UNFCCC and Child Rights
An intergenerational view of global environmental policy

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For: International seminar, Climate Change: Impacts on Children and their Rights
October 26, 2011, IDE, Sion, Switzerland

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EARTH CHILD INSTITUTE

Earth Child Institute works to sustainably combat climate change, deforestation, and water scarcity by investing in hands-on environment and educational projects with and for children, both in and out of schools. Our goal is to engage with and support empowerment of the world's 2.2 billion people under the age of 18 to plant trees, ensure access to safe water, sanitation, clean energy, and nutritious food. Creating new and participatory solutions for community-based sustainable development will reduce risk and increase resilience to the changing global environment.

ECI's mission is implemented through three key program areas:

International policy and advocacy: Informing global environmental governance to acknowledge rights, needs, and capacities of children in REDD+, climate change, water, sanitation and hygiene, the green economy, and children's environmental health.

Participatory environmental program development: Development of games,participatory tools, and curriculum resources; and training of teachers for implementation and use of these resources and models.

Global networking for measurable and meaningful implementation through our 2.2 Billion: the Power of One Child + One Tree = A Sustainable Future for All campaign, creating opportunities for youth to engage with and empower children toward verifiable results.

TIME IS OF THE ESSENCE

> *"Climate change affects every aspect of society, from the health of the global economy to the health of our children. It is about the water in our wells and in our taps. It is about the food on the table and at the core of nearly all the major challenges we face today."*
>
> — United Nations Secretary-General Ban Ki-Moon, World Business Summit on Climate Change, Copenhagen, May 24, 2009

Mother Earth is home to 2.2 billion people under the age of 18 today,[1] all of whom are particularly vulnerable to a changing climate and degrading environmental conditions while simultaneously being essential stakeholders to, and key beneficiaries of, global environmental governance. Nearly half the population of the developing world, and one-third of the world overall, are children and adolescents.[2] In light of these numbers, one might imagine that policymakers the world over would take action to shift the behaviors of their young citizens, to engage, empower, and reduce their vulnerability; yet children represent our planet's largest untapped natural resource with the greatest potential to turn the tides of the environmental crisis facing us today.

Climate change refers to the change in global climate patterns, including a general increase in global temperatures, caused by such unsustainable human practices as deforestation and the burning of fossil fuels to meet increasing energy consumption by industry and individuals. The effects of climate change include chronic and extended droughts, increasing severity and prevalence of natural disasters, rising sea levels, and a host of other potential impacts.

In its Fourth Assessment Report (AR4), issued in 2007, the Intergovernmental Panel on Climate Change (IPCC) presented its most confident and convincing assessment yet on the science of climate change and its implications for all human beings. It reaffirmed that anthropogenic greenhouse gas emissions are the primary cause of recent global warming, and emphasized the dangers to humanity of rising mean global temperatures. It concluded that immediate and sustained action is required to stop climate change if irreversible and potentially catastrophic damages are to be avoided.[3]

Moreover, the IPCC reported that "in recent years, threats to the environment are clearly on the increase, as illustrated, for example, by increasing contamination and over-pumping of aquifers and the degradation of freshwater catchment areas. But the most serious, far-reaching threat is the changing global environment with its complex and comprehensive impact on water resources and its predicted multiplier effect on diarrhoea, malaria and other diseases. The impact of climate change is, and will continue to be, felt most by developing countries and by children."[4]

[1] World Population Foundation, http:///www.wpf.org/reproductive_rights_article/facts#young_people
[2] United Nations Economic and Social Affairs. Population Division, http://esa.un.org/unpp/p2k0data.asp
[3] IPCC, Fourth Assessment Report, Climate Change: The physical science basis, 2007.
[4] IPCC 4th Assessment Report, Working Group II (Impacts, Adaptation and Vulnerability) Summary for Policymakers

Humanity is coming very close to the limits of what is sustainable in many other areas of environmental concern to the health and well-being of children and to the planet.[5] Issues such as deforestation, desertification, loss of biodiversity, resource depletion in farming and fishing as well as pollution of air, water, and land, each present a unique and inter-related environmental challenge that is exacerbated by climate change and contributes to the severity of consequences related to it.[6]

In a "Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation in 2011", the IPCC offers robust evidence and high agreement to the statement that "[i]nequalities influence local coping and adaptive capacity, and pose disaster risk management and adaptation challenges from the local to national levels. These inequalities reflect socioeconomic, demographic, and health-related differences and differences in governance, access to livelihoods, entitlements, and other factors."[7]

