

Unsustainable Development: The Missing Discussion about Education at Rio+20

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Global Context

The past 20 years have seen an accelerated process of globalization that has impacted countries around the world. However, not all have benefited equally and many have benefited little or not at all from this process. Moreover, a global economy based on current patterns of consumption and production is placing heavy stresses on many ecosystems. As such, sustainable development – or development that meets the needs of the present without compromising the ability of future generations to meet their own needsⁱ – continues to be an unrealized goal.

Compounding this challenge is climate change, which threatens to undo and even reverse progress made toward achieving sustainable development and meeting the Millennium Development Goals. Climate change is a key causative factor in the increasing length, frequency and intensity of heat waves, heavy rainfall, flooding, droughts, intense tropical cyclones, rising sea levels and loss of biodiversity.ⁱⁱ These hazards increase vulnerability to disasters and result in widespread human, material, economic and environmental losses.ⁱⁱⁱ This pattern is expected to continue in the 21st century.^{iv} The effects of the physical consequences – more frequent extreme weather, melting glaciers and shorter growing seasons – are severely undermining food security and efforts to eradicate poverty. Over the long term these effects, combined with factors such as population pressure, are likely to lead to environmental degradation, loss of biodiversity and deterioration in livelihoods, while exacerbating existing and creating new socio-economic tensions.

Climate Change Mitigation and Adaptation

There are two main strategies to address climate change: mitigation and adaptation. *Mitigation* focuses on interventions to reduce greenhouse gas concentrations through measures that cut greenhouse gas emissions or move carbon out of the atmosphere, which can range from investment in clean energies to forest conservation. Mitigation measures aim to stabilize and reduce the amount of greenhouse gas in the atmosphere, in an effort to stop many of the negative impacts of climate change.

However, with sufficient greenhouse gas concentrations already in the atmosphere, some effects of climate change will continue despite mitigation efforts. Therefore, *adaptation* is also essential. It focuses on adapting to a changing climate through adjustments in social, ecological or economic systems to reduce the vulnerability of natural and human systems to the impacts of climate change.

Therefore the challenge facing humanity is to sustain the process of poverty reduction and development while also avoiding greater damage to the environment and adapting to the damage that has already been done. Developed countries must preserve development achievements while focusing more on sustainable development and shrinking their environmental footprints. Developing countries must continue to raise their citizens' living standards and eradicate poverty while containing increases in their footprints. Both must adapt to the damage already done from excessive greenhouse gas emissions and environmental degradation. This is a shared challenge with goals of poverty eradication and sustainable development.

As the international community prepares to tackle these challenges at the United Nations Conference on Sustainable Development (UNCSD), or Rio+20, in June and looks beyond it to agreement on a set of Sustainable Development Goals (SDGs), education is an untapped sector. In the Zero Draft of the conference outcome document, education is positioned as an isolated phenomenon outside of other priority issues including: green jobs and social inclusion, natural disasters, climate change, energy and sustainable

consumption and production. Moreover, the section on education lacks sufficient details, apart from references to the relatively-narrow “education for sustainable development” agenda and promoting universities as models of sustainability.^v The list of possible SDGs within the Zero Draft include: “sustainable consumption and production patterns as well as priority areas such as oceans; food security and sustainable agriculture; sustainable energy for all; water access and efficiency; sustainable cities; green jobs, decent work and social inclusion; and disaster risk reduction and resilience.” Similar priority areas are echoed in the proposal submitted by the governments of Colombia and Guatemala. Education is absent in both lists. While the theme of ‘sustainable livelihoods, youth and education’ has been suggested by the civil society organizations, it is not clear that this topic is being seriously considered by policymakers. This policy brief outlines the ways education is critical to realizing the goals of sustainable development, including the priority issues listed above. It sets forth five priorities that should be incorporated into the Rio+20 discussions if the conference is to set an achievable strategy for sustainable development:

1. Support quality early childhood development and learning opportunities for girls and boys;
2. Ensure that basic literacy and numeracy are learned in school;
3. Enable young people to make the transition to and complete relevant post-primary education;
4. Equip young people with relevant skills for 21st century lives and livelihoods;
5. Make learning spaces safe, climate compatible and sustainable.

