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CHILDREN AND THE CULTURE
OF CLIMATE CHANGE

I saw a poster recently announcing a symposium on climate change, and it showed a little girl holding a world globe in her hands. This association is not uncommon. It is a recurrent feature of the culture of this particular aspect of science—an acknowledgement that children are the future and that we need to be concerned about what they inherit. There is the recognition, too, that in some inevitable sense, it is in their hands. I want to discuss some of the realities underlying these sentiments and how we respond to them.

It is undeniable at this point that we live on a gradually warming planet. In the cautious estimation of the Intergovernmental Panel on Climate Change, this is most likely a result of human activity and the release of greenhouse gases. Although it is not possible to relate individual weather events to the phenomenon of climate change, it is generally accepted that we are experiencing gradual changes in average temperatures, average rainfalls, the prevalence of storms, and so on that can have far reaching impacts.[1] There has also been a marked increase in the number of extreme climate-related events—storm surges and floods, tornadoes, landslides, unprecedented droughts and other so-called natural disasters.[2] I say "so-called" because they spring in many cases from human activity, and they only count as disasters when they affect human beings and human activities.

In one of those ironic twists of fate, it is primarily the people who have contributed least to this situation who suffer most from its consequences. Notwithstanding the tornadoes, hurricanes and floods that have recently plagued the United States, or the deadly heat waves in Eastern Europe, the great majority of those most affected and those who will continue to be most affected are people in poor nations and those in the poorest communities in these nations. This is not because climate change is necessarily more severe where the poor live (although it is true that changing patterns are more extreme

in tropical and sub-tropical areas). It is because people, their enterprises, and the places they occupy are generally so much more vulnerable in the context of poverty. People in poverty tend to be more highly exposed to weather-related hazards, and less able to cope with the impacts.

In most cities in the global South, for example, the poorest people often occupy the most hazardous sites. They live on flood plains, on steep slopes, under bridges, wherever land is available. They often have none of the protective infrastructure that can make it easier to withstand extreme events—no storm drains, no proper roads. Their homes are often built from flimsy materials that cannot stand up to high winds, mudslides, rushing water. A weather event that might scarcely register in Boston can wreak havoc in Mombasa.

Among the most vulnerable are young children. The World Health Organization claims that child deaths make up 85 percent of the mortality attributable to climate change.[3] Young children have more rapid metabolisms, immature organs, underdeveloped immune systems, and limited experience and understanding; all of which leave them less well equipped on many fronts to deal with deprivation and stress. Their exposure to hazards at this period of rapid development is also likely to have long-term repercussions. They are more vulnerable to injury, for instance, and more often with enduring effects.

Droughts, flooding, and post-disaster conditions all intensify the risk of water and sanitation-related illnesses, which can take more lives than the initial disaster, and young children are by far the most heavily affected. About 80 percent of all diarrheal disease occurs in children under five, and this remains, astonishingly, one of the leading causes of death worldwide for young children.[4]

Warmer temperatures are expanding the areas where malaria and other vector borne diseases occur, again with children most often the victims. Young children, along with old people, are also at highest risk from heat stress; research in São Paulo found a 2.6 per cent increase in mortality rates in children under 15 for every one degree increase in temperature above 20°C.[5]

Malnutrition is a major concern, whether from food shortages related to changes affecting agriculture, from unsanitary conditions, from problems with access, or from the increased stress on livelihoods. Children are less able to withstand deprivation on this front, and especially if they are undernourished to start with, even a temporary reduction in food supplies can increase their vulnerability to illness and can result in long-term stunting, mental as well as physical. In low-income countries, childhood underweight remains the leading risk factor for death from other causes.[6]

These are just some of the health effects. There are also the psychological and social impacts. There can be a breakdown in supportive environments

around any stressful situation—whether an extreme event or just the gradually deteriorating conditions that eat up resources and time for caregivers and increase anxiety and insecurity. Children in these situations are more likely to face neglect, abuse and exploitation. The crowded, stressful and socially toxic environments of many emergency camps come especially to mind. As the coping capacity of families is eroded, children are also more likely to be pulled out of school, more likely to be pushed prematurely into work.

In poor countries and communities, children also make up a larger share of the population. In high income countries, best protected from the impacts of climate change, children under five represent about four or five percent of the population. In the countries and communities that are most vulnerable to climate change, the proportion of dependents goes up. In many of the communities most at risk, children under five may make up as much as 20 percent of the population. This adds a considerable burden for families and communities struggling to cope.

