A Spatial Perspective of Innovation and Development: Innovation Hubs in Zambia and the UK

Andrea Jiménez, Yingqin Zheng

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Andrea Jiménez and Yingqin Zheng

Royal Holloway University of London, United Kingdom

jimcis.andrea@gmail.com   yingqin.zheng@rhul.ac.uk

Abstract. The rapid expansion of hundreds of innovation hubs across Africa and Europe raises compelling questions about the relevance of this dynamic sector for development. To address this, our paper presents findings of how the social and economic context of hubs influences its members' construction of concepts of community, collaboration and development. The paper argues that what counts as innovation is often constructed in Western discourse and projected onto African realities. Doreen Massey's theory of space-making is used as a lens to analyse how different hubs produce distinct forms of collaboration and innovation for development. The aim of this paper is to explore alternative narratives of innovation hubs through a spatial perspective with the aim of revealing a multiplicity of forms for these hubs. It draws on findings from two innovation hubs in London and Lusaka respectively, using the methodology of multiple case studies. This article thus contributes firstly to the so far very limited empirical data on innovation hubs, and second, strengthens the theoretical framings of innovation for development which have so far emanated from a Western- centric empirical evidence base.

Keywords: Innovation, Entrepreneurship, Development, ICT4D, Collaboration

1   Introduction

Over the last decade or so, innovation hubs have been spreading widely around the globe, but without the accompaniment of an official or institutional definition. In some cases, the "hub" label is used interchangeably with other names, such as innovation labs [1], incubators [2] and co-working spaces [3]. These hubs claim to encourage collaboration between its members and support serendipitous knowledge necessary for the stimulation and strengthening of businesses and projects. For some, innovation hubs build collaborative communities with entrepreneurial individuals at the centre [4].

Nonetheless, despite the conceptual clarity, there are common values that make hubs unique and different from other entrepreneurial organisations: hubs host a community of individuals that can collaborate to achieve innovations. This implies a flexible and dynamic type of organisation that can be taken up and adapted globally. In the Global North, hubs have been supported by government initiatives. In the Global South, hubs have also been supported by the government, but also by international organisations [5].

In the context of development, innovation labs and hubs have been framed as part of a digital and mobile boom in the African continent, "filling a gap in the community of academic and private sector players that technology innovation needs to spur economic growth" [6]. And even though the outcomes of innovation hubs are not clear yet, there are high expectations that these represent a model to promote entrepreneurship, innovation and economic growth [7]. This view is adopted from the experiences in economically advanced areas and is characteristic of the broader discourse of innovation for development. For the past 8 years, international organisations have been promoting an innovation for development agenda in Africa that is in response to a "[…] need for bold leadership by developing country leaders, including heads of state, supported by developed countries, to move subsistence agriculture to a knowledge-intensive sector" [8].

In 2015, we conducted fieldwork research of an innovation hub in Lusaka, Zambia. Around that same time, an innovation hub that was founded in London was looking to expand its franchise into the African continent. By the premise of being "globally connected, locally rooted", African hubs would have the same name and logo, be part of the same global network and apply the same business model. Members of the innovation hub in Lusaka applied to be part of the hub, attended workshops and seminars where they would learn all about the hub's strategy and how it could be applied in the Zambian context. After members conducted market research, this proved not to be a sustainable model for the Zambian context and the members did not continue with the process.

This seems to be an example of attempts to transfer Western models of innovation into the African context. Even though innovation hubs are championed for their flexible and hybrid nature that can fit and adapt to any context, some "[…] pursue a classic Silicon Valley type incubator model" [9]. In line with this, the already widespread label of "Silicon Savannah" is used to characterise the technology and innovation ecosystem in Kenya. This initiative has received significant support from the government and a number of development organisations. However, for some Kenyan entrepreneurs and technologists, the use of a label that stems from a pre-existing western model brings a lot of challenges. Jimmy Gitonga, a technology expert summarizes this view by saying that "words like Silicon Savannah—and you can see that not a lot of thought was put into the connotation, as if the perception of the American Silicon Valley had been taken wholesale and simply plastered onto an African scenario."[10] (p, 18).