The Case for Education in Sustainable Development

Education can be an important component of sustainable development because each of the three pillars of sustainable development – economic growth, social development, and environmental protection – is dependent upon education. In our knowledge-based world, economic development and poverty reduction depend upon an educated and skilled workforce. For instance, in developing countries, one additional year of education adds about 10 percent to a person’s earnings.^{vi} However, it is the cognitive or learning skills of a population, and not simply the number of years in school, which is correlated to individual earning and economic growth.^{vii} Social development is also dependent on education to empower learners and to maximize their capacities, resources and opportunities to fully participate in society.^{viii} Education is critical to environmental protection through teaching and learning environmental stewardship. This includes environmental and climate change education, which promotes new attitudes and skills for environmental protection and diversity and also helps people change consumption and production patterns. Access to quality, relevant education that empowers all, including the marginalized, to utilize environmental resources sustainably is essential to equitable social development and a necessary foundation for sustainable development.

Achieving this quality education for all remains a pivotal goal for global development. While there has been considerable progress in increasing primary school enrollment around the world over the last decade – due in large part to the Education for All and Millennium Development Goals on educational access and equality – children too often leave primary and even secondary school without acquiring the basic knowledge, skills, and competencies needed to grow into healthy adults and lead safe, productive and sustainable lives. In short, there is a global learning crisis underfoot, which affects children and youth who are out of school with limited learning opportunities and also those who are in school but not learning the skills needed for their future. Marginalized groups like girls from poor, rural households and children and youth living in conflict-affected areas are particularly missing out.

Education in relation to Rio's priority thematic issues

Education is a critical cross-cutting issue for many of Rio+20's priority thematic issues. For example:

A green economy and climate change mitigation: The education sector can be engaged in the process of raising awareness, imparting knowledge and sparking behavior change to shift global demand away from resource- and energy-intensive commodities, especially those that contribute to greenhouse gas emissions, as increased knowledge and behavior change are intrinsic outcomes of education.

Natural disasters: Education can help reduce the vulnerability of communities to the impacts of disasters and also to adapt to climate change through integrating disaster risk reduction, environmental and climate change education into curricula. Safe school sites can be selected through participatory risk assessments so new and renovated schools are climate-proofed and multi-hazard resilient. Education systems can work with communities to adapt to seasonality changes caused by climate change by adjusting the school and exam calendar.

Energy: In many countries, educational centers and schools are saving energy while integrating energy conservation and efficiency into course curricula, conducting educational outreach and implementing projects that target energy use. Through basic changes in operations, maintenance and individual behavior, learning centers can reduce energy use and equip teachers and students with skills to make their homes and communities more of energy efficient.

The *Global Compact on Learning*^x has identified the following three priority areas and concrete strategies, which, if given the international community's collective attention, would help to improve educational opportunities and outcomes for children and youth:

1. Support quality early childhood development and learning opportunities for girls and boys.^x High-quality early childhood development activities have long been shown to have a lasting impact on learning. These activities – which include health, nutrition, and stimulation – can also lead to cost-saving efficiencies in primary school by increasing overall retention, reducing attrition, and raising primary school completion rates. Returns are often greatest for children from the most disadvantaged backgrounds. Across countries, access to preprimary programs is highly uneven; within countries, attendance patterns typically show that children from the poorest and most marginalized households are least likely to attend preprimary school.

