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IS NEWER TECHNOLOGY ALWAYS BETTER?:

WHY INDIGENOUS PEOPLES' TECHNOLOGY SHOULD BE INCORPORATED INTO THE INTERNATIONAL FIGHT AGAINST CLIMATE CHANGE

by Ashley Gardana*

In 2010, with the aim of deviating from “business as usual,”¹ the member states of the United Nations Framework Convention on Climate Change (“Convention”) gathered in Cancun, Mexico.² The Convention currently consists of two tracks, the Ad Hoc Working Group under the Kyoto Protocol (“AWG-KP”)³ and the Ad Hoc Working Group on Long-term Cooperative Action (“AWG-LCA”).⁴ The latter track agreed that developing countries would take on a greater responsibility in climate change mitigation.⁵ Many of these countries already play a key role in the mitigation effort by voluntarily participating in projects.⁶ Now they have agreed to further their role under the AWG-LCA by implementing nationally appropriate mitigation actions (“NAMAs”) for sustainable development⁷ and outlining a national strategy for reducing emissions from deforestation and forest degradation (“REDD”).⁸ Developed countries, under AWG-LCA, will continue to provide financial, technological, and capacity-building support for both projects.⁹ However, many climate change programs involving outside investment have resulted in violations to the rights of indigenous peoples,¹⁰ such as forced relocation or loss of sacred land.¹¹ In an effort to prevent further violations, the developing countries should consider investing foreign funds in indigenous technologies when implementing their NAMA and REDD Agreements.

Indigenous technology stems from traditional ecological knowledge.¹² This specific knowledge is a collection of “botanical, zoological, hydrological, cultural, and geographical knowhow . . . that has developed over time, and that continues to develop.”¹³ Implementing traditional ecological knowledge has the potential to result in carbon sequestration, forest protection, renewable energy production, and land rehabilitation.¹⁴ The technologies derived from this knowledge have proved to be environmentally sustainable for eons.¹⁵ Moreover, the indigenous technologies are evolving to combat climate change impacts.¹⁶

Simona Gomez Lopez, a representative from a Mexican forest community explained how her village evolved their cooking methods to mitigate climate change during the opening plenary of the Sixteenth Conference of the Parties in Cancun, Mexico.¹⁷ The community recognized the forest warming, the rains starting earlier, and the rivers drying up.¹⁸ The village also noticed that their traditional use of wood for cooking, which required two to three truckloads of wood per family, was significantly contributing to deforestation.¹⁹ To mitigate their contribution to climate change, the community created an environmentally

friendly kiln and now has eight for regular use.²⁰ These kilns require approximately eighty percent less wood.²¹

Indigenous technology, which can help mitigate climate change, is also a valuable tool for reforestation and biodiversity conservation projects.²² For example, the indigenous peoples in the Chittagong Hill Tracts of Bangladesh devised new sustainable forest management practices, which expanded twenty acres of forest to one hundred acres.²³ Additionally, the Serangan community of Bali rehabilitated their coral reefs and mangrove forests, and managed to plant fifteen thousand pieces of coral in various coastal regions of Indonesia.²⁴ This collection of knowledge is a valuable resource that developing countries should incorporate in the NAMA and REDD projects as appropriate.²⁵

Incorporating indigenous technology into mitigation and adaptation efforts will help alleviate the obstacles other climate change programs face.²⁶ Certain programs under the Kyoto Protocol’s Clean Development Mechanism (“CDM”) caused significant threats to indigenous peoples who refused to hand over their territories for the purpose specified in the projects.²⁷ The CDM is considered a success.²⁸ However, because developed countries meet their emissions targets by designing projects that mitigate climate change in developing countries,²⁹ they have such a strong incentive to maximize the emission reductions yielded from these projects that the effects on local populations are often ignored.³⁰ For instance, one CDM project included hydroelectric dams, which impacted river ecosystems and required relocation of an entire indigenous community.³¹ Conversely, traditional ecological knowledge employed in the Indian Himalayan region utilizes hydro-energy from the hill streams and rivers through traditional watermills.³² Placing the financial support of developed countries in technology derived from traditional knowledge can help maintain indigenous communities’ continued existence with sustainable means.

Implementing the Cancun Agreements with traditional ecological knowledge also upholds the general principles developed from the United Nations Declaration on the Rights of Indigenous Peoples (“Declaration”).³³ While not a binding treaty, the standards of the Declaration are widely accepted and incorporated into policies and programs.³⁴ The preamble of the Declaration, “[r]ecogniz[es] that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable

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development and proper management of the environment.”³⁵ Investing in available indigenous technologies while respecting indigenous rights can help developing countries fulfill their obligations under the AWG-LCA.

The indigenous communities are the most vulnerable to not only climate change impacts, but the mitigation measures as well.³⁶ Although the Convention has begun to recognize

indigenous peoples, “*cooperative action*” within the Ad Hoc Working Group on Long-Term *Cooperative Action* requires improvement.³⁷ Incorporating proven and available indigenous technologies can provide nationally appropriate mitigation actions for sustainable development and reforestation projects within developing countries while still respecting the rights of indigenous peoples.



Endnotes: Is Newer Technology Always Better?

¹ UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, CLIMATE CHANGE: IMPACTS, VULNERABILITIES AND ADAPTATION IN DEVELOPING COUNTRIES 5 (2007), <http://unfccc.int/resource/docs/publications/impacts.pdf>.

² The United Nations Climate Change Conference in Cancun, COP 16 / CMP 6, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/meetings/cop_16/items/5571.php (last visited Feb 22, 2011).

³ Kyoto Protocol to the United National Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22, <http://unfccc.int/resource/docs/convkp/kpeng.pdf>.