We argue that hubs have the potential to be mechanisms for development, but that there are multiple perspectives of development that are framing the way hubs work. Instead of considering that all hubs collaborate and host communities the same way,

we perceive that these are shaped by local aspects and contexts. We propose a way in which this can be theorised, by applying a spatial perspective to see how a hub is embedded in its social economic context, and furthermore, is performed through various temporal-spatial configurations. The aim of this paper is employ a spatial perspective to explore how innovation hubs have a multiplicity of forms and interactions.

In light of this, in this paper we ask "How are innovation hubs constructed by spatial relations and practices?" and "How does understanding Tech Hubs as multiple spaces shed light on development discourses, policy and practice?"

The paper presents two innovation hubs in London and Lusaka respectively, using the methodology of multiple case study. Theoretically, we draw upon Doreen Massey's conceptualisation of space which focuses on the multiplicity of different time-spaces and the co-existing heterogeneity of narratives [11] [12]. In the rest of the paper, we start by presenting aspects of Massey's conceptualisation of space. These ideas will be incorporated in the analysis of the two case studies.

2   Space and Development

Throughout the years, various theories of development have been used to frame the impact of technology and innovation. The 1950's, for instance, were characterised by the theory of modernization, from which development was equated with growth and was considered the result of imitation and adaptation of strategies and ideologies rooted in developed countries. The less "powerful" countries were encouraged to mimic these "modernity" strategies of more "powerful" countries, and as such, these were seen as if they were situated in a different time and space but moving along the same trajectory. "Developing" countries are expected to reach the same destination of so-called "developed" countries.

Then dependency theory highlights the issue in this model that economic and political power are heavily concentrated and centralised in the industrialised countries, creating a dependence of poorer countries on the advanced economies for domestic accumulation and economic growth. Such a dependency dominates the path of development and presents only one direction for progression [13]. Therefore, development is seen as a single path for all countries and the difference between rich and poor countries is only temporal.

The Human Development Approach offers a different perspective. Based on a multidimensional view of development as the expansion of freedoms that people value, Amartya Sen's capability approach steps away from the limited view grounded on economic growth [14]. By understanding development from the capability approach lenses it criticises the "developed-developing countries" dichotomy. Even though this still may be considered for some a mainstream terminology, we understand that there are several dimensions by which the so-called "developed" countries are still in the process of developing.

Similarly, Massey's notion of space and place, which draws upon various streams of discourses in human geography provides a theoretical perspective of development

that departs from the linear trajectory model to emphasise multiplicity, heterogeneity and coexistence of differences [11] [12].

Space is first of all the product of interrelations, namely, space does not exist before identities/entities; rather it stresses upon the relational construction of things [12]. For example, a university building is only a university when students, teachers, books, departments are in it, relating, discussing and studying. Space consists of not just physical dimensions, but aspects of the social, cultural, political and economic life of space (and the enacting of space) need to be studied as well [15].

Massey [12] writes about a "global sense of place" to address issues of development and inequality in the world. She refers to the "time-space compression" as the possibility of movement and communication across space, the flows and interconnections and our experience of all this. For Massey, the economic forces that concentrate most of the power construct what is understood to be good or desirable, creating hegemonic stories that seem to be the norm. The possibility to create these hegemonic narratives is not something that is available to all and thus is structurally differentiated. This reveals issues of inequality – some having the power and freedom to benefit from all the potentials of a "globalized economy" and some not – and contains an inherent view of development as modernisation.

