COVID-19 and the ‘Unlocking’ of Innovation: Reflections on Law and Innovation in Sub-Saharan Africa

By:

Jacquelene Mwangi

May 16, 2020

When initial reports of coronavirus infections were made across sub-Saharan Africa, experts predicted that the region would be hardest hit by the pandemic, for many reasons including poor health systems, lack of capacity for large scale testing, and difficulty in implementing prevention mechanisms. While we cannot speculate on this issue, one thing that has become salient in this moment is the resilience of African people, particularly demonstrated by the innovations that have been developed to combat the virus. From locally made hand-washing machines, respirators, ventilators, to manufacturing of masks and testing kits, individuals across the continent have risen to the occasion to tackle the very challenges that experts warned would cause a crisis.

These innovations have captured attention worldwide, with many amazed at the workmanship of innovators. Commentary surrounding these innovations

suggests that this is an unprecedented moment in the history of innovation in Sub-Saharan Africa; that the COVID-19 crisis has unlocked innovation in the region. Many well-wishers have wondered “how can we promote this culture of problem solving?” This is an extremely crucial question which requires serious thought and multidisciplinary inquiry, but I would like to take a step back and argue that the notion that COVID-19 has ‘unlocked’ innovation capability is misguided. This is because innovation has always been around in these societies, in unlikely places that were previously overlooked.

In this post, I will reflect on the logics that have obscured innovation namely, international intellectual property law and formal organization of innovation through ‘national innovation systems’. These two combine under the banner of legal modernization and economic growth, and have collectively undermined innovation that does not fit into their premises.

Introducing social innovation

Innovation in sub-Saharan African societies has existed for decades; it is majorly characterized by the manipulation of locally available resources, whatever they might be, to create low-cost, simple but durable solutions. For instance, in the absence of refrigerators, sun-drying, smoking and salting were useful food preservation techniques that were utilized in the pre-colonial period and are still utilized today, albeit intermittently. The 21st Century has seen more innovators combine locally available materials especially scrap metal, to develop low-cost machinery for use in various production activities. Examples abound but I will name a few here- bicycle-powered manure spreaders, bicycle-powered maize-shellers, soap-cutting machines, and avocado oil extraction machines in Tanzania; food dehydrators powered by garden waste in Uganda, and excavators and dump trucks made from wood and condemned laptop batteries in Nigeria. With these examples, it is now easy to see that the emergence of hand-washing machines built from combination of wood and tankers for instance, is a continuation of these local knowledge systems that have been on the rise.

Scholarship on such innovations has termed them either ‘appropriate technology’ or ‘intermediate technology’ for the reason that they are developed

by common individuals, targeting their own local problems and incorporating design choices that are relevant for their users. Such works have been done with reference to the global south, mainly in sub-Saharan Africa and in India, and include classics such as E.F. Schumacher's Small is Beautiful, and Anil Gupta's "Grassroots Innovation: Minds on the Margin are not Marginal Minds."

In this post however, I would like to situate such innovations within the politics of technology, and thus I would refer to them as "social innovations". To say that technological artifacts are political is to acknowledge that they are a representation of power, and can serve to alienate or equalize. For instance, if one builds a road connecting region A and to the city, leaving out region B, there are certain advantages that residents of A will enjoy that B will not e.g. cheaper transportation, new markets for goods, and opportunities to work in the city. A more typical example is that when making a decision to buy cooking appliances, most homes would make a choice between using a paraffin stove, gas stove, electric cooker, charcoal burner or 'three-stones' among others, depending on their ability to purchase.

Thus, social innovations are "innovations that shift power, giving the poor and powerless more control over their own lives and advancing social justice." (Social Sillicon Valleys: A Manifesto, 2006) Although social innovation has previously pertained to social entrepreneurship activities such as microfinance institutions, and community centered learning, they can also be technological in nature. Addressing such innovative solutions from this lens allows us to include other solutions that incorporate emerging technologies to solve local problems including the use of drones and computer tablets in Sierra Leone, and Mozambique respectively.

Legal modernization and economic growth

Having understood the place of social innovation in sub-Saharan African societies, we can now move on to discuss the logics that have obscure this form of innovation. In doing so, we can also understand the origins of technological dependence in these countries, which partly explains the lack of trust and credibility in locally developed solutions.

Technological comprehension is undergirded by economic orthodoxies about how economic development takes place and the role of technology in the process. Historically, locally developed technologies were trivialized for being 'backward' and incompatible with progress. The preference for imported technology began in the late 70s and early 80s when policymakers were seriously deliberating technology for development. There was an acceptance that African societies did not have a technological base or that its technological base was inappropriate for 'modern' times. It was considered utopian to insist on supporting local techniques then- because they were 'old fashioned' and did not match the vision of the newly independent nations' quest for industrialization. (Hountondji, 1995) This triggered a move to the "new and improved" knowledge production systems. The move required two pertinent changes: first, to change the social and cultural formations in African societies to make it easier to deploy imported technology and to develop technological capabilities for the modern era. Secondly, there was a need to establish legal infrastructure to support the innovation process, principally through intellectual property law.

Structural change through innovation systems & legal modernization

National innovation systems are the networks of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies. (Freeman, 1987) The goal of structural change was to establish organized scientific research in formal institutions that could collaborate with universities and the private sector to develop modern technological capabilities. An example of this would be the Kenya Industrial Research & Development Institute. This reorganization privileged formal research institutions over the myriad of informally organized blacksmiths and goldsmiths who engaged in making simple tools such as stoves, cooking utensils, buckets, and tanks. Informal artisans still exist today and are especially prominent in Ghana's suame magazine and Kenya's juakali industry.

Intellectual property laws were enacted to support this process under the basis that intellectual property rights were necessary to stir innovation. Far from this however, intellectual property laws and standards have only served to marginalize sub-Saharan African countries whose creativity and innovation has

been undervalued for not meeting the standards of technological progress expected of an intellectual property system that measures progress through patent citations and patent counts. African states “mal-development” and “lag in innovation” is often read as a lack of capacity and/or understanding of intellectual property law and its institutions, thus, a lot of emphasis is put on intellectual property reform through public education, improvement of government capacity and efficiency through training of officers, and establishment of functional intellectual property offices.

Despite this, the rationality of technology policy within Africa’s regional institutions remains to organize innovation in formal institutions and accumulate patents that attest to the transformation of a modern continent. This comprehension of technology policy however denies the possibility of advancing informal social innovation and democratizing its gains. Technology policy’s pervasive focus on discrete inventorship, novelty, and formal institutions neglects other significant expressions of human ingenuity such as social and technological innovation that may not be strictly new.

Conclusion

The lessons we learn from COVID-19 innovations should give reason for technology policy makers to incorporate social innovation within their strategies. First, we learn that technological capability does not only reside in formal research institutions and universities: ordinary people are capable of developing solutions for themselves and their communities. A second and more important for purposes of law and institutions, is that these innovations represent “innovation beyond rather than within the paradigm.” (Lee, 2014) Their value does not always derive in novelty, as often times, they are somewhat replicas of already existing technologies. This means that in supporting innovation, policymakers should also go beyond the intellectual property paradigm and ensure other laws are conducive for entrepreneurship- Startup Acts are already a reality within the continent and should be promoted in earnest.

View online: COVID-19 and the ‘Unlocking’ of Innovation: Reflections on Law and Innovation in Sub-Saharan Africa

Provided by Afronomicslaw