Moreover, as the earth gets warmer, heat waves and water shortages will make it difficult to access safe drinking water and sanitation. There will be lower and more erratic rainfall, particularly in tropical and sub-tropical areas. It seems worryingly likely that violent conflicts over water will become more severe and widespread as the average temperatures rise.[8]

Adaptation is a knowledge-intensive undertaking, and access to relevant and usable knowledge is an important prerequisite for success. Uncertainties associated with climate change and its impacts and the societal responses to them, render adaptation necessarily a process, including iterations of several stages in which education is a key component.[9] Therefore, as we break the challenges of climate change and environmental degradation down to their lowest common denominator, most of us can increasingly agree that it is caused by a deficiency in human knowledge about the environment that has led to unsustainable practices, which have gradually spread across the globe in the name of "development." The world's addiction to consumerism has become so ingrained into mass consciousness that many people are no longer able to see the forest for the trees, quite literally. Science now clearly shows that the only way for humankind to survive and to thrive into the future is for every one of us to change our ways and reduce human pressure on the environment. Education must play a vital role in serving as an "insurance policy" against the loss of ecosystem "value and functionality."[10]

CHILD RIGHTS AND THE ENVIRONMENT

Protection of children's human rights and protection of the environment are two concepts that are inextricably linked. While it is universally recognized that poverty is a major cause of human rights violations and is a barrier

[5] IPCC, 2011: Summary for Policymakers. In: Intergovernmental Panel on Climate Change Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation [Field, C. B., Barros, V., Stocker, T.F., Qin, D., Dokken, D., Ebi, K.L., Mastrandrea, M. D., Mach, K. J., Plattner, G.-K., Allen, S., Tignor, M. and P. M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

[6] Alan Dupont and Graeme Pearman, *Heating up the Planet: climate change and security*

[7] Ibid

[8] Lowy Institute Pa United Nations Development Programme (UNDP), 'Chapter Four - Adapting to the Inevitable: National Action and International Cooperation', in *Human Development Report 2007/2008 – Fighting climate change: Human solidarity in a divided world* (November 2007) at p. 186. Available at: http://hdr.undp.org/en/reports/global/hdr2007-2008/chapters/per 12, 2006) at pp. 30-31.Available at: http://www.lowyinstitute.org/Publication.asp?pid=391

[9] UNEP, page 81

[10] Thompson, I., Mackey, B., McNulty, S., Mosseler, A.(2009). Forest Resilience, Biodiversity, and Climate Change. A synthesis of the biodiversity/resilience/stability relationship in forest ecosystems. Secretariat of the Convention on Biological Diversity, Montreal. Technical es.

to sustainable development, the importance of a healthy and safe environment, in light of the current environmental crisis, must now also justly be considered an integral issue when discussing poverty, development, and subsequent effects on children's rights. A safe and healthy environment is fundamental to the human rights and the mental, physical, and spiritual development of the world's children. Without stable and healthy environmental conditions, there is no foundation to support progress or development.

The Convention on the Rights of the Child (CRC) is a primary source for justification of this platform for action.[11] It is in force in virtually every country of the world and provides strong direction in several relevant areas, including with respect to children's rights to health and to nutritious food and clean drinking water, in the prevention of accidents and reducing the risks of environmental pollution, and in the promotion of education designed to develop respect for the natural environment.

The CRC explicitly recognises the importance of the natural environment for the growth and well-being of children (Preamble), and requires the State Parties to take account of the dangers and risks of environmental pollution (Article 24) and to educate children to respect nature (Article 29). Furthermore, the CRC implicitly confirms that a safe environment is a necessary condition for children to realise certain rights. These are the right to life and maximum survival and development (Article 6), the right to the enjoyment of the highest attainable standard of health (Article 24), and the right to an adequate standard of living (Article 27)[12].

The duty of adults to take children's rights into account is well established beyond the CRC, with the World Programme of Action for Youth to the 2000 and Beyond (WPAY), the World Fit for Children (WFFC), the United Nations Millennium Declaration, Agenda 21, and other international instruments and treaties, all of which clearly state that children and young people have the right to participate in public life. They further stipulate that families, communities, national leadership, and international partners have a responsibility to support this participation and to take their views into account when discussing issues that affect their lives.[13]

Ecosystem services are inextricably linked to water and food as well as to the security and health of children, their parents, and the community at large. A strong association can be found between food and water insecurity and access to primary education. More than one-third of all children in the world are malnourished and 6 million children a year die of causes related to malnutrition.[14] According to a study conducted by the University of Roma Tre and the Food and Agriculture Organization (FAO) on nutrition and education, the higher the access to primary education, the lower rural food insecurity. In a rural setting, education is a proven tool for promoting overall food security; a doubling of access to primary education can reduce food insecurity by up to 24 percent.[15]