Thus Massey argues that spatial distribution is not of autonomous existence, and is actually produced and reproduced in response to political issues. Massey's spatial perspective thus recognises "the existence in the lived world of a simultaneous multiplicity of spaces: cross-cutting, intersecting, aligning with one another, or existing in relations of paradox or antagonism." [15] (p, 3). Multiple interpretations of reality, narratives and discourses are not only possible but are necessary if different realities coexist in the same world. This spatial perspective allows us to understand the broader context in which a hub is embedded, the implications of this for development, as well as the ways in which forms of social differentiation influence practices of collaboration and community within the hub [14]. Hubs are shaped by structural and contextual dimensions and are not just "containers in which other entities or processes happen" [16].

3   Methodology

Our research questions are: "How are innovation hubs constructed by spatial relations and practices?" and "How does understanding Tech Hubs as multiple spaces shed lights on development discourses, policy and practice?"

This research draws from a study that explored two innovation hubs, selected as multiple case study approach [17]. Given that we want to see the framing of innovation and the impact of context in the day-to-day practices and dynamics, we selected two innovation hubs located in two very different contexts of the Global North and the Global South. Even though this is not a comparative study, we sought to what extent context shaped practices and how. The selection of these particular hubs is due to their similarities in relation to how they self-define and their objectives. Both hubs

have "collaboration" and "community" as their core values. As such we wanted to see how these practices looked in situ.

Empirical data was gathered based on participant observation and semi-structured interviews [18] [19] between 2014 to 2016. Throughout the observations, detailed descriptions of visits to the hub were registered, in particular regarding member's use of the space and forms of interaction. Observation was conducted every day for a period of six months in one setting, and four months at two different times in the other setting. 30 semi-structured interviews were conducted with members and the management team. This provided us with a better understanding of the organisation's own framing, as well as members' perception of the hub.

Participant observation was used to cross-reference, provide some triangulation and to understand the context and observe people's behaviour within the space. A research diary was kept to clarify the topics and identify new ones. This allowed the researcher to see what people perceived and said about the space and its impact, and also observe interactions and dynamics within the space that allowed the construction of a more complete analysis. Of special interest was to be able to describe what happened inside a hub on a daily basis, what were the common dynamics and practices observed and how these compared with participant responses during the interviews. So, for example, if members were seen working together on specific projects, the researcher would follow up to see how frequently this occurred, between who and for what purposes.

Interviews were transcribed verbatim [20], transcripts were read several times and notes were taken on emerging topics. The research diaries had data from participant observation, as well as thoughts that were appearing in relation to the findings and potential streams to interpret them. Two research diaries were reviewed and digitally transcribed. Some quotations from the interview transcripts were selected to help illustrate the emerging themes. In the following case analysis, names have been changed to pseudonyms to protect participants' identities.

4   London Innovation Hub

This London Innovation Hub is one of many in London, and was founded in 2005. As of today, it has transformed into a franchise, with over 80 hubs with over 13,000 members worldwide, with headquarters in Vienna. The idea of this hub emerged in the wake of the anti-globalisation movement that arose at the turn of the millennium [21]. It looked to create a space for people with alternative models for systems change.

For Massey [12], London is located at the epicentre of the global power structure, a capital of neoliberal governance, as a centre of global appropriation, and as "a crucial node in the production of an increasingly unequal world" [22] (p. 8). In fact, the world often looks at London, and what happens in London, as the model.

In London, social entrepreneurship has been expanding rapidly in the past decade because it has been largely supported by the state [23]. This has important implications in the practice as there are formal support systems (i.e. reports, grants, discours-

es) that support this particular kind of entrepreneurship. An example of this form of support is the UK Conservative Party's "Big Society not Big Government Policy", launched in 2010. Furthermore, social entrepreneurship in the UK is inherently linked to revenue generating. This combination - "promoting the social" and "being a successful business"- requires for strong efforts, organisation and structure.

The main objective of this hub is to create local collaborative communities that are bringing about social change. It constitutes a cross between an "incubator, a learning lab and a professional membership community" [27] (p. 23). The hub places strong emphasis on hosting a "collaborative community" of individuals who want to work on social enterprises. Their website claims that they "are part of a global network of connected communities that enable collaborative ventures […] Each community is a wealth of innovative programs, events, and cutting-edge content. […]". Thus both the organisation's structure and the physical space have been designed with these values in mind. For example, the workspace contains open space areas, with leaf-shape tables, high ceilings, glass doors, relaxed social areas and an open kitchen, and designated meeting rooms for hire.

