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The Pitfalls of Globalization and Their Link to the Climate Change Crisis - Interview with Graciela Chichilnisky and Helena Norberg-Hodge

Interviewed by C. J. Polychroniou and Marcus Rolle November 8th 2017

Climate change has emerged as the most serious global issue of our time, and failure to address its causes and effects will have profound consequences for human civilization and the planet as a whole. This is a view shared by the majority of scientists -- even though policymakers are so far failing to take the necessary steps to prevent a potential catastrophic climate change scenario. Part of the reason for this failure rests with the fact that the global economy itself is directly responsible for global warming and the climate change crisis, which means that taming climate change necessitates profound changes in the structure and logic of the global economy. This message comes across clearly in the interview below with Graciela Chichilnisky and Helena Norberg-Hodge, two leading figures in the struggle against climate change and for a sustainable future. Graciela Chichilnisky is a world-renowned economist and mathematician and the architect of the Kyoto Protocol carbon market. She is Professor of Economics and of Statistics at Columbia University, Visiting Professor of Economics at Stanford University, and co-founder and CEO of Global Thermostat, a disruptive, carbon negative technology company based in the Silicon Valley that removes carbon dioxide from the air. Helena Norberg-Hodge is the founder and director of Local Futures, a pioneer of the "new economics" movement. She is the producer and co-director of the award winning documentary "The Economics of Happiness" and recipient of the Goi Peace Award.

C.J. Polychroniou and Marcus Rolle: Climate change is the most daunting problem facing humanity today, and globalization seems to be accelerating it. In fact, the effects of climate change are moving faster than predicted as free trade agreements are proliferating, multinational corporations move their operations to developing countries to avoid stricter environmental rules in their home country, and export-oriented industrial agriculture has replaced local farming. Do you agree with the view that economic globalization bears responsibility for climate change?

Helena Norberg-Hodge: Absolutely. Globalization - or the deregulation of global trade and finance - has direct consequences for the climate. It promotes unnecessary long-distance transportation of goods, rampant consumerism, biological monocultures, energy-intensive technology use, and mass urbanization, which leads to ever-increasing fossil fuel consumption. It is also worth noting that a 2013 study found that two-thirds of the fossil fuels that have been burned over the last 150 years were burned by just 90 corporate entities, including companies such as Texaco and ExxonMobil.

With the help of corporate-funded think tanks, there is a commonly held belief that an individual citizens' consumption patterns, rather than the systemic changes in production from globalization, are to blame for climate change. This is a very narrow framing of the climate crisis, but it's one that has gained a lot of credence in the media due to the support of Al Gore and others. Meanwhile, it's becoming increasingly clear every day that there are inherent and predictable connections between the deregulation of transnational corporations and the climate crisis. And people are beginning to notice those connections. So, reversing the trend towards further globalization needs to be central to the climate movement.

Graciela Chichilnisky: Yes. Globalization was led by the Bretton Woods institutions that were founded after World War II to encourage and enforce a pattern of international trade duplicating colonialism at a global scale: deep and extensive extraction of resources from developing nations that were exported at low prices for consumption in industrial nations. This pattern of international trade can be seen as a global tragedy of the commons, since developing nations lack property rights on extractive resources and their governments are dependent on international organizations and therefore "permeable." This term was introduced by Natasha Chichilnisky-Heal, who documented the "permeability" of governments in developing nations that are rich in extractive resources in the cases of Mongolia and Zambia, with examples on the direct role of the World Bank in the case of Rio Tinto and Mongolia's copper mines, the largest in the world.

C. J. Polychroniou and Marcus Rolle: What role do natural forces play in climate change?

Helena Norberg-Hodge: Looking back over millennia, we have to be extremely humble about our ability to grasp what has been going on. It is possible that warming has happened because of 'natural' forces – i.e., without human intervention. However, in recent history, there is no doubt that fossil fuel-based industrialization has had an enormous impact on ecosystems.

Graciela Chichilnisky: Carbon dioxide acts as the butterfly in the butterfly effect within a complex earth climate system: very small variations in concentration of CO_2 in the atmosphere can alter atmospheric transparency and create catastrophic effects like global climate change.

C. J. Polychroniou and Marcus Rolle: What are some of the impacts that we can expect from climate change?

Helena Norberg-Hodge: Over the past decade, it has become clear that weather conditions are becoming ever more unstable and unpredictable. These are likely to become even more extreme and lead to more human suffering and mass migrations. Violent conflict over natural resources is likely to intensify, along with new conflicts emerge in places that

were once considered stable.