How does the culture of climate change play out around these very exposed children? When we talk about responses to climate change, we are most often talking about mitigation—the need to cut down on greenhouse gases. But for those who are increasingly at the forefront in facing the consequences of extreme events and changing weather patterns, the need for adaptation and for risk management is immediate and paramount. Given children's disproportionate presence among those at risk, and their disproportionate vulnerability, one might expect very close attention to the often particular requirements of young children and their caregivers.

In general terms, however, children are not as visible as one might expect in the formal discussions on adaptation. The most recent report from the Intergovernmental Panel on Climate Change makes no specific reference to children in the chapter on adaptation. The National Adaptation Plans of Action being carried out in many of the countries at highest risk, although they draw on community level assessments of risk, do not disaggregate the data by age.

Let me give an example of what a focus on children might actually mean in this context. In poor communities that are flooded with increasing frequency—Bangladesh is a good example—a sensible component of disaster preparation and management would be a recognition that pre-existing undernutrition markedly increases the risk to children each year—the risk of death, of illness, of becoming an additional drain on their families' resources. Advance nutritional supplementation in this context, rather than just emergency feeding after the fact, would be a sensible and cost effective component of preparedness. Yet I have never heard of a disaster risk assessment that including an assessment of children's nutritional and health status.

Among child-focused organizations in recent years, there has, understandably, been more attention to the implications of climate change for children. What is striking, however, is the extent to which the public face of their concern focuses on children's active agency (rather than, for instance, effective entry points into more general planning.) A search of the recent publications of child focused organizations turns up these titles among others: *Children as Agents of Change for Disaster Risk Reduction; Child-led Disaster Risk Reduction: Taking Stock and Moving Forwards; Children on the Frontline—Children and Young People in Disaster Risk Reduction? Child-led Disaster Risk Reduction Toolkit.* This particular focus is a manifestation of the growing awareness of children's rights, and specifically of their right to a voice in matters that concern them. Surely this is a good development? It is critical in emergency situations, for instance, that we not focus on children just as victims. Their perceptions and experiences can be a valuable component in designing effective responses. It is also well established that their active involvement can shore up their emotional resilience in fraught and challenging situations.

But there can be an element of enthusiastic political correctness to this kind of response that is not fully grounded in the realities of the situation. I have no doubts about children's right to an active role or their potential to help in identifying concerns, preparing for disaster, or responding to its aftermath. After extreme events that have turned their lives upside down, children often demonstrate a calm, clearheaded capacity to assess the local situation as it affects them and their families and to offer constructive critiques of the solutions that are being offered. But it is important not to fetishize this, and to try to put it in context. There is a balance between treating children as helpless victims (or perhaps not even distinguishing them as part of the equation) and expecting them to take the lead.

Consider who is being left out in this focus on children as active agents. "Children" is a catchall category that theoretically includes everyone under 18. But a two-year-old boy is quite different from a 15-year-old girl, just as they're both different from the 35-year-old man who so often seems to be the template for the universal citizen that drives many policies. When we speak about children's vulnerability it is, on many fronts, the very youngest children we are talking about—those under four or five or six. When we talk about children as active agents, we are more generally talking about older children and adolescents. If we want to think about participatory responses to adaptation that focus on those most affected, then the caregivers of young children are incredibly important. Their capacity to cope under difficult circumstances is what makes the greatest difference to young children. These caregivers are most often

overburdened mothers with little time on their hands, and they are seldom the people whose ideas and solutions are being sought. We should be talking more about maternal depression and climate change, more about mothers as the drivers of risk management.

There is also the question of whether older children and adolescents are automatically geared to leadership and to clear headed solutions just by virtue of their age. Is there an oversimplification here, an element of magical thinking? I am a co-editor of a journal on urban issues mostly in low-income countries. Recently we published a volume on urban youth. One of the papers submitted was about the potential for young people to take leadership roles for disaster risk reduction in an Indian resettlement colony. The authors contextualized their work in a body of research that portrayed young people as an enterprising, perceptive, untapped resource in the world, waiting only for the opportunity to share their insights. They presented this material uncritically and used it as the framework for their research. Then they described interviews with young people in this neighborhood, exploring their knowledge about local conditions and hazards, their perspectives on these problems, their level of engagement, the solutions they had developed. The young people emerged on the whole as apathetic, disengaged and unaware of any risks. In the discussion section of the paper, rather than reflecting on the mismatch between their empirical evidence and the reviewed literature, the authors suggested that the apathy of these young people was related to the failure of the adult world to offer them encouragement. "Young people's perceptions and capabilities can only be understood when their voice is truly heard," they concluded.

