

The Need for Robust African Research & Development

The 17 Sustainable Development Goals paint an optimistic picture of what the world can look like in 2030. On most targets, especially those related to poverty and disease, the countries of Africa have the furthest to go. In human terms, this means that the quality of life for more than a billion people on the fastest-growing continent on earth hangs in the balance. Our future depends on the rate at which we are able to solve some of the hardest health and development problems anyone has ever faced. To succeed, we need to create conditions that are conducive to scientific and technological innovation: more R&D partners with more skills, more funds, more support, and more ambition. That is what the Coalition for African Research and Innovation (CARI) exists to do: to accelerate scientific breakthroughs in Africa so that we can help more Africans lead better lives sooner.

THE CURRENT LANDSCAPE

Currently, to be blunt, there are not enough resources available for innovation in Africa, and we don't get the most out of the resources that are available because they are so fragmented.

First, the lack of resources: Most obviously, funding for R&D in Africa is shockingly low: only 1.3 percent of the money spent globally on R&D is spent in Africa. This shortage of investment is both a cause and an effect of other resource constraints. For example, the proportion of researchers in the African population is 25 and 28 times lower than the proportion in the United Kingdom and the United States, respectively. The percentage of Africans pursuing graduate study is three times lower than the global average. There are similar gaps related to the facilities

and equipment needed to conduct cutting-edge R&D. It's a classic chicken and egg problem. African countries lack the infrastructure to support investment in R&D, and they lack the investment in R&D to build up the infrastructure.

Second, the fragmentation of resources: The individuals, organizations, and governments that fund and conduct R&D on the continent do not have any mechanism for systematic collaboration. As a result, they forego the efficiencies and network effects you'd expect from an innovation collaborative and leave no permanent capacity in place at the end. Without a doubt, many of their individual projects have been impressive successes, but even many of the most successful aren't connected to the full range of expertise needed to

get to the point of impact. This is especially true when it comes to translational expertise, with many great discoveries never crossing over the so-called valley of death between discovery and the introduction of a new product or service that changes lives. Perhaps most damaging, the fragmentation results in a lack of coordinated strategic planning for African R&D. Few stakeholders have the remit to think about the long-term investments and policies needed to build a thriving African science and technology sector that responds to the needs of the African people.

VISION

Building a highly coordinated, well-funded, and African-led African innovation enterprise.

CARI'S APPROACH

CARI, an initiative under the auspices of the Alliance for Accelerating Excellence in Science in Africa (AESAs), aims to create a platform within Africa from which a coalition stakeholders can build a highly coordinated, well-funded, innovative African R&D community together. It starts by bringing them together, for the first time ever, to engage in a single, ongoing conversation—and we expect that this conversation will yield commitments to work together in new ways to meet short-term health and development objectives while building long-term capacity in the field. This conversation will be led by Africans and guided by African concerns, and it will include African governments, African development organizations, the African private sector, African and global philanthropists and philanthropic organizations, funders from donor countries, and the global biopharmaceutical industry.

Over time, through its broad network of relationships, CARI will help connect people to each other, to ideas, and to resources to support African innovation. We expect CARI to help stakeholders make the decision to address the chronic under-funding of African R&D. But resources include

everything from mentorship to policy advice that makes up a robust science and technology ecosystem. One of CARI's first undertakings will be a rigorous study of the long-term benefits of investments in R&D to African economies, to underscore the role of science and technology in growth strategies.

Fundamentally, we believe that CARI offers partners a win-