



Climate and Agriculture

KØBENHAVN 2009 COPENHAGEN

Climate Inequity

Climate change has been put forth largely as a technological problem: it is the coal plants, gas-guzzling vehicles and energy-intensive buildings that are the issue. The solutions being proposed are largely technological as well: carbon capture, resurgence of nuclear plants, clean coal and genetically modified cows. While useful to a point, purely technological solutions are inadequate to fully address the historical and justice-related issues of climate change.

Instead of a strictly technological orientation toward climate change, we posit a more robust understanding that envelopes climate change as not only an environmental problem but one of social equity as well. Climate change is the symptom of a larger crisis that has been in the making for a long period of time and has resulted in extreme social and economic inequality—both domestically and internationally.

A Brief History: Creating Climate Change

The wealthiest nations, according to the Human Development Report, are responsible for “about 7 out of every 10 tonnes of CO₂ that have been emitted since the start of the industrial era.”¹ Today, in the U.S., the average person is responsible for more than 20 metric tons (1 metric ton = 1 tonne) of CO₂ per year.² In contrast, those countries on the bottom of the U.N. Human Development Index, emit less than .1 metric ton per year.³ This is directly attributable to the energy and economic infrastructure across societies. The human side of the climate calculus is equally as stark. It is estimated that more than one-quarter of the population of developing countries, or 1.4 billion people, are living in extreme poverty (“a dollar a day”).⁴ World Development Indicators (2008) indicate that 2.5 billion of the

world’s population lives on less than \$2.00 per day.⁵ Clearly, Agarwal and Narain (two leading researchers/activists from India) were correct when they stated that global warming occurs in an unequal world.⁶

For some in the international policy arena, the solution to these vast inequities has been to promote globalization and market liberalization (that is, the industrialized country model), to nearly every region in the world. Even as the issue of rising CO₂ is dominant on the international climate agenda, the World Bank’s International Financial Corporation (IFC) increased its lending for fossil fuel projects 165 percent in FY2008. On the whole, “the World Bank Group increased its fossil-fuel lending by 60 percent in the same period.”⁷ Yet, these solutions and the condition of extreme inequity continue to be obfuscated as many in the industrial world dare not ask the critical question: emissions for whom and what? Can we really regard GHGs emitted from subsistence farmer’s livestock equivalent in nature to GHGs emitted for sports cars and 10,000 square foot single family homes? By focusing the conversation strictly on the global quantity of GHGs without regard for social realities, we reinforce inequity.

Moreover, there is an added problem. As this model of development is transferred to other regions, the same destructive accompaniments are resulting: degradation of air and water; commodification of resources and removal of Indigenous peoples from their homelands; and exploitation of low-wage workers. This will inevitably lead to a similar upward trajectory in greenhouse gas emissions.

The Forgotten History

In the United States, industrialization was fueled by the utilization of fossil fuels. Consumption of coal and petroleum increased exponentially and was accompanied by the rapid deforestation of the continent. On the human and environmental side of industrialization was the use of people as low-wage labor (and slaves); clearing of forests; removal of Indigenous populations; and environmental degradation resulting from heavy pollution of rivers and air. The consequence is clear: humans are changing the natural world.

As the politics of U.S. climate policy continue to unfold, the historical realities of unequal development are demonstrating that the nation is not yet ready to proverbially confront its own demons. While there is a certain proportion of the population in the United States, and among the global elite, that enjoy the fruits of a highly resource-intensive energy and agricultural system, the fact is that the social and physical infrastructure for such benefits has been built upon the exploitation of people and nature. In nearly every sector, from housing and transportation to forestry and mining, the expansive growth in wealth has its dark underbelly.

It is, in fact, prophetic that 150 years after the intended eradication of the Indigenous commons in the United States, the same philosophy underlies the industrialized world's approach to climate change. Speaking of the primitive nature of Indigenous peoples, then Senator Henry Dawes proclaimed, "unless some system is marked out by which there shall be a separate allotment of land to each individual [...] you will look in vain for any general casting off of savagism. Common property and civilization cannot co-exist."⁸ With the transformation of nature from commons to commodity, the devastation that fell upon Native people and the ecosystem is all too clear. The expropriation of nature from Indigenous peoples was deliberate. By mid-19th century, 420 million acres of land (or 22 percent of the continental areas) had been appropriated from Indian tribes for an average of 7.4 cents per acre.⁹ Clear cutting of forests (now referred to as carbon sinks) for agriculture and mining of energy resources became the symbolic and material representation of modern civilization. The natural resources on Indigenous lands were immediately put into production. By the beginning of the 20th century, the Oklahoma territory produced "approximately 130 billion barrels of oil annually, and 39 corporations were extracting an average of 1.5 million tons of coal per year in the Choctaw nation alone."¹⁰

However, no one is immune from the destructive tendencies of this development path. Yesterday's beneficiaries become today's victims. Agriculture and farming has been captured by big agribusiness companies that have pushed for fewer, larger farms. Between 1940 and 1970, farmers went from 18 percent to fewer than 5 percent of the U.S. labor force.