Evidence-based strategies that support high-quality early childhood development and learning for girls and boys include extending quality early childhood development opportunities, particularly to poor and marginalized communities, and ensuring that girls and boys start school at an appropriate age. This can be accomplished through public policies, campaigns, and tracking that encourage age appropriate school enrollment. The availability of high-quality early childhood development opportunities can also play an important role in age-appropriate enrollment. Public campaigns should educate caregivers and communities about the importance of starting school on time; and financial incentives, such as cash transfers, should be offered to poor families to enroll children, especially girls, at the correct age. Developing and supporting multi-grade and multi-age teaching approaches is also important.

2. Ensure that basic literacy and numeracy are learned in school.^{xi} The ability to read, write, and do mathematics are foundational skills for all future learning. It is crucial to learn these skills early because failing to learn to read is associated with falling further behind each year or dropping out altogether. This link is particularly important for low-income girls and conflict-affected young people who remain the most educationally marginalized. Children whose mother-tongue differs from the language of instruction are further disadvantaged in acquiring these foundational skills.

Strategies to ensure basic literacy and numeracy include prioritizing these skills in the curriculum, through mother tongue-based multilingual education where appropriate, in the lower primary grades. This can be accomplished by maximizing the amount of time spent on learning, including addressing teacher absenteeism, providing training to teachers in effective methods of reading instruction and numeracy, providing appropriate-level reading materials to children and communities, creating a culture of literacy and learning and implementing a comprehensive local language policy.

3. Enable young people to transition to and complete relevant post-primary education.^{xii}

Despite considerable evidence of the many social and economic returns from secondary school, too few girls and boys continue beyond primary school. For those who do, many are not learning the skills they need for their future lives and livelihoods. More young people must be supported in transitioning to post-primary education while simultaneously addressing serious concerns about the relevance of what they learn.

It is necessary to reduce the barriers that prevent girls and boys from transitioning to secondary school and other post-primary educational opportunities. Proven strategies include providing well-targeted, appropriately-structured subsidies for educationally-marginalized groups, creating a safe environment and implementing girl-friendly school policies. It also requires cultivating community support and encouragement for continued learning for both girls and boys, offering second-chance learning opportunities, and providing flexible post-primary models that utilize innovative modes of delivery. Any reform must not only focus on academic skills but also ensure healthy lives, productive work and civic participation. Examples include strengthening the link between post-primary education and improved life and labor opportunities, and facilitating school-to-work and school-to higher education transitions.

There is growing consensus in the education community to embrace an “access plus learning” agenda in order to move these priorities forward. Ensuring that every child is in school and learning is an important step toward sustainable development, but it is not enough. Achieving sustainable development requires a change in the way people think and act; education can play a key role in this transformation. As the discussion around the transition to a green economy accelerates and climate change looms, it is critical to prioritize relevant global citizenship skills and safe, climate resilient and sustainable learning environments. The following two priorities are critical for developed and developing countries alike:

4. Equip young people with relevant skills for 21st century lives and livelihoods.

A central function of education is to foster learning about new subjects. Twenty-first century livelihoods require critical thinking, problem solving, and relevant content knowledge like environmental and climate change education, disaster risk reduction and preparedness, sustainable consumption and lifestyles, and green technical and vocational education and training.

Empowering learners to contribute to sustainable development helps to make education more relevant and responsive to contemporary and emerging challenges. For instance, Rio+20’s focus on a green economy calls for seizing opportunities to advance economic and environmental goals simultaneously. Education can assist in the process of shifting the global demand away from resource- and energy-intensive commodities and towards greener products and technologies, less pollution and sustainable lifestyles. Moreover, restructuring towards a green economy will require transferable skills, ones that are not necessarily linked to specific occupations. Thinking critically, solving problems, collaborating and managing risks and uncertainty are core competencies that are critical for employment in a green economy and living together peacefully in a sustainable society.^{xiii}

