

## **A Human Rights Approach to Technology Transfer**

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### ***Abstract***

*This article examines whether a human rights-based approach (HRBA) to technology transfer (ToT) would ensure high quality transferred technology in developing countries in the face of health and environmental challenges such as the COVID-19 pandemic. It argues that although scholars and policymakers view ToT as a conduit to achieving social and economic development, it nevertheless has inadvertently infringed on certain rights such as the right to health and a healthy environment. This article uses the example of Kenya to demonstrate that upholding human rights would ensure that the uptake of technologies is responsive to socio-political and economic realities. A context-specific HRBA to technology transfer would move away from a market and profit-driven ToT approach. This approach would ensure that transferred products such as pharmaceuticals and climate-friendly technologies are accessible and available to developing countries.*

*Key words: Human Rights, Technology Transfer, Technology, Health, Environment, Pandemic.*

### **1.0 Introduction**

Technology transfer (ToT) has turned out to be a key in triggering the development of countries, especially in medicinal and agricultural fields. ToT is ultimately geared towards improving human livelihoods but at the same time, some of the transferred technologies may end up threatening their right to basic subsistence by adversely affecting food and water resources as well as their health. This article works towards highlighting these human rights implications on ToT. In order to set the context, let's begin by defining ToT, what it means and what it constitutes. There are plenty of definitions of ToT. Past literature has offered varying descriptions regarding this concept;

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considering that it has been widely discussed in various research projects.<sup>2</sup> The most common definition proposes that ToT involves a sustained relationship linking two enterprises thereafter enabling the recipient enterprise to achieve the desired cost efficiency and standard of quality of production of a certain product over some time.<sup>3</sup> From these definitions, we see that ToT is not only the transfer of machinery or equipment as it is casually misconstrued to mean, but also involves the transfer of knowledge (know-how) which increases the capacity of recipient enterprises to provide a specific product or service.<sup>4</sup>

## 2.0 Background and Context

ToT is currently at the forefront of socio-economic development. The central role of ToT concerning developing countries is recognized in several forums, such as the 1992 Rio Summit, the Bali and Paris Conferences; which yielded agreements geared towards dealing with climate change and subsequently, related conventions such as UNFCCC and Kyoto Protocol.<sup>5</sup> The aforementioned Bali Conference, held in 2007, involved discussions of a 'roadmap' to replace the Kyoto Protocol that would soon expire in 2012.<sup>6</sup> Under the roadmap, nations were to hold a series of negotiations over a new treaty every two years, which were realized in the form of the Paris Agreement.<sup>7</sup> It was recognized that a pre-emptive role of public policy is

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<sup>2</sup> Wahab Abdul, 'Defining the Concepts of Technology and Technology Transfer: A Literature Analysis' 5 (2016) [https://www.researchgate.net/publication/318015152\\_Defining\\_the\\_Concepts\\_of\\_Technology\\_and\\_Technology\\_Transfer\\_A\\_Literature\\_Analysis](https://www.researchgate.net/publication/318015152_Defining_the_Concepts_of_Technology_and_Technology_Transfer_A_Literature_Analysis) accessed 13 November 2018.

<sup>3</sup> N Reddy and L Zhao, 'International Technology Transfer; A Review.' (1990) 19 *Research Policy*.

<sup>4</sup> J Baronson, 'Technology Transfer through the International Firms' (1970).

<sup>5</sup> Martin Khor, 'Climate Change, Technology and Intellectual Property Rights: Context and Recent Negotiations' (2011) <[https://www.southcentre.int/wp-content/uploads/2013/05/RP45\\_Climate-Change-Technology-and-IP\\_EN.pdf](https://www.southcentre.int/wp-content/uploads/2013/05/RP45_Climate-Change-Technology-and-IP_EN.pdf)> accessed 14 November 2018.

<sup>6</sup> Markus Becker, 'Happy Ending on Bali Climate Change Deal Reached after US U-Turn' *Spiegel Online* (17 December 2007) <<http://www.spiegel.de/international/world/happy-ending-on-bali-climate-change-deal-reached-after-us-u-turn-a-523570.html>> accessed 14 December 2018.

<sup>7</sup> 'The Paris Agreement.' (*United Nations Climate Change*)

necessary to make it possible for developing countries to access technology.<sup>8</sup> It is prudent that human rights considerations need to be spotlighted in ToT agreements, such that a well-planned approach is undertaken in addressing not only the pending technological needs but also to offer solutions to deal with the subsequent adverse effects that threaten human livelihood.<sup>9</sup> However, in reality, most ToT agreements tend to prioritize the former, focusing on attaining the most affordable technologies without considering the consequences of the same on human livelihood.

Moreover, the international protection of IPRs has become a great hurdle in ensuring effective ToT, eventually impinging on human rights. For example, patent protection of pharmaceuticals has led to the rise in the cost of drugs due to monopolies granted on pharmaceutical products. Subsequently, the drugs become subject to unaffordable prices for developing countries and infringe on the right to health. This tilts the balance in favour of countries with lucrative markets over the unprofitable markets in the diseases prevalent developing countries; especially those in Africa.<sup>10</sup> Ultimately, a 'global drug gap' is created, where most of the world's populace has no access to novel drugs.<sup>11</sup>

Until now, scholars and policymakers have viewed ToT as a mere conduit to achieving social and economic development. It is only recently that various institutions have started to recognize that ToT transcends this perspective, and therefore necessitates a keener look into the human rights implications of ToT ventures. Various institutions have shown efforts in addressing such issues;

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<<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>> accessed 14 December 2018.

<sup>8</sup> Khor (n 6).

<sup>9</sup> Stephen Humphreys, 'Perspective: Technology Transfer and Human Rights: Joining Up the Dots' (2010) 9

<<http://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1120&context=sdlp>> accessed 13 November 2018.

<sup>10</sup> Smita Narula, 'The Rights-Based Approach to Intellectual Property and Access to Medicine: Parameters and Pitfalls' [2011] New York University Public Law and Legal Theory Working Papers

<[https://lsr.nellco.org/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1300&context=nyu\\_plltwp](https://lsr.nellco.org/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1300&context=nyu_plltwp)> accessed 5 December 2018.

<sup>11</sup> *Ibid.*

with the enactment of TRIPs and UNFCCC to show for it. However, scholars argue that from a broader perspective, such initiatives have not done enough, and have only increased the power imbalances between developed and developing countries that are captured by the strong IPRs regime, which have a major influence in leading to rights infringements in ToT. Despite the fact that some international conventions, as well as a wide range of scholars, have advocated for a human rights-based approach (HRBA) to ToT, the reality is most agreements prioritize the fulfillment of technological needs, rather than considering the impact the same technologies have on human rights, as they take up a needs-based approach (NBA).

The immediate environment that envelopes the need for a HRBA is the socio-political realities that are prevalent in the country that would make it necessary to adopt technologies. This is because such factors heavily influence human rights and the adoption of technologies to address such factors; for instance AI to keep track of patient records so as to curtail instances of lost or wrong patient data, or digitizing the land registry to ensure proper and accurate information is kept regarding respective land owners and avoid cases of land grabbing. Such cases have an impact on rights to health and property. As such, socio-political influences such as these greatly impact the adoption of technologies. The aim of this article is to interrogate how the HRBA would be ideal in addressing human rights issues in ToT. It further links human rights infringements as the consequence of strict IPRs protection regime, which heavily influences the prices of such technologies – hence making it difficult for developing countries to access. The main question this research focuses on is why the HRBA to ToT is likely the best approach for efficient ToT.