Anuradha Mittal of the Oakland Institute writes, "In the 1930s, 25 percent of the U.S. population lived on the nation's 6 million farms. Today America's 2 million farms are home to less than 2 percent of the population. There are more people behind bars than behind the wheel of a tractor! Small family farms have been replaced by large commercial farms, with 8 percent of U.S. farms accounting for 72 percent of sales."¹¹ The trend continues, "between 1994-1996, about 25 percent of all U.S. hog farmers, 10 percent of all grain farmers, and 10 percent of dairy farmers went out of business."¹² In the globalized economy, small-holder farmers receive a miniscule portion of the international price of the commodity.

Marketing Nature

As climate negotiations for a post-Kyoto agreement are underway, the implementation of market-based "flexibility mechanisms" remains a cornerstone of developed countries' policy agenda. Déjà vu. For Indigenous peoples, the establishment of Reducing Emissions from Deforestation and Degradation (REDD) is a reminder that climate change is now the vehicle for global disenfranchisement and exploitation. The intent of REDD is to assist developing countries in reducing deforestation by creating a market of carbon credits generated from activities that keep forests standing.¹³ Now proud owners of carbon credits, governments, businesses and non-governmental organizations who purchase these activities can claim the credits as reductions in their emissions inventories or trade them in the carbon markets that were developed under the Kyoto Protocol.

Ironically, a new market is created globally precisely because industrialized countries like the U.S. have denuded their landscape (carbon sinks). Forests, on a global scale, provide for the livelihoods of 240 million people and this sector accounts for more than eight percent of developing countries' GDP. This includes access to fishing, biomass for cooking and heat, and subsistence foods. Yet, global forest cover has dropped by at least 20 percent since the times of modern agricultural systems, with much of the historic deforestation having occurred in industrialized countries. Ironically, the forest area of industrial countries has increased over the past three decades, but has declined by almost 10 percent in developing countries.¹⁴ This trend underlines the importance of how the global conversation around reforestation is framed and the necessity of acknowledging historic versus recent deforestation when formulating climate policy around land use. It is for these reasons that the Indigenous Peoples Global Summit on Climate Change produced the Anchorage Declaration, which in part states: "All initiatives under Reducing Emissions from Deforestation and Degradation (REDD) must secure the recognition and implementation of the human rights of Indigenous Peoples, including security of land tenure, ownership,

recognition of land title according to traditional ways, uses and customary laws and the multiple benefits of forests for climate, ecosystems, and Peoples before taking any action.”

There is no doubt that reducing the destruction of forests is a valued goal. The issue is not whether or not to save the forests. Rather, the question is whether, given historical experience, the market is the proper vehicle for their global preservation and maintenance, and for the well-being of communities who rely on forests for their livelihood.

Urban Inequity

The inequity of our social and environmental history is not isolated to rural development. Urban development and the rise of industrial cities cannot escape the equity lens. For this, it is instructive to look at the U.S. during the decades following World War II, when the economic engine of the nation was expanding at unprecedented levels. As we are now aware, this economic boon was accompanied by an equivalent increase in the emissions of climate inducing greenhouse gases. The infrastructure of two of today’s major greenhouse gas emitting sectors—the building sector and the automobile-based transportation system—were built with massive public and private investment. Through the Federal Housing Administration over 35 million home mortgages and 47,205 multifamily mortgages were insured since 1934.¹⁵ A massive system of roads and highways were also constructed (and in the process created metropolitan sprawl and converted prime agricultural land into suburban development). Undoubtedly, the post-War boom demonstrated extraordinary economic capacity but the environmental consequences of this public and private investment have become all too apparent.

According to the U.S. Department of Energy, the building sector comprises over 38 percent of the country’s GHG emissions¹⁶ and 28 percent¹⁷ of its energy consumption, while the transportation sector accounts for approximately one-third of its GHG emissions and 34 percent¹⁸ of its energy consumption. During the period between 1949 and 1970 residential energy for transportation doubled and residential consumption nearly tripled. This environmentally unsustainable infrastructure and the social investment that made it possible, was also responsible for substantial inequalities.