⁴ United Nations Framework Convention on Climate Change, Bali, Indon., Dec. 3-15, 2007, *Dec. 1/CP.13 Bali Action Plan*, in Rep. of the Conf. of the Parties on its thirteenth sess., U.N. Doc. FCCC/CP/2007/6/ Add.1 (Dec. 2007), <http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf>.

⁵ United Nations Framework Convention on Climate Change, Thirteenth Session of the Ad Hoc Working Group on Long-term Cooperative Action, Cancun, Mex., Nov. 29-Dec. 10, 2010, *Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention*, FCCC/AWGLCA/2010/L.7, ¶¶ 48, 70 (Dec. 10, 2010), <http://unfccc.int/resource/docs/2010/awglca13/eng/107.pdf> [hereinafter AWG-LCA Outcome].

⁶ Christina Voigt, *The Deadlock of the Clean Development Mechanism: Caught Between Sustainability, Environmental Integrity and Economic Efficiency*, in CLIMATE LAW AND DEVELOPING COUNTRIES LEGAL AND POLICY CHALLENGES FOR THE WORLD ECONOMY 235 (Benjamin J. Richardson et al. eds., 2009) (recognizing the most notable as the Clean Development Mechanism, Community Development Carbon Fund, and the Global Environmental Facility).

⁷ See AWG-LCA Outcome, *supra* note 6, ¶ 48.

⁸ *Id.* ¶ 70.

⁹ *Id.* ¶ 52.

¹⁰ United Nations Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, U.N. GAOR, 61st Sess., 107th plen. Mtg., U.N. Doc. A/RES/61/295 (Sept. 13, 2007) [hereinafter UNDRIP], http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf.

¹¹ Melissa Farris, Comment, *The Sound of Falling Trees: Integrating Environmental Justice Principles into the Climate Change Framework for Reducing Emissions from Deforestation and Degradation (REDD)*, 20 FORDHAM ENVTL. L. REV. 515, 517 (2010).

¹² *What is Indigenous Knowledge?*, WORLD BANK, <http://www.worldbank.org/afr/ik/basic.htm> (last visited Jan. 14, 2010) (discussing significant contributions to global knowledge that have originated from indigenous people such as medicinal properties, pastoralist practices, and architecture).

¹³ Terri Hansen, *Traditional Ecological Knowledge Can Guide Community Adaptation and Resilience*, MOTHER EARTH J., Nov. 24, 2010, <http://mother-earth-journal.com/2010/11/traditional-ecological-knowledge-can-guide-community-adaptation-and-resilience/>.

¹⁴ KIRSTY GALLOWAY McLEAN, UNITED NATIONS UNIVERSITY, ADVANCE GUARD: CLIMATE CHANGE IMPACTS, ADAPTATION, MITIGATION AND INDIGENOUS PEOPLES – A COMPENDIUM OF CASE STUDIES 19 (2010), http://www.unutki.org/downloads/File/Publications/UNU_Advance_Guard_Compendium_2010_final_web.pdf.

¹⁵ Eric Kwa, *Climate Change and Indigenous Peoples in South Pacific: The Need for Regional and Local Strategies*, in CLIMATE LAW AND DEVELOPING COUNTRIES LEGAL AND POLICY CHALLENGES FOR THE WORLD ECONOMY 102 (Benjamin J. Richardson et al. eds., 2009).

¹⁶ See McLEAN, *supra* note 14, at 20.

¹⁷ Simona Gomez Lopez, Representative of the Indigenous Peoples of Mexico, Address at the United Nations Convention on Climate Change Conference in Cancun, 16th Sess., 1st plen. mtg. (Nov. 29, 2010).

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

²² See McLEAN, *supra* note 14, at 6.

²³ *Id.* at 61.

²⁴ *Id.* at 67.

²⁵ *Id.* at 6.

²⁶ *Id.*

²⁷ *Id.*

²⁸ *CDM Statistics*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, <http://cdm.unfccc.int/Statistics/index.html> (last visited Jan. 14, 2011).

²⁹ Damilola S. Olaquyi, *Beautifying Africa for the Clean Development Mechanism: Legal and Institutional Issues Considered*, in CLIMATE LAW AND DEVELOPING COUNTRIES LEGAL AND POLICY CHALLENGES FOR THE WORLD ECONOMY 262 (Benjamin J. Richardson et al. eds., 2009).

³⁰ See Voigt, *supra* note 6, at 238.

³¹ *Id.*

³² See McLean, *supra* note 14, at 20.

³³ UNDRIP, *supra* note 10; see also Siegfried Wiessner, *United Nations Declaration on the Rights of Indigenous Peoples-Introduction*, UNITED NATIONS AUDIOVISUAL LIBRARY OF INTERNATIONAL LAW, http://untreaty.un.org/cod/avl/ha/ga_61-295/ga_61-295.html (last visited Mar. 2, 2011).

³⁴ Wiessner, *supra* note 33.

³⁵ See UNDRIP, *supra* note 10.

³⁶ MIRJAM MACCHI ET AL., INT’L UNION FOR THE CONSERVATION OF NATURE, INDIGENOUS AND TRADITIONAL PEOPLES AND CLIMATE CHANGE 15 (2008), http://cmsdata.iucn.org/downloads/indigenous_peoples_climate_change.pdf.

³⁷ Stanley K. Riamit, Tebtebba Foundation, Statement on behalf of the International Indigenous Peoples’ Forum on Climate Change, Intervention before the United Nations Framework Climate Change Convention (Dec. 10, 2010), http://unfccc.int/files/meetings/cop_16/statements/application/pdf/101210_cop16_hls_iipfcc.pdf (emphasis added).