A child's access to education is closely linked to the breakdown of social and economic structures. One very common reason for non-attendance is deteriorating health and nutritional status of the children. For example,

[11] Convention on the Rights of the Child, accessed at http://www.unicef.org/crc/
[12] Convention on the Rights of the Child, accessed at http://www.unicef.org/crc/
[13] UNICEF, IFRC, WOSM, WAGGGS, International Youth Foundation, International Award Association, World Alliance of YMCAs, World YWCA, Children and Young People: Participating in Decision Making, 2003, p.3
[14] Global Education – Food Security http://www.globaleducation.edna.edu.au/globaled/go/pid/177
[15] Burchi, Francesco and Pasquale De Muro. 2007. "Education For Rural People: A Neglected Key to Food Security." Università degli Studi Roma Tre Working Paper.

research points out the strong effect of childhood undernutrition on primary school enrolment in Ghana.[16] Loss of livelihoods and food security also prevent access to education for many children. In the coastal communities of Azerbaijan, for example, rising sea level of the Caspian Sea resulted in a very significant drop in school attendance. Focus groups conducted with residents indicated that relocation of the schools due to sea level rise, together with deteriorating health of the children, fleeing of the teachers due to economic reasons and financial problems of the family, were the primary reasons for the drop in school attendance.[17]

In line with this emerging evidence, the IPCC states that "[c]loser integration of disaster risk management and climate change adaptation, along with the incorporation of both into local, sub-national, national, and international development policies and practices, could provide benefits at all scales. Addressing social welfare, quality of life, infrastructure, and livelihoods while incorporating a multi-hazards approach into planning and action for disasters in the short term, facilitates adaptation to climate extremes in the longer term, as is increasingly recognized internationally."[18]

To that end, during the 2nd World Summit on Sustainable Development (WSSD) in 2002, education was recognized as a having a major role to play in future sustainability, while studies in countries including India, China, Sri Lanka, and Kenya illustrate how education leads to economic growth.[19] Moreover, the IPCC affirms that measures that provide benefits under current climate conditions and under a range of future climate change scenarios—called "low-regrets measures"—are available starting points for addressing projected trends in exposure, vulnerability, and climate extremes. They have the potential to offer benefits now and lay the foundation for addressing projected changes. Low-regrets measures, which include "better" education and awareness, early warning system,s and access to water supply and sanitation (among others), produce co-benefitsthat help to address other development goals, such as improvements in livelihoods, human well-being, and biodiversity conservation, and help minimize the scope for maladaptation.

Through student leadership, the association between what is taught in the classroom and practical adaptation measures to nurture the local environment and community can also build momentum for change. To illustrate this point, it has been demonstrated that children are effective at teaching and influencing behavior changes in their parents. The city of Los Angeles had an amazing 90 percent compliance when they started their recycling program, as compared to other large cities, which were able to engage less than half of their residents into compliance. What made the difference? Before implementation in Los Angeles, an educational program was conducted in the public schools by a local non-profit organization called TreePeople.[20] This program reached a critical mass of 250,000 elementary school children (approx. 40 percent of all students) over a two-year period. These children in turn educated their parents, thereby ensuring the success of family action when the municipal recycling program began.

[16] Glewwe, P. and H. Jacoby (1995), An Economic Analysis of Delayed Primary School Enrollment and Childhood Undernutrition in a Low Income Country, *Review of Economics and Statistics*, 77(1), pp. 156-69 as quoted in Goodman, D., Iltus, S. Climate Change and Children: A Human Security Challenge, Hellenic Foundation for European and Foreign Policy and UNICEF IRC (ELIAMEP), Nov. 2008
[17] Kudat, A., A. Musayev and B. Ozbilgin, Social Assessment of the Azerbaijan National Environmental Action Plan: A Focus on Community Responses to the Caspian Sea Environmental Disaster. *Social Development Papers*. Paper Number 32, July 1999 quoted in Goodman, D., Iltus, S. Climate Change and Children: A Human Security Challenge, Hellenic Foundation for European and Foreign Policy and UNICEF IRC (ELIAMEP), Nov. 2008
[18] IPCC. 2011.
[19] Little, Angela W. and Andy Green. "Successful globalization, education, and sustainable development."
[20] TreePeople

INTERGENERATIONAL JUSTICE

"Rich and poor alike, adolescents will have to deal with the intergenerational implications of the current economic turmoil, including the structural unemployment that may persist in its wake. They will have to contend with climate change and environmental degradation, explosive urbanization and migration…."