### **3.0 Scholarly interventions on HRBA AND ToT**

The idea of an HRBA to ToT is not particularly new; having been the subject of unremitting analysis, as several scholars have emphasized on the need to incorporate an HRBA to ToT.<sup>12</sup> Humphreys; while speaking against the backdrop of the Bali Conference on climate change implications, highlights the relevancy of ToT advocates for affordable technologies that will not only

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<sup>12</sup> Humphreys (n 10).

cater to the technological needs of the recipient country but also address the consequences which new technologies offer on basic subsistence such as water, food, and health.<sup>13</sup> Their discussions go on to link the strict IP regime as the catalyst to the sluggish flow of medical technologies, hence placing developing countries at a disadvantage. Developed and developing countries have responded differently to the strict IP regime. Developing countries have responded to this predicament by demanding the relaxation of international rules on IP, to provide them with the leeway to copy and adopt technologies without lingering on for offers of financial aid or even permission, from developed countries.<sup>14</sup> This is interesting, considering that TRIPs impose that all countries (within the WTO) must comply with common IP standards.<sup>15</sup>

IPRs protection has delayed the entry of new medicines into the market, thus drawing high demand for the products and consequent high prices for developing countries' markets.<sup>16</sup> For example, developing countries argue that due to patent protection, they cannot access certain products, such as pharmaceuticals, locally and therefore have to depend on developed countries for them; something which would be much more affordable than doing the latter.<sup>17</sup> The patents on pharmaceutical products have a variable impact on local production, depending on the country of production and level of technical capacity of the pharmaceutical industry locally. Moreover, the reason why developing countries are disadvantaged by the strict protection of IPRs could be imputed to the lack of access to technological information which is impeded

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<sup>13</sup> Ibid.

<sup>14</sup> Dalindyabo Shabalala, 'Climate Change, Technology Transfer and Intellectual Property: Options for Action at the UNFCCC' (Maastricht University 2014) <<https://cris.maastrichtuniversity.nl/portal/files/1425546/guid-54116ed7-5a51-4126-9407-b3579557f98c-ASSET1.0>> accessed 13 December 2018.

<sup>15</sup> Ibid.

<sup>16</sup> World Health Organization, 'Public Health Protection in Patent Laws: UHC Technical Brief Selected Provisions' (World Health Organization South East Asia 2017) <<http://apps.who.int/iris/bitstream/handle/10665/272976/Public-health-protection.pdf?sequence=1&isAllowed=y>> accessed 14 November 2018.

<sup>17</sup> All Answers Ltd, 'Advantages and Disadvantages of World Trade Organization' <<https://www.lawteacher.net/free-law-essays/international-law/advantages-and-disadvantages-of-world-trade-organization-international-law-essay.php>> accessed 9 November 2018.

by factors such as poor infrastructure, low rate of R&D as well as poor domestic absorption capabilities.<sup>18</sup> Even though international protection of IPRs is meant to protect the original inventors, by granting them temporary monopolies (20 years long<sup>19</sup>) on their products, this will only make the products less accessible and more expensive.<sup>20</sup> Developing countries will subsequently try as much to avoid investing in the costly products, opting to imitate rather than try and invent one, or even opt for the cheap ones, which might be counterfeit, and hence in a case of say, pharmaceuticals, would do more harm than good.<sup>21</sup>

The reason why ToT has not lived up to expectations in developing countries is that they adopt new technologies without modification, hence participating in a '*massive but passive importation of technology*'.<sup>22</sup> Moreover, many developing countries enter into such arrangements blindly, oblivious that this could be a strategy by donor countries aimed at rendering them to unceasingly depend on them for new technologies.<sup>23</sup> Donor countries benefit more through over purchasing of raw materials, while also profiting through maintenance of technology.<sup>24</sup> Put differently, donor countries are reluctant to engage in ToT

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<sup>18</sup> Keith Maskus and Jerome Reichman, *International Public Goods and Transfer of Technology Under a Globalized Intellectual Property Regime* (Cambridge University Press 2010).

<sup>19</sup> Neil Foster and Rod Falvey, 'The Role of Intellectual Property Rights in Technology Transfer and Economic Growth: Theory and Evidence' (United Nations Industrial Development Organization 2006)  
<[https://www.unido.org/sites/default/files/2009-04/Role\\_of\\_intellectual\\_property\\_rights\\_in\\_technology\\_transfer\\_and\\_economic\\_growth\\_0.pdf](https://www.unido.org/sites/default/files/2009-04/Role_of_intellectual_property_rights_in_technology_transfer_and_economic_growth_0.pdf)> accessed 14 November 2018.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Anthony Akubue, 'Technology Transfer: A Third World Perspective Technology Transfer to the Third World' (2002) 28 (1) *Journal of Technology Studies*  
<<https://www.semanticscholar.org/paper/Technology-Transfer%3A-A-Third-World-Perspective.-Akubue/76bbd874f89cc92f05ec2579c85de712d131bb5b>> accessed 14 November 2018

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

without the possibility of profit.<sup>25</sup> However, several things escape this research. Firstly, despite the call for ToT to be carefully planned, it still begs the question as to what research system or policy framework is required to ensure right technologies are accessible to the appropriate communities in the most time-efficient manner so as to preclude rights violations. If at all the technologies transferred are meant to cater to technological needs, should there not be some way to predict human rights threats in certain locations?<sup>26</sup>

#### **4.0 Human Rights Based Approaches for ToT in Developing Countries.**

Human Rights Based Approaches to ToT play an important role in so far as shedding light on the various rights infringements occasioned by the power imbalances between developing and developed countries.

#### **4.1 Defining HRBA**

HRBA refers to the integration of human rights standards into development processes.<sup>27</sup> Drawing from this, an HRBA places human rights as the focal point while pursuing certain development prospects. The HRBA is an ideology that was introduced as a substitute to needs-based and other discourses such as the economy-centred approach to development.<sup>28</sup> A needs-based approach (NBA) infers that the particular development process centres its focus on fulfilling specific needs. The difference between this approach and the HRBA boils down to who, or rather, what particular group is being targeted.<sup>29</sup> As the NBA necessitates targeting a particular group, for instance, the poor, and assessing their particular needs<sup>30</sup>, the HRBA tends to take a more universal approach as human rights after all are universally entitled.<sup>31</sup> The economy-centred approach, on the other hand, focuses more extensively on furthering economic growth, with the spotlight placed explicitly on the World Bank

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<sup>25</sup> Hee Jun Choi, 'Technology Transfer Issues and a New Technology Transfer Model' (2009)

<sup>26</sup> Humphreys (n 10).

<sup>27</sup> Jae-Eun Noh, 'From a Normative Discourse to Contextualised Practices: A Case Study of a Human Rights-Based Approach in Bangladesh' (2015) 251.

<sup>28</sup> *Ibid.*

<sup>29</sup> *Ibid.*

<sup>30</sup> *Ibid.*

<sup>31</sup> *Ibid.*

(WB) on its place in furthering social and economic development—particularly concerning social capital as a tool in development.<sup>32</sup> Social capital refers to the institutions, values, and relationships that regulate interactions among people and significantly aid economic and social development, and is a crucial part of the WB’s strategy in the alleviation of poverty.<sup>33</sup> It is apparent that aside from the HRBA, there exist various approaches that assist in promoting development. Because the HRBA was introduced as an option to the NBA and the economy-centred approaches, it would be a sensible step to go ahead and delve into the historical milieu that culminated into the creation of the HRBA.