Since the effects of climate change are already being felt, the education sector can also play a critical role in teaching relevant skills for successful climate change adaptation and mitigation. Teaching and learning should integrate environmental education, climate change and scientific literacy, disaster risk reduction and preparedness, and education for sustainable lifestyles and consumption. Learners need a basic understanding of scientific concepts, including knowledge of the history and causes of climate change; knowledge of and ability to distinguish between certainties, uncertainties, risks and consequences of environmental degradation, disasters and climate change; knowledge of mitigation and adaptation practices that can contribute to building resilience and sustainability; and understanding of varying interests that shape different responses to climate change and the ability to critically judge the validity of these interests in relation to the public good. Furthermore, evidence shows that educational interventions are most successful when they focus on local, tangible, and actionable aspects of sustainable development, climate change and environmental education, especially those that can be addressed by individual behavior.^{xiv}

5. Ensure that learning spaces are safe, climate compatible and sustainable

To help adapt to climate change, learning spaces should be made safe, disaster resilient and climate compatible through the incorporation of disaster prevention, preparedness, response and recovery strategies for individuals, educational systems and communities. Disaster risk reduction strategies ensure the safety and continuity of education, helping the system to adapt to climate change and reduce the vulnerability of learners. Safe school sites can be selected through participatory risk assessments geared at ensuring that every new school is climate-proofed and multi-hazard resilient. This requires prioritizing replacement and retrofit of unsafe schools and minimizing non-structural risks. A critical element in enhancing resilience is the ability to prepare for and respond to the impacts of climate change. Students, teachers, parents and communities must be involved in practicing early warning, simulation drills and evacuation for expected and recurring disasters. Education systems also need to work with parents and the wider community to adapt as necessary to the seasonality changes caused by climate change through strategies such as adapting the school year, exam calendar and textbook distribution.

To ensure adaptive and safe learning environments, schools can develop contingency plans for continuity of learning in the event of unexpected disasters and/or displacement caused by impacts of climate change. One concrete framework for doing this is the Inter-Agency Network for Education in Emergencies (INEE) *Minimum Standards for Education: Preparedness, Response, Recovery*. This handbook provides guidance on how to prepare for, respond to and recover from disasters in ways that reduce risk, improve future preparedness and lay a solid foundation for quality education. Moreover, safe and adaptive schools can be models for the communities in which they sit. Likewise, contingency planning within schools can provide a positive example that can spread to the broader community.

Additionally, to help mitigate climate change, schools and education institutions should be made sustainable through environmentally sound and carbon neutral policies that promote mitigation through building and site design and maintenance. Helping millions of schools, particularly those in middle and high income countries that use higher levels of energy, reduce their ecological footprint is one way that education policy can contribute to sustainable development. This requires design, building, management (including procurement), and maintenance practices geared toward carbon neutral and environmentally sustainable learning spaces, which integrate green technology to reduce energy consumption. For example, climate change can increase water stress caused by erratic rainfall patterns and create a need for alternative sources of water. Programs for harvesting rainwater can be integrated into schools so that children have a safe and ready supply of drinking water and basic sanitation facilities at school. School-based water and sanitation programs also have the benefit of encouraging parents and the community to support children going to school. To ensure that the climate-specific impacts on the education sector are not overlooked, the education sector needs to be involved in strategic planning in sectors such as water and sanitation, construction and health and hygiene. Such schools are not only a contribution to sustainable development itself, but also contribute to the 'whole school approach' as they act as a resource and good practice model for teaching and learning about sustainability and sustainable consumption.

If these five priorities are moved forward within the larger efforts of education system development in local context-specific manners, the international community will make an enormous contribution in addressing not only the learning crisis that affects the world's poorest children and youth, but also the challenges of teaching future generations about the importance of sustainable development and climate change facing both developed and developing countries alike.

