USAID Global Development Lab Q&A with Alex Dehgan

Casey Dunning: What makes the Global Development Lab different from USAID's previous efforts in science, technology, and innovation during the Obama administration? What is the value-add of an entity like the Lab?

Alex Dehgan: The US Global Development Lab was originally proposed to Administrator Henrietta Fore and Acting Administrator Alonzo Fulgham at the end of the previous administration and written into the transition papers for the Obama Administration, calling for the return of science, technology, and innovation within the Agency and the development of a DARPA [Defense Advanced Research Projects Agency] for Development.

Raj's own vision was deeply concordant with these ideas, and he seized it with enthusiasm. His appointment of USAID's first Chief Scientist in 20 years and the Agency's first Chief Innovation Officer, and the development of the de novo Office of Science & Technology (OST), first within the Policy Bureau, and Office of Innovation and Development Alliances out of the former Office of Development Partnerships, created an opportunity to build towards the larger vision.

The original vision was primarily focused on science and technology (and the Lab went through permutations as the National Institute for Development, or the Development Advanced Research Institute), but we quickly realized the value of creating an integrated pipeline that would open the agency to novel co-design and co-creation, harnessing the democratization of science, technology, and engineering, leading to the creation of a few thousand new disruptive breakthroughs over the next decade, 10% of which would get to a meta-level of scale, and perhaps 2-3 could be transformative globally at the scale effect of oral rehydration salts (as a technology) or the green revolution (as a system). To achieve that, we required not only the new innovations, but the ability to bring them to scale, including through the private sector.

However, to truly have impact, and to institutionalize the Lab's gains, the Agency is required to make a commitment to staffing the Lab, creating new models for quickly hiring technical excellence for limited term appointments, and novel procurement authorities (paralleling DARPA or USAID's Office of Transition Initiatives) that would allow the Lab to develop truly new breakthrough solutions, to flexibly iterate designs, and to take risks and learn from failure.

Worryingly, science and technology programs which made up the majority of the Lab at its founding (it was a merger of 18 OST programs with 4 Office of Innovation and Development Alliances (IDEA) programs, one of which has been largely outsourced) appear to be a diminishing part of what the Lab is doing. Even the advisory board – whose initial purpose was to connect us with external technical communities – has mostly lost its scientific character. The Agency continues to expand the number of nontechnical staff in the Lab, without considering what the impact will be on the technical quality of what we will do. Most importantly, the leadership and make-up of the Lab needs to reflect the Lab's

technical nature, but have not done so. The gains we have made in building science & technology in the Agency are ephemeral; they can be turned back as there is an astonishing elasticity to the Agency to regain its prior form.

CD: USAID has been quite vocal about its new mission to end extreme poverty by 2030. How will the Lab contribute to USAID's efforts to end extreme poverty?

AD: The question is not how the Lab will respond to USAID's efforts to end extreme poverty, but whether it should. For the Lab to achieve its vision as a DARPA for Development, which the Administrator reiterated at its launch, it cannot duplicate the focus and political activities of the rest of the Agency. It must choose to rethink assumptions, identify alternative areas that can be truly disruptive, and be sharply focused on those areas that have the greatest potential for development. This however takes time. The Lab's focus should not be a mere mirror of a constantly shifting political agenda.

CD: USAID has identified nine problem sets for the Lab that seem to cover a vast majority of the issues on which the Agency works. In this initial phase of the Lab, can you identify which problem set you think holds the most potential for unlocking solutions using the Lab's distinct approach?

AD: The nine problem sets revolve generally around development. The Lab's role is to rethink assumptions and harness the power of the crowd and America's leading research institutes and universities, coupled with the democratization of science and technology, to lead to new breakthroughs that it can bring to scale. If the Lab isn't pushing boundaries, it isn't creating discomfort, it isn't attracting new solvers (including from the developing world), it will fail to achieve its promise.

However, the Lab probably shouldn't be approaching questions that follow the Agency's disciplinary lines, but should consider how it can look at questions that cross between them. Innovation happens at the boundaries, not in the center. Emerging findings around the importance of the microbiome can lead to huge gains in global health and food security, but also impact long-term economic growth and education. Similarly, thinking about the future direction of problems, not just where we are at present, needs to be within the Lab's purview. Developing countries need to find new pathways to development that are more sustainable, and bypass existing routes taken by existing developed countries harnessing science and technology.

The Lab's original vision was to create a thousand new innovations, bringing a hundred beyond pilot testing, and ultimately scale 3-5 innovations over the next decade that would have a dramatic impact on development and foreign policy goals equal to that of oral hydration salts, leverage a billion dollars, and achieve a five to ten time improvement in USAID programs in costs, impact, and sustained results.

There is a tension between whether the Lab can create transformative new products, but at

the same time, transform/serve the Agency. This is tied to how we institutionalize the gains made in this Administration. One is to make the Lab much closer to the rest of the Agency so that it endures. The second is to maintain its distinctiveness, craft a different culture from the Agency with a different staff and set of authorities, and create a Skunk Works, a Bell Labs, a Xerox Parc, that then feeds back in.