## 4.2 Historical background

The HRBA, as the name suggests, involves primarily a viewpoint of the consideration of human rights as an indispensable factor in the context of development. Thus it is not a coincidence that this doctrine stemmed from historical occurrences such as the conclusion of the Cold War, the adoption of the 1993 Vienna Declaration and Programme of Action in Austria—which was to strengthen the already existing UDHR<sup>34</sup> as well as recognizing the right to development.<sup>35</sup> The upswing of the HRBA subsequent to the aforementioned events catapulted it into being a crucial tool in development projects, having been adopted by several institutions such as the UN and other NGOs.<sup>36</sup>

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<sup>32</sup> Anthony Bebbington, Scott Guggenheim, Elizabeth Olson and Michael Woolcock, ‘Exploring Social Capital Debates at the World Bank’ (2004) 40 (5) *Journal of Developmental Studies*

<[https://www.researchgate.net/publication/24084002\\_Exploring\\_Social\\_Capital\\_Debates\\_at\\_the\\_World\\_Bank](https://www.researchgate.net/publication/24084002_Exploring_Social_Capital_Debates_at_the_World_Bank)> accessed 1 April 2019.

<sup>33</sup> Andrea Cornwall, ‘Buzzwords and Fuzzwords: Deconstructing Development Discourse’ (2007) 17 *Development in Practice* 471

<<http://www.tandfonline.com/doi/abs/10.1080/09614520701469302>> accessed 2 April 2019.

<sup>34</sup> ‘OHCHR | World Conference on Human Rights’

<<https://www.ohchr.org/en/aboutus/pages/viennawc.aspx>> accessed 1 April 2019.

<sup>35</sup> ‘OHCHR | Declaration on the Right to Development’

<<https://www.ohchr.org/en/professionalinterest/pages/righttodevelopment.aspx>> accessed 1 April 2019.

<sup>36</sup> Paul Nelson and Ellen Dorsey, ‘At the Nexus of Human Rights and Development: New Methods and Strategies of Global NGOs’ (2003) 31 (12) *World Development*

<[https://www.researchgate.net/publication/222739120\\_At\\_the\\_Nexus\\_of\\_Human\\_R](https://www.researchgate.net/publication/222739120_At_the_Nexus_of_Human_R)



Since the HRBA is buttressed by such international conventions that accentuate the significance of human rights, it has inherited the ‘normative appeal’ of human rights, to say the least, as various literature has articulated. The goal, however, was to integrate the HRBA with development, a task which was seen to be intricate, as these were two disciplines that were considered worlds apart.<sup>37</sup> Besides, none of the existing discourses on development had taken up the idea. Ever since former US President Harry Truman’s 1949 inaugural speech where he categorized the world into ‘developed’ and ‘underdeveloped’ nations while pitching his Point Four Program; aimed at promoting the growth of the latter through technical and scientific assistance by the former<sup>38</sup>, discourses on development have been centred on economic growth. His speech initiated the ‘age of development’ which lasted four decades (1950s-1990s) after which the term ‘development’ became the fundamental frame of reference for the development of all nations following the war.<sup>39</sup>

The discourses have been categorized distinctly into the dominant and alternative discourses on development. The former perceive development as a mere focus on economic growth, while the latter draws introduce a social dimension to development processes.<sup>40</sup> As the dominant approach rested heavily on the ideology of a rational economic man, driven by a market-oriented environment, the probable results would be occurrences of privatization which would widen inequality between economic classes.<sup>41</sup> The alternative discourse on development was a response of sorts to this, introducing a social dimension of development.<sup>42</sup> Hence ideologies such as the

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ights\_and\_Development\_New\_Methods\_and\_Strategies\_of\_Global\_NGOs>  
accessed 1 April 2019.

<sup>37</sup> Celestine Nyamu-Musembi and Samuel Musyoki, ‘Kenyan Civil Society Perspectives on Rights, Rights-Based Approaches to Development, and Participation’ <<https://opendocs.ids.ac.uk/opendocs/handle/123456789/4085>> accessed 3 April 2019.

<sup>38</sup> Gilbert Rist, *The History of Development: From Western Origins to Global Faith* (3<sup>rd</sup> edn, Zed Books 2008).

<sup>39</sup> Ibid.

<sup>40</sup> Noh (n 28).

<sup>41</sup> Ibid.

<sup>42</sup> Ibid.

People-Centred Development (PCD) and Sustainable Human Development (SHD) were introduced and recognized by the UN. This is apparent in the recent UNESCO programme where they put in place an agenda for sustainable development that integrates consideration for cultural rights.<sup>43</sup>

This means taking into account and integrating traditional scientific knowledge and practices in sustainable development policies in the management of natural resources, food security and access to clean water.<sup>44</sup> Also, values such as participation and empowerment have become highly regarded. For instance, a principle such as the Participatory Learning and Action (PLA) accentuates on giving a voice to the local communities and disapproves the disempowering impacts on local capabilities particularly through the CD principle.<sup>45</sup>

The HRBA was not at first introduced independently as a development discourse as it emerged rather as a protracted version of the alternative discourse of development and therefore shared certain values.<sup>46</sup> Its target, regardless, was to underscore human rights. Furthermore, the HRBA was well-placed to ensure participation and empowerment incentives that were well exhibited in the alternative discourse. Moreover, while exhibiting similar traits, they had their differences. For instance, the HRBA is positioned to address human rights from a universal standpoint, the alternative discourse; though the CD principle aims at local empowerment.<sup>47</sup> As mentioned, the HRBA is geared towards the upholding of human rights, which raises the query as to what particular rights are being targeted. This requires due diligence in mapping out the rights that are crucial to development. Following

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<sup>43</sup> United Nations Educational, Scientific and Cultural Organization, 'The Way Forward: A Human Centred Approach to Development | United Nations Educational, Scientific and Cultural Organization'

<<http://www.unesco.org/new/en/culture/themes/culture-and-development/the-future-we-want-the-role-of-culture/the-way-forward/>> accessed 2 April 2019.

<sup>44</sup> Ibid.

<sup>45</sup> Manohar Pawar, *Community Development in Asia and the Pacific* (Routledge, 2010)

<sup>46</sup> Noh (n 28).

<sup>47</sup> Nyamu-Musembi and Musyoki (n 38).

the Second World War, the focus was CPRs, but since development was more inclined towards economic growth, prominence was given to economic, social and cultural rights (ESCRs)<sup>48</sup> However, further arguments have advocated for the blending of such rights, with some interesting views claiming that realizing CPRs assists in attaining ESCRs.<sup>49</sup> These efforts to reconcile human rights and development have raised speculation that rights recognized in the ICCPR and ICESCR might be a practical guide to establishing priorities and resource allocation in development.<sup>50</sup>

Notwithstanding the recognition and endorsement of the HRBA by international establishments such as the UN<sup>51</sup>, this is not the approach that is taken up in various areas of development as the approach mostly taken is the dominant approach—as most entities see it fit to centre their focus on economic growth but without really considering human rights.<sup>52</sup>

### **4.3 Distinct features of HRBA**

This section examines the applicability of the HRBA in development prospects; by explaining some of its distinct attributes and provides insights on how it could be implemented specifically in ToT. As pointed out in the previous section, ToT is buoyed by the intent of satisfying technological needs. It is thus safe to say that ToT agreements are governed by the NBA which exhibits a narrower scope than the HRBA with regard to development prospects. For instance, the HRBA introduces the idea of ‘equal’ resource allocation while the NBA tends to place marginalized groups as a priority.<sup>53</sup> Despite these differences, both share similar approaches as they both argue a

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<sup>48</sup> Ibid.