Graciela Chichilnisky: Right now, the North and the South Poles are melting, obliterating species that live on ice sheets, such as polar bears and penguins. This raises the sea level globally, since melted ice occupies more space, and causes superstorms and tornadoes, flooding coastal areas, and forcing tens of millions of people to migrate with enormous humanitarian losses and untold political upheaval. As the oceans absorb more CO_2 they become more acidic, obliterating calcium-based species such as coral reefs and krill, which have external calcium-based skeletons, and are the foundation of much sea and land life. Floods, superstorms, hurricanes, and tornadoes cause social disruption. An example is Superstorm Sandy and its effects on Manhattan, which left the city without water and electricity, closed schools and police stations, and saw cars floating on the streets for weeks. Social disruption threatens institutions and becomes the first effects of climate change, perhaps the most immediate and dangerous.

C. J. Polychroniou and Marcus Rolle: Are there any benefits that can come from climate change?

Helena Norberg-Hodge: If anything positive comes out of the climate crisis, it will be the response to it. If it weren't for climate change, it would be possible to say: "Sure, the global economic system is failing, but wholesale reform is difficult, so let's leave it up to the next generation." With climate change a real and present danger, it is no longer possible to say so. Climate change is drawing the 'demons' of the global economy out into the open, forcing us to confront them, and pushing us to consider systemic change sooner than we might have otherwise.

There is now compelling justification for switching to a less resource-intensive economic model as soon as possible. The more localized and resilient we can make the world's economies, and the less we depend on GDP growth (which actually is making the majority poorer), the better equipped we will be to handle the social and ecological consequences of climate change.

Graciela Chichilnisky: Certain areas where ice sheets disappear become available for economic exploitation.

C. J. Polychroniou and Marcus Rolle: Can changes in the production and use of energy have an impact on climate change, or is it already too late for such action?

Helena Norberg-Hodge: It is definitely not too late to take action. Fully modeling the complexities of the earth's regulatory systems is a fool's errand, and that means we cannot be certain of what the future will hold. There is a glimmer of hope that Gaia will have self-regulating tools up her sleeve that our computer models could not anticipate. In any case - disregarding for a moment the need to address climate change - we have many other reasons to move away from our dependence on petroleum. Soaring cancer rates from pesticides and endocrine disruption from plastics (as documented in the book Our Stolen Future) are two among a great many arguments for immediately moving away from this dependence.

Decentralized renewable energy systems can answer our needs without destroying social cohesion and ecological stability. Many communities are finding ways to integrate local-scale renewable energy into their lives, through initiatives such as the Low Carbon Hub in the United Kingdom and New Energy Economy in the United States.

The key to navigating the transition to a post-carbon world is to embrace the transition to a new economy. Renewable energy that is produced and distributed by deregulated corporations cannot have a truly positive impact on the environment or society. We need to cease being merely passive consumers and engage as citizens in legal actions, letter writing, seed sharing, and other projects of resistance and renewal to change the status quo. Acting as isolated consumers and changing a light bulb or using less hot water is not enough to make a dent in the climate crisis. We need "big picture" thinking and collective action - changing the "I" to a "we."

Graciela Chichilnisky: It is absolutely necessary to move away from burning fossil fuels towards cleaner energy, such as solar energy. This could take decades since, according to the IEA, the current power plant infrastructure is worth $55 trillion and it is almost 90% fossil. This will take many decades to change; it cannot be changed to renewable energy as soon as it is needed. However necessary is the change to renewable energy, it is not sufficient: the 2014 5th Assessment Report of the Intergovernmental Panel on Climate Change (page 101), which is the world's scientific authority, documents that much more is needed to avert catastrophic climate change. The IPCC documents that we now need to physically remove the CO2 that is already in the atmosphere. The 2015 Paris Agreement, which is now ratified into international law, has four articles about the absolute need to remove the CO2 already in the atmosphere, and to do so in massive amounts.

C. J. Polychroniou and Marcus Rolle: Is globalization reversible? If not, how do we constrain some of its worse aspects?

Helena Norberg-Hodge: Globalization is without a doubt reversible – that's exactly what we mean when we talk about "localization." Globalization is heavily supported by governments through free-trade deals, subsidies, and regulations that discriminate against small- and medium-sized businesses. Current policies encourage businesses across the board to use more energy and technology, instead of employing people. Renewable energy technologies currently receive one-fifth as many subsidies as fossil fuels do.

These are political decisions that can be changed. If the artificial supports for globalization were removed, and taxes and subsidies were shifted to encourage real work by real people, globalization would cease to make economic sense and small-scale business would be the order of the day. Absurdities like redundant trade, whereby a country ships a commodity overseas and imports that same commodity right back, would become a thing of the past. Less packaging, processing, and transporting would mean a smaller carbon footprint. Localization would reduce the power of global corporations and banks, helping to reduce the pressure for economic growth that results in needless consumption. It would particularly help the Global South by reversing the process of colonialism that, to this day, puts enormous pressure on people to emulate the consumer lifestyle of people in Europe and North America.