- UNICEF State of the World's Children, 2011

Climate change raises major issues for both international and intergenerational justice. This aspect of the climate change discourse is critical. Most of the GHG emissions that have caused and will continue to contribute to climate change are from high-income countries, and are the by-product of the development process that has distanced higher-income countries from the developing world. Meanwhile, most of the human security risk will be to middle- and low-income countries, including many whose historical and ongoing contributions to climate change are negligible. Developed countries are often better equipped financially and institutionally to adopt explicit measures to effectively respond and adapt to projected changes in exposure, vulnerability, and climate extremes than developing countries. Nonetheless, all countries face challenges in assessing, understanding, and responding to such projected changes.

For many developing countries, particularly Small Island Developing States (SIDS), immediate implementation of adaptation solutions to climate change is crucial. Their high vulnerability to climate-related hazards means that many communities need to come up with and implement innovative adaptation strategies.[21] The capacity to do so is strongly dependent upon each country's ecosystem, and socio-economic, educational, and political structures. A quality, child-centered education that empowers children to identify and solve problems in their communities, whatever they may be, is the highest form of adaptation technology.

Gender is a contributing factor to child vulnerability, since in many places boys and girls have different lifestyles and responsibilities. Young girls, for example, often assist with domestic tasks like fetching water and cooking, whereas boys may assist with herding cattle or working in the market to supplement family income. These differences inevitably point to different types of vulnerabilities for girls and boys in the face of climate change. The workloads of women and young girls also increase disproportionately during drought and in the aftermath of natural disaster. Women and girls who are natural resource laborers (collecting firewood, carrying water, etc.) have to work harder even as their health deteriorates and working conditions worsen.[22]

ENVIRONMENTAL POLICY FRAMEWORKS TOWARD SYSTEMIC CHANGE

The pressing issue of climate change has traditionally been perceived by governments as an ecological or even economic issue, while the social and human rights implications have been given less consideration. However, protecting the environment and providing for the health and development of children are mutually inclusive goals. The engagement and empowerment of children, young people, and their families to become environmental

[21] UNDP EEG BDP, A Toolkit for Designing Adaptation Initiatives, New York, 2010
[22] Nelson, V., K. Meadows, et al. (2002). "Uncertain Predictions, Invisible Impacts, and the Need to Mainstream Gender in Climate Change Adaptations." Gender and Development 10(2): 51-59.

stewards presents a critical strategic opportunity to reduce vulnerability and ensure the resiliency of communities in the face of climate change.

Every country in the world has a formidable challenge ahead as the climate changes. It is a challenge that impacts all sectors of society, the economy, and the environment. But most importantly, the way in which this challenge is addressed will dictate whether the future of all of our children and future generations is secured or diminished.

Rio Conventions

In 1992, more than 100 Heads of State met in Rio de Janeiro, Brazil, at the first UN Conference on Environment and Development (UNCED) for the first international Earth Summit convened to address urgent problems of environmental protection and socio-economic development. Three international treaties were agreed to at the 1992 UNCED. They are: the **UN Framework Convention on Climate Change**,, the **UN Convention to Combat Desertification,** and the **UN Convention on Biological Diversity.** Furthermore, leaders adopted **Agenda 21**, a 300-page plan for achieving sustainable development in the 21st century. The context for the work of the UN Commission on Sustainable Development (CSD) is the implementation of Agenda 21, the Johannesburg Plan of Implementation, and the Barbados Programme of Action for Sustainable Development of Small Island Developing States.

Concluding the 18th session of the Commission on Sustainable Development, on 14 May 2010 in New York, UN Secretary-General Ban Ki-moon affirmed that "Sustainable Development is among the highest priorities for the Secretary-General in 2010. With the 2012 conference on sustainable development, also known as Rio+20, fast approaching, the United Nations is accelerating momentum to also address new and urgent challenges, including reducing greenhouse gas emissions, and strengthening the resilience of vulnerable countries and communities. The Commission on Sustainable Development is the highest political forum within the United Nations for addressing the inter-linkages between these challenges[23]."

Agenda 21

A forward-looking plan of action for sustainable development, Agenda 21 highlighted the importance of expanding children's access to education at international, regional, national, and local levels, and on topics including the environment, with schools serving as hubs for community mobilization around environmental awareness and stewardship. However, while Agenda 21 was remarkably child- and education-friendly, 20 years of political processes have largely failed to translate these principles into the funding and frameworks necessary for systemic action, which when mainstreamed throughout schools all over the world, have potential to bring about sustainable change.