<sup>49</sup> Noh (n 28).

<sup>50</sup> Nelson and Dorsey (n 37).

<sup>51</sup> Nyamu-Musembi and Musyoki (n 38).

<sup>52</sup> Andrea Cornwall and Deborah Eade (eds), *Deconstructing Development Discourse: Buzzwords and Fuzzwords* (Practical Action Pub ; Oxfam 2010).

<sup>53</sup> Celestine Nyamu-Musembi and Andrea Cornwall, ‘What Is the Rights Based Approach All About? Perspectives from International Development Agencies’ (ResearchGate 2004)

<[https://www.researchgate.net/publication/237390540\\_What\\_is\\_the\\_Rights\\_Based\\_Approach\\_all\\_About\\_Perspectives\\_from\\_International\\_Development\\_Agencies](https://www.researchgate.net/publication/237390540_What_is_the_Rights_Based_Approach_all_About_Perspectives_from_International_Development_Agencies)> accessed 3 April 2019.

case for consideration of certain rights, and thus it is no coincidence that in a bid to practically implement the HRBA, it is examined against the backdrop of the NBA.<sup>54</sup> Having established the main mission of the HRBA, this begs the question as to what features define it and also complements it to carry out its respective objectives. This article therefore, examines distinct features of the HRBA and discusses hypothetically a practical strategy it would assume in a ToT setting.

#### ***4.3.1 The normativity of the HRBA***

This particular feature is explained with respect to the significant legitimacy that the HRBA adopts from international instruments, let alone the support it garners from certain international institutions as well as NGOs.<sup>55</sup> Most deliberations regarding the HRBA have originated from the use of legislations in pursuing development.<sup>56</sup> In essence, the normative aspect of HRBA works towards ensuring that development prospects work towards ensuring human rights are upheld. However, the HRBA should not be understood solely in light of its normative trait. One should be able to apply it to a particular context.<sup>57</sup> Put differently, it is prudent to contextualize the HRBA approach such that the objective is to further social and economic development while ensuring certain human rights are upheld. Furthermore, it is argued that the HRBA should be an interactive process.<sup>58</sup> This means that contextualizing the HRBA is not particularly enough, as it would require one to go down to the grassroots and interrogate on what particular rights are being infringed.<sup>59</sup> This means implementing particular principles of the alternative discourse of development that the HRBA inherits, such as participation.<sup>60</sup> By doing so, it attracts an increase in social and economic development towards the desired level, as the information will come directly from the affected group, which if addressed, will culminate in positive returns.

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<sup>54</sup> Ibid.

<sup>55</sup> Noh (n 28).

<sup>56</sup> Nyamu-Musembi and Cornwall (n 54).

<sup>57</sup> Noh (n 28).

<sup>58</sup> Ibid.

<sup>59</sup> Pawar (n 46).

<sup>60</sup> Noh (n 28).

This could be ideal if applied in a ToT situation. For instance, when undertaking the transfer of machinery to be used in agricultural activities, one is expected to do due diligence in considering the climate change implications that would occur. The protection of the climate should be advocated for in light of existing rights concerning the environment.<sup>61</sup> This particular argument has been put forward by CIEL which has particularly campaigned for integrating human rights considerations into the UNFCCC's institutional framework and relevant processes, and as a key issue in subsequent negotiations regarding climate change.<sup>62</sup> Many scholars have discussed the relevance of ToT in dealing with climate change has been extensively discussed.<sup>63</sup> The HRBA is not a new aspect within climate change as past literature has already illuminated on the need to merge the two disciplines, as well as the need to transfer environmentally-sound technologies.<sup>64</sup> Most literature advocate for affordable technologies that will not only cater for the technological needs of the recipient country but also address the consequences which new technologies offer on basic subsistence such as water, food, and health.<sup>65</sup>

It is however interesting to see how participation is implemented by the HRBA, considering that it takes more of a universal approach, as opposed to the NBA. The implementation of the HRBA depends entirely on the magnitude of the human right affected; as seen by the climate change implications, which certainly requires a universal approach. However, to accomplish this, it first requires us to incorporate context into the HRBA discourse practically.<sup>66</sup> Several organizations have attempted to do this. For instance, ActionAid Kenya has taken the approach of inducing participation

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<sup>61</sup> Lavanya Rajamani, 'The Increasing Currency and Relevance of Rights-Based Perspectives in the International Negotiations on Climate Change' (2010) 22 Oxford University Press.

<sup>62</sup> Centre for International Environmental Law, *Climate Change & Human Rights: A Primer* (CIEL) <[http://www.ciel.org/Publications/CC\\_HRE\\_23May11.pdf](http://www.ciel.org/Publications/CC_HRE_23May11.pdf)> accessed 14 November 2018.

<sup>63</sup> Humphreys (n 10).

<sup>64</sup> Khor (n 6).

<sup>65</sup> Humphreys (n 10).

<sup>66</sup> Noh (n 28).

by starting from a level of community development, which will rise to a regional basis and ultimately culminate into the international sphere.<sup>67</sup> According to ActionAid Kenya, the yardstick of their success is aimed at rights awareness and claiming of rights processes by marginalized communities.<sup>68</sup> Put differently, ActionAid Kenya not only uses the HRBA as a tool to educate the marginalized on their rights but more so to strengthen poor people through their organizations as well as to assist in claiming rights through functioning constructively and critically with governments<sup>69</sup>; with the end goal being to create a policy and institutional atmosphere for the alleviation of impecuniousness.<sup>70</sup> This may explain why ActionAid has contextualized its HRBA towards the eradication of poverty and furnished it with an interactive process where the voice of the community therein is heard distinctively.

#### ***4.3.2 The obligatory implication of HRBA***

The HRBA places a unique obligation of upholding human rights on national governments.<sup>71</sup> Besides, it is no surprise as even in local legislations such as the Constitution of Kenya<sup>72</sup>, the State is tasked with the same. The reason for this was to induce some form of accountability on part of the national governments to ensure that while they pursued development, they recognize and uphold human rights.<sup>73</sup> It is argued that the HRBA doctrine is by itself a tool which demands accountability from the government and subsequently increases the chance of policies being implemented accordingly.<sup>74</sup> Furthermore, the HRBA provides a chance to widen the confines of accountability to include non-state actors.<sup>75</sup> The UN OHCHR, in light of this, highlighted, in the *Draft Guidelines for a Human Rights Approach to Poverty Reduction Strategies* that

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<sup>67</sup> Nyamu-Musembi and Cornwall (n 54).

<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

<sup>70</sup> Nyamu-Musembi and Cornwall (n 54).

<sup>71</sup> Ibid.

<sup>72</sup> 'The Constitution of Kenya 2010' Article 21.

<sup>73</sup> Nyamu-Musembi and Cornwall (n 54).

<sup>74</sup> Ibid.

<sup>75</sup> Noh (n 28).

