

COMMENTS ON: Technology Deployment in the Age of Covid.
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A more detailed bio is available at the end of this note

My comments will be made point by point in response to statements Al Watkins makes in this blog.

Watkins identifies the remote locations of some areas in developing countries as a challenge to the management of Covid 19 infections in these areas. I, on the other hand, see the remoteness of location as an advantage rather a threat. If these areas are so remote that they will be difficult to access for the delivery of medications and vaccines, then they would also be inaccessible for the transmission of the virus. In my opinion remoteness has the same advantage as self-isolation or a lockdown, for the management of the Covid 19 virus.

Writing from South Africa, we see higher infection rates in metropolitan areas rather than in remote rural areas. However, I agree on the challenge presented by slums and informal settlements as well as the lack of piped water in rural villages. I contend that the approach taken for the management of Covid 19 is 100% unsuited for these areas. The following points illustrate my contention:

- How possible is it for a family/ an individual to stay cooped up indoors in a shack, a one-room structure (2m X2m, at most) for the period of the lockdown? What would they do all day without basic means of entertainment, books, TV etc.?
- There is no running water in a shack and usually, anywhere nearby. The idea of washing your hands frequently is a pipe dream in these slums.
- Social distancing is also an ideal not easily reached. Informal settlements maximize on the existing space.

It seems that no one thought about these shack dwellers when they came up with the Covid 19 management guidelines. This is strange, given the fact Africa is going through an immense urbanization process. Shacks are Africa's major growth area!

This disjuncture between the prescriptions for Covid 19 management lead me to another disjuncture I see in attempts to have successful development projects in Africa. First of all, I hear very little discussion, in the public domain, of the lessons learnt from the myriad of previous failed projects in Africa. Watkins **does** hint at them. Lessons learnt from these projects are so hidden as to be non-existence. A new government official or officials of multilateral organizations have to arm herself with a strong search light to find them. Very little due diligence is done. We don't build on prior learning/knowledge in Africa. We seem to assume that everything was *tabula rasa* before we arrived. This refers to local assumptions, knowledge and skills. I have not digressed – what I'm saying links to Watkins' blog in this way: Watkins acknowledges that:

- a) Science, Technology and Innovation (STI) are major sources of new knowledge and inventions.
- b) Inventions in the lab are no solutions until they are applied to the ground.
- c) STI cannot deliver their solutions to communities on their own. Solutions need to be deployed at scale to reach communities.
- d) There are non-science factors that determine the acceptance and further deployment of solutions. I think these are contextual factors that Watkins is referring to here.

- e) There have been piecemeal approaches to reaching communities.
- f) He suggests the repairing of broken circuits as the main challenge facing the deployment of development technologies – linking up all the factors to form an efficient chain/relay of deployment. This seems like a linear model that Watkins is using.. I agree with all the steps mentioned above and the idea of repairing broken circuits but I disagree with his final step/solution – the linear model, a one-directional flow of knowledge and skills.

I suggest that the repair of the broken circuits should be modelled after a Virtuous Circle. A critical question to the transformation of the linear approach is: At what point do you engage the community ecosystem (government, business, NPOs, universities etc.)? This linear approach seems to suggest that interaction with the community ecosystem **occurs once - at the point of deployment**. I suggest that conversations with the community ecosystem **must take place twice – at identification of the problem and conception of a solution and at deployment – Virtuous circle of communication**.

- At a basic level, we should be able to answer the question: does the community agree/appreciate the problem identified.
- What solutions can they suggest?
- Would they be interested in trying other solutions?

The importance of checking user attitudes is a common principle in technology transfer. However, this seems to be a missing step in the transfer of technology to Africa. Is it any wonder that money is spent on bringing technology to the continent but it ends up being ignored and not used? There is an important element of choice that communities have to exercise. The uptake of cell phone in Africa reflects this choice that I'm referring to. There is need to consult and understand community attitudes towards plans to deploy technologies. With this kind of consultation, trust is built such that the deployed solutions would not take the communities by surprise. Deployment and testing would be part of process of communication about a problem to be solved. With trust, risk factors are also reduced.

I want to emphasize the importance of these non-science/contextual factors because they are critical to the adoption of proposed solutions. To be consulted means to be respected – your opinion matters! Everybody has a meaningful opinion, even if they have been bullied for a long time. What I mean by this is that illiterate societies have an understanding of their contexts and they have dreams of a better future for their children. It's time for STI and development communities to take that into account. This will be made possible by strong linkages between local universities as Centers of Expertise and their communities. There is also need to invest in strong international partnerships/collaboration with African researchers in order to facilitate the development of more appropriate, internationally sound and viable solutions. The local university must be an important source of local knowledge and an essential partner in the development, deployment and transfer of technologies.

I agree with all the funding recommendations that Watkins makes, with the understanding that decisions about the deployment of funds depend on the conviction that governments and funding

agencies have about the value of proposed technology. Nothing can convince them better than demand from the ground!

Bothhale Tema: Ph.D. Science Education – Bothhale Tema was born in Johannesburg and raised in small villages and townships in the western Transvaal. She studied the sciences in South Africa and the United Kingdom. She has worked as a teacher, and was the first secretary general of the South African National Commission for UNESCO. She was later seconded by the Department of Science and Technology to the African Union Commission in Addis Ababa, where she was the director of Human Resources, Science and Technology. Bothhale is now retired but is involved in community development projects and the promotion of social entrepreneurship where she focuses on transferring relevant skills and technologies to rural communities.

She is the author of an historical novel – [Land of my Ancestors](#) -- which chronicles the struggles of four generations of her family through colonialism and Apartheid.

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