Graciela Chichilnisky: This wave of globalization has taken place since the 1945 creation of the Bretton Wood Institutions after WWII, and cannot be reversed quickly. Its effects are global and the time needed to address them is a main issue. Globalization had positive features, but it led to a pattern of North-South trade and of consumption of global extractible resources by the rich nations that caused the environmental crisis of our time. This pattern cannot be reversed quickly, but it must be reversed.

Global industrialization has caused a massive expansion of wealth inequalities globally

(three times larger than before) and has magnified the global tragedy of the commons, leading to the climate change emergency that engulfs us all today.

The only way to redress some of globalization's worst aspects is to agree on mandatory limits on the use of air, water, and biodiversity (food) nation by nation. It is possible and it must be done soon. The UN Kyoto Protocol did this for carbon emissions in 1997 and became international law in 2005, successfully reducing emissions of the Kyoto Nations by 30%. The Paris Agreement has no mandatory limits; indeed, it has no policy to implement its intended goals. Yet, limits are key. From those mandatory limits emerge global markets for water, carbon emissions, and biodiversity. Without limits they cannot. The carbon market I designed and wrote into the UN Kyoto Protocol, which was trading $175 billion (USD) in 2012, is a successful example. But this market depends on mandatory emission limits that the US opposes, as it is the largest emitter among industrial nations (and overall historically), and is the largest emitter today per capita. New global markets mean new prices and new values for the main earth resources on which humans depend for survival: the atmosphere, the hydrosphere, and the biosphere. The new economic values in turn fundamentally alter the notion of GDP and therefore of economic progress, aligning it with human survival as is now needed. All this must be put in place immediately as, otherwise, our economic incentives based on a dated notion of GDP can and probably will lead to the extinction of our species, for failure of meeting our basic needs.

C. J. Polychroniou and Marcus Rolle: What do you consider to be the most innovative solutions for ensuring that the Earth does not warm up to catastrophic levels?

Helena Norberg-Hodge: The localization initiatives that put food at the center. Localizing food economies is particularly important, both because food is a universal necessity, and because globalization is structurally linked to monoculture crops, which rely on agrochemicals, mechanized equipment, and growing practices that result in significant greenhouse gas emissions. Diversified, small farms are more productive, act as carbon sinks, use less energy in production and, when linked to nearby markets, use less processing and packaging.

We've highlighted a number of inspiring initiatives from around the world in our Planet Local web series, including, among many others, the Mupo Foundation in South Africa's Vhembe district, which empowers the local Venda people to ensure food sovereignty and strengthen a local knowledge system which roots spirituality in ecology. We also showcase energy projects like the Our Hamburg, Our Grid project to create a local power utility in Hamburg, Germany, and the New Energy Economyinitiative in New Mexico, which campaigns against coal and nuclear power and installs community solar systems throughout the state. Initiatives like these are springing up practically everywhere you look.

Graciela Chichilnisky: It is now documented by the IPCC and stated in the Paris Agreement that we need to remove CO_2 in massive amounts from the atmosphere in order to prevent catastrophic climate change.

The most innovative solutions are new US technologies and business strategies that remove CO_2 directly from air and stabilize it on earth by selling it for the profitable production of building materials, plastics and carbon fibers, beverages, refrigerants like dry ice, water desalination, synthetic fuels, and many other rather valuable economic uses. One example

of sustainable practices is Global Thermostat (GT): a new US company that has carbon

removal technology that captures CO_2 from air at low cost. The GT technology can transform a fossil fuel plant into a carbon remover and can transform a solar power plant into a massive CO_2 remover. This means that we can transform the $55 trillion (USD) global power plant infrastructure so that the more electricity we produce, the more carbon we remove. As indicated above, there is an enormous global market for CO_2. This transformation is extraordinary: it makes carbon emission limits feasible, because removing carbon becomes a profitable activity that is consistent with economic progress, new jobs, and exports. Therefore, emission limits become acceptable within the constraints of the Byrd-Hagel Act of the US Congress, which no longer needs to veto agreements regarding emission reductions, as these limits can benefit rather than undermine the US economy.

From such emission limits arises the UN carbon market, created in 1997 by this author, and was already trading $175 billion (USD) annually in 2012. Through the Clean Development Mechanism, this money has and continues to provide important project finance ($130 billion USD) for clean technology projects in developing nations. For example, the carbon market can fund the building of 40,000 carbon negative power plants that can remove one million tons of CO_2 each per year, thus removing as much CO_2 as humans are currently emitting globally. This is the entire financial-technological solution to climate change, and it is the most innovative solution at the same time. All of this can be done profitably, since the costs of carbon removal are lower than the current market prices of CO_2. However, to accelerate the process as needed to avert catastrophic climate change, one needs the carbon market and its Clean Development Mechanism in order to provide incentives to adopt the new technology and to make available the project finance needed to set up a $200 billion USD/year Green Power Fund that will make all this possible in developing nations. This plan can combat poverty while removing carbon from the atmosphere, as it can provide carbon negative power plants that produce power at the same time. It must be done, and soon.