[23] UN DESA, 18 May 2010. http://www.un.org/en/development/desa/news/sustainable/achieving-sustainable.html

Key excerpts from Agenda 21 in relation to children, include:

Chapter 25: Children and Youth in Sustainable Development

- **25.1.2:** "Children not only will inherit the responsibility of looking after the Earth, but in many developing countries they comprise nearly half the population. Furthermore, children in both developing and industrialized countries are highly vulnerable to the effects of environmental degradation.... The specific interests of children need to be taken fully into account in the participatory process on environment and development in order to safeguard the future sustainability of any actions…"

Chapter 25.4: "Expand educational opportunities for children and youth, including education for environmental and developmental responsibility, with overriding attention to the education of the girl child;"

Toward action, Chapter 25 states: "National governments, according to their policies, should take measures to: **a.** Ensure the survival, protection and development of children; **b.** Ensure that the interests of children are taken fully into account in the participatory process for sustainable development and environmental improvement; … **e.** Mobilize communities through schools and local health centers so that children and their parents become effective focal points for sensitization of communities to environmental issues; and **f.** Establish procedures to incorporate children's concerns into all relevant policies and strategies for environment and development at the local, regional and national levels…"

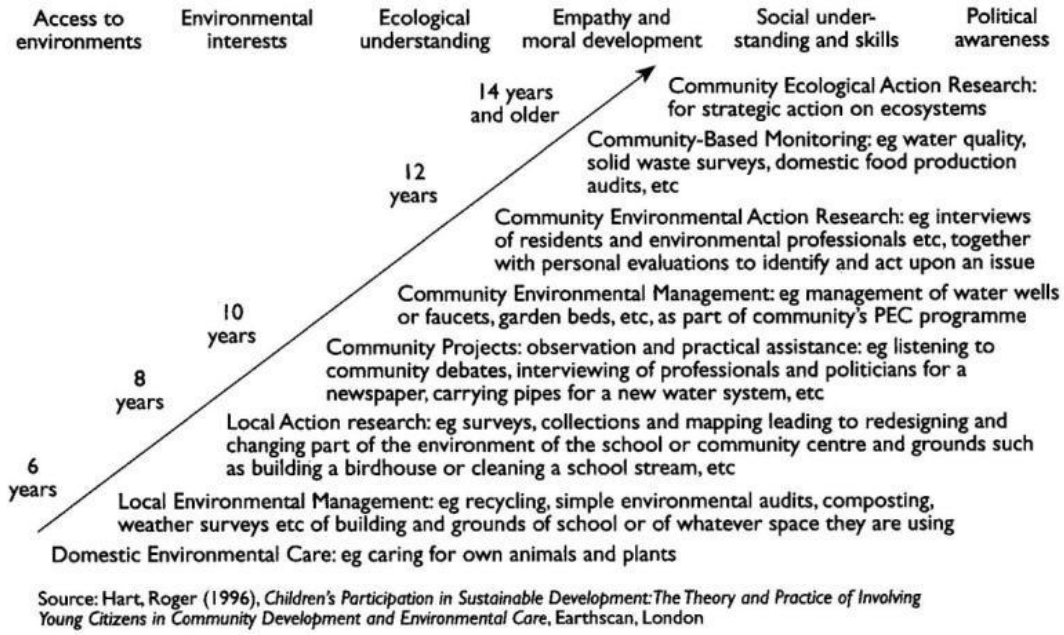
Chapter 36: Education, Public Awareness and Training

5d. "Educational authorities, with the appropriate assistance from community groups or non-governmental organizations, are recommended to assist or set up pre-service and in-service training programmes for all teachers… as well as non-formal educators in all sectors…; 5**e.** Relevant authorities should ensure that every school is assisted in designing environmental activity work plans, with the participation of students and staff. Schools should involve schoolchildren in local and regional studies on environmental health, including safe drinking water, sanitation and food and ecosystems and in relevant activities…"

Major Groups and Constituencies

Although well-intended, the integration of children and youth into one "constituent group" has proven to be flawed in practical application. Chapter 25 of Agenda 21 has largely and unknowingly fostered a barrier to representation and inclusion of children in policy and programming largely because of challenges related to differentiated developmental capacity for adaptation, rights and needs at different stages of development. The figure below from Roger Hart's *Children's Participation in Sustainable Development: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care* (1997) illustrates children's developing capacity to participate in the development and management of environments, demonstrating that from the age of six (or even earlier), there is an interest and capacity in caring for animals or plants. As the child gets

older, their interest and involvement can be broadened to helping with local environmental management, and then to working on local action research and monitoring.