Interestingly, interviews revealed mixed findings with regards to aspects of "community" and "collaboration". Although some participants mentioned the importance of being part of the hub community and enjoying the "collaborative ethos", the majority of our respondents did not consider themselves part of a community, nor have they collaborated with anyone from the hub. This was an interesting finding, considering that some of these respondents used the space on a daily basis, and some for a significant period of time (e.g. two years). What resulted as more valuable for them were the aesthetics of the place and location, because clients got a sense of professionalism, portraying a positive image for members.

Our observation also confirmed that very little collaboration was happening at the hub. Even though there were a series of social events organised, there were very few instances where members were working together, or decided to partner with other members to advance their own projects. Furthermore, what was most visible on a day-to-day basis was that members spent most of their time working alone, on their laptops, wearing headphones.

With regard to aspects of "community" and "collaboration", one member said: "For shared workspace I think it's a great place. Apart from the intention of trying to get people to collaborate which I don't think it happens that much…. We haven't really become part of the network. (Henry, 32)"

When asked why collaboration was not perceived as a valuable practice, some mentioned their nature of their work, the stage their business of project was at and a perceived lack of privacy members found at the hub. With regards to privacy, one respondent said: "So I think of the main problems is there's no private space, no room where people can just go into and have private chats. If you want to chat with a bunch of people, you have to do it out in the open. (Pat, 28) "

5   Lusaka Innovation Hub.

The Zambian innovation hub was founded in 2011 and is the only hub of its nature in the country. It started by a group of 3 male computer scientists who were concerned with the lack of knowledge that computer science students had after finishing their studies. It began as an informal group of young people wanting to improve their skills and learn coding languages. Soon, their community got bigger and with that, they had to move from a small room within an NGO to their own space. With this change, they also adapted their organisation model to include organisational values and a vision strategy. This led to changing the hub from just a community of technologists and programmers to including entrepreneurs. The hub is now a space for entrepreneurs and innovators to connect, collaborate and work on their projects to turn them into viable business models [24].

The hub presents itself as an organisation that fosters a "community" and holds values of "collaboration". On their website, the hub establishes itself "a social enterprise that contributes to local social and economic development." Furthermore, the objectives of the hub are to "aid creatives and technologists by enhancing skills, strengthening networks, increasing collaboration, providing a forum for ideas exchange and reducing the barriers to entrepreneurship."

Social entrepreneurship in Zambia has not received much attention from academia, and there is limited support for social entrepreneurs from the government. Characterised by a long history of precolonial, colonial and then democratic governance, Zambia is currently conceived as a developing, emerging market. Zambia's main forms of economic activity are mining, pastoralism and agriculture. These sectors continue to be the main attraction for foreign and local investment.

Despite these macro indicators, some studies have indicated great potential for entrepreneurship in the country. Frese [25] presented relatively high levels of entrepreneurship and innovation in Zambian entrepreneurs. The study suggests there is great potential for entrepreneurship in Zambia, yet there is lack a supportive structure and an organised market.

This is visible in the Zambian context, in particular with regards to their technology and entrepreneurship ecosystem. An InfoDev report states that there is great potential in Zambia towards high-growth entrepreneurship, particularly in technology [26]. The technology community, even though relatively emerging, is mainly characterised by business associations, international organisations and one technology and innovation hub. Most of these are supported mainly by government and donor-funded entities. At the time of the research, the government did not have any particular strategy to promote social entrepreneurship nationwide.

Overall, the relatively limited information we have on social entrepreneurship in Zambia leads us to consider the somewhat unstructured settings in which entrepreneurs are embedded, yet with a strong sense of "collectiveness". Given this, it is not surprising to see that much of the work entrepreneurs do is part of an experimentation process, rather than fitting into existing patterns supported by policies. Therefore, they mostly have to rely on "learning by doing together".