*“...Under international law, the State is the principal duty-bearer with respect to the human rights of the people living within its jurisdiction. However, the international community at large also has a responsibility to help realize universal human rights. Thus, monitoring and accountability procedures must not only extend to States, but also to global actors—such as the donor community, intergovernmental organizations, international NGOs and TNCs—whose actions bear upon the enjoyment of human rights in any country.”<sup>76</sup>*

This feature of the HRBA is relevant to ToT as commentators on the subject argue for state and non-state actors to be ‘duty-bearers’ in addressing various issues of human rights violations that are for instance result from climate change.<sup>77</sup> As the international community obligates states to ensure human rights are upheld in their separate spheres<sup>78</sup> it is not the worst idea if states collaborated in ensuring human rights are upheld. Besides, this approach forms the whole basis of ToT. It is further buoyed by the fact that the UNFCCC urges developed states to assist their developing counterparts in battling climate change.<sup>79</sup>

## **5.0 Analysis of human rights infringements in Technology Transfer**

This section examines human rights infringements in the ToT process specifically with regard to the right to health. We point out the nexus between ToT and human rights and highlight various episodes of human rights violations by ToT. We also shed light on the various concrete examples in

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<sup>76</sup> United Nations, Office of the High Commissioner for Human Rights (UN OHCHR), ‘Draft Guidelines for a Human Rights Approach to Poverty Reduction Strategies’ para 230.

<sup>77</sup> Ian Christophlos and C McGinn, ‘Climate Change Adaptation from a Human Rights Perspective: Civil Society Experiences in Cambodia’ [2016] 43(3) *Forum for Development Studies* <<https://doi.org/10.1080/08039410.2016.1199443>> accessed 14 November 2018.

<sup>78</sup> ‘Universal Declaration of Human Rights | United Nations’ Preamble <<https://www.un.org/en/universal-declaration-human-rights/>> accessed 4 April 2019.

<sup>79</sup> ‘The United Nations Framework Convention for Climate Change’ Article 4 <<https://unfccc.int/resource/docs/convkp/conveng.pdf>> accessed 4 April 2019.

which Kenya has adopted various technologies. Further, we investigate the socio-political realities that influence the same behavior. This section finally attempts to set the basis on why the HRBA is an ideal tool to implement. As noted earlier, ToT refers to a goal-oriented interaction between two entities where technological knowledge/know-how is shared through the transfer of one or more technological components.<sup>80</sup> Drawing from this, one entity is deemed more ‘developed’ than the other, and is thus tasked with sharing their technological know-how with the latter entity in a bid to uplift them and trigger the development of all sorts; whether social, economic or cultural, therein.<sup>81</sup>

ToT turns to be a key factor in assisting the development of countries and has ensued especially in fields such as medicine and agriculture. It also assists in addressing the climate change menace<sup>82</sup>, which forms an integral part of various international discussions and conventions such as the UNFCCC<sup>83</sup>. Socio-political factors are also a great influence here as issues such as loss of patient data in the medical scene emphasize the need for a HRBA methodology in adopting technologies to cater for such a right. These examples illustrate the interactions between ToT and human rights paint a vivid picture of ToT having a significant role in improving human livelihoods, which it does; or rather, is essentially supposed to do.<sup>84</sup> Various international instruments have supported this notion, with some highlighting that scientific and technological development is entirely purposed to advance the socio-economic development of people coupled with realizing human rights and enshrined in the UN Charter.<sup>85</sup> Thus, one cannot ignore the profound positive influence that ToT

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<sup>80</sup> E Autio and T Laamanen, ‘Measurement and Evaluation of Technology Transfer: Review of Technology Transfer Mechanisms and Indicators.’ (1995) 10.

<sup>81</sup> Baronson (n 5).

<sup>82</sup> Uday Shankar, Tapas K Bandopadhaya and Chandrika Mehta, ‘Climate Change and Technology Transfer: Tying the Knot through Human Rights’ (2018) 8.

<sup>83</sup> ‘The United Nations Framework Convention for Climate Change’ (n 80).

<sup>84</sup> Calin Vac and Avram Fitiu, ‘Building Sustainable Development through Technology Transfer in a Romanian University’ [2017] MDPI.

<sup>85</sup> ‘OHCHR | Use of Scientific and Technological Progress’

<<https://www.ohchr.org/EN/ProfessionalInterest/Pages/ScientificAndTechnologicalProgress.aspx>> accessed 8 April 2019.



has on human rights. But to what extent does ToT carry threats to human rights?

### **5.1 Technology Transfer and Human Rights Infringements**

The idea of ToT being an obstacle to the upholding of human rights may sound far-fetched, especially in light of the foregoing observations on the steps ToT has taken in fulfilling improvement of human livelihood, as well as guarding human rights against being infringed. However, a paradox ensues herein, as the very same transferred technologies targeted at bettering human livelihood may; in the same breath, be a threat to their right to basic subsistence by adversely affecting food and water resources as well as their health. Another right vulnerable to infringement is the right to a clean and healthy environment—one recognized in Kenya’s Constitution,<sup>86</sup> as well as immensely advocated for by certain international organizations. Moreover, IPRs is also a key factor that influences the nexus between ToT and human rights.<sup>87</sup> One of the most significant debates is centred on the nexus between the strong IPRs protection and ToT. Scholars argue that strong IPRs protection may, on one hand, promote innovation and cause smooth flow of technology diffusion in developing countries, but also have little impact in furthering the same in those countries.<sup>88</sup> This is because strong protection of IPRs will limit the access of developing countries to new technologies hence limiting their development prospects.<sup>89</sup>

While strong IP protection aims at upholding the rights of patent holders, the corresponding effect would be high costs for those who want to access the

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<sup>86</sup> ‘The Constitution of Kenya 2010’ (n 73) Article 42.

<sup>87</sup> Piracés E, “The Future of Human Rights Technology” in Molly K Land and Jay D Aronson (eds), *New Technologies for Human Rights Law and Practice* (Cambridge University Press 2018).

<sup>88</sup> Foster and Falvey (n 20).

<sup>89</sup> Micheal Njogah, ‘The Role of Intellectual Property Rights in Technology Transfer and Economic Growth in Kenya’ *Academia*

<[http://www.academia.edu/3662408/The\\_Role\\_of\\_Intellectual\\_Property\\_Rights\\_in\\_Technology\\_Transfer\\_and\\_Economic\\_Growth\\_in\\_Kenya](http://www.academia.edu/3662408/The_Role_of_Intellectual_Property_Rights_in_Technology_Transfer_and_Economic_Growth_in_Kenya)> accessed 13 November 2018.

respective technologies.<sup>90</sup> This means that those who fail to meet the costs resort to counterfeit products—such as cheap carbon-based agricultural technologies and pharmaceuticals that would inevitably infringe on basic rights such as health. Thus in light of ToT agreements, states would be stuck between upholding IP rights and paying attention to internationally recognized rights.<sup>91</sup> ToT is capable of infringing human rights and may carry a threat with regards to human rights. In the next section, we will focus specifically on the rights to health.

