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Perspective: Technology Transfer and Human Rights: Joining Up the Dots

*by Stephen Humphreys**

"The States Parties to the present Covenant recognize the right of everyone to enjoy the benefits of scientific progress and its applications."—International Covenant on Economic, Social and Cultural Rights, Art. 15(1)(b)

The transfer of technology is one of the core mechanisms at the heart of the UN Framework Convention on Climate Change ("UNFCCC") and a key vehicle for channeling the "equity" demands in that treaty. The UNFCCC recognizes (i) that in order to adapt to climate change and continue to develop sustainably, poor countries will need technological assistance, and (ii) that there is an obligation on richer countries—as their contribution to the cause of climate change is greater and they also have greater technological capacity—to provide that assistance. The treaty further makes developing country participation in the climate regime *dependent* upon "effective" technology transfer from industrial countries. Yet so far, for a variety of reasons, structured technology transfer has not taken place. Despite its centrality, and despite enormous attention in UN negotiating rooms over the years, the subject is infected by obscurity and jargon, it has received little public airing and often seems marginalized or disconnected from other, better known areas of the climate debate. There is no inherent reason that this should be the case, in particular given the central importance of technology transfers to surmounting climate change equitably. It is in that light that many of the articles in this issue of *Sustainable Development Law & Policy* focus on the global transfer of clean technologies and the mechanisms that strive to enable that trade. However, there is yet another important dimension of both technology transfer and the climate debate: the human perspective.

The Human Rights Dimensions of Technology Transfer

Since the Bali Conference of the Parties in 2007, it has been clear that technology transfer will remain critical to any global deal on climate change, and so there is no room for continuing political deadlock. The resulting impetus has engendered new angles on climate-related technologies, among them increased attention to the human dimensions—sometimes articulated as the *human rights* implications—of this and other areas of climate change activity. More than most topics in the climate change arena, actions and decisions on technology transfer will have significant and specific human rights implications. These are of two main kinds, one immediate, the second longer term.

First, technological solutions will be required to ensure that the expected human rights consequences of climate change impacts are avoided or minimized. In short, technological solutions are necessary for adaptation, especially where climate change threatens basic subsistence—health, food, water, and shelter, for example, all of which are recognized rights under international law. Expected threats include droughts, water salination and sea-level rise; livelihoods will be at risk as crops, fisheries, livestock, and even land will deplete or vanish. In order to head off the most dire consequences of these outcomes—forced mass migration and conflict—solutions will need to be found and mobilized quickly. In every case, such solutions will rely in part on the availability of appropriate technologies to meet the new conditions of life under a changed climate. These include water treatment technologies for desalination and irrigation, for example, or agricultural solutions to adapt to changing or reduced crop cycles. Protection from hotter temperatures through building materials or techniques, from higher sea-levels through protective walls or other measures, and from increased vector diseases, like malaria, through increased access to quality medicines and healthcare systems to distribute cures and provide care.

However, investment in these technologies is beyond the resources of many of the countries that will be worst hit. Finding a means to make them available at low or no cost is therefore critical to climate change adaptation if appalling human rights consequences are to be avoided. Bringing a human rights analytic to bear on the expected impacts of climate change can help direct attention to where the worst harms are foreseeable, which in turn can orient responses towards the most useful and urgent solutions. Since these solutions will involve—and are likely to some extent to hinge upon—technological know-how, a human rights angle can usefully be fed early on into both technology development and technology delivery agendas. Where these agendas are not yet being set in the climate change debate, attention to the human rights consequence will concentrate minds. Where agendas are being drawn up, looking ahead to human rights needs can provide useful orientation. In both cases, a human rights lens may lead policymakers to recognize the need for an intensive, coordinated, technically, and, in some cases, legally creative response to climate change in keeping with the requirements of the UNFCCC.

Second, long term development, upon which the protection of human rights ultimately depends, will come under immense stress due to climate change mitigation policies. For developed and developing countries alike—but especially for the latter

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where, in many cases, basic human rights still remain unfulfilled—further development will increasingly rely upon access to efficient, clean, and renewable technologies. Indeed, it will in many cases require restructuring of entire economies. Securing human rights over the long term in the face of climate change requires the transfer of technologies for energy generation and distribution and for adequate transport, among other things.

This is not a controversial demand, but once again little attention has been directed to the human rights consequences that will result from a failure to plan well in advance. For example, if technology transfer is slow or not forthcoming, individuals in many countries will inevitably be reliant on carbon-based energy supplies for their immediate developmental needs. A human rights sensitive approach to technology will be attentive to the possibility that access to carbon-intensive technologies may be more, rather than less, needed in some poorer countries, at least in the mid-term. The long-term fulfillment of basic human rights—to food, water, property, health, and shelter, and even culture and livelihoods—will depend, in many countries, on a measured, structured, and informed conversion from carbon to clean fuels. Awareness of these realities provides an appropriate basis for testing and fleshing out promises of future technological progress—which currently remain vague—against hard needs that already exist and will only worsen over time.

In each of the above areas, a human rights optic can bring essential nuance to policy. It can help ensure equitable access to new technologies in recipient countries through sensitivity to the possibility of inequalities of access and participation that mutually reinforce privilege and vulnerability. And it can help determine which of a possible range of technological solutions to choose in a given context, by focusing on the core necessity to maintain basic threshold levels of rights fulfillment for the greatest number over costly experimentation that may suit only a few.

Fragmentation of International Law?

Among the many obstacles cited for the delay in implementing effective technology transfer, intellectual property rights are often assumed to be the primary problem. International protection of intellectual property is thought to pose an initial hurdle to governments attempting to make transfer effective using public policy tools. Treaty agreements, notably (but not only) the WTO-governed Agreement on Trade Related Aspects of Intellectual Property Rights ("TRIPS") ensure that the protections of private ownership in a given technology are adequately reflected in the price of that technology. Although TRIPS does not appear to be relevant to all or even most of the technologies needed for climate change adaptation, this complaint deserves attention if only because it has had a chilling effect on technology transfer negotiations.

TRIPS is not the only international legal instrument relevant to climate change or to technology transfer. Climate change technology transfer takes place within the context of a broad web of relevant treaty laws and customary practices, and is relevant to an unusually wide range of areas of science, law, and policy. In addition to intellectual property law, other areas of the international trade regime are clearly relevant, including the safeguards of private property rights (the rights of investors or technological proprietors) found in free trade agreements and in Bilateral Investment Treaties. The latter frequently include clauses specifically prohibiting host governments from actions to further technology transfer. Where these treaties also include "most favored nation" provisions, as most do, an international regime effectively takes shape universalizing this prohibition.

To these must also be added international human rights law, which is presumptively relevant whenever policy options have human rights implications. Here, the principal instrument is likely to be the International Covenant on Social, Economic and Cultural Rights ("ICESCR"). The 159 states that are party to the ICESCR have undertaken to "progressively realize" the social and economic rights (such as to food, water, health, education, and housing) of those within their territories. Under conditions of climate change, states' obligations towards their own populations in these areas are arguably reinforced at the international level, where arrangements between states effectively facilitate or impede the capacity to fulfil these rights. In this regard, a rarely cited provision of the ICESCR acquires renewed importance in the context of climate change. ICESCR Article 15(1)(b) guarantees "the right of everyone . . . to enjoy the benefits of scientific progress and its applications."

To conclude, technology transfer is a necessary and central plank of any global climate change solution, but it often appears stuck in jargon and entrenched positions engendered over years of difficult negotiations. So ironically, whereas everyone acknowledges the critical importance of technology transfer, progress has been slow or absent, and the subject has become unwieldy. Approaching it from a human rights perspective may help overcome the impasse, by allowing all parties to refocus on basic human imperatives and to set historical and ideological differences aside in the interests of dealing pragmatically with questions of real urgency. Locating human rights entry points and priorities can reorient the debate: what technologies are needed where and how urgently? Useful future research agendas may include:

- Predicting human rights threats in specific localities;
- Assessing the best and most efficient technology solutions already in existence to meet them;
- Framing technological research agendas for clean and efficient solutions for the most pressing urgencies;
- Assessing existing channels and barriers for international cooperation;
- Seeking policy solutions for an international regulatory framework;
- Assessing likely blockages and solutions at the national level; and ultimately,
- What sort of research and policy framework is needed to ensure that the right technologies reach the right communities in the most timely manner in order to prevent human rights harms?

These are among the urgent human rights questions faced by climate change negotiators as they seek any technology-based solution for the future and will continue to be extremely relevant to any discussion of clean technology transfer.