In the interviews, managers described the hub as a very flexible organisation structure; they started very small and eventually started growing but without a clear, formal plan. They decided to have a strategy of "experimentation", which meant that every year or so they would reassess their plan and change if needed. It was never in their plans to scale up to a big organisation, but to continue supporting their members in the best way possible.

The hub organisation is relatively unstructured. For instance, a group of members were interested in fashion, and felt that the fashion industry in Zambia had great potential but lacked a platform to expand it. The hub then took the initiative and organised a fashion event, inviting all relevant actors and organisations as well as young people interested in fashion. This inclusion of a range of sectors and event types was possible due to the hub's open-ended philosophy and their willingness to experiment with different issues and member proposals.

During our fieldwork we observed that the flow of movement and fluid enactment of the space was very common. One day, a group of members who work on robotics (Rasberry Pi, OLPC) gathered one day and placed all their devices on the floor, they moved the chairs and tables to the sides and started working in the middle of the room. When other members arrived, they grabbed tables and chairs and sat in the other rooms, or in the corridors. On warm days, members were observed bringing their individual desks and chairs onto the balcony and sitting there. At other times they would work to loud music. A respondent described the dynamics of the hub:

"When I see people going into these places [co-working places], I don't know why they bother doing it because they're just wearing headphones the whole time. There's just silence, is like a library. Whereas here is like is different, there are no barriers. Is very personal. You walk in and you're popping your head and saying hi to a bunch of people. Whereas in a co-working space you don't know all the people. They talk about the benefits of collaboration and all that stuff [in other co-working spaces], but I don't see that happening" (Mickey 29).

Practices of collaboration were also observed on several occasions, where we would find members brainstorming to help an individual develop further ideas for a website she was trying to develop. She would invite anyone who wanted to participate and they would work on one computer and add ideas regarding colour, form and text. Moreover, through the same process members were able to help clarify wider business objectives through questions regarding target audience and objectives of the website, which she did not previously have clear.

The expectation of a space provided for entrepreneurs is that revenue is considered as an important aspect for successful business model. Instead, what we found at the Zambia hub is a different narrative of doing business where the starting point is focusing on the community.

When asked how collaboration was enabled within the hub, an interviewee responded: "I think that's part of the culture they've created here and I think that's because of the motive and what you are doing. These guys started it because they wanted a community. They didn't start it because they thought it was a good sell model that would make lots of money. They never thought about money. They just thought about supporting the community, that was it (Vincent, 32)."

6   Analysis

Massey's conceptualization of space offers us the possibility to understand the multiplicity of trajectories, merging through global narratives of entrepreneurship and innovation combined with local sense-making of entrepreneurs from London and Lusaka respectively. Our study presents two innovation hubs located in two different contexts, both promoting core values of collaboration and community. The practices of both hubs arise from their own social meaning, rules regarding use and its physical properties.

6.1   Embeddedness of hubs in institutional contexts

Our findings show how institutional support systems shape spatial relations and practices of both hubs. In the UK, there is a well-developed policy discourse that is actively supported by institutions of government and civil society. There is a policy framework, university support, voluntary sector funders, venture capital and a media and political narrative to frame the work of innovation hubs. Consequently, organisations supporting entrepreneurial work (like hubs) are legitimised, and thus, find structures that they can fit into to do their work.

Despite the strong institutional support, our findings show that there is little sense of community and collaboration and that the hub is mostly valued by the design of the space, the resources it provides and its effect in building positive relations with clients or potential clients. In this sense, even though the hub proposes values of collaboration and community, the wider institutional context has an impact in the way these take place.