But hadn't this research provided the young people with precisely that opportunity to be heard? Was there a need, perhaps, for their perceptions and capabilities to be developed, not simply to be "heard"? Youth were presented in this paper as requiring only a nudge to lay that golden egg of insight. Whether they had an egg to lay was never really questioned. The authors resisted the opportunity to go back and reflect more critically on the implications of their data. We often see what we want to see.

Peter Kahn's work on environmental generational amnesia is useful in this context, providing a perspective on the complacency we often see in the face of environmental change and degradation.[7] Kahn notes, on the basis of several studies, how readily people accommodate to degraded conditions in the natural environment, and how the sense of what is "normal" can change with circumstances and from generation to generation. Kahn argues that it can be difficult to understand in any direct experiential way that we have environmental problems. While children and young people can be alert observers of

the local scene, slowly deteriorating conditions, along with repeated exposure to more extreme weather, may dull the awareness and the urgency necessary for proactive responses. Children may be more aware of deforestation in the Amazon than of the changes in their own surroundings. This state of mind is especially germane to the more gradual changes that can happen as a result of climate change—the somewhat higher storm surges, the more frequent flooding, the longer dry spells, the hotter heat waves. Life in an urban slum in Lagos or Dhaka or countless other communities around the world is a challenge at the best of times, and gradual changes can become normalized.

I saw this at an extreme in Nepal during the conflict there, which lasted for well over ten years. During its height, when I was working with Save the Children there, we tried to anticipate the implications for schools and children. What kinds of help did teachers and parents need in coping with the crisis? What kinds of risks were acceptable? At what point should schools simply be closed down? At what threshold did something go from being a challenge to being an emergency? In discussions with local people, it was apparent that the concept of crisis or emergency was a moving target. Extreme conditions had become commonplace. People were accommodating to insecurity, fear, harassment, and violence.

But there is also evidence that children of a certain age may be geared to a more lively awareness. Perhaps one problem in the Indian resettlement colony research was that these young people were not young enough. Some pertinent research was carried out in the Philippines with waste pickers in Payatas, where the huge dump collapsed in 2000 and smothered over 200 people, many of them children. This research a few years after the calamity, when life was more or less back to "normal", was intended to gauge the responses of local children to their surroundings. There was an interesting pattern that related to the children's ages. Children under six or seven did not pay much attention to the dump that loomed over everything. They noticed the more immediate surroundings. They talked about how pretty the flowers were that their mothers had planted around their shacks, about the games they liked to play. They loved their shanty homes. Children who were a little older were indignant about their situation. They talked about the horrible smells, the dead dogs, the disgusting things they found when they were picking through garbage. They wondered if the president had ever seen the dump. They felt something should be done about it. By the time they were 14 or 15, the indignation had faded. They saw the dump as a necessity—a reality that they depended on for work. How would they survive if it weren't for the dump? There was a kind of apathetic resignation.[8]

It seems at least possible that there is a sensitive period for environmental indignation, for the stirrings of stewardship, and that this is in fact the age group that most often is tapped for child-participation projects. Perhaps there are legitimate reasons for seeing children as the environmental stewards and potentially the drivers of local disaster management. After the tsunami, it was children, after all, in the devastated communities I visited who wondered why replanting trees was not a top priority. They pointed out that these rows and rows of replacement houses on barren acres of land would be very uncomfortable with no shade. Couldn't something be done? There were all these organizations building houses, while their parents struggled with survival. No one was thinking about trees. Another time in coastal Tamil Nadu, where mud shacks were destroyed every year by backwater floods after cyclones, it was children who pointed out that the tile roofs planned as part of long awaited replacement housing would not withstand the coconuts that were hurled around in high winds, and that they would soon be back to patching roofs with palm fronds. The adults had been leery of criticizing any aspect of the planned support.

But if it is true that children can sometimes have a uniquely sane perspective, then is this perspective being properly used? Even where there is insight, energy and commitment, do we place too much stock in the capacity of this age group to change the world? What about the need to have systems in place that make it possible to act on their insights in practical ways? There are many disheartening stories in this regard—interesting participatory projects with children that have never realized their objective of contributing to local decision making and local change. In Johannesburg, some years ago, as a result of the very wonderful Growing up in Cities project,[9] the municipality invited groups of children (in that 10 to 14 age slot) from four low income neighborhoods to assess local conditions and to come up with their priorities for improvement. The children, supported by a committed and experienced facilitator, Jill Kruger, were thorough in describing the implications in their lives of heavy traffic, no sidewalks, broken crossing lights, trash filled lots, clogged drains, unlit alleys, drug and alcohol problems, unpoliced parks, the constant threat of harassment and even rape. They came up with some very concrete, specific and affordable improvements—things as simple and straightforward as replacing the light bulbs in the dark pedestrian tunnel under a highway that separated them from school. They presented their findings to the city council, were applauded for their hard work and sent on their way.[10]

