When International Disasters Affect Technology Transfer: Where is International Law?

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Natural disasters may have devastating impacts on human life, the economy, and environment of the affected states. This article focuses on the economic consequences of natural disasters for affected states, particularly regarding technology transfers. In addition, this article examines the relevant regulatory framework of reference at the international level, with a mapping of technology transfer provisions in international disaster and economic law instruments on technology transfer applicable indisaster-related situations.

Introduction

Natural disasters may have devastating impacts on human life, economy and the environment of affected states. During the last World Trade Organization's Ministerial Conference in Buenos Aires (10-13 December 2017), several states stressed the impact of disasters on their economies. The governmental representative of Saint Lucia (speaking on behalf of CARICOM), pointed out that "[m]any small and vulnerable economies in the Caribbean . . . suffered massive devastation and absolute destruction of critical infrastructure from . . . hurricanes." As echoed by, among others, the governmental representative of Guatemala (speaking on behalf of the Group of Small, Vulnerable Economies (SVEs)) who highlighted "the need for special consideration and targeted assistance to be given to SVEs, inter alia, in the areas of . . . Trade and Transfer of Technology."

Indeed, what happens in case of transfer of technologies in the event of disasters? And which (international) instruments come into play?

First, we should question what we mean by "disasters" under international law. The United Nations' (UN) *Open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction* (established by the UN General Assembly resolution 69/284) has defined "disasters" as "serious disruption[s] of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts." For the scope of this Article, we focus on *natural* disasters arising from geological or geophysical hazards, such as earthquakes and hydro-

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meteorological hazards like droughts and flooding.

In 2018, the WTO researched the impact of natural disasters on trade, which resulted in two comprehensive studies: the first examines the economic and trade impact of natural disasters, with a particular focus on six disaster-affected countries (Dominica, Fiji, Nepal, Saint Lucia, Tonga and Vanuatu); the second includes a legal map of the measures that governments can take under WTO agreements for disaster situations. This article takes stock of the WTO research and goes beyond it by exploring the impacts of disasters on technology transfer – which has been only partially covered by the above-mentioned research. When talking about "technology transfer," we refer to the definition provided by UNCTAD, which, in turn, referred to the definition adopted by the World Intellectual Property Organization (WIPO). WIPO states that, the transfer of technology may be understood as a series of processes for sharing ideas, knowledge, technology and skills with another individual or institution and of acquisition by the other of such ideas, knowledge, technologies and skills knowledge could be embodied in hardware or disembodied in the form of patents, know-how, trademarks, designs and licenses in general. In regards to a more particular process of the transfer of technology, UNCTAD states that "[t]echnology transfer can be governed by explicit contractual arrangements, such as licensing between business partners, but it can also be managed implicitly through the establishment of subsidiaries and affiliates of transnational corporations (TNCs) in other countries."

Technology transfer can be affected by disasters in different ways. On the one hand, import of technology can be subject to customs clearance delays due to natural disasters. For example, a report by the IFRC on Nepal observed that while satellite phone technology would have been extremely useful for communicating in times of disaster, it was very costly and had not been granted any tax, licensing or import exemptions, which placed it out of reach of most relief providers. On the other hand, technology transfer can be crucial in the recovery phase: the need to rebuild roads, railways, ports, and infrastructures after a disaster are often fulfilled by imports of construction services, transfer of technology and know-how from foreign construction companies that aim to "build back better" and reduce future exposure to (natural or man-made) hazards.

When it comes to assessing the relevant regulatory framework of reference at the international level and identifying which international rules apply in such situations, the picture is quite fragmented. On the one hand, we find some provisions in international disaster law-related instruments; on the other hand, we have some provisions in international economic law instruments dealing with technology transfer that can apply in the context of disaster situations. The following paragraphs offer an overview of the relevant regulation at stake.

I. Technology Transfer Provisions in International Disaster Law Instruments

Under international disaster law, we find relevant treaties that include a

number of provisions on the entry of foreign relief goods, equipment (which can be relevant also for transfer of technology), and personnel in a disaster affected country. Overall, the regulatory picture is rather fragmented: the scope of such treaties may vary, covering either any disaster or some typologies or specific events (e.g. the Convention on Assistance in Case of Nuclear Accident or Radiological Emergency, concluded in 1986 after the Chernobyl nuclear accident). Moreover, commitments and obligations may regard a restricted range of goods (e.g. the 1990 Istanbul Convention on Temporary Admission, for equipment covering only medical, surgical and laboratory devices).

A key instrument was adopted in March 2015 by the UN World Conference on Disaster Risk Reduction, namely the Sendai Framework on Disaster Risk Reduction 2015–2030, later endorsed by the UN General Assembly. The Sendai Framework includes specific provisions on technology transfer. Under "Priority 1: Understanding disaster risk," it states that "[i]t is important [t]o promote and enhance, through international cooperation, including technology transfer, access to and the sharing and use of non-sensitive data and information" (para. 25, lett. c). Furthermore, under Section VI, it states that "[i]n addressing economic disparity and disparity in technological innovation . . . among countries, it is crucial to enhance technology transfer, involving a process of enabling and facilitating flows of skill, knowledge, ideas, know-how and technology." It also recalls that "[p]ublic and private transfer of reliable, affordable, appropriate and modern environmentally sound technology, on concessional and preferential terms . . . are critically important means of reducing disaster risk" (para. 46).

One year later, in 2016, the UN International Law Commission (ILC) adopted the Draft Articles on the Protection of Persons in the Event of Disasters, which includes some provisions that can be relevant also in the context of technology transfer. Once a general duty to cooperate in the event of a disaster is established (Article 7), the ILC identifies specific areas in which cooperation may be suitable, including the provision of "relief personnel, equipment and goods, and scientific, medical and technical resources" (Article 8). The ILC also stressed that "forms of cooperation not specified in the present draft Article are not excluded, such as: financial support; technology transfer covering, among others, technology relating to satellite imagery; training; information-sharing; joint simulation exercises and planning; and undertaking needs assessments and situation overview" [emphasis added] (paragraph 4 of the commentary to Article 8).

Another key document is the "Model Act for the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance," which was adopted by the International Federation of Red Cross and Red Crescent Societies (IFRC) in 2013. The Model Act suggests a detailed discipline to be adopted at the national level in order to cope with hazards. The Act, in particular, advocates for the entry of relief material to be exempted from customs duties and other taxes (Article 32). Moreover, Article 43 allows "to re-export any Equipment or unused Goods and to do so without the imposition of any taxes, export duties, or similar charge." The commentary makes it clear that "[t]hese provisions apply both to unused

Goods and Equipment." This can also apply in the context of technology transfer.

Generally, it seems that disaster-related international instruments suggest the possibility to waive custom duties when it comes to transfer 'equipment'—which can be understood as including technology transfer. Such tendency is confirmed also at the regional level. For example, the Council of Europe's 1960 Agreement on the Temporary Importation, free of duty, of Medical, Surgical and Laboratory Equipment for use on free loan in Hospitals and other Medical Institutions for purposes of Diagnosis or Treatment aims to enable countries in urgent need to obtain the necessary material free from customs duties for a renewable period of six months, especially in the event of an epidemic or a catastrophe. Also, Article 10 of the *Agreement among the Governments of the Participating States of the Black Sea Economic Cooperation (BSEC) on collaboration in Emergency Assistance and Emergency Response to natural and man-made Disasters* states that "Equipment and Goods of assistance exported and imported for Assistance pursuant to the present Agreement shall be exempt from customs duties, taxes and fees."

II. International Economic Law Provisions on Technology Transfer Applicable in the Context of Disaster-Related Situations

The World Trade Organization (WTO) Agreements include a few provisions that take into consideration disaster events. We can recall Article XVIII GATT 1994 and the relevant Interpretative Notes, according to which WTO developing Members may adopt measures affecting imports or modify or withdraw scheduled tariff concessions to promote "the reconstruction of an industry destroyed or substantially damaged as a result of hostilities or natural disasters." This clause was invoked in 2002, when Bangladesh justified the notified measure on the ground of its exposure to periodic flooding and cyclones.

The above-mentioned WTO report on the impact of natural disasters on trade makes reference to trade measures adopted in the context of (1) disaster responses, in the immediate aftermath of a disaster event, (2) disaster recovery and (3) disaster resilience, with a view to support the ability of an economy to face future shocks derived from natural hazards.

In particular, the WTO report underlines that in the (1) disaster response phase, trade measures taken by a disaster-affected country are mainly focused on facilitating the availability of domestic and foreign relief goods, equipment, services and personnel. Regarding (2) disaster recovery, the focus is more on subsidies that can be claimed by disaster-affected Members and tariff protection that can be accorded to badly affected businesses or sectors. Regarding (3) disaster resilience, it has been stressed that liberalization of some services (e.g. health services, engineering services, telecommunication and weather-related services) could have a positive impact, encouraging the growth of the private sector and, overall, enhancing the domestic capacity to supply services crucial for reducing vulnerability to disasters. Moreover, trade partners can play a crucial role in providing

technical assistance to disaster-affected countries.

And what about technology transfer? A number of provisions in the WTO agreements mention the need for a transfer of technology to take place between developed and developing countries. However, it is not clear how such a transfer takes place in practice and if specific measures might be taken within the WTO to encourage such flows of technology, and, more, how such provisions apply in the context of disasters. As recalled by UNCTAD, technology transfer may take place through different channels, including foreign direct investment and trade flows of technological or technology related goods and services. Accordingly, relevant provisions can be found in different international instruments dealing with international economic relations (e.g. trade in goods, investment and licensing). Overall, we can count several international, regional and bilateral agreements containing measures related to transfer of technology. The relevant provisions of these agreements follow different approaches, depending on the object and purpose of the respective agreement. Overall, they tend to promote access to technologies and, in some cases, the development of local capabilities in developing countries, particularly in least developed countries.

This regulatory fragmentation makes it more complicated to identify the provisions to apply in the context of disasters. In any case, the link between technology transfer and disaster is very relevant. On November 29, 2019, during the WTO Fourth Symposium on natural disasters and trade, the representative of Bangladesh recalled the complementarity of technology transfer for disaster risk management in the context of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). The representative proposed to apply Article 66 of TRIPS, also in the context of disasters. According to the Article, developed country Members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base.

One important reference, in regards to post-disaster situations, can be made to the WTO Trade Facilitation Agreement (TFA), whose provisions are aimed to facilitate the entry of equipment necessary for relief operations. The notion of "equipment" is generally referred to items that are not destined for immediate consumption and not donated to local authorities. For instance, vehicles, medical or telecommunication devices could come under this definition.

III. Some Concluding Remarks

The international regulatory framework of technology transfer in the context of disaster is quite fragmented, with provisions coming from both international disaster and international economic law sectors. Moreover, while there is a general tendency in recognizing the need to waive from custom duties when it comes to technology transfer, there is not much emphasis on other questions related to technology transfer in times of disasters (e.g. whether special conditions apply in the case of the need to use

technology by disaster-affected countries). In this respect, further research is needed in order to develop a comprehensive framework of reference on the issues at stake. As the representative of Saint Lucia during the last World Trade Organization's Ministerial Conference in Buenos Aires (10-13 December 2017) stressed that the "catastrophic weather events with which we are faced . . . present a perpetual existential threat to our economy. . . [T]he time has come for a systemic response from the WTO to assist members affected with such . . . events through a special dispensation and accommodation in the rules."