The innovation hub in Zambia received very little support from the formal ecosystem. This hub is embedded in an unclear environment for social entrepreneurs, with little or no support for the work that they do. In this sense, member's dynamics at this hub were shaped by trial and experimentation. Despite constraints of a relatively structured and ordered physical space, people to act in a collaborative way and use of the space in a much more fluid way, demonstrating little structure and control in the day-to-day practices. In other words, the way the hub's space is enacted in ways that are strongly driven the values of community and collaboration, and also reflecting a lack of formalisation of institutions and practices of entrepreneurship.

Therefore innovation hubs need to be understood as constituted by local practices and conditioned by structural and institutional arrangements. Government bodies and international organisations seeking to promote innovation hubs should pay closer attention to the existing institutional support in the specific environment in which a hub is embedded.

6.2   Coexisting narratives of hubs

As mentioned previously, given the current lack of understanding of what hubs are and what they do, hub managers and enthusiasts may inevitably choose to identify one successful model and seek to replicate it. Here we see the power-geometry that

shapes not only the way hubs are perceived, but how members of innovation hubs perceive their own work.

As mentioned previously, the success of the London innovation hub leads to its attempt to expand its franchise to other parts of the world, including some African countries. The London hub is not looking to be replicated in exactly the same way in Africa as it does transform and adapt according to contextual needs. It is still too soon to see whether this project proves successful, but the notion of diffusing a "successful" model to the global south echoes the "diffusion of innovation" theory with similar assumptions made about technology transfer in the 20th century that has often been found futile and inappropriate. Moreover, a fee is charged to use the hub's logo and model to generate revenue for the Global North which reinforces the hegemony of development models.

Conceptual frames are never neutral abstractions - they are deeply embedded in social and political structures. For authors like Rodgers [27], embracing the notion of multiplicity implies that there should not be a priory assignment of statuses and authorities, nor privileging certain stories over others. Through this, we can imagine a fuller recognition of the simultaneous coexistence of others, with their own trajectories and narratives, and thus understandings of the world.

Our empirical evidence reflects how the Zambian hub faces significant challenges and yet they are more successful at achieving an ethos of collaboration and community that the UK case. Perhaps it is because of the lack of support system that they rely on these components, but it becomes relevant to register this not in the hopes that the Zambian case will eventually one day achieve the same level of the UK case. Instead it speaks of the contemporaneous heterogeneity of the world [12]. The hub in Zambia, as located in the Global South would benefit from finding ways to increase resources without losing those components. Massey illustrates this when she explains that "we want them always to recognise that what is said about Samarkand may not apply to, say, New York" [21] (p. 139).

Consequently, the more attention that hubs receive from governments and development organisations for their potential to development, the more risk there is of trying to fit into the model of innovation hubs under advanced economies in the West. This can have some implications in the narratives and identities of the entrepreneurs, and can impact the work they carry out. Instead of letting them be "local", there may be a risk of wanting to be "global" and fit into existing Western models of innovation, contributing to a phenomenon of reinforcing geographical uneven development. Furthermore, this process may lead to the failure of innovation hubs in the South, if measured by the standards set by advanced economies, as they are embedded in different contexts, with different resources and support systems.

7   Conclusion

Innovation hubs, as mechanisms for development, can hold underlying views of what development means. Mainstream development thinking and policy often promote the imitation and adaptation of strategies and ideologies of the Global North, which often

result in a dependence of poorer countries on the advanced economies for domestic accumulation and economic growth. The global discourse around entrepreneurship and innovation has triggered the innovation hub phenomenon, which are spaces constructed in particular local contexts. It is thus possible to frame the innovation hubs as heterogeneous spaces of "global" processes and flows [28] interacting with local narratives and grounded practices.

What is considered "best practices" often stems from the perspective of those who hold the power, thus stifling alternative narratives of development. It is thus important to recognise the power hierarchy in global development and its effects, and embrace development as multiple co-existing narratives, including those coming from places that have been historically understood as less developed. In this respect, local governments and international organisations should seek to understand and evaluate the multiple narratives and practices of innovation embedded in different social institutional conditions on their own merits.

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