Three years later, there was an attempt to find out why nothing had happened in response. It was a fascinating story, filled with excuses, buck passing, political infighting, changes in administrations, and basically the absence of any

mechanism for seeing this thing through. The children had been excited about their role and about the possibility for change in their neighborhoods, but three years later they had a more distrustful view of participatory democracy. And this was in a city that had committed itself to being "child friendly", and that had actually initiated this engagement.[11] This is all too common. Projects with children can be one-off appealing events that put down no roots. Too often they are justified on the basis of the educational value for children, rather than the kinds of practical changes that children are actually invested in. Jill Kruger refuses now to be involved in any participatory projects with children, however well meaning, unless there is a signed, sealed plan for follow up, preferably locked into the ongoing development efforts of the adult community. She argues that many of these projects build cynicism rather than citizenship. It doesn't work just to engage children. They don't vote. They may have insights but they have very little muscle. They stop being children and everything has to start all over again. Productive engagement with children can't happen in a vacuum. It has to be tied to the priorities and processes that their parents and communities are engaged in. It has to be part of a wider culture of participation.

In the context of disaster responses, this can be especially important. There are many examples of efforts to involve children in emergency camps after disasters, for example. These can be very important efforts. Engagement and problem solving are potent ways to deal with the often overwhelming sense of loss and powerlessness that can follow on these events. But too often, there are no corresponding efforts to engage the parents of these children, who may be paralyzed by the hopelessness of their situation, the lack of information, the almost total lack of control they experience. To treat children as active decision-making agents with rights when their parents remain unconsulted and demoralized is not only an incomplete solution; it can even be destructive, undermining the accepted social order at a time when normalcy is what people want more than anything. I do not know of any research undertaken in this critical area.

A focus on children's agency is one part of a larger concern with the human rights and social justice aspects of the response to climate change. Climate change is not just about the environment, and responses are not just about the mitigation of greenhouse gases. But we need more consistent ways to bring the social justice concerns into focus with the larger picture. For those closely involved, it is clear that a culture of participation is critical to successful adaptation. This is not just a matter of upgrading storm drains. It means acknowledging the fact that many settlements *have* no storm drains to upgrade, that they are illegally settled, that tenure is a problem, that a partnership between

the disenfranchised and their local governments, which have often refused to recognize their presence, is a fundamental starting point. Participatory projects with children are an excellent idea, but they have to take place within this larger context.

NOTES

1.   Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.* Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.). Intergovernmental Panel on Climate Change, Geneva, Switzerland, 2007.

2.   The Centre for Research on the Epidemiology of Disasters International Disaster Database (http://www.em-dat.net), Université Catholique de Louvain, Brussels, Belgium

3.   *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks.* Geneva: World Health Organization, 2009.

4.   *Global Health Risks,* 2009.

5.   Nelson Gouveia, Shakoor Hajat and Ben Armstrong, "Socioeconomic differentials in the temperature–mortality relationship in São Paulo, Brazil," *International Journal of Epidemiology* 32 (2003), 390–397.

6.   *Global Health Risks,* 2009.

7.   Peter H Kahn Jr "Children's affiliations with nature: structure, development, and the problem of environmental generational amnesia," in Peter H. Kahn, Jr. and Stephen R. Kellert, *Children and Nature: Psychological, Sociocultural, and Evolutionary Investigations,* Cambridge Mass: MIT Press, 2002, pp. 93–116.

8.   Mary Racelis and Angela Desiree M. Aguirre, with colleagues Liane Pena Alampay, Felisa U. Etemadi, Teresa Banaynal Fernandez, Rosemarie Matias Fernandez, Marita Castro Guevar, *Making Philippine Cities Child Friendly: Voices of Children in Poor Communties.* Quezon City, Philippines: Institute of Philippine Culture, Ateneo de Manila University, 2005. With the assistance of the United Nations Children's Fund (UNICEF Innocenti Research Centre, Florence).

9.   See Louise Chawla, Ed., *Growing Up in an Urbanizing World*, London: Earthscan, 2001.

10. Swart Kruger, Jill and Louise Chawla, "'We know something someone doesn't know', children speak out on local conditions in Johannesburg," *Children, Youth and Environments* 15 (2005), 89–104.

11. Clements, Je'anna, "How Crazy Can it Be? An Assessment, Three Years Later, of Outcomes from a Participatory Project with Children in Johannesburg," *Children, Youth and Environments* 15 (2005), 105–120.

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