As the opportunities for some Americans expanded, and the suburban house-with-a-picket-fence ideal came within the grasp of the burgeoning middle class, other communities were deliberately segregated from these same opportunities. Blinded by the need for more is better, and newer is improved, public programs greatly expanded investment in new housing, diverting capital out of older cities and rural communities. Codes prohibited neighborhood “integration”¹⁹ through racial

covenants, redlining and housing regulation so that by the 1970s²⁰ less than 2 percent of publicly subsidized housing went to people of color. Redlining—where banks literally drew red lines around areas that, by their estimation, were not deserving of loans—further diverted much needed capital from city neighborhoods to suburban homeowners and businesses.²¹ The national highway system in city after city was planned and engineered directly through low-income and communities of color, not only destroying their homes and businesses, but the social networks that made them vibrant and resilient. In the end, this highly energy-intensive transport system also served as a segregation mechanism. Present today are the ramifications of policies that, in a critical way, created a human settlement pattern of high energy and carbon intensity and class and racial segregation.

What does this have to do with climate change? The issue of energy burden within poorer communities is a structural issue that will require structural solutions. Income plays a significant role in determining energy consumption and greenhouse gas contributions both within and across countries. In the U.S., the lowest-income households consume only a fraction of their upper income counterparts, and the energy consumption-GHG contribution gap is widening. Given these capital deprivation and historical segregationist policies, it should be of no surprise that communities of color are now living in drafty housing that is highly energy intensive and which results in ever-increasing energy burdens, with their homes utilizing more energy per square foot than an average newer home.

While the suburban middle class may consume higher overall levels of energy due to the size of their homes, and therefore produce larger carbon footprints, low-income families actually pay more for using less. On average, about 16 percent of a low income family’s income goes toward paying for energy, compared to the general population average of 5 percent.²²

Formulating a Comprehensive and Just Climate Policy Framework

At both a domestic and international level, there is extreme inequity in terms of who contributes to climate change and who benefits from the highly GHG-intensive development patterns. When we talk about climate change and equity, and issues of low-income communities and the poor, we need to move beyond the traditional charity model. We must shift from viewing the government response to assist poor communities as a handout and subsidies to the wealthy and corporations as development. This requires acknowledging the historical structural policies that have created much of the disparities in development, energy use and greenhouse gas emissions we see today.

Many of the dominant climate policy proposals perpetuate the status quo. New climate solutions focus on technology-based greening. These include replacing coal with nuclear; replacing low-gas mileage SUVs with energy-efficient vehicles; and building large-scale wind and solar farms. Unfortunately, what remains is the unequal access to transportation; mining and degradation of Indigenous lands; energy intensive industrial agriculture; and new financial growth opportunities for large corporate investors. Drawing from the market-based policy regime, these responses to climate change generally rely on the mythic free trade rhetoric or the technofix approach. They also mask the true social and economic reality that belies these myths. While each American averages 20 metric tons of CO₂ per year to maintain the domestic economy, most have no knowledge of this fact. Our societal role has become that of consumers, unaware of the resource degradation, pollution, human toll and other structural ramifications of our purchases on other sectors of society.

If climate change is truly to be addressed, the brown economy, that is an economy based on wasteful and polluting activities benefitting the few, must be replaced with a green economy benefitting the many. Effective climate policy requires actions that result in real benefits at the local community level in housing, jobs, sustainable livelihoods and community infrastructure. This will require a realignment of public dollars (at all levels) towards localized initiatives and a move toward policy structures that are less market- and commodity-based and more regulatory and commons-based. Economists have found that commons-based structures have been successful in managing shared spaces, challenging a strictly commodity-based approach.³

At their base, future climate proposals must acknowledge the historically unequal nature of past energy and infrastructure policies and be evaluated through an equity lens. We must remember that the two are intimately linked: the production of climate change and creation of social inequity went hand in hand; thus robust, long-lasting solutions to climate change must inherently be equitable in order to be sustainable. In current climate policy discussions, where the gaps between equitable climate policy and acceptable climate policy are acknowledged, justice advocates are often admonished with the phrase, "Don't sacrifice the good for the perfect." Unfortunately, as history has proven, those making the sacrifice within the space between the "perfect" and the "good" are the poor.