Recommendations

As world leaders prepare to meet at Rio+20 to assess progress toward existing goals on sustainable development, secure renewed political commitment, and influence a new set of sustainable development goals, this five point education agenda should be promoted as one that addresses the three pillars of sustainable development and the conference's theme of the transition to a green economy. There is considerable support for the development of a set of SDGs at Rio+20, or at least the beginning of such a process. The Rio+20 Zero Draft calls for these global SDGs to "complement and strengthen the Millennium Development Goals...in the development agenda for the post-2015 period." The five education priorities detailed in this brief, focused on learning the skills, knowledge, and competencies needed to live healthy, safe, and productive lives, could enable the education sector to have a head start in thinking about how the

SDGs and the post-2015 discussions complement each other through the merging of the sustainable development and poverty eradication agendas. There is an urgent need for greater political attention to education within the context of the Rio+20 draft text and SDG discussions. In particular, policymakers focused on the Rio+20 text and processes should:

- Incorporate the five priority education actions for sustainable development into the Rio+20 outcomes document, calling for its integration into all countries' development plans:
 1. Support quality early childhood development and learning opportunities for girls and boys;
 2. Ensure that basic literacy and numeracy are learned in school;
 3. Enable young people to make the transition to and complete relevant post-primary education;
 4. Equip young people with relevant skills for 21st century lives and livelihoods;
 5. Make learning spaces safe, climate resilient and sustainable.
- Elaborate on education's role as a critical cross-cutting issue for many of the conference's priority thematic issues, such as natural disasters, climate change, green jobs, and energy, within the Rio+ 20 discussions and text.

A well-coordinated effort is needed to move this agenda forward, both within the context of Rio+20 and within the SDG discussions. There are several groups focusing on education inputs into these discussions, such as the U.N. Commission on Sustainable Development's Education Working Caucus, UNICEF, UNESCO, and the Inter-Agency Network for Education in Emergencies, and their collaboration is critical. Given the world's limited natural resources, rising population and the looming challenge of climate change, sustainable development cannot be attained without education that equips learners with the skills needed to live healthy, safe, and productive lives in the 21st century, while also safeguarding the ability of future generations to meet their own needs.

Endnotes

ⁱ *Our Common Future*, Report of The World Commission on Environment and Development (the Brundtland Commission), Oxford, 1987.

ⁱⁱ Intergovernmental Panel on Climate Change, *Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, IPCC Special Report on Extreme Events, November 2011, and *Climate Change 2007: Fourth Assessment Report*, 2007.

ⁱⁱⁱ Ibid.

^{iv} Intergovernmental Panel on Climate Change, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*.

^v Rio+20 Zero Draft, accessed March 2012, page 16.

^{vi} G. Psacharopoulos and H. A. Patrinos, *Returns to Investment in Education: A Further Update*, World Bank Policy Research Working Paper 2881, World Bank, 2002.

^{vii} E. Hanushek and L. Woessmann, *The Role of Education Quality in Economic Growth*, World Bank, 2007. See also: IBS International, *Pathways to Learning in the 21st Century: Toward a Strategic Vision for USAID Assistance in Education*, USAID Educational Strategies Research Paper 2, US Government Printing Office, 2009; E. Jamison et al., *The Effects of Education Quality on Income Growth and Mortality Decline*, National Bureau of Economic Research, 2006.

^{viii} *Report of the World Summit for Social Development*, United Nations, April 1995.

^{ix} *Global Compact on Learning*, Brookings Institution, Center for Universal Education, 2011.

^x *Global Compact on Learning*, Brookings Institution, Center for Universal Education, 2011; pages 17-22.

^{xi} Ibid; pages 23-29.

^{xii} Ibid; pages 30-41.

^{xiii} 21st century learning, or the "21st Century Skills" movement, is a growing global movement to redefine the goals of education, transform how learning is practiced each day, and expand the range of measures in student achievement in order to meet the new demands of the 21st century. A Framework for 21st Century Learning has been developed to describe the skills, knowledge and expertise students must master to succeed in work and life; it is a blend of content knowledge, specific skills, expertise and literacies. For more information, see <http://www.p21.org/>.

^{xiv} A. Anderson. *Climate Change Education for Mitigation and Adaption*, Journal of Education for Sustainable Development, forthcoming June 2012.