### **5.1. 1 The right to health**

The right to health is universally acclaimed and is entrenched in international instruments and respective national laws worldwide. The UDHR recognizes it<sup>92</sup> and is also advocated for greatly by the UN through its WHO agency. The right to health is particularly affected by the strict patent protection of pharmaceuticals. Strict patents on such products have brought about extensive concern regarding the cost of medicines, and also how restrictive access to life-saving treatment and care by the underprivileged has become.<sup>93</sup> The impact of strict patent protection of pharmaceuticals is largely felt in developing countries, where strong IPRs protection delays the ingress of new

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<sup>90</sup> Anna Dahlberg, 'Are Stronger Intellectual Property Rights an Obstacle or a Condition for International Technology Transfer' in Mpazi Sinjela (eds), *Human Rights and Intellectual Property Rights: Tensions and Convergences* (Martinus Nijhoff Publishers 2007) <[https://books.google.co.ke/books?id=lawCQAAQBAJ&pg=PA31&lpg=PA31&dq=impact+of+technology+transfer+on+human+rights&source=bl&ots=Fr-Shv9nO3&sig=T5VRovr34r5o\\_Agzc6RpjaYY2RY&hl=en&sa=X&ved=2ahUKEwjDnrPpk9XeAhXitIsKHesEAgE4ChDoATAJegQIBxAB#v=onepage&q=impact%20of%20technology%20transfer%20on%20human%20rights&f=false](https://books.google.co.ke/books?id=lawCQAAQBAJ&pg=PA31&lpg=PA31&dq=impact+of+technology+transfer+on+human+rights&source=bl&ots=Fr-Shv9nO3&sig=T5VRovr34r5o_Agzc6RpjaYY2RY&hl=en&sa=X&ved=2ahUKEwjDnrPpk9XeAhXitIsKHesEAgE4ChDoATAJegQIBxAB#v=onepage&q=impact%20of%20technology%20transfer%20on%20human%20rights&f=false)> accessed 13 November 2018.

<sup>91</sup> Mirela Hristova, 'Are Intellectual Property Rights as Human Rights: Patent Protection and the Right to Health' (2011) <<https://www.lexisnexis.com/legalnewsroom/lexis-hub/b/commentary/posts/are-intellectual-property-rights-human-rights-patent-protection-and-the-right-to-health>> accessed 4 December 2018.

<sup>92</sup> 'Universal Declaration of Human Rights | United Nations' Article 25 (1) <<https://www.un.org/en/universal-declaration-human-rights/>> accessed 4 April 2019.

<sup>93</sup> Hristova (n 92).

medicines into the market, thus drawing high demand for the products and ultimately higher prices for developing countries' markets.<sup>94</sup> Further, it also has had an impact on local production of new medicines for diseases like HIV/AIDS or pandemic flu<sup>95</sup>, and more recently COVID-19. This problem is particularly acute in developing countries, as the intensity of patent protection limits the extent of imitation.<sup>96</sup> This is coupled with the notion that they lack innovation capacity and technical know-how to develop such drugs locally, thus forcing them to depend on the costly drugs being protected; something which would be uncalled for if they had the necessary knowledge.<sup>97</sup>

TRIPs has been a revolutionary factor in this particular context of ToT and IPRs. It is noteworthy that prior to its inception, as countries had the freedom to choose their patent systems that would address their technological needs.<sup>98</sup> This provided leeway for developed countries to exclude their pharmaceuticals from being patented, thus providing affordable medicines to their citizens while growing their domestic pharmaceutical industries by depending on pharmaceutical inventions made in other countries.<sup>99</sup> TRIPs had initially provided a chance for the medicines made under a compulsory license to be marketed domestically in the producing country, hence not providing a chance to supply to other countries.<sup>100</sup> This did not sit well with LDCs, as they

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<sup>94</sup> World Health Organization (n 17).

<sup>95</sup> World Health Organization, *Pharmaceutical Production and Related Technology Transfer*. (World Health Organization 2011).

<sup>96</sup> Fatma Mrad, 'The Effects of Intellectual Property Rights Protection in the Technology Transfer Context on Economic Growth: The Case of Developing Countries' (2017) 23 *Journal of Innovation Economics Management* 33 <<https://www.cairn.info/revue-journal-of-innovation-economics-2017-2-page-33.htm>> accessed 15 February 2019.

<sup>97</sup> All Answers Ltd (n 18).

<sup>98</sup> Emmanuel Kolawole Oke, 'Incorporating a Right to Health Perspective into the Resolution of Patent Law Disputes' (2013) 15(2) *Health and Human Rights Journal* 13 <<https://www.hhrjournal.org/2013/12/incorporating-a-right-to-health-perspective-into-the-resolution-of-patent-law-disputes>> accessed 14 November 2018

<sup>99</sup> *Ibid.*

<sup>100</sup> 'WTO | Intellectual Property (TRIPS) - Amendment of the TRIPS Agreement' <[https://www.wto.org/english/tratop\\_e/trips\\_e/wtl641\\_e.htm](https://www.wto.org/english/tratop_e/trips_e/wtl641_e.htm)> accessed 18 February 2019.

lacked sufficient capacity to create new drugs.<sup>101</sup> This triggered an amendment to TRIPs<sup>102</sup> which provided a chance for those countries producing generic medicines through compulsory licensing to export all its medicines to LDCs.<sup>103</sup> TRIPs has to a large extent harmonized IPRs standards of protection.<sup>104</sup> It increased the level of IPRs protection by for instance instituting that WTO member states cannot exempt pharmaceuticals from patent protection.<sup>105</sup> Thus, the barriers set by IP are slowly being removed to make healthcare more affordable and accessible to those in developing countries and LDCs.

## **5.2 Concrete adoption of technologies and prevailing influences**

It is apparent that there exist human rights infringements in the process of adopting technologies. The immediate environment that surrounds the need for a HRBA is the socio-political realities that are prevalent in the country that would make it necessary to adopt technologies. This is because such factors heavily influence human rights and the adoption of technologies to address such factors; for instance AI to keep track of patient records so as to curtail instances of lost or wrong patient data, or digitizing the land registry to ensure proper and accurate information is kept regarding respective land owners and avoid cases of land grabbing. Such cases have an impact on rights to health and property. As such, socio-political influences such as these greatly impact the adoption of technologies.

Kenya has in its own way, made steps with regard to technology transfer. The country has set its sight especially on adopting blockchain technology and artificial intelligence. This is also timely, considering the President met with the German delegation last month in a bid to partner with them in technology transfer by prioritizing the transfer of technical skills and education with focus

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<sup>101</sup> Ibid.

<sup>102</sup> Ibid.

<sup>103</sup> Ibid.

<sup>104</sup> World Health Organization (n 17).

<sup>105</sup> Ibid.

on applied sciences.<sup>106</sup> From a concrete standpoint, Kenya has been able to adopt various technologies. The creation of a Blockchain and Artificial Intelligence (AI) Taskforce is what marked Kenya's interest and involvement in technology, which is heavily influenced by socio-political factors; such as the heavy inclination of the *inter alia* financial sector to incorporate a digital aspect therein. The Blockchain and AI Taskforce; established under the Ministry of ICT was instituted in February 2018 and constitutes 11 members, headed by Prof. Bitange Ndemo.<sup>107</sup> The taskforce was created with the objective of exploring the use of distributed ledger technology and artificial intelligence for development in Kenya.<sup>108</sup> This was a direct consequence of President Uhuru Kenyatta's remarks that the nation needed to explore the opportunities in the new technology, especially in sectors such as land, where creating full-proof digital registries could forestall malpractice and parallel ownership.<sup>109</sup> The President's directive was welcomed warmly by blockchain enthusiasts, with more interest being placed on its possible use in digital money services.<sup>110</sup> The hope is, if blockchain does catch on in Kenya, we will be able to create a framework to help integrate bitcoin trading with M-PESA will allow millions of people to swap funds and send money home or abroad.<sup>111</sup> Further, this will trigger its use in the business sector to make online payments.<sup>112</sup> The taskforce that was created was charged with this momentous task of trying to figure out ways in which blockchain technology could be applied in Kenya<sup>113</sup> which was proposed by the Cabinet Secretary for ICT, Joe Mucheru. The taskforce completed the 192-page report in November 2018, in

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<sup>106</sup> People Daily, 'Kenya, Germany to Partner on Technology Transfer' (*People Daily*, 24 February 2020) <<https://www.pd.co.ke/news/kenya-germany-to-partner-on-technology-transfer-25951/>> accessed 10 April 2020.