I am concerned the Lab may be institutionalizing the wrong things – bureaucracy rather than adaptability, technical substance, creativity, and a hacker culture. The Lab will fail if it merely creates a new bureaucracy that lacks the ability to take risks, to be creative, to be innovative. The failure to take risks — the failure to fail (or iterate) — may ultimately be a greater risk than continuing with the same programs and expecting different results. The Agency should ensure that the majority of the positions of the Lab – perhaps 90% – are not permanent, but are time limited. This is a persuasive argument to Congress that we aren't creating a bureaucracy, but truly opening up the Agency to new ideas. This means maintaining a startup mentality, allowing for iteration, and taking risks, and not building and reinforcing bureaucracy that incentivizes maintenance of the status quo.

CD: Partnership seems to be a big emphasis of the Lab's approach, yet almost all of the Lab's "cornerstone partners" are partners with which the Agency already works. Will the Lab change how these partners work with USAID?

AD: There is little value in building partnerships for vanity, but a tremendous power for building partnerships that can improve the ability of the Agency to better understand the problems, to harness new solvers, to co-design and create new solutions, and to bring those markets to scale. I continue to be amazed by the marketing power of the private sector in bringing products to the developing world. After traveling to 80 countries, including some of the most remote places on the planet, I have been impressed that you can find Pringles in all of these places. How can we build partnerships that tap into the insights of supply chains and marketing systems of the private sector to bring products to scale, or to design products for the developing world that use modern technology and behavior change.

Ultimately the role of partnerships (or any part of the Lab) aren't about their own value, but whether the Lab has created a single focused and integrated pipeline of innovations, rather than a series of siloed offices and programs, and whether the Lab operates on a model closer to that of a company than a bureaucracy, where shareholder value is replaced with saving lives, ecosystems, and livelihoods.

CD: Will USAID continue the role of a chief scientist and will that position lead the Lab? What is the role of science and technology in the Lab?

AD: When I came on at USAID, I was the first dedicated S&T Advisor/Chief Scientist appointed in two decades. The position of Chief Scientist was important signaling to the scientific community that USAID was rebuilding its technical capacity and was a direct response to the 2006 National Academies Report on USAID. However, I fought hard

initially to connect the role of the S&T Adviser/Chief Scientist and the S&T Office. This connectivity was absolutely necessary to ensure that the Chief Scientist role would have the command, control and resources to operationalize the changes we wanted to see in the Agency for science, technology, and innovation. OST became the equivalent of merging the role of the Science & Technology Advisor to the Secretary of State with the science offices of the Bureau of Oceans, Environment, and Science at State. In fact, the bifurcation of those roles at State has been largely deemed to be an impediment to the full potential of the role of science in diplomacy.

Since my departure at the beginning of the year, USAID has struggled to appoint a chief scientist for the Agency, nor has it appointed a permanent director for the US Global Development Lab (there is an argument for them being the same position). For most positions of this stature, institutions like the Smithsonian would engage a professional search firm that has experience in recruiting top tier candidates with distinguished technical or innovation backgrounds. It would place advertisements in *Science, Nature, the Economist,* and other journals, and it would do an international search. It would also consult with independent scientific bodies, such as the National Academies of Science, Engineering, and the Institute of Medicine. The purpose of this is not only to find the best candidates, but to signal the value of the position and get the input and support of the larger scientific community.

The Agency should be looking for a scientist, engineer, or physician and have experience and connections with the scientific communities, tech and innovation communities, academia, but also the translation of knowledge into addressing key global problems: e.g, working with startups, telecoms, pharma, or other private sector technical experience, rather than a purely academic background. They must have the respect of scientific, innovation, or other professional communities. The candidate must be creative, entrepreneurial, connected, inspirational, eloquent, brilliant, but also approachable. They must have on the ground experience living in the developing world and organizational management experience. They need to understand foreign policy and foreign assistance programs, and be effective representatives to those communities. They must be intolerant of hierarchy, process, but willing to use it to their benefit. Most important, they must have vision.

We substantially enhanced the reputation of the Agency with respect to science and technology in the last four years. The Agency is a hybrid institution – it is half a technical agency, and half a foreign affairs agency. However, over the last two decades, the Agency prioritized the foreign affairs aspects of its role, but saw its technical strengths atrophy. It was mainly viewed (with a few exceptions, not limited to its longstanding food security research programs and global health's work on HIV, implementation science, emerging infectious diseases, the demographic health survey, and its famine early warning programs and climate change program) as a contracting body (foreign assistance), rather than an institution that does technical development (development agency). However, the Agency has been trying to change that perception. Development is a technical field, and we can harness the exponential gains in science and technology and connectivity, to accelerate our outcomes. However, we can't do this without a focused, concerted effort to do so across the

entire Agency – the Lab needs to lead that effort and there is no other entity better suited to play that role.

A recruitment process for the next Chief Scientist and Director of the Lab, if done thoughtfully, would take up to 6 months. Given my experience in working with chief scientists across the USG, and a close working relationship with the last four S&T Advisers to the Secretary at State, the character and characteristics of the candidate will be essential.