Source: Hart, Roger (1996), *Children's Participation in Sustainable Development: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care*, Earthscan, London

Whereas the CRC defines a child as someone between the ages of 0-18, the UN definition of Youth extends to age 25, a critically important yet vastly different population in terms of capacity and interest, with emphasis on higher education, skills for employability, economic opportunity, and strong desire to build a more sustainable world, among other things. The failure of Agenda 21 to educate youth about environmental stewardship and include them in the innovation and implementation of adaptation strategies is a lost opportunity with major repercussions for the planet.

UNFCCC Articles 3 and 6

> *"The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capacities."*
>
> UN Framework Convention on Climate Change, Article 3

Article 3 of the UNFCCC, as stated above, introduces an overarching lens through which policies and work planning can be construed. It speaks to intergenerational justice, equity, and differentiated responsibilities and capacities, yet is rarely mentioned in practical terms.

Article 6 "Calls on governments to promote the development and implementation of educational and public awareness programmes, promote public access to information and public participation, and promote training of scientific, technical and managerial personnel."

The five-year New Delhi Work Programme (NDWP) was adopted in 2001, aimed at integrating Article 6 activities into existing sustainable development and climate change strategies. It set out to build on actions relating to the UNFCCC's technology transfer and capacity development frameworks. The Subsidiary Body for Implementation (SBI) at COP13 recognized that "the five-year NDWP has proved to be a good framework for action," and adopted the amended New Delhi Work Programme for a further five years. Another review of the programme will be undertaken in 2012.[24]

In terms of adaptation, the Nairobi Work Programme (NWP) on impacts, vulnerability, and adaptation to climate change was adopted at the eleventh session of the Conference of the Parties to the UNFCCC in 2005. The objective of this work programme of the Subsidiary Body for Scientific and Technical Advice (SBSTA) is to assist all Parties, in particular developing countries, including the least developed countries and SIDS, to improve their understanding and assessment of impacts, vulnerability, and adaptation, and to make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical, and socioeconomic basis, taking into account current and future climate change and variability.[25]

At this time, neither the NWP, nor the NDWP make mention of the rights, needs, or capacities of children, nor do they encourage participation of Ministries of Education in adaptation efforts at the country level. Advocacy toward allocation of resources and guidance for implementation of these work programmes in the developing world has been identified as a key objective for a recently established working group on children, which emerged through the Youth NGO (YOUNGO) constituency of the UNFCCC and the UN CSD Major group on Children and Youth.

REDD+

The Reducing Emissions from Deforestation and Forest Degradation (REDD) concept was established by the parties to the UNFCCC in 2005 as a mechanism designed to use financial incentives to reduce the emissions of greenhouse gases from deforestation and forest degradation.[26] In 2007, the Bali Road Map decision enhanced the concept to REDD+, adding consideration for environmental and social risks, noting "the role of conservation, sustainable management of forests and the enhancement of forest carbon stocks in developing countries."[27] One of the most serious challenges to successful implementation of, and therefore investor confidence in, REDD+ at the sub-national scale, is the tendency for projects to generate leakage. In simple terms,

[24] http://unfccc.int/adaptation/items/2973.php
[25] UNFCCC, The Nairobi Work Programme, Making a Difference on the Ground: A Synthesis of Outcomes, good practices, lessons learned, and future challenges and opportunities, 2009, UNFCCC, Bonn, Germany, page 7
[26] UNFCCC. 2005
[27] UNFCCC Bali Action Plan, paragraph 1(b)(iii)

leakage happens when a given area of forest is protected and because of this protection loggers move to an area beyond a REDD+ project area's scope to continue cutting trees and degrading the environment.

In order to ensure that deforestation does not simply move to nearby areas as a result of project activity, existing leakage mitigation initiatives need to be more structured. Educational and economic measures to empower and increase resiliency of forest communities can eradicate primary causes of forest degradation at the source. On a policy level we can refer once again to Agenda 21; Chapter 7.51 encourages countries to "formulate national action programmes to promote and support reafforestation and national forest regeneration with a view to achieving sustained provision of the biomass energy needs of the low-income groups in urban areas and the rural poor, in particular women and children."

OPPORTUNITIES FOR ACTION

> *"The participation of children and young people in local actions addressing health, agriculture and environment as it impacts the survival and development of children involves a partnership across the generations within an atmosphere of mutual trust and the development of shared goals."*
>
> -Biovision Children's Call for Action, Lyon, 14 Mar 2007

National policies and practices that promote investment in human capital and an active citizenry can, in the long run, boost economic growth, reduce poverty, and promote regional peace and stability.[28] New research proves that human capital formation (a population's education and health status) plays a significant role in a country's overall economic development, but that this development is also sustainable when citizens are informed and active participants in their governments.

