Sustainability Frontiers' seven key interconnected themes

1. Climate Change Education
2. Emergency Education
3. The Education for Sustainability/ Education for All Interface
4. Widening the Scope of Sustainability Education
5. Bio-centric Education
6. Bio-regional Education
7. A Multi-dimensional Epistemology for Sustainability Education

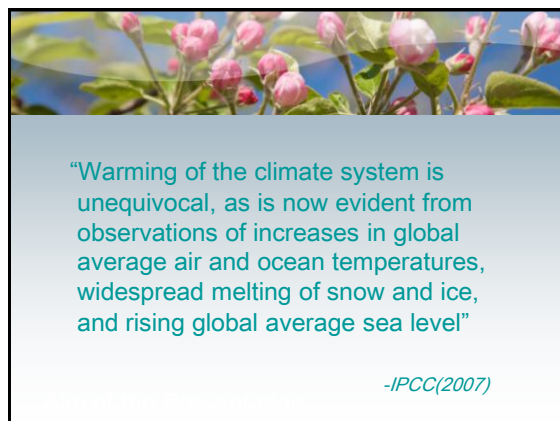
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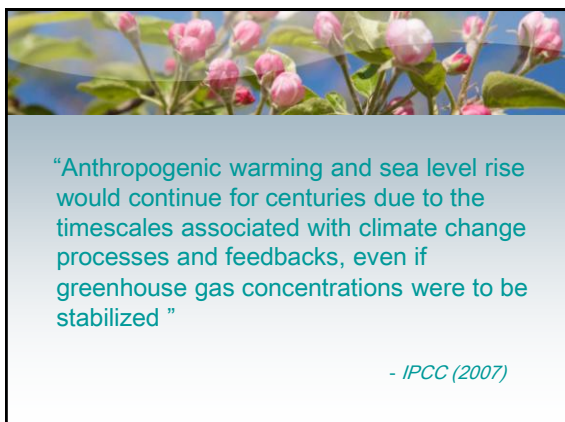
## Aim of the Presentation

To bring some learning insights from the current discussion and practice of climate change education to the field of disaster education



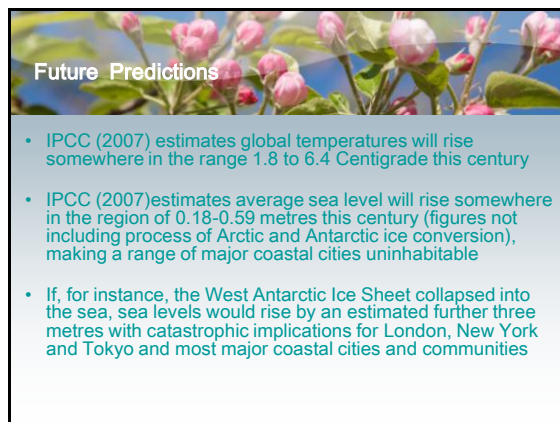
“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level”

-IPCC(2007)



“Anthropogenic warming and sea level rise would continue for centuries due to the timescales associated with climate change processes and feedbacks, even if greenhouse gas concentrations were to be stabilized ”

- IPCC (2007)



## Future Predictions

- IPCC (2007) estimates global temperatures will rise somewhere in the range 1.8 to 6.4 Centigrade this century
- IPCC (2007) estimates average sea level will rise somewhere in the region of 0.18-0.59 metres this century (figures not including process of Arctic and Antarctic ice conversion), making a range of major coastal cities uninhabitable
- If, for instance, the West Antarctic Ice Sheet collapsed into the sea, sea levels would rise by an estimated further three metres with catastrophic implications for London, New York and Tokyo and most major coastal cities and communities

### Future Predictions

- 'Natural' disasters are increasing in frequency and severity
- 375 million people may be affected by climate-related disasters by 2015; some 600 million by 2030
- 200 million people maybe be on the move each year by 2050 because of hunger, environmental degradation, and loss of land
- Exponential grow of cost of humanitarian relief in the next 20 years

-Global Humanitarian Forum(2009); Oxfam International (2009)

### Characteristics of Futures on the Hotter Planet....?

Desertification	Droughts	Wildfires	Sea level rises and surges
Floods	Massive population movements	Social instability	Hunger and starvation
Tribalism, Aggressively defensive localism	Violent conflicts	Genocide	Infectious diseases

How can we learn to respond to adversities without losing our humanity?

### Key Pedagogical Challenges Posed by Climate Change

- Uncertainty, complexity, non-linearity
- Temporal and spatial dimensions
- Invisibility of multi-causality
- Climate change denial

### Various Forms of Climate Change Denial

- Diversion
- De-problematizing or reinterpretation of the threat
- Indifference
- Pleasure-seeking
- Blame shifting; denigrating the 'out group'
- The false sense of hope

### 'Business as Usual' Climate Change Education

- A focus on the science of climate change
- An absorption with technical fixes
- Reluctance to explore the culpability of dominant economic growth models

### 'Business as Usual' Climate Change Education

- A resulting tendency to characterize the global warming crisis in terms of overtly presenting symptom (i.e. a CO2 problem)
- A concomitant reluctance to explore climate change as a crisis of a human condition
- Avoidance of envisioning personal and societal climate change scenarios likely to be played out in the learner's lifetime

"...simply giving people more facts about climate change may not necessarily make them determined to act against it in any straightforward cause-and-effect way."

- Lynas, M. (2008)

### Towards Transformative Disaster Education in an Age of Climate Change

### Addressing Root Causes of Climate Change

- Growth and technology myth
- Consumerism
- An instrumentalist and utilitarian view of nature

### Developing Holistic Understandings of and Responses to 'Crisis'

- Addressing the inappropriateness of linear conceptualization of disasters
- Dealing with complex emergencies (including silent emergencies)

### Employing Interdisciplinary and Multidisciplinary Frames

- A bridging role for education in enabling scientific intelligence to be widely and subtly understood from many perspectives
- Reclaiming and validating mundane, indigenous and other subjugated knowledge and insight



### Expanding a scope of Justice

- Expand our sense of compassion to 'others'
- Need to include future generations and all species within our scope of justice



### A 'Glocal' Approach

- Having learners explore local ways to mitigate and live with climate change impacts
- Avoiding localism of response to climate change and disasters that becomes the equivalent of the gated community
- Bringing issues of global justice centre stage in disaster education, while weaving together indigenous, mundane and scientific insights



### A Multi-dimensional Approach to Learning

- Flexible learning and emergent curriculum
- Diversifying learning that is more or less confined to mechanistic ways of knowing by adopting the complementary and systemic use of artistic, embodied, experiential, symbolic, spiritual, and relational learning (especially for earth reconnection)



### A Multi-dimensional Approach to Learning

- Dealing with a sense of despair, grief, and loss as the surest basis for empowerment, action, and a profound sense of hope



### Embracing the Intangible

- Addressing climate change 'denial' responses
- Developing a culture of learning in institutions where uncertainty provokes transformative, yet precautionary, commitment rather than paralysis



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