References

1. United Nations Development Programme, Human Development Report 2007-2008, Fighting climate change: Human solidarity in a divided world (New York: UNDP, 2007), 41.
2. John Byrne, Lado Kurdgelashvili and Kristen Hughes. "Undoing Atmospheric Harm: Civil Action to Shrink the Carbon Footprint." Peter Droege eds. *Urban Energy Transition: From Fossil Fuels to Renewable Energy* (Oxford, UK: 2008) 27-53. John Byrne, Leigh Glover, et al. "Reclaiming the Atmospheric Commons: Beyond Kyoto." V. Grover, ed. *Climate Change: Five Years after Kyoto*. (Enfield, NH: Science Publishers, 2004) 429-452.
3. United Nations Development Program. Human Development Index. Retrieved at <http://hdr.undp.org/en/statistics/>; World Resources Institute Climate Analysis Indicator Tool. Retrieved at <http://cait.wri.org/>
4. The World Bank, 2008 World Development Indicators, Poverty data, A supplement to World Development Indicators. (Washington DC: The World Bank, December 2008) 1.
5. *Ibid*, page 10.
6. Agarwal, A, and S Narain, *Global Warming in an Unequal World: A Case of Environmental Colonialism*, (New Delhi, India: Centre for Science and Environment, 1991).
7. Bank Information Center, "World Bank's lending for fossil fuel skyrockets as it positions itself as the 'climate bank'" (World Bank Information Center: July 23, 2008) <http://www.bicusa.org/en/Article.3840.aspx>
8. Quoted in Ronald Takaki, *Iron Cages: Race and Culture in 19th Century America*. (New York, NY: Alfred A. Knopf, 1979).
9. John Byrne, Steven M. Hoffman and Cecilia Martinez. "Environmental Commodification and the Industrialization of Native American lands." Proceedings of the 7th Annual Technological Literacy Conference held by the National Association of Science, Technology and Society. (Alexandria, VA: February 1992). Russel Lawrence Barsh. "Indian Resources and the National Economy: business Cycles and Policy Cycles." *Policy Studies Journal*, Volume 16, No. 4 (summer): 798-825.
10. John Byrne, Steven M. Hoffman and Cecilia Martinez. "Environmental Commodification and the Industrialization of Native American lands." Proceedings of the 7th Annual Technological Literacy Conference held by the National Association of Science, Technology and Society. (Alexandria, VA: February 1992). Marjorie Ambler, *Breaking the Iron Bonds: Indian Control of Energy Development*, (Lawrence, KS: University of Kansas Press, 1990).
11. Anuradha Mittal "Food Sovereignty: A New Farm Economy to Challenge Economic Globalization," *The Oakland Institute*. XI World Congress on Rural Sociology, (Trondheim, Norway: July 26, 2004) <http://www.oaklandinstitute.org/?q=node/view/56>
12. *Ibid*.
13. Zachary Wells and Kelly Moore Brands. "Seeing REDD." (Washington DC: Worldwatch Institute, November 1, 2009) <http://www.worldwatch.org/node/6296>
14. European Commission, Joint Research Centre, *Global Land Cover 2000 database*. <http://maps.grida.no/go/graphic/world-map-of-forest-distribution-natural-resources-forests>
15. USHUD, "U.S. Department of Housing and Urban Development (HUD)," HUD.gov, http://portal.hud.gov/portal/page/portal/FHA_Home
16. U.S. Department of Energy, 2007 Buildings Energy Data Book, (Washington DC: D&R International, 2007).
17. Energy Information Administration, *Energy Consumption by Sector*, 2008.
18. Energy Information Administration. Retrieved at http://tonto.eia.doe.gov/energy_in_brief/greenhouse_gas.cfm
19. Douglas S. Massey and Nancy A. Denton, "How Segregation Came To Be" *opensoc.org*, Excerpted from *American Apartheid*, http://www.opensoc.org/index_files/OPEN_History2.htm
20. Dennis R. Judd. *The Politics of American Cities: Private Power and Public Policy*. (Boston, MA: Little Brown: 1984).
21. Douglas S. Massey and Nancy A. Denton, *American Apartheid: Segregation and the Making of the Underclass*. (Cambridge, MA: Harvard University Press, 1993)
22. U.S. Department of Energy, "Reducing the Energy Burden on Needy Families," DOE Weatherization Assistance Program, <http://apps1.eere.energy.gov/weatherization/reducing.cfm>
23. Ostrom, Elinor, *Governing the Commons: The Evolution of Institutions for Collective Action*. (New York: Cambridge University Press, 1990).