A quality education at least through the lower secondary level leads not only to higher individual income but is also a necessary (although not always sufficient) precondition for long-term economic growth. Broad-based secondary education and universal primary education is likely to give poor countries the human capital boost necessary to bring large segments of the population out of poverty.[29] A single year of primary school increases the wages people earn later in life by 5-15%. For each additional year of secondary school, an individual's wages increase by 15-25%.[30] We also know that educated communities are far better able to utilize new and emerging technologies that in turn boost productivity, profits, and wages.[31]

Inputs to REDD+ Social and Environmental Principles and Criteria

A critical strategic opportunity exists to insure the resiliency, effectiveness, and overall return on investment in 20-30-year REDD+ projects by funding innovative school-based integrated educational approaches that empower young people to build better futures through life-sustaining values, practical skills and knowledge. These essential capacities will enable forest communities to convert carbon investment funds into things they and the world at

[28] Economic Policy and Equity Conference Issues Paper Washington, DC, June 8–9, 1998.
[29] (International Institute for Applied Systems Analysis - Economic Growth in Developing Countries: Education Proves Key, IIASA Policy Brief # 03.
[30] Global Campaign for Education 2010
[31] Rosenzweig 2010. Microeconomic Approaches to Development: Schooling, Learning, and Growth

large will thrive on—healthy ecosystems, healthy people, and healthy economic opportunities. Such education and economic empowerment of the children of today and tomorrow will mitigate leakage and ensure sustainability in REDD+ project areas, thereby strengthening investor confidence. Allocation of a percentage of REDD+ funds flowing to such integrated school programs will reduce risk and yield social, economic, and environmental benefits for all parties.

There is broad agreement among forest specialists that sustainable and just REDD+ policies and incentives must fulfill criteria for effectiveness, efficiency, and fairness. To be effective and fair, REDD+ policies at all levels must honor the principle of free, prior, and informed consent and respect human rights, including the rights of indigenous peoples, women, and children. The CRC clearly affirms that a child's rights to life, survival, and development should be protected and that actions should be taken in the best interest of the child. Participatory empowering education in REDD+ combined with funding for clean energy, water, sanitation, and locally grown food at school facilities, will make great strides toward fulfillment of these rights and criteria.

Earth Child Institute and Planet2025 Network have developed a discussion paper to make an investment case that introduces a seminal research-based body of work, endeavoring to substantiate the rights and practical value of children and their local actions in economic terms.[32] The intention of the paper is to influence emerging policy decisions toward acknowledgement and investment by leaders of the private and public sectors in support of child-centered, participatory approaches. Conservative findings indicate that if only five percent (5%) of the world's 2.2 billion children were to plant and care for five trees per month, the Internal Rate of Return (IRR) for investors over 25 years is close to 12 percent. Moreover, the amount of trees planted per child and the price at which a ton of CO2 emissions is traded on the EU cap and trade market, emerge quite clearly as the two most important parameters. While the first can be controlled and shows how an increase or decrease in the number of trees has a proportionate effect on the IRR and the CO_2 savings, doubling its effect on the net-present value (NPV).

Correlation between education and preservation of existing forest ecosystems was well documented in a case study conducted in the Tawahka community in Honduras, which found that each additional year of education reduces the amount of old growth forests cut by households by 12%.[33] In Tawahka, 49% of all households cut old-growth rain forests to plant crops. "While there is a 67% probability of cutting with a head of household with no education, there is only a 12.77% probability of cutting with a head of household who is a high school graduate. From its ecosystem services of carbon sequestration, soil and water conservation, and biodiversity, a hectare of old-growth rainforest yields yearly benefits equal to $441 per hectare, thus each additional year of schooling in Tawahka leads to a net benefit of $26.5 per year."[34]

[32] Power of One Child + One Tree: Building the Investment Case Toward a Sustainable Future for All. Dec. 2011. http://www.earthchildinstitute.org/wp-content/uploads/2011/12/Power-of-One-Child-+-One-Tree-Investment-Case.final_..pdf

[33] Godoy, Ricardo, et al. 1998. "The Role of Education in Neotropical Deforestation: Household Evidence from Amerindians in Honduras," *Human Ecology* 26(4): 649-675.

[34] Godoy, Ricardo, et al. 1998. "The Role of Education in Neotropical Deforestation: Household Evidence from Amerindians in Honduras," *Human Ecology* 26(4): 649-675.

Cooperation on the financing and implementation of multiple large-scale tree and forest garden projects at or near schools can be an efficient, cost-effective, win-win approach for people, organizations, and countries to regenerate the planet and its people. Innovative, integrated educational approaches that empower young people to build better futures through life-sustaining values, practical skills, and knowledge enhance *effectiveness, efficiency, and fairness* and enable the scale-up and replication of such cooperative efforts on a global level.

Review of the New Delhi Work Programme (Article 6)

Parties to the UNFCCC have developed a Terms of Reference to evaluate the implementation of the amended New Delhi Work Programme and will be accepting inputs through February 2012; they also will be assessing the essential needs for, potential gaps in, and barriers to the implementation of the amended NDWP.

The Terms of Reference states:
"**4.** In reviewing the implementation of the amended NDWP and developing recommendations for a successor work programme on Article 6 of the Convention, the following aspects, *inter alia*, should be kept in mind: **(a)** Strengthening the bottom-up approach and the active participation of women, youth, the media and other relevant stakeholders in the climate change process; **(b)** Incorporating gender perspectives in Article 6 related activities."

This review offers a landmark opportunity to specifically advocate for and seek note of the active participation of "women, youth, the media," et al. in the NDWP as well as to influence emerging national and international policy at COP18 in Doha, Qatar, in December 2012.

Rio+20 Earth Summit

By 2025, today's children will represent more than half of the world's workers and leaders. A critical strategic opportunity exists to "insure" the resiliency, effectiveness, and overall return on investment related to carbon markets and climate change adaptation through innovative formal and non-formal participatory educational approaches, which nurture and empower children to live in harmony with one another and with the earth.

As we approach the 20th anniversary of Agenda 21, it is imperative that world leaders and policymakers acknowledge the increasingly urgent call to take action with and for children. Efforts to engage with and empower the world's 2.2 billion citizens under the age of 18, who comprise nearly a third of all humanity, through the implementation of Agenda 21's commitment to children is essential and overdue. For example, Chapter 25 states that "the involvement of today's youth in environment and development decision-making and in the implementation of programmes is critical to the long-term success of Agenda 21." Yet, we point out that someone who was newly born when the nations of our world adopted this important document is now at the age of maturity, and is faced with an environmental, economic, and social crisis that might have been different today had these important commitments to our children been realized in decades past..

The engagement of children and young people in their communities is directly related to Rio 2012's green economy theme, which addresses sustainable development and poverty eradication. The conference will aim to incorporate long-term environmental approaches into all levels of policymaking as well as emphasize the need to converge economic and environmental goals in order to achieve Agenda 21's objectives. As stated in the conference's description, this success will require "intragenerational and intergenerational equity.". Investments

in green economy, when combined with investments in life skills-based environmental education from an early age, will ensure greater returns. Such education will result in a more qualified and informed citizenry that can ensure effective sustainable development and will attract investments that make strides toward poverty eradication and robust social, economic, and environmental conditions for all people.

Climate Investment Funds (CIF)

"Long-term climate finance is an essential investment for the world's children. Without the finance for adaptation and mitigation, many children will see their basic rights to health, education and well-being threatened by climate change. It is therefore vital that developed countries fulfil their Copenhagen promise of raising 'new and additional' climate finance of $100 billion per year by 2020."[35]

-UNICEF UK, 2011

The *Clean Technology Fund* and *Strategic Climate Fund* are development bank mechanisms designed to help developing countries pilot low-emissions and climate-resilient development. With CIF support, 45 developing countries are piloting transformations in clean technology, sustainable management of forests, increased energy access through renewable energy, and climate-resilient development. The Forest Investment Programme (FIP) of is considered to be "a learning tool that initiates and facilitates transformational change in forest related policies and practices in developing countries."[36] Similar to the case study showing correlation between education level and deforestation, a project evaluation conducted by Maria Fernanda Gebara for CIFOR in Juma, Brazil, found that the most concrete benefit of Brazil's first REDD+ project to date had been the provision of education and community-based behaviour change through the main school of the project.[37] Paradoxically, however, CIF projects have yet to recognise the transformational capacity of the children in most participating countries, which is yet another lost opportunity.

Investment in integrated child-centered approaches to environmental and climate change education along with support for further research and development of this concept are crucial to achieving the goal of recognizing the rights of children as key stakeholders in our environmental crisis. Youth participation is an absolutely necessary component of any solution working towards the mitigation of climate change effects and environmental degradation.

[35] Jazmin Burgess The $100 billion question: How do we secure a climate-resilient future for the world's children? For UNICEF UK
[36] Climate Investment Funds, FIP http://www.climateinvestmentfunds.org/cif/node/5