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THE EVOLUTION OF THE UNFCCC ENVIRONMENTALLY SOUND TECHNOLOGY
DEVELOPMENT AND TRANSFER FRAMEWORK

Adebayo Majekolagbe

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TABLE OF CONTENTS

1.	Introduction	114
2.	EST Transfer And TWAIL: An Overview	115
3.	The Evolution of the UNFCCC Technology Transfer Framework	117
3.1	The Pre-1992 UNFCCC Phase	117
3.2	Pre-Expert Group on Technology Transfer Phase (1992 – 2000)	120
3.3	The Expert Group on Technology Transfer Phase (2001 – 2007)	123
3.4	The Poznan Strategy Phase (2007 – 2020)	124
3.5	The Technology Mechanism and Framework Phase (2010 - 2020)	126
4.	Conclusion: Lessons From History	130

1

INTRODUCTION

The 2015 United Nations Climate Change Conference held in Paris, France, is widely lauded as an epochal stride in the race against climate change. The Paris Agreement has been described as ‘historic, durable and ambitious’.¹ In many ways, the applause is justified. At the very least, there was a chink in the South – North divide which had hitherto prevented concrete undertakings by Parties. Now, both developing and developed States have committed themselves to hold the ‘increase in the global average temperature to well below 2°C above pre-industrial levels’ and strive for the 1.5°C mark.² This chink notwithstanding, the dichotomy remains. It remains in the glaring developmental disparity between the global South and North; it remains in the different emphases of Parties as to how climate change mitigation and adaptation is to be achieved; it remains in the South’s insistence for ‘more’ commitments from industrialized States and the North’s unreadiness to yield; most importantly, it remains in the conflicting normative underpinnings of Parties’ positions.³ No doubt, the Paris Agreement

(PA) is a product of compromise. But, what sort of compromise? A ‘compromise based on solidarity’ or a ‘compromise induced by power’?⁴ The UNFCCC Environmentally Sound Technology development and transfer (EST transfer) framework and its chequered history is an apposite case study to explore the kind of compromise at play in the global climate regime.⁵

The Intergovernmental Panel on Climate Change (IPCC) describes EST transfer as a ‘broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders ... (comprising of) the process of learning to understand, utilise and replicate the technology, including the capacity to choose it and adapt it to local conditions and integrate it with indigenous technologies’.⁶ At minimum, IPCC’s description of EST transfer provides a vision of what such transfer should entail. It is a transfer that should transcend hardware transfer, facilitate sustainability, emphasize capacity building, adaptability and replicability of ESTs, and leverage a polycentric cooperative approach to EST development and transfer. In this article, I demonstrate how the UNFCCC EST transfer framework has historically failed to satisfy the above objectives. Identifying five phases of evolution of the UNFCCC EST development and transfer framework, I seek to unmask the continuing normative and structural flaws which have made EST development both inequitable and ineffective. In part II, I attempt to situate TWAIL in

1 Fiona Harvey, ‘Paris Climate Change Agreement: The World’s Greatest Diplomatic Success’ (The Guardian, 14 December 2015) <<https://www.theguardian.com/environment/2015/dec/13/paris-climate-deal-cop-diplomacy-developing-united-nations>>.

2 Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) UNTS 54113 art 2(1)(a).

3 As shown later in this article, compared to the relatively clear divide between developed and developing States at the 1992 United Nations Conference on the Environment and Development (UNCED), the divide is currently less defined. See Jane Bulmer, Meinhard Doelle and Daniel Klein, ‘Negotiating History of the Paris Agreement’ in Daniel Klein and others (eds), *The Paris Agreement on Climate Change: Analysis and Commentary* (Oxford University Press 2017) 50-3.

4 Karin Mickelson, ‘Leading Towards a Level Playing Field, Repaying Ecological Debt, or Making Environmental Space: Three Stories About International Environmental Cooperation’ (2005) 43 *Osgoode Hall Law Journal* 137.

5 The ‘EST development and transfer framework’ is used in this article interchangeably with ‘transfer regime’. It is distinct from its more restrictive usage under Article 10 of the Paris Agreement.

6 IPCC, *Methodological and Technological Issues in Technology Transfer* (Cambridge University Press 2000) 15-6.

the EST Transfer context. I reflect on the evolution of the UNFCCC EST regime, commonalities and differences in the different phases of evolution, and the extent to which the current structure recycles previous arrangements in part III. In part IV, I conclude by highlighting key lessons from the evolution of the transfer framework.

2

EST TRANSFER AND TWAIL: AN OVERVIEW

TWAIL has no defined or generally accepted methodology, approach or argument.⁷ Rather than being a ‘monolithic collegium’,⁸ it is more like ‘a chorus of voices that blend though not always harmoniously, in attempting to make heard a common set of concerns’.⁹ This ‘common set of concerns’ forms the core of TWAIL as a theoretical tradition and the band, however elastic, that links its proponents. At the core of the TWAIL orientation is the acknowledgment that hegemony and domination in international relations and law is a present and continuing reality.¹⁰ TWAIL scholars, therefore,

deconstruct the history, structure and process of international law from a third world perspective, with the aim of giving ‘meaning to international law in the context of the lived experiences of the ordinary peoples of the third world in order to transform it into an international law of emancipation’.¹¹

The terms ‘developing states’, ‘global south’ and ‘third world’, used interchangeably here, need to be unpacked given their currently contested status. While the Group of 77 and China (G77) purport to represent the interest of the ‘global South’ in the climate change regime, it is now contestable if there is any such functional union. For example, while there was a relatively effective collegium of G77 countries at the 1992 UNFCCC negotiations, years leading to the 2015 Paris Agreement saw the segmentation of the group into autonomous negotiating entities with distinct interests.¹² Particularly, the economic resurgence of Brazil, South Africa, India and China (BASIC States) have raised the question of the correctness of categorizing these countries as ‘developing’. While these contentions are questionable, more so as the determination of ‘development’ is primarily anchored on a ‘growing’ macro-economy with little reference to the quality of life of the citizenry, the developing – developed categorization as used here is more nuanced. The distinction is employed as what Rajagopal has described as a ‘counter-hegemonic discursive tool’.¹³ In this article, the global south is representative of an ‘alternative and oppositional stance’ for a ‘fundamental rethinking of international relations’.¹⁴ In this sense,

7 Antony Anghie and BS Chimni, ‘Third World Approaches to International Law and Individual Responsibility in Internal Conflicts’ (2003) 2 *Chinese Journal of International Law* 77.

8 Obiora Chinedu Okafor, ‘Newness, Imperialism, and International Legal Reform in Our Time: A Twail Perspective’ (2005) 43 *Osgoode Hall Law Journal* 23.

9 Karin Mickelson, ‘Taking Stock of TWAIL Histories’ (2008) 10 *International Community Law Review* 355; Luis Eslava and Sundhya Pahuja, ‘Between Resistance and Reform: TWAIL and the Universality of International Law’ (2011) 3 *Trade, Law and Development* 103.

10 Makau Mutua, ‘What is TWAIL?’ (2000) 94 *Proceedings of the American Society of International Law Annual Meeting* 31; Karin Mickelson, ‘Rhetoric and Rage: Third World Voices in International Legal Discourse’ (1998) 16 *Wisconsin International Law Journal* 353.

11 BS Chimni, ‘The Past, Present and Future of International Law: A Critical Third World Approach’ (2007) 8 *Melbourne Journal of International Law* 499.

12 For the PA negotiation rounds, however, about twelve diverse ‘factions’ emerged. These alliances are in accordance with developing countries’ ‘changing political and socio-economic conditions’. See Bulmer, Doelle and Klein (n 3) 50 – 53.

13 Balakrishnan Rajagopal, ‘Locating the Third World in Cultural Geography’ (2000) 15 *Third World Legal Studies* 1.

14 Mickelson, ‘Rhetoric and Rage: Third World Voices in International Legal Discourse’ (n 10).

countries, like the BASIC States, are not automatically 'Southern' by reason of their geographical location, history or economic status.¹⁵ For example, the status of BASIC States as 'third world' is dependent on the extent to which they reproduce and reinforce the hegemonic ideals of the North. Ideals built on neoliberalism, pre-eminence of the market, and what Adrian Parr describes as the wrath of capital.¹⁶ This approach, while still potentially qualifying entities in TWAIL's traditional domains (Africa, Asia and Latin America) as 'third world', also allows for the bolstering of third world ranks either through the inclusion of entities in the 'traditional north' or the exclusion of 'backsliding' States in the 'traditional South'. The counter-hegemonic and alternative narrative spoken of here should not be mistaken for singleness of position, but rather diverse positions unified by a non-capitalistic paradigm.¹⁷ To be clear, the argument against the centrality of the market does not mean that the market is irrelevant. Rather, as Polanyi has argued, the economy is a socially embedded reality and the 'social good' not the market should be in the driving seat of the economy.¹⁸

TWAIL, as applied here, is even more important in EST development and transfer discourse. While ESTs are not climate change's silver bullet, they are essential to both climate mitigation and adaptation. In

Figueres's words, humanity's 'survival depends on our improvement of technology'.¹⁹ Should such technologies be subject to the normal workings of the market and intellectual property (IP) rules? The situation is even direr given the necessity to make ESTs fitting to the peculiarities of places. According to Shabalala, developing countries 'do not present sufficient markets for private actors to develop technologies to serve their needs; and where technologies exist and are protected by IP, they do not present sufficient markets for right-holders to sell or licence their technologies'.²⁰ And one might be quick to indict multinational companies (MNC) in the 'global north', it is worth querying how 'global south' MNCs have fared. While emerging economies like China and India are becoming increasingly dominant in the global EST industry,²¹ there appears to be no marked difference in their approach to EST development and transfer.²² But does the emergence of China and India mean they should have the same level of responsibility as 'developed States'? Is there a middle category between the 'South' and the 'North' that such emerging economies can occupy?

15 Balakrishnan Rajagopal, 'International Law and Its Discontents: Rethinking the Global South' (2012) 106 *Proceedings of the American Society of International Law Annual Meeting* 176.

16 Adrian Parr, 'The Wrath of Capital: Neoliberalism and Climate Change Politics – Reflections' (2015) 62 *Geoforum* 70.

17 Following Wright, capitalism as used here refers to an economic system influenced by class relations and relentlessly driven by profits. See Erik Olin Wright, *Envisioning Real Utopias* (Verso 2010) <<https://www.aacademica.org/erik.olin.wright/46.pdf>>.

18 Karl Polanyi, *The Great Transformation* (2nd edn, Beacon Press 2001) <https://inctpped.ie.ufrj.br/spiderweb/pdf_4/Great_Transformation.pdf> 46 – 47.

19 Christiana Figueres, former Secretary General to the United Nations Framework Convention on Climate Change (UNFCCC) quoted by Catherine Saez, 'Human Survival Depends On Shared Technology, Says New UN Climate Chief' (Intellectual Property Watch, 2010) <<https://www.ip-watch.org/2010/09/03/human-survival-depends-on-technology-says-new-un-climate-chief/>>.

20 Dalinyebo Shabalala, 'Technology Transfer for Climate Change and Developing Country Viewpoints on Historical Responsibility and Common but Differentiated Responsibilities' in Joshua D Sarnoff (ed), *Research Handbook on Intellectual Property and Climate Change* (Edward Elgar 2016) 172.

21 Brett Relander, 'Investing in Green Technology' (Investopedia 2019) <<https://www.investopedia.com/articles/investing/040915/investing-green-technologythe-future-now.asp>>.

22 See generally Frauke Urban, 'China's Rise: Challenging the North-South Technology Transfer Paradigm for Climate Change Mitigation and Low Carbon Energy' (2018) 113 *Energy Policy* 320.

The relevance of considering the history of the EST transfer regime under the UNFCCC is aptly captured by B.S. Chimni, who notes that ‘the road to the future ... winds its way through the past’.²³ The unmasking that TWAIL’s emphasis on history and continuity of trends fosters, is crucial in climate change scholarship. Attempts to narrate the history of the climate regime, however, often divorce the regimes from their larger socio-political context. Such historical accounts take, as their starting point, either the 1972 Stockholm Convention or the 1992 Rio Convention.²⁴ This trend is, however, not unique to climate change scholarship, as other areas of international law have been criticized for ‘cherry-picking’ history, divorcing them from their broader contexts and equating western history to global history.²⁵ Crucial to the TWAIL agenda is the unmasking of presumptions and representations that underpin the global governance structure – in this case, the UNFCCC EST transfer regime. Part III applies TWAIL’s historical approach to take a more extensive look at the evolution of the UNFCCC EST transfer framework.

3

THE EVOLUTION OF THE UNFCCC TECHNOLOGY TRANSFER FRAMEWORK

Although the EST regime has evolved in form over the years, I argue that common trends have been replicated over its various evolutionary phases. Examples include the developed-developing States

dichotomy and right - responsibility based differentiation debate. These, in turn, have resulted in similar substantive results across the various phases. I have grouped the evolution of the UNFCCC EST transfer into five phases. The period considered covers years leading to the making of the 1992 UNFCCC to the establishment of the technology framework under the 2015 Paris Agreement. It is worth noting that the phases considered below are not insular. The different periods bleed into one another. They have, however, been phased in the manner below to capture major initiatives designed to drive EST development and transfer. Whereas not all transfer initiatives are covered, the underneath phases represent key initiatives from pre-1992 period to shortly after the 2015 Paris Agreement. The regime continues to evolve. This article, in part, provides a normative frame with which the ongoing evolution can be studied in future works.

3.1 The Pre-1992 UNFCCC Phase

The ‘oil crisis’ and the failed attempt to enact an International Code of Conduct on the Transfer of Technology (ICCTT), provides a start-point for the analysis of the evolution of the UNFCCC technology transfer framework. These two events occurred between the 1960s and 1980s, a period marked by the ‘independence’ of colonized States and a gradual sensitization of the world to the consequences of North-induced global environmental degradation. The argument is made below that the features of these two events have, to varying extents, characterised the various phases of the EST transfer regime, including the current framework.

Attending the independence of colonized States in the 1960s was their realization of the need to have control over the natural resources within their territories, particularly, oil and gas. Prior to this, developed States, through multinational oil companies (MNOCs), dominated these industries.²⁶ The

23 Chimni, ‘The Past, Present and Future of International Law: A Critical Third World Approach’ (n 11) 499.

24 See for example Daniel Blobel and others, United Nations Framework Convention on Climate Change Handbook (Climate Change Secretariat (UNFCCC) 2006) <<https://www.ecologic.eu/de/1911>> 17-20.

25 Chimni, ‘The Past, Present and Future of International Law: A Critical Third World Approach’ (n 11) 500-502.

26 ‘OPEC/ : Brief History’ (OPEC 2020) <https://www.opec.org/opec_web/en/about_us/24.htm>; Ian Mann, ‘Shaky Industry That Runs the World’ (archive.vn, 2010) <<http://archive.vn/ZOHoz>>.

formation of OPEC and the recognition of the permanent sovereignty of States over their natural resources by the United Nations (Resolution 1803(XVII)), along with the heavy dependence of the North on fossil fuel from developing States, set the stage for the oil-rich developing States to leverage their control over oil and gas supply as a tool of political persuasion of the North. This has been referred to as the ‘oil weapon’.²⁷ Developing countries, at various times, including 1956, 1967 and 1973, employed the ‘oil weapon’.²⁸ The effects of the 1973 oil embargo exemplify the far-reaching implications of these actions and the eventual influence they had on the North.²⁹

Incidences like the 1973 embargo led to the establishment of the Energy Coordinating Group (ECG) under the umbrella of the Organization for Economic Cooperation and Development (OECD) in 1974.³⁰ The ECG’s central mandate was ‘...(the) shift from a seller’s market to a buyer’s market by the enforcement of oil-saving measures and the switch to other energy sources’.³¹ As reiterated in the enabling instrument of the International Energy Agency (IEA) (which replaced the ECG), OECD countries agreed to undertake ‘long-term cooperative efforts on conservation of energy, on accelerated development of alternative sources of energy, on research and development in the energy field...’³² Hence, recourse

to ‘renewable energy’ and ‘energy efficiency’, two of the most prominent categories of ESTs, became central to OECD member states’ energy policy.

The above, in part, qualifies for a vital but often untold part of the history of how renewable energy gained its prominence in the North, and invariably, the world. Economic imperatives actuated the actions of the West in respect to sustainable technologies, not environmental concerns. The need for energy security informed the recourse to renewable energy and efficiency practices.³³ This economic underpinning remains extant today, although the more altruistic rhetoric of environmental sustainability is harped on. Take, for example, Germany’s energy transition programme – *energiewende* – of the six reasons given for the transition, five pertained to the German economy.³⁴ On green economy, the publication on the programme notes that ‘Germany ... is positioning itself as an innovator in green technologies ... exports made up for 65 percent of German PV production in 2013 ... and the target is 80 percent in 2020’.³⁵ The point is not that the economy cannot benefit from sustainable energy, but that if the economy is given a ‘first-line-charge’ right, the environment, and by extension, humanity, will end up holding the shorter end of the stick. To frame the development and management of ESTs in the context of economic

27 Defined as ‘any manipulation of price and/or supply of oil by exporting nations with the intention of changing the political behavior of the consumer nations’. See Hanns Maull, ‘Oil and Influence: The Oil Weapon Examined: Introduction’ in G Treverton (ed), *Energy and Security* (Gower Publishing 1980) 3.

28 The 1956 Suez Canal crisis, 1967 Suez Canal blockade, 1973 Arab-Israeli war and the perceived anti-Arab stance of western countries resulted in Organization of Arab Petrol Exporting Countries (OAPEC) cutting back supplies of oil to the west. See generally Sanam S Haghghi, *Energy Security* (Hart Publishing 2007).

29 *ibid* 54.

30 The ECG later became the International Energy Agency (IEA). See Richard Scott, *The History of the International Energy Agency 1974 – 1994: Origins and Structure*, vol 1 (OECD 1994) 47-8.

31 Henri Simonet, ‘Energy and the Future of Europe’ (1975) 53 *Foreign Affairs* 454.

32 Agreement on an International Energy Program (as amended 30 November 2007), Preamble IEP.

33 Winston Churchill is reputed to have remarked that ‘on no one quality, on no one process, on no one country, on no one route and on no one field must (the United Kingdom) be dependent. Safety and certainty in oil lie in variety and variety alone’. Quoted in Daniel Yergin, *The Prize: The Epic Quest for Oil, Money and Power* (Simon and Schuster 1999) 160.

34 Craig Morris and Martin Pehnt, *The German Energiewende Book* (Heinrich Boll Stiftung 2017) <<https://lifeaftercoal.org.za/wp-content/uploads/2017/07/Morris-et-al-German-Energy-Transition.pdf>>5.

35 *ibid* 11.

dominance and GDP growth invariably impacts how such technologies are dealt with. The stronger the economic objective, the lesser the willingness to have a non-market-oriented transfer structure.

Another development that attended the ‘independence’ of developing States in the 1960s is the formation of the G77 in 1962.³⁶ At ‘independence’, previously colonised States realised that political autonomy in itself does not translate into development.³⁷ They indicted the North-centric international order which had been designed, without the input of the South, to advance the interest of the North.³⁸ Hence, they called for a reformed international order which guarantees the South’s right to development.³⁹ According to Doudou Thiam, this right mandates the tearing down of practices, institutions and rules on which unjust and exploitative international economic relations are based.⁴⁰ Subsequently, the Declaration on the Establishment of a New International Economic Order (NIEO) was made in

1974.⁴¹ The Declaration, in part, demanded access to the ‘achievements of modern science and technology’ and the creation of indigenous technologies in accordance to procedures suited to their economies.⁴² To operationalize the NIEO Declaration, the UNGA adopted a programme of action.⁴³ Item IV of the Programme requires that efforts must be made to formulate and draft the International Code of Conduct on the Transfer of Technology (ICCTT).⁴⁴

The negotiation of the ICCTT was extensively impacted by the developed – developing States dichotomy. While the G77 proposed a mandatory code which covers all forms of technology transfer regardless the status of parties (e.g. private or public bodies), developed States proposed a non-binding instrument with clear distinction between parties.⁴⁵ Again, there was an all-out contradiction in the normative bases of both groups’ negotiating positions. While the North advocated for a regime based on liberal economic principles, ‘the South considered technology as the common heritage of all mankind’.⁴⁶ The position on intellectual property

36 g77, ‘Origin of The Group of 77’ (2020) <<http://www.g77.org/paris/history/pdf/historyG77.pdf>>.

37 Mutua (n 10) 34.

38 See generally M Rafiqul Islam, ‘History of the North–South Divide in International Law: Colonial Discourses, Sovereignty, and Self-Determination’ in Carmen G Gonzalez and others (eds), *International Environmental Law and the Global South* (Cambridge University Press 2015) <<https://www.cambridge.org/core/books/international-environmental-law-and-the-global-south/history-of-the-northsouth-divide-in-international-law-colonial-discourses-sovereignty-and-self-determination/CF4988C74A64BEA8FCB9E4CC363B92EF>> 23 – 49. See also BS Chimni, ‘Customary International Law: A Third World Perspective’ (2018) 112 *American Journal of International Law* 1.

39 Daniel J Whelan, ‘“Under the Aegis of Man”: The Right to Development and the Origins of the New International Economic Order’ (2015) 6 *Humanity: An International Journal of Human Rights, Humanitarianism, and Development* 93.

40 Doudou Thiam’s (former Senegalese Foreign Minister) Address to the UNGA, UNGA Off. Records. 21st Sess., 1414th Plenary Meeting, September 23, 1966 cited in Whelan, *ibid*.

41 See, UN General Assembly Resolution 3201 (S-VI), Declaration on the Establishment of a New International Economic Order, 1 May 1974, UN Doc A/RES/S/6/3201 (NIEO Declaration).

42 *ibid* para 4(p).

43 UN General Assembly Resolution 3202 (S-VI), Programme of Action on the Establishment of a New International Economic Order, 1 May 1974, UN Doc A/RES/S-6-3202.

44 For a comprehensive commentary on the history of the ICCTT, See generally Surendra J Patel, Roffe Pedro and Abdulqawi A Yusef (eds), *International Technology Transfer, the Origins and Aftermath of the United Nations Negotiations on A Draft Code of Conduct* (Kluwer Law International 2000) <<https://irus.wolterskluwer.com>>.

45 Dennis Thompson, ‘An Overview of the Draft Code’ in Patel, Pedro and Yusef (eds), *ibid* 52-8.

46 Joel Davidow and Debra Miller, ‘Antitrust at the United Nations: A Tale of Two Codes’ in Patel, Pedro and Yusef (eds), *ibid* 86.

rights (IPRs) is also telling. While the South contended stridently that IPRs are constricting development and technology transfer, the North took the position that IPRs and the monopolies they engender are ‘necessary evil to foster invention’.⁴⁷ The attempt of the South to negotiate technology transfer outside the aegis of the World Intellectual Property Organization (WIPO) was also resisted by the North.⁴⁸ Importantly, although in one breath calling in aid the autonomy of Transnational Companies (TNCs) vis-à-vis the right to transfer technologies, developed States represented the interests of the TNCs in the negotiations.⁴⁹ And, although it failed, the final draft of the ICCTT represented, in the main, the position of developed States, with developing States either having to forego their positions or water them down for acceptability.⁵⁰ However, even the compromises made by developing States had to be pro-economy before they could be accepted.⁵¹

The above features substantially characterise the EST transfer regime. This is not surprising, as the same normative bearings of States informed the positions taken at the negotiation of the climate regime. This reinforces the argument earlier made that developed States’ climate initiatives are primarily market centric. This conclusion would have been different if the existential implications of climate change had

influenced a position different from the one taken by developed States in the more generic ICCTT negotiation. Put together, the two pre-1992 events considered above form the foundation of the subsequent phases of the global EST transfer regime. A position well explained by Derrick Bell’s Interest Convergence Dilemma Theory.⁵² Although proffered in a context of the critical race movement, the theory can be aptly applied to the climate change discourse. Bell argues that ‘the interest of blacks in achieving racial equality will be accommodated only when it converges with the interests of the whites’.⁵³ Applied in the climate change context, the dilemma implies that until the North’s economic and hegemonic agenda is served, it generally lacks the will to contribute to non-economic causes.⁵⁴

3.2 Pre-Expert Group on Technology Transfer Phase (1992 – 2000)

The 1992 UNFCCC, the Rio Declaration and Agenda 21 provide the ‘gold standard’ for global EST transfer, a standard which has been increasingly fallen short of. The concept of differentiation was most evident in this era. The UNFCCC, and subsequently, the Kyoto Protocol, generally delineated States Parties into Annex

47 *ibid* 86-7.

48 *ibid* 88.

49 As noted elsewhere, in the ICCTT negotiations ‘...most highly industrialized States, ... either identified with the needs of suppliers (TNCs) or responded to their lobbying’. *ibid* 86. See also, UNCTAD Secretariat, ‘The Rationale for Regulatory Action’ in Surendra J Patel, Pedro Roffe & Abdulqawi Yusuf (eds), *International Technology Transfer: The Origins and Aftermaths of the United Nations Negotiations on a Draft Code of Conduct* (Kluwer Law International 2001) 3-16.

50 Davidow and Miller (n 46) 84-85.

51 For example, while the South clamoured for a binding instrument, the North want a non-binding instrument. In reaching a consensus on a ‘non-binding’ ICCTT, developed countries agreed with OPEC nations to completely exclude intergovernmental cartels from being caught by the anti-trust code under the Restrictive Business Practices (RBP) Code. See *ibid*. 83.

52 Derrick A Bell, ‘Brown v. Board of Education and the Interest-Convergence Dilemma’ (1980) 93 *Harvard Law Review* 518.

53 *ibid* 6, 8.

54 A similar point was made in respect of the overall acceptance and popularity of the Montreal Protocol. Harris notes that the U.S industry was the first to develop substitutes for ozone depleting substances, and the economic incentives that industry had, were some of the reasons for the success of the Montreal Protocol. See Paul Harris, ‘Collective Action on Climate Change: The Logic of Regime Failure’ (2007) 47 *Natural Resources Journal* 195. 211.

I, Annex II and non-annex States.⁵⁵ While Annex I included developed States and other countries described as economies-in-transition (EIT), annex II was primarily made up of developed States.⁵⁶ In the EST transfer context, this distinction is important, as it helps to understand the obligations agreed to by States under the climate framework. Art. 4(1)(c) of the Convention starts by mandating all States to promote and cooperate in the development and diffusion of ESTs. But as noted above, Art. 4 (5) of the Convention more particularly provides that ‘the developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to (ESTs)’. Further, under the UNFCCC, there is a clear linkage between EST transfer and finance and it explicitly makes the effective implementation of developing States’ commitments under the Convention contingent on the effective implementation of developed country parties’ financial and technology transfer commitments.⁵⁷ Article 4(3) and (5) of the UNFCCC is the product of the same contestations between developing and developed States which characterized and, arguably, led to the failed attempt to enact the ICCTI.

The Rio Declaration and Agenda 21 are not binding instruments. However, they provide more clarity and specificity on the EST transfer commitments of parties under the UNFCCC.⁵⁸ Principle 9 of the Rio Declaration admonishes states to co-operate in strengthening endogenous capacity building, in improving scientific understanding and enhancing the

development and transfer of technologies. Chapter 34 of Agenda 21 provides captures the understanding of State Parties on EST transfer in Rio.⁵⁹ The difficult and tactful melding of different positions of developing and developed States is evident in various paragraphs of Chapter 34. For example, paragraph 34.14 states that the objectives of Chapter 34 include the promotion, facilitation and financing of EST transfer on concessional and preferential terms and the protection of IPR. Paragraph 34.14 embraces the insistence of developing States on the transfer of technology on ‘concessional and preferential terms’,⁶⁰ even as developed States pressed for the protection of IPRs.⁶¹ Agenda 21 attempts to provide workable solutions in response to these seemingly irreconcilable differences. The proposed initiatives include:

- i. The development and linkage of international information networks through regional clearing-houses.⁶²
- ii. Provision of incentives by developed countries to companies, purchase of patents to transfer to developing countries and the prevention of the abuse of IPRs.⁶³
- iii. Establishment of international ESTs research centers.⁶⁴
- iv. The promotion of joint ventures between suppliers and recipients of technologies.⁶⁵

55 See generally UN Framework Convention on Climate Change (UNFCCC), New York, 9 May 1992, 1771 UNTS 107, art. 4, Annexes I & 2; Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11 December 1997, 2303 UNTS 162, arts. 1(7) & 11(2).

56 See UNFCCC (n 55) Annexes I and II.

57 See UNFCCC (n 55) art. 4(3), (5) & (7).

58 It has been argued that although unbinding, the Rio Declaration has ‘the same potential as did the Universal Declaration of Human Rights’, which (UDHR) later became deemed as part of customary international law. See RS Pathak and Akshay Jaitly, ‘Rio Declaration - Economic Issues for Developing Countries’ (1992) 1 Review of European Community & International Environmental Law 267.

59 Agenda 21, para 34.6 states that the chapter is ‘without prejudice to specific commitments and arrangements on transfer of technology to be adopted in specific international instruments’.

60 See for example Statement of HE Mr Ali Hassan Mwinyi, President of the United Republic of Tanzania, Report of the United Nations Conference on Environment and Development, Statements Made by Heads of State or Government at the Summit Segment of the Conference, A/CONF.151/26/Rec.1 (Vol. III).

61 See United States Submission, Report of the United Nations Conference on Environment and Development, A/CONF.151/26 (vol. IV).

62 Agenda 21, Report of the UN Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, UN Doc A/CONF.151/26, para 34.15.

63 *ibid* para 34.18(e).

64 *ibid* para 34.21.

65 *ibid* para 34.28.

The non-actualization of the lofty aspirations of Chapter 34 cannot be divorced from the divergence between developed and developing States on the principles that should underpin EST transfer. For example, while developing States at UNCED emphasised the relationship between development and environment and the responsibility of the North to do away with policies which impede the transfer of ESTs, western countries emphasised market policies, with Germany and the United Kingdom particularly referencing the then ongoing negotiations on the General Agreement on Tariffs and Trade (GATT), and subtly tying aid to 'policies which encourage inward investment, including ...the principles of good government'.⁶⁶ It was in the light of this unresolved conflict that the Secretary-General of UNCED, Maurice Strong, noted that while there was an agreement on technology transfer, there was unclarity on the principles of the agreement.⁶⁷

Indeed, after the coming into force of the UNFCCC in 1994, the unreadiness of State Parties to implement the agreement, principles and action plan on EST transfer became apparent. It is worth noting that in the phase under consideration, the SBSTA was the body overseeing EST transfer initiatives. This is instructive, as the Subsidiary Body on Scientific and Technological Advice (SBSTA) is only an advisory rather than an implementing body. Thus, the focus of the UNFCCC in this phase was essentially consultative. Issues that recurred in the various COP Decisions on EST transfer included the need for Annex II countries to include in their national communications measures taken for the transfer of technology; the need for technology needs assessment (TNA) of developing

countries; the need for the development of international technology information centres (clearing houses); and the central role of the private sector in facilitating transfer.⁶⁸ There was, however, a subtle shift from emphasising provision of information by home and host States to the development of the local absorptive capacity of the host state at COP 4 in Buenos Aires.⁶⁹ COP 4 led to the development of the Buenos Aires Plan of Action and the establishment of a consultative process under the SBSTA.⁷⁰

Despite these activities, little was done as regards implementation. This can be gleaned from SBSTA's compilation of parties' submissions in 1999⁷¹ and report on the status of the consultative process (submissions from parties) in 2000.⁷² For example, the position paper of the G77 mirrored, substantially, where developing countries were in 1992.⁷³ As in 1992, developing countries were still clamouring for inventories of ESTs from developed States, establishment of a technology transfer clearinghouse, provision of financial assistance, the initiation of pilot projects and the establishment of a dedicated fund within the financial mechanism to aid capacity building and effective transfer in the year 2000.⁷⁴ Again, the developed – developing States tension was evident in this phase. For example, while the G77, in their 2000

66 See the submissions of the Heads of Governments/ States of India, Malaysia, Tanzania, Vanuatu and G77 (n 60) 1-3, 230-3, 187, 208 and 152-5. respectively. See also the submissions of Germany and Great Britain. See (n 61) 28 and 27.

67 See Statement of Maurice F Strong, Report of the United Nations Conference on Environment and Development, A/CONF.151/26 (vol. IV).

68 See Decision 12/CP.1, FCCC/CP/1995/7/Add.1; Decision 7/CP.2, FCCC/CP/1996/15/Add.1; Decision 9/CP.3, FCCC/CP/1997/7/Add.1; Decision 4/CP.4, FCCC/CP/1998/16/Add.1 and Decision 9/CP.5, FCCC/CP/1999/6/Add. 1.

69 See Decision 4/CP.4, FCCC/CP/1998/16/Add.1, paras 1 and 4.

70 See *ibid* Decision 1/CP.4, *ibid* & Decision 4/CP.4, para 9.

71 SBSTA, 10th Sess., (1999) Development and Transfer of Technologies – Submissions from Parties: Part One, FCCC/SBSTA/1999/MS.5.

72 SBSTA, 13th Sess., (2000) Development and Transfer of Technologies – Status of the Consultative Process (Submission of Parties) <<https://unfccc.int/resource/docs/2000/sbsta/misc04.htm>>.

73 See, Paper No. 3: Group of 77 and China, *ibid*.

74 *ibid*.

communication, noted that the Clean Development Mechanism (CDM) under the 1997 Kyoto Protocol ‘shall not be seen as a mechanism to implement Article 4.5 of the Convention’,⁷⁵ the United States portrayed the CDM as providing ‘important incentives to enhance the transfer of ESTs and the implementation of Article 4.5’.⁷⁶ Again, the G77 demanded the establishment of a Transfer of Technology Mechanism with institutional and funding sub-mechanisms;⁷⁷ a proposal which did not garner the support of developed States. As noted earlier, one of the emphases of the COP decisions between 1995 and 2000 was the conduct of TNAs in developing States. There were, however, no commensurate implementing initiatives to assessed needs. For example, in 1998, the SBSTA conducted a survey of technology needs with an extensive participation of developing States.⁷⁸ The survey highlighted energy, transportation, agriculture, forestry and coastal zone management as the key areas of needs of surveyed countries.⁷⁹ As will be seen later, successive TNAs conducted in subsequent years made similar findings, indicating that little or nothing was done in actioning the TNA findings made.

3.3 The Expert Group on Technology Transfer Phase (2001–2007)

COP 7 which was held in Marrakesh in 2001 is generally believed to be another landmark in the international climate regime. The Marrakesh Accords, which included extensive decisions on capacity building and EST transfer, were some of the stand-out features of the Conference. More importantly, however, is the establishment of the Expert Group on Technology

Transfer (EGTT) and adoption of the Framework for Meaningful and Effective Actions to enhance the Implementation of Article 4(5) of the Convention (Framework).⁸⁰ The terms of reference of the EGTT included analysing and identifying ‘ways to facilitate and advance technology transfer activities’.⁸¹ The Expert Group was to report to the SBSTA, and its progress and continued relevance were to be appraised after five years (COP 12).⁸² Arguably, the framework established under COP 7 marked the clearest transition in the focus of the global EST transfer regime. It is worth recalling that under the UNFCCC and Rio 21, there was a recognition that while developing countries must develop absorptive capacities and enabling environment, a responsibility lies with developed States to ensure access to and availability of ESTs. Under the COP 7 Technology Transfer Framework, however, it was stated under the header ‘Overall Approach’, that ‘the successful development and transfer of ESTs and know-how requires a country-driven, integrated approach, at a national and sectoral level’.⁸³ Consistent with this focus, the Framework emphasised TNA, technology information, enabling environments, capacity building and mechanisms for technology transfer, as its five components.⁸⁴

The argument here is not as to the inappropriateness of the identified components, but more on the reversal of roles. Indeed, while reference was made to the ‘supportive’ role to be played by developed countries, these roles were, at best, only passively framed.⁸⁵

75 *ibid.*

76 SBSTA (n 72).

77 *ibid.*

78 SBSTA, 8th Sess., 1998, Development and Transfer of Technologies – Technology and Technology Information Needs Arising from the Survey of Developing Country Parties, FCCC/SBSTA/1998/INF.5.

79 *ibid.*

80 See Decision 4/CP.7, FCCC/CP/2001/13/Add.1, paras 1 & 2.

81 *ibid.* para 2. See also, ‘Terms of Reference to Expert Group on Technology Transfer’, Appendix to Decision 4/CP.7, FCCC/CP/2001/13/Add.1.

82 *ibid.*

83 ‘Framework for Meaningful and Effective Actions to Enhance the Implementation of Article 4, Paragraph 5, of the Convention’, Annex to Decision 4/CP.7, FCCC/CP/2001/13/Add.1, para 2.

84 *ibid.* paras. 3-22.

85 For example, the Framework stated that ‘..... Developed country parties ... are urged to facilitate and support the needs assessment process, recognising the special circumstances of least developed countries’. *ibid.* para 5 & 6.

Although the Framework nibbled at various provisions in Chapter 34 of Agenda 21, it marked a substantial move away from Agenda 21's lofty aspirations. For instance, it was silent on the initiatives to be taken by developed States to get around the patent barrier which Chapter 34 clearly articulated. Worth noting also is that while financial support was referenced under different components, it was not made a stand-alone component. When it is appreciated that when the G77 proposed the technology transfer mechanism in 2000, it identified funding as one of two sub-components,⁸⁶ the ancillary role given to it under the Framework becomes more suspect. Despite the foregoing, the EGTT phase signalled a step away from the inertia of the pre-EGTT phase. Significantly, in attempting to meet Chapter 34's recommendation of the establishment of an information clearinghouse, an online platform - TT: CLEAR – was developed in 2001. Like the Framework, however, TT: CLEAR is another example of the watering down of the intentions of Chapter 34. The platform contains more information on the institutional working of the UNFCCC and its specialized bodies, than it does on information on 'available technologies, their sources, their environmental risks, and the broader terms under which they may be acquired'.⁸⁷

The EGTT's most substantial achievement is, perhaps, the standardization of the TNA process for developing countries.⁸⁸ Further to this, the first synthesis report on the technology needs of developing States was published in 2006.⁸⁹ It is necessary to point out the similarities in the findings reached in the 1998 TNA

survey and 2006 synthesis report. For example, both inquiries indicated energy, transportation, industry, agriculture and forestry as the primary mitigation sectors identified by developing countries.⁹⁰ Again, finance and information were ranked as the major barriers in both reports.⁹¹ The second and third synthesis reports compiled in 2009 and 2013 respectively made similar findings as the 1998 and 2006 findings.⁹² This informs a couple of conclusions. One is that, as noted earlier, it shows that little or no action was taken on identified needs, hence, the recurrence of the same needs over a span of about fifteen years. Two, it un masks as incorrect, the representation that TNAs are more pivotal to EST transfer than the responsibilities of developed States. Again, like the pre-EGTT phase, no substantial progress was made to facilitate actual transfer of ESTs during the EGTT phase. This said, however, one of the phase's bright spots is the recognition of the need to more effectively link the technology and financial mechanisms. Hence, it was emphasised in COP 13 in Bali that the Global Environment Facility (GEF), 'as an operating entity of the financial mechanism of the Convention, should provide financial support for the technology transfer framework'.⁹³

3.4 The Poznan Strategy Phase (2007–2020)

While the EGTT was reconstituted for five more years in 2007,⁹⁴ a more momentous development was the establishment of the Poznan Strategic Programme in

86 SBSTA (n 72).

87 See 'About TT: CLEAR' <<http://unfccc.int/ttclear/about>>. See also, Agenda 21, para 34.15.

88 See R Gross and others, *Conducting Technology Needs Assessments for Climate Change* (UNDP 2004). See a more recent version – Sarwat Chowdhury and others, *Handbook for Conducting Technology Needs Assessment for Climate Change* (UNDP 2010).

89 *Synthesis Report on Technology Needs Identified by Parties not Included in Annex 1 to the Convention*, SBSTA, 24th Sess, FCCC/SBSTA/2006/INF.1 (2006) (First Synthesis Report).

90 See Framework for Meaningful Actions (n 83). See also *ibid* 31.

91 *ibid*.

92 See generally, *Second Synthesis Report on Technology Needs Identified by Parties not Included in Annex 1 to the Convention*, SBSTA, 30th Sess, FCCC/SBSTA/2009/INF.1 (2009) (Second Synthesis Report) & *Third Synthesis Report on Technology Needs Identified by Parties not Included in Annex 1 to the Convention*, SBSTA, 39th Sess, FCCC/SBSTA/2013/INF.7 (2013) (Third Synthesis Report).

93 *Development and Transfer of Technologies under the Subsidiary Body for Scientific and Technological Advice*, Decision 3/CP.13, UNFCCC/COR, 2007, FCCC/CP/2007/6/Add.1, 12 at 14.

94 *ibid* para 3.

Technology Transfer (PSP) by the GEF.⁹⁵ The PSP was the result of Decision 4/CP.13 reached in Bali requesting the GEF to, ‘in consultation with interested Parties ... elaborate a strategic programme to scale up the investment for technology transfer to help developing countries...’⁹⁶ Further to this mandate, the GEF designed the PSP where it highlighted ‘three funding windows’ to be supported under the programme – TNAs, piloting priority technology projects, and the dissemination of GEF experience and successfully demonstrated technologies.⁹⁷ The GEF committed about \$50 million to these windows, with the technology demonstration (pilot) component allocated four-fifth of the fund.⁹⁸ Given its limited fund, eligible countries were limited to receiving not more than \$1 – \$3 million for a maximum of one project. In 2010, the GEF proposed a Long-Term Program on Technology Transfer (LTP) to COP 16.⁹⁹ The LTP added two windows to the PSP: public-private partnerships (PPPs) for technology transfer and support for climate technology centres and a climate technology network.¹⁰⁰ Arguably, the PSP and LTP are the closest developing States have gotten to their clamour for a special fund for technology transfer since the inception of the climate change regime. It is worth noting that the PSP and LTP are also the first deliberate efforts to give effect to the TNA conducted in or by

developing States, as both programmes tailored funding to TNA findings.¹⁰¹ An obvious let-down, however, is the project and funding constraint in the programmes. It appears that the State-by-State funding model of the GEF is inefficient considering its limited resources. The prioritization of regional capacity building and transfer of technology projects might be a more sustainable pattern. For example, making an investment in a research and development facility in the West African region seems more effective than funding specific technologies per country.¹⁰²

Although designed to facilitate technology transfer, Poznan is primarily anchored on investment strategies. The Technology Executive Committee (TEC) in its 2015 review of Poznan notes that ‘only one of the programme framework documents for the approved programmes directly refers to technology transfer’.¹⁰³ The mobilization of private investment is essential to Poznan’s operations. Hence, its climate technology transfer and finance centres are in multilateral development banks (MDB).¹⁰⁴ With the exception of the Finance and Technology Transfer Centre for Climate Change of the European Bank for

95 The PSP was originally named ‘Strategic Program to Scale Up the Level of Investment in the Transfer of Environmentally Sound Technologies’ by the GEF, before it was changed by the COP. See Development and Transfer of Technologies, Decision 2/CP.14, UNFCCCOR, FCCC/CP/2008/7/Add.1, 3.

96 See Development and Transfer of Technologies Under the Subsidiary Body for Implementation, Decision 4/CP.13, UNFCCCOR, 2007, FCCC/CP/2007/6/Add.1, para 3.

97 Elaboration of a Strategic Program to Scale up The Level of Investment in the Transfer of Environmentally Sound Technologies, GEF, GEF/C.34/5. Rev. 1 (2008), 14 – 16.

98 *ibid* 14-15.

99 GEF, Implementing the Poznan Strategic and Long-Term Programs on Technology Transfer (GEF 2012) <https://www.thegef.org/sites/default/files/publications/GEF_PoznanTT_lowres_final_2.pdf>6.

100 *ibid* 6.

101 GEF (n 97) 15.

102 While developing States possess unique technological needs, a review of the 1st, 2nd, and 3rd TNA synthesis reports show some common trends in the needs identified by these countries. See SBSTA, ‘Synthesis Report on Technology Needs Identified by Parties not Included in Annex I to the Convention’ 24th Sess., 18 – 26 May, 2006, FCCC/SBSTA/2006/INF; SBSTA, ‘Second Synthesis Report on Technology Needs Identified by Parties not Included in Annex I to the Convention’ 30th Sess., 1 – 10 June 2009, FCCC/SBSTA/2009/INF; SBSTA, ‘Third Synthesis Report on Technology Needs Identified by Parties not Included in Annex I to the Convention’ 39th Sess., 11 – 16 November 2013, FCCC/SBSTA/2013/INF.7. See also Christina Chaminade and Hjalti Nielsen, *Transnational Innovation Systems* (ECLAC-GIZ 2011).

103 Subsidiary Body of Implementation, Evaluation of the Poznan Strategic Programme on Technology Transfer: Final Report by the Technology Executive Committee, 43rd sess., FCCC/SBI/2015/16, para 33.

104 *ibid* para 19. The Inter-American Development Bank, European Bank for Reconstruction and Development, Asian Development Bank, and African Development Bank, house Poznan’s four regional pilot centre projects.

Reconstruction and Development (EBRD), the MDB centres only facilitated access to finance rather than offering financial instruments.¹⁰⁵ Hence, there are no investments on African Development Bank and Inter-American Development Bank generated projects.¹⁰⁶ The TEC notes that ‘without access to finance, project generation will lose momentum, and their added value through ability to function as project accelerators risks being cast in doubt’.¹⁰⁷ Making private investment core to Poznan’s operation skews its relevance and effectiveness among developing countries. Least developed countries stand lesser chance of benefiting considering their less attractive markets. In 2015, while 14 per cent (mitigation) and 25 per cent (adaptation) of total international public climate finance went to least developed and low-income countries, 65 per cent (mitigation) and 43 per cent (adaptation) were committed to middle income countries.¹⁰⁸ To prevent climate finance and technology transfer from becoming another domain of the rich – poor divide, structures like Poznan must be refashioned. Applying equal requirements to unequal countries will increasingly foster an inequitable climate finance and technology transfer regime.

3.5 The Technology Mechanism and Framework Phase (2010 - 2020)

The EGTT phase came to an end at the 2010 COP 16 in Cancun, two years before it was due for appraisal.¹⁰⁹ The premature termination of the EGTT was essentially due to dissatisfaction with its non-implementation role.¹¹⁰ In 2008, the G77 and China submitted a proposal to the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention (AWG-LCA) which had been constituted the year before at Bali, Indonesia. A review of this proposal is key to appreciating its difference from the eventual make-up of the mechanism. According to the G77, such mechanism is needed given the urgent need for access to ESTs and the inhibition of barriers to transfer including limited financing.¹¹¹

With this preface, a two-body mechanism made up of an Executive Body on Technology (EBT) and Multilateral Climate Technology Fund (MCTF) was proposed. The EBT was to be made a subsidiary body of the Convention and should be supported by: Strategic Planning Committee (SPC), Technical Panels, Verification Group and Secretariat.¹¹² The MCTF on the other hand was to ‘provide technology-related financial requirements as determined by the Executive Body’. The proposal further envisaged a Technology

105 Technology Executive Committee, Updated Evaluation of the Poznan Strategic Programme on Technology Transfer, 18th Meeting, TEC/2019/18/4, para 67.

106 *ibid* para 68.

107 *ibid* para 69.

108 Paul Steele, ‘Development Finance and Climate Finance – Achieving Zero Poverty and Zero Emissions’ (2015) International Institute for Environment and Development Discussion Paper <<https://pubs.iied.org/pdfs/16587IIED.pdf>>. This is also the trend under the Green Climate Fund (GCF), which has committed 65 per cent of its fund to middle income countries like Mexico and India, while only 18 per cent have gone to the poorest countries. See Sennan Mattar, Stephen Kansuk and Tahseen Jafry, ‘Global Climate Finance is Still Not Reaching Those Who Need it Most’ (The Conversation, 2019) <<http://theconversation.com/global-climate-finance-is-still-not-reaching-those-who-need-it-most-115268>>.

109 Reports of the Conference of the Parties on its Sixteenth Session, held in Cancun from 29 November to 10 December 2010, Decision 1/CP.16, UNFCCCOR, 2010, FCCC/CP/2010/7/Add.1, para 124, (Decision 1/CP.16).

110 Shabalala (n 20) 184.

111 Proposal by the G77 & China for A Technology Mechanism under the UNFCCC http://unfccc.int/files/meetings/ad_hoc_working_groups/lca/application/pdf/technology_proposal_g77_8.pdf.

112 The SPC is to develop strategy for EST transfer; technical panels are to generate and compile expert information on subjects relating to capacity building and transfer; verification group is to verify financial and technological contributions and the Secretariat is to ‘support and facilitate the activities of the Executive Body’. *ibid* 2.

Action Plan (TAP) which would ‘include clear actions and dates for the first three years, and will be updated for successive three-year periods’.¹¹³ The TAP was to ‘support all stages of the technology cycle’ and develop policies on public domain technologies, patented technologies and future technologies.¹¹⁴ The proposal also identified accessibility, affordability, appropriateness, adaptability, provision of full incremental costs, adequacy and predictability of funds and the removal of barriers for EST transfer, as the guiding criteria of the mechanism.¹¹⁵ It is interesting to note that TNA was not part of this proposal. Given its exclusion, it is not farfetched to contend that developing States do not give the same pride of place to TNAs as done by developed States and the UNFCCC.

The G77 and China’s proposed mechanism was, in the actual sense, not novel, as it only summarised their position from the ICCTT negotiation phase. It was, therefore, not surprising that developed countries rejected it. As noted elsewhere, developed countries largely took a more commercial perspective to EST transfer and were particularly ‘wary of concessions in the technology discussions which could adversely impact their competitiveness’ in light of China and India’s growing technological capacity.¹¹⁶ A compromise, in principle, was however reached at COP 15 in Copenhagen, where parties agreed to a Mechanism consisting of a Technology Executive Committee (TEC) and a Climate Technology Centre

and Network (CTCN).¹¹⁷ These two components were essentially a break-up of the G77 proposed EBT, with the MCTF component completely removed. Despite this relative progress, various vital issues were unresolved in Copenhagen. Chief among these are linkage of the mechanism to finance¹¹⁸ and intellectual property rights.¹¹⁹ While G77 and China wanted an explicit linkage between the financial and technology mechanisms, and the provision of new and additional funding to meet the full incremental costs of mitigation and adaptation, developed countries wanted both regimes to remain distinct.¹²⁰

Again, while developing States wanted the mechanism to recognise IPRs as a barrier and sought the creation of initiatives like a ‘Global Technology Intellectual Property Rights Pool for Climate Change that promotes and ensures access to Intellectual Property protected technologies and the associated know-how...’, developed States insisted that no reference should be made to IPRs in the text, preferring that issues pertaining to IPRs are dealt with in the World Trade Organization (WTO) context.¹²¹ Unsurprisingly, the developed countries prevailed. Neither was there a link between the technology and financial mechanisms nor was any reference made to IPRs in the Technology Mechanism (TM) agreed to at Cancun in 2010. Although the linkage between the technology and financial mechanisms has been part of ongoing

113 *ibid* 3.

114 *ibid*.

115 *ibid* 3.

116 ICTSD, ‘The Climate Technology Mechanism: Issues and Challenges’ (2011) ICTSD Information Note Number 18 < <https://www.ictsd.org/downloads/2011/04/technologymechanism.pdf> > 3.

117 Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention: Draft Conclusions Proposed by the Chair, Draft Decision -/CP.15, UNFCCC/COP.15, UNFCCC/COR.2009, FCCC/AWG/LCA/2009/L.7/Add.3, paras 7 - 20.

118 *ibid* paras 8, 14.

119 *ibid* para 17.

120 See Heleen de Coninck and Ambuj Sagar, ‘Technology Development and Transfer (Article 10)’ in Klein and others (eds) (n 3) 248, 263.

121 ICTSD (n 116) 17.

conversations,¹²² progress has been slow.¹²³ Hence, ‘securing sustained funding’ has remained the CTCN’s most festering challenge.¹²⁴ The TM also marks a break from Chapter 34 of Agenda 21. For example, the preamble to the TM which merely stated that ‘recalling the commitments under the Convention, in particular Article 4, paragraphs 1, 3, 5, 7, 8 and 9’.¹²⁵ Contrariwise, virtually every other COP decision prior to Cancun (COP 16) referenced Chapter 34. The content of the TM leads to the presumption that the exclusion of Chapter 34 was not indeliberate. Arguably, whereas the TM was conceived to remedy the bare policy making status of the EGTT, it appears to have reincarnated it. Again, although the CTCN is represented as the implementation arm of the TM, while the TEC is to be the policy making arm, the CTCN has been slow in occupying this implementation space. As aptly put by Shabalala, ‘...the CTCN does not have an implementation mandate and, for the moment,

appears limited to providing advisory services to developing countries’.¹²⁶

The Paris Agreement established a technology framework (TF) to provide ‘overarching guidance to the work of the technology mechanism’.¹²⁷ The adoption text of the Paris Agreement provides a cue as to what ‘overarching guidance’ means. The Framework is expected to facilitate, inter alia, the undertaking of technology needs assessment, enhanced implementation of their results, enhanced financial and technical support, assessment of technologies for transfer, and the enhancement of enabling environments to address barriers to development and transfer of socially and environmentally sound technologies.¹²⁸ While it is too early to assess whether the TF has succeeded in facilitating the foregoing, the extent to which it reflects these features can be assessed. Arguably, TF’s themes – innovation, implementation, enabling environment and capacity building, collaboration and stakeholder engagement, and support – address the issues identified in the Decision 1/CP. 21.¹²⁹ However, compared to the far-reaching contents of its negotiating text, the TF in various ways reproduced previous trends. For example, the negotiating text refers to increasing the effective participation of developing States in collaborative research, development and demonstration; enabling access to ESTs in the private sector through incentives to technology providers; concrete targets, timelines, transformation metrics, and reporting; development of methodology to identify

122 See UNFCCC, Linkages Between the Technology Mechanism and the Financial Mechanism of the Convention, <https://unfccc.int/sites/default/files/resource/cp24_auv_TM%20FM.pdf>.

123 It was reported that the president of COP 24 indicated dissatisfaction with the lack of progress as per the linkage between the technology and financial mechanisms. See ‘Linkage between the Technology and Financial Mechanisms and the Informal Consultation Effectiveness’ <<https://sunyclimatechange.wordpress.com/2018/12/12/linkage-between-the-technology-and-financial-mechanisms-and-the-informal-consultation-effectiveness/>>. See SBSTA & SBI, Joint Annual Report of the Technology Executive Committee and the Climate Technology Centre and Network for 2018’ FCCC/SB/2018/2, para 108 – 109. The absence of assured source of funding has been a recurrent complaint of the CTCN. See Joint Annual Report of the Technology Executive Committee and the Climate Technology Centre and Network for 2016, SBSTA & SBI, 45th sess, FCCC/SB/2016/1 (2016); and Joint Annual Report of the Technology Executive Committee and the Climate Technology Centre and Network for 2017, SBSTA & SBI, 47th sess, FCCC/SB/2017/3 (2017).

124 SBSTA & SBI, 2018 Joint Annual Report, *ibid* para 129.
125 UNFCCCOR (n 109) 18. See also Coninck and Sagar (n 120) 2 – 3.

126 Shabalala (n 20) 184. See also Margaretha Wewerinke-Singh and Curtis Doebbler, “‘The Paris Agreement’ Some Critical Reflections on Process and Substance” (2016) 39 UNSW Law Journal 1486.

127 Paris Agreement 2015, art 10(4).

128 Decision 1/CP. 21, Adoption of the Paris Agreement, FCCC/CP/2015/Add. 1, para 67. (Decision 1/CP. 21).

129 Technology Framework under Article 10, para 4 of the Paris Agreement, FCCC/CP/2018/L3 (annex).

technologies ready to transfer; linkage of the technology and financial mechanisms; and the provision of enhanced financial and technical support for the implementation of TNAs.¹³⁰ The outright rejection or watering down of the proposals in the negotiating text in favour of a Framework which is considerably light on details, reaffirms the interest convergence dilemma earlier referred to. Generally, while exhortatory and non-committal provisions are retained in the TF, prospectively obligatory provisions are either made voluntary or rejected altogether.¹³¹

While the above historical analysis might not be exhaustive, it provides a basis for certain conclusions on the dynamics of the UNFCCC EST transfer structure. Evidently, despite the different labels, little has changed between the 1960s when the NIEO was conceived and 2015 when the Paris Agreement was signed. The positions of developing and developed States have not changed, developed States' positions still shape and inform the regime, and economic considerations still override existential concerns. Further, there has been more focus on an appearance of progress than actual progress. This is about the only explanation for the reiteration of policies which have been ineffective and the willingness of developed States to only consent to proposals which have no concrete impacts. What defies comprehension, however, is why developing States, have over the years,

consented to 'white-elephant' agreements. A similar question was posed by Miller and Davidow when the 'global south' agreed to the Restrictive Business Practices Code, despite it reflecting neo-liberal ideals and substantially leaving out proposals by developing countries.¹³² These writers suggest that such an agreement represented a shift, however little, from where the countries were and after various stalemates, it gives an appearance of foreign policy gains to their domestic audience.¹³³

One must, however, be careful not to brand 'neoliberalism' as a wholly 'western' construct; a 'grand scheme' in which developing States are unwilling or induced participants. Randeria drew the line between developing states which are genuinely weak and others which she describes as 'cunning states' – developing states which have the capacity to invoke their sovereignty in opposing policies or initiatives they consider inimical.¹³⁴ While it is also true that there is often considerable external political and economic pressure which informs the international commitments of developing States, there are also instances, as Randeria illustrates in the case of India, where developing States push back against international organizations and developed States.¹³⁵ The key question is what inspires developing States to wield the scimitar of sovereignty? As found by Randeria and others, the interest of 'capital' is a major determinant of when and

130 See generally, SBSTA, Updated Draft of the Technology Framework under Article 10, para 4, of the Paris Agreement (6 September 2018) SBSTA 48.2, Agenda Item 5. (Updated Draft).

131 For example, rather than adopting the recommendation for a linkage between the technology and finance frameworks (Updated Draft, para 43(a)), the TF refers to 'enhancing the collaboration ...' (TF, para 25(a)); and instead of 'collaboration with private sector and strengthened partnerships between public and private sectors', (Updated Draft, para 37(b)), the TF introduced the qualification 'on a voluntary basis' (TF, para 20(b)).

132 Davidow and Miller (n 46) 85.

133 *ibid.*

134 Shalini Randeria, 'Cunning States and Unaccountable International Institutions: Legal Plurality, Social Movements and Rights of Local Communities to Common Property Resources' (2003) 44 *European Journal of Sociology / Archives Européennes de Sociologie* 27.

135 *ibid.*

how developing States exercise their sovereignty.¹³⁶ Arguably, if the 'actualized experience of (third world) peoples and not merely that of the states which represent them' were at the core of the engagements of the developing States,¹³⁷ the demands and concessions made by developing States in the international climate sphere would be radically different.¹³⁸

4

CONCLUSION: LESSONS FROM HISTORY

No doubt, structures, initiatives, and processes have changed under the UNFCCC EST transfer regime over the years. However, the regime is still actuated by similar principles and orientations which grounded previous structures. The unreadiness to adopt a non-market

centric approach to the development and transfer of technologies, the shielding of private entities in the global north from transferring ESTs, the opposition of developed states to addressing IPR connected barriers to EST transfer, and the rejection of proposals with prospects of making developing States partners in the development of ESTs rather than recipients, are as relevant as they were during the failed negotiation of the ICCTT in the 1980s, as they were in 2018 when the UNFCCC Technology Framework was adopted. Indeed, it is arguable that as far as EST transfer is concerned, the current Technology Mechanism and Framework phase represents a drawback on the gains made in Rio in 1992.¹³⁹ The mutation of the differentiation principle under the Paris Agreement has little or no positive impact on EST transfer.¹⁴⁰ As Ferreira notes, 'the principle of differentiation in IEL does not fulfil the function of promoting a just global socio-economic and political order'.¹⁴¹

The EST transfer regime reflects the normative clash between the North and the South. Whereas the North has insisted on the dominance of the marketplace, developing states emphasise the right to develop, the

136 *ibid* 47. Chimni also refers to the dominance of transnational capitalists in emerging economies. He notes that the transnational capitalist class 'used its economic clout and ideological primacy to shape the foreign economic policy of emerging powers'. Chimni argues that this is a reason for the downward trend in opposition from emerging economies to the 'structures of global capitalism and international laws and institutions that support it despite continuing to be subjected to imperialist exploitation'. See BS Chimni, 'Capitalism, Imperialism, and International Law in the Twenty-First Century' (2012) 14 *Oregon Review of International Law* 17.

137 Anghie and Chimni (n 7) 78.

138 See for example Julia Dehm's criticism of the carbon trading mechanisms under the Kyoto Protocol. She notes that while commitments made by developed states to reduce their emissions by 5 per cent was a result of political negotiation, the flexibility mechanisms (carbon trading, clean development mechanism and joint implementation) were underpinned by the imperative of aggregate economic efficiency. The mechanisms were 'based on the premise that mitigation should take place where it is cheapest to do so'. See Julia Dehm, 'Carbon Colonialism or Climate Justice: Interrogating the International Climate Regime from a TWAIL Perspective' (2016) 33 *Windsor Yearbook of Access to Justice* 129.

139 For example, while Agenda 21 recommended the provision of incentives to EST right holders, the recommendation was rejected and excluded from the Technology Framework. See Agenda 21, para 34.18(1)(e)(i); Draft Technology Framework, para 28(d).

140 Differentiation is a foundational principle of the international climate change regime. It is captured by the concept – common but differentiated responsibility principle (CBDR). A principle which recognizes the different contributions of countries (particularly developed countries) to global emissions and the capacity to respond to mitigation (and adaptation needs). See Paris Agreement 2015, art 2(1)(c); See Lavanya Rajamani, *Differential Treatment in International Environmental Law* (Oxford University Press 2006) 86.

141 Patricia Galvao Ferreira, 'Differentiation in International Environmental Law' in Cameron SG Jefferies and others (eds), *Global Environmental Change and Innovation in International Law* (Cambridge University Press 2018) 21. For a more detailed critique of the Paris Agreement, particularly on its iteration of the principle of differentiation, see Julia Dehm, 'Reflections on Paris: Thoughts towards a Critical Approach to Climate Law' (2018) 1 *Revue québécoise de droit international* 61.

liability of the North, and the existential needs of their people. But the regime's history is also the story of Northern victory. The victory of neoliberalism and commercialism in a realm (climate change) that admittedly threatens life as it is presently known. Worse still is the supposition that developed States have committed themselves to the climate change cause for altruistic reasons, or that there is the will to do what needs to be done to roll back the scourge. The above analysis, from the pre-1992 phase to the current technology mechanism phase, reveals that developed States neither have the will nor interest in taking the required steps in an imperilled world. Concessions are made and proposals are supported by developed States insofar as they do not implicate private entities or impose obligations. And as demonstrated through Bell's interest convergence dilemma and Olson's collective action theory, developed States are also more likely to support initiatives that confers benefits on them. For example, the CDM was framed as a quid pro quo arrangement. In return for climate change mitigation projects, developed countries are awarded certified emission reductions (CER). Although the 'sustainable development' of developing States was stated in Article 12 of the Kyoto Protocol and developed states had referred to the CDM as a platform for the transfer of technology,¹⁴² it has been noted that 'the ... driver of CDM is not technology transfer but the generation of CERs to assist Annex I parties to close the gaps in Kyoto commitments and in the EU Emissions Trading Scheme'.¹⁴³ Hence, of the 1000 projects surveyed in 2011, only about 20 per cent of renewable energy projects conducted under CDM resulted in 'some level' of technology transfer.¹⁴⁴

It is, indeed, contestable that the climate regime is a product of North – South compromise.¹⁴⁵ While this might have some semblance of truth at the level of one-off initiatives and projects, it appears less true at the normative level. Aptly rendered elsewhere, 'there is a stark difference between cooperation based on power, and cooperation based on solidarity'.¹⁴⁶ What has been at play in the climate change regime is the 'cooperation of power'. The norm of the powerful prevails, while the cherrypicked and modified requests of subaltern states are consented to. But these 'consents' are still defined and operated through the norm of the powerful. The neoliberal ideal which underpinned the North's approach to the failed ICCTT in the 1970s remains the same today. This neoliberal norm is well articulated by B.S. Chimni who adapted Karl Marx's views on alienation to argue that 'the intrinsic and sacred unity between man and nature is subjected to market fundamentalism, leading to the dysfunctional commodification of nature ... (objectification of) both humans and nature in the pursuit of profit ... Unsurprisingly, international environmental law is unable to seriously respond to the global ecological crisis'.¹⁴⁷ For example, the American delegates to UNCED argued that 'the American life-style is not up for negotiation'.¹⁴⁸ Whether directly said or subtly implied, this has, to various degrees, been the position of the North. For example, while there is consensus that energy sources must change, and efficient habits must be cultivated, this must be done using the existing neoliberal

142 SBSTA (n 71) 5, 15.

143 Gary Cox, 'The Clean Development Mechanism as a Vehicle for Technology Transfer and Sustainable Development - Myth or Reality?' (2010) 6 *Law, Environment and Development Journal* 181.

144 Igor Shishlov and Valentin Bellassen, '10 Lessons from 10 Years of the CDM' (2012) *Climate Report* 27 <<https://hal.archives-ouvertes.fr/hal-01151437>>. Elsewhere, Seres notes that about 30 per cent of projects under the CDM involved some form of technology transfer. See S Seres, E Haites and K Murphy, *The Contribution of the Clean Development Mechanism under the Kyoto Protocol to Technology Transfer* (UNFCCC Secretariat 2010).

145 Lavanya Rajamani, 'Ambition and Differentiation in the 2015 Paris Agreement: Interpretative Possibilities and Underlying Politics' (2016) 65 *International and Comparative Law Quarterly* 493 506.

146 Mickelson, 'Leading Towards a Level Playing Field, Repaying Ecological Debt, or Making Environmental Space' (n 4) 170.

147 *ibid* 504.

148 Philip Elmer-Dewitt, 'Summit to Save the Earth: Rich vs. Poor' (*TIME*, 1992) <<http://content.time.com/time/magazine/article/0,9171,975656-9,00.html>>.

economic template.¹⁴⁹ However, as noted by Mickelson, ‘if the economy is ever-present and its centrality unquestioned ... the environment is almost completely absent’.¹⁵⁰ This argument is not that economic development negates environmental sustainability, but that the latter must enjoy primacy over the former.

The structure of the UNFCCC EST transfer regime also attests to the normative fault lines of the regime. As shown above, while the present technology mechanism and framework introduce new bodies (CTCN and TEC), the bodies are yet encumbered by similar challenges as their forebears (e.g. SBSTA and EGTT). Particularly, the inadequacy of funding.¹⁵¹ The transition from one body to another appears to be transitions in names but not in substance. The G77 2008 proposal had the potential to reverse the trend, but it was opposed by the developed States. Again, proposals made in the draft technology framework which touch directly on incentivizing private entities to transfer ESTs, and the participation of developing States in the development of transformational technologies were rejected.¹⁵² While the need to link the technology and financial mechanisms have been recognised by the UNFCCC, the resistance of developed States to a hard linkage between both mechanisms further exemplifies absence of will. The absence of such linkage is made evident by Dehm

who notes, in respect of the UNFCCC and World Bank (which serves as the trustee of the Green Climate Fund), that ‘a split between the political and the economic in international law provides authorization for different international institutions to address themselves to different aspects of an international issue’.¹⁵³ The ‘political’ – ‘economic’ dichotomy is also evident in the role played by the WTO as the economic sphere on intellectual property rights and the UNFCCC as the domain of political negotiation. The absence of functional integration among these bodies is a major structural fault line.

The proliferation of bodies with similar mandates which end up being underfunded is another feature of the UNFCCC EST regime. For example, despite their similar mandates, the Poznan Strategy and the TM exist and operate separately. Hence, TNAs are conducted under the GEF (Poznan), TEC, and the CTCN; Poznan has its own distinct climate technology centres and climate technology network different from the CTCN;¹⁵⁴ and the GCF operates its own distinct National Designated Authorities separately from the CTCN’s National Designated Entities.¹⁵⁵ Another example is the separation of technology transfer from capacity building, despite that the former is deemed to include the latter. Indeed, the Paris Agreement envisages a different institutional arrangement to oversee capacity building.¹⁵⁶

149 Henri-Count Evans and Rosemary Musvipwa, ‘The Sustainable Development Goals, the Paris Agreement and the Addis Agenda: Neo-Liberalism, Unequal Development and the Rise of a New Imperialism’ in Tor Halvorson and Hilde Ibsen (eds), *Knowledge for Justice: Critical Perspectives from Southern African-Nordic Research Perspectives* (African Minds & Southern African-Nordic Centre 2017) 49.

150 Mickelson, ‘Leading Towards a Level Playing Field, Repaying Ecological Debt, or Making Environmental Space’ (n 4) 165.

151 See Coninck and Sagar (n 120) 263.

152 SBSTA (n 130) 7, 9.

153 Dehm (n 138)143.

154 GEF (n 99).

155 GCF, ‘What are the NDAs’ <<https://www.greenclimate.fund/about/partners/nda>>.

156 See Paris Agreement 2015, art. 11(5). In its 2019 review of Poznan, the TEC recommended the linkage of different national entities (NDA, NDE, GEF focal point, regional focal point and other national UNFCCC focal points). It further admonished that the institutional linkages between Poznan and the CTCN be strengthened. It, however, notes that ‘other than convening meetings, no other institutional linkages were supported by the GEF’. See TEC (n 117), para 117(c), (d).

Mickelson's analogy of how Americans rejected aerosols to fight ozone layer depletion in the 1970s vis-à-vis the approach taken in respect of climate change, sums up the arguments made in this work. She notes that 'changing deodorants is a far cry from changing lifestyles, and it is the latter that may be required if a meaningful response to climate change is to be crafted'.¹⁵⁷ So far, what appears to have happened in respect of the UNFCCC EST transfer regime is akin to 'changing deodorants'. Different 'fragrance', the same 'system'. After a while, the fragrance wears off, and the 'odour' of ineffectiveness and inequity of the current regime hits our collective 'nostrils'. Even after then, we only change the deodorant, as has been done with the extant EST transfer framework. For progress to be made in respect of global EST development

¹⁵⁷ Mickelson, 'Leading Towards a Level Playing Field, Repaying Ecological Debt, or Making Environmental Space' (n 4) 169.

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