<sup>107</sup> 'The Kenya Blockchain Taskforce Concludes Its Report' (*Kenyan Wallstreet*, 19 November 2018) <<https://kenyanwallstreet.com/the-kenya-blockchain-taskforce-concludes-report-on-blockchain-technology/>> accessed 9 April 2020.

<sup>108</sup> *Ibid.*

<sup>109</sup> Abdi Latif Dahir, 'Kenya Is Finally Softening Its Stance on Blockchain Technology' (*Quartz Africa*) <<https://qz.com/africa/1222541/kenya-has-created-a-blockchain-task-force/>> accessed 9 April 2020.

<sup>110</sup> *Ibid.*

<sup>111</sup> *Ibid.*

<sup>112</sup> *Ibid.*

<sup>113</sup> 'The Kenya Blockchain Taskforce Concludes Its Report' (n 108).

which they expressed their sentiments on how blockchain technology can be applied in line with the government's Big Four agenda.<sup>114</sup> While the report does not expressly mention technology transfer, it is safe to say that it has come into play mainly, under the guise of both Blockchain and AI. As noted, the report has tried to align them with the Big 4 Agenda, and primarily on food security and health-care. It is evident that the sudden interest in adopting such intricate technologies is heavily influenced by socio-political factors in the country. This is apparent in the prospective uses of blockchain and AI that have been enunciated in the report. As highlighted before, the country seeks to employ AI in hospitals to produce prescriptions and keep track of patient data records. Patients' data have a history of having massive errors and can now be assured of protection.<sup>115</sup> The Nairobi Hospital had signed a deal with a US-based firm Access Mobile Inc. to enable it to offer patients real-time SMS updates on their ailments and appointment reminders.<sup>116</sup> This move had faced a lot of criticism especially considering we lacked a data protection legislation, which has since been passed.

The report indicates that AI can be used to monitor weather patterns or even detect defects in foodstuffs.<sup>117</sup> The report also indicates that the blockchain technology and cryptocurrency and AI will be used in election processes, as well as monitor the use of funds by county governments.<sup>118</sup> This boils down directly to the rampant issues of corruption and election malpractices in the country. The adoption of blockchain in business agreements also involves the adoption of smart contracts in the education sector; where infringement of copyright and fraud cases is prevalent.<sup>119</sup> This is buoyed by the recent adoption

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<sup>114</sup> Ibid.

<sup>115</sup> Gatonye Gathura, 'Massive Errors in Patient Records Exposed' (*The Standard*) <<https://www.standardmedia.co.ke/article/2001266556/massive-errors-in-patient-records-exposed>> accessed 10 April 2020.

<sup>116</sup> 'KENYA:Nairobi Hospital, US Firm Sign Patient Data Deal' (*Universal Health 2030*, 7 September 2018) <<http://universalhealth2030.org/2018/09/07/kenyanairobi-hospital-us-firm-sign-patient-data-deal/>> accessed 10 April 2020.

<sup>117</sup> 'Explainer: How to Use Blockchain' (*Daily Nation*) <<https://www.nation.co.ke/news/How-blockchains-could-change-Kenya/1056-5211014-151tj6gz/index.html>> accessed 10 April 2020.

<sup>118</sup> Ibid.

<sup>119</sup> Ibid.

of electronic signatures by the Business Laws Amendment Act in completing and approving business transaction.<sup>120</sup>

Other socio-political realities that influences adoption of technologies is the need to supply the public with information. The ICT Authority launched the Kenya Open Data Portal which makes public government datasets accessible for free to the public in easy reusable formats.<sup>121</sup> In addition, the information shared by one Government office is also vital to other government stakeholders such as county governments and ministries and agencies of the central government in planning and implementation of their program.<sup>122</sup> These government sectors are encouraged to provide their developmental, demographic, statistical and expenditure data on the portal, which can then be availed in a useful digital format to various stakeholders and the general public.<sup>123</sup> The adoption of the Open-data portal to makes access to public databases easier<sup>124</sup> hence this initiative supports the Government's drive to consistently inform and be accountable to its citizens and upholding the values and principles enshrined in Article 10 of the Constitution of Kenya. There is also an initiative to digitize the industrial sector. As claimed by Blockchain Sales Lead Director, Wellington Ayugi, the goal is to digitize the industrial sector to eliminate batch codes that are impossible for consumers to verify eventually reducing the risk of counterfeiting.<sup>125</sup> TechnoBrain; a technology, consulting, and outsourcing company, has taken steps in this venture, has

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<sup>120</sup> 'The Business Laws (Amendment) Act, 2020' (*Bowmans*)

<<https://www.bowmanslaw.com/insights/finance/the-business-laws-amendment-act-2020/>> accessed 10 April 2020.

<sup>121</sup> 'Open Data – ICT Authority' <<http://icta.go.ke/open-data/>> accessed 10 April 2020.

<sup>122</sup> Ibid.

<sup>123</sup> Ibid.

<sup>124</sup> Access Partnership, '*Artificial Intelligence for Africa: An Opportunity for Growth, Development, and Democratisation*' (University of Pretoria, 2018) <[https://www.up.ac.za/media/shared/7/ZP\\_Files/ai-for-africa.zp165664.pdf](https://www.up.ac.za/media/shared/7/ZP_Files/ai-for-africa.zp165664.pdf)> accessed 10 April 2020.

<sup>125</sup> 'Blockchain Becomes a Part of Everyday Life in Kenya' (*The Africa Report.com*, 30 January 2020) <<https://www.theafricareport.com/22735/blockchain-becomes-a-part-of-everyday-life-in-kenya/>> accessed 10 April 2020.

adopted the Number Series identification tool to trace products made in Kenya by recording in a database the codes assigned to each product created.<sup>126</sup>

It is therefore apparent that technologies have been adopted with much influence from socio-political realities through factors such as fraud in business transactions, rampant corruption, and election malpractices. Another socio-political reality that affects us and the world over is the prevailing question of IPRs. The Big 4 Agenda introduced by the current government has also played a part in the country's move to adopt various technologies such as blockchain and AI.<sup>127</sup>

## **6.0 Human rights implications in Medical Technology Transfer in Kenya and Africa**

### **6.1 The link between Technology Transfer and Intellectual Property**

As several scholars have noted, IP refers to conceptions, purely of the mind, for instance, inventions; symbols and images; literary as well as artistic works; *et cetera* which are extensively used in commerce.<sup>128</sup> IPRs are certain exclusive rights that the respective inventors derive from their creative expressions.<sup>129</sup> The manner in which IP and ToT link up is through the fact that protection of IPRs furthers technology advancement.<sup>130</sup> Technological advancement is the brainchild of innovation, which is in turn essential in the evolution of technology and inventions over time. Ordinarily, inventors require protection of their creative efforts, which attributes them to their respective inventions and excludes others from using them without his

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<sup>126</sup> Ibid.

<sup>127</sup> The Blockchain and Artificial Intelligence Taskforce, 'Emerging Digital Technologies for Kenya; Exploration & Analysis' (The Ministry of ICT 2019) <<https://www.ict.go.ke/blockchain.pdf>> accessed 10 April 2020.

<sup>128</sup> 'What Is Intellectual Property?' <<https://www.wipo.int/about-ip/en/>> accessed 26 January 2019.

<sup>129</sup> Chandra Nath Saha and Sanjib Bhattacharya, 'Intellectual Property Rights: An Overview and Implications in Pharmaceutical Industry' (2011) 2 *Journal of Advanced Pharmaceutical Technology & Research* 88 <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3217699/>> accessed 7 February 2019.

<sup>130</sup> Ibid.



authority.<sup>131</sup> Once assured of protection, inventive ventures will increase. ToT will subsequently follow, as other parties will be eager to utilize these new technologies. This is apparent where companies in countries with high innovation/developed countries opt to license their knowledge and collaborate with companies in developing countries, thus bringing high inflows of ToT into developing countries.<sup>132</sup>

## **6.2 Influence of IPRs Protection on Technology Transfer**

As noted earlier, the assurance of IPRs protection encourages innovators to engage in innovation, thus furthering technological advancement. While many scholars consider that protection of IPRs is what fosters innovation and aids in technological diffusion, as it ensures companies in developed countries access sufficient incentives that can be used to invest in R&D; while also causing large inflows of ToT into developing countries.<sup>133</sup> Others argue that the same also impacts ToT negatively.<sup>134</sup> It is the latter argument that strong IPRs protection has little impression on the effectiveness of ToT in LDCs and developing countries which lack sufficient innovation capacity and consequently impose additional costs. This ultimately makes it challenging to reduce the technological gap that exists between them.<sup>135</sup>

Despite this, the argument for and against strong IPRs protection seems endless but it does not negate the contributions it has made. One of the reasons that culminated in the formation of TRIPs was due to cases in Japan as well as certain TNCs; which majored in the software and pharmaceuticals sectors, where they argued that non-protection of IP undermined their competitiveness and deprived them of just rewards.<sup>136</sup> Hence, there was a need for stronger IP protection. This controversial relationship between ToT and strong IPRs protection is apparent in medical ToT.

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<sup>131</sup> Ibid.

<sup>132</sup> Mrad (n 97).

<sup>133</sup> Ibid.

<sup>134</sup> Foster and Falvey (n 20).

<sup>135</sup> Ibid.

<sup>136</sup> Ben Sihanya, *Intellectual Property and Innovation Law in Kenya and Africa: Transferring Technology for Sustainable Development*. (First Edition, Sihanya Mentoring & Innovative Lawyering 2016).

### **6.2.1 Strong IPRs protection in Medical ToT**

The access to essential drugs and vaccines raises key human rights issues especially when they are subject to high prices associated with strict patents on innovations such as pharmaceuticals.<sup>137</sup> Consequently, it raises key social implications as it touches on the right to health. Protection of pharmaceutical products and processes through patents has been subject to debate, with its proponents claiming that innovators have a right to enjoy benefits of their inventions while its critics claiming that patenting constrains access to essential drugs.<sup>138</sup> The emergence of diseases such as HIV/AIDS and pandemics such as COVID-19 necessitates the patent protection of effective drugs.<sup>139</sup> However, this raises a dilemma which is ‘either valuing IPRs or valuing the pricelessness of human life.’<sup>140</sup>

TRIPs has been central to the controversy of strong IPRs protection and ToT. In the pre-TRIPs era, countries had the freedom to choose their patent systems that would address their technological needs.<sup>141</sup> This provided leeway for developed countries to exclude their pharmaceuticals from being patented, thus providing affordable medicines to their citizens while growing their domestic pharmaceutical industries by depending on pharmaceutical inventions made in other countries.<sup>142</sup> Once TRIPs was enacted, it initially provided a chance for the medicines made under a compulsory license to be marketed domestically in the producing country, hence not providing a chance to supply to other countries. This did not sit well with LDCs, as they lacked sufficient capacity to create new drugs. This triggered an amendment to TRIPs<sup>143</sup> which provided a chance for exportation of compulsory licensed generic medicines to LDCs.

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<sup>137</sup> Ibid.

<sup>138</sup> Ibid.

<sup>139</sup> Ibid.

<sup>140</sup> Ibid.

<sup>141</sup> Oke (n 99).

<sup>142</sup> Ibid.

<sup>143</sup> ‘WTO | Intellectual Property (TRIPS) - Amendment of the TRIPS Agreement’ (n 104).

In the wake of the enactment of TRIPs, there was a requirement for patenting in all technological fields<sup>144</sup> and also allows for compulsory licensing along with parallel importation of the same<sup>145</sup> which still weakens the positions of patent holders in Kenya and Africa.<sup>146</sup> TRIPs also articulates the complete exclusion of certain inventions from being patented especially where protection of public morality and health or prevention of serious environmental prejudices is necessary.<sup>147</sup> However, the exclusion of certain inventions, especially drugs, despite the justifications of cases such as HIV/AIDS, would negatively affect R&D programmes that have been heavily invested in.<sup>148</sup>

## 7.0 Conclusion

This article has demonstrated that a contextual based HRBA would ensure efficient ToT particularly in the area of medical and biotechnology. This developmental approach is ideal as it encompasses the universal attribute of human rights and when coupled with an understanding of the socio-economic and political context ToT can bridge the technological disparity between developing and developed countries. The HRBA approach is also ideal as it places the burden of primary duty-bearer on the individual states to ensure the human rights of their citizens are upheld.<sup>149</sup> While undertaking this obligation, they are expected to employ values and principles such as *inter alia* good governance, democracy, and public participation; some of which are espoused in our very own Constitution.<sup>150</sup> The objective is to make the state take primary responsibility for service delivery through the HRBA.<sup>151</sup> This, coupled with an international human rights regimen; that obligates states to ensure human

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<sup>144</sup> 'The Agreement on Trade-Related Aspects on Intellectual Property Rights (TRIPs)' Article 27.

<sup>145</sup> *Ibid* Articles 6 and 31.

<sup>146</sup> Sihanya (n 137).

<sup>147</sup> 'The Agreement on Trade-Related Aspects on Intellectual Property Rights (TRIPs)' (n 126) Article 27 (2).

<sup>148</sup> Sihanya (n 137).

<sup>149</sup> Noh (n 28).

<sup>150</sup> 'The Constitution of Kenya 2010' (n 73) Article 10.

<sup>151</sup> Noh (n 28).

rights are respected, essentially portrays support for HRBA.<sup>152</sup> Also, it places the focus on the people by contextualizing and ensuring their participation through a participatory approach.<sup>153</sup> Ideally, the HRBA is an interactive process;<sup>154</sup> involving the people and various state along with non-state actors and therefore necessitates drawing of necessary data from the people themselves to ensure progress in development. Kenya has made steps in addressing the socio-political realities in adopting technologies. The advent of the Blockchain and AI taskforce report as well as the move made by the President to explore technology transfer as a priority as a country, have augmented the various ways in which the country has adopted technologies. This has especially come to light in the health sector, where prospectively AI will be employed in hospitals to produce prescriptions and keep track of patient data records as well as the introduction of blockchain into the financial and banking sectors. It is important to note that despite the call for ToT to be carefully planned, it still begs the question as to what research system or policy framework is required to ensure right technologies are accessible to the appropriate communities in the most time-efficient manner so as to preclude rights violations. If at all the technologies transferred are meant to cater to technological needs, should there not be some way to predict the human rights threats in certain locations? Nevertheless, a context specific approach to HRBA is a definite step towards ensuring technology transfer processes that are responsive to local realities.

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<sup>152</sup> Ibid.

<sup>153</sup> Ibid.

<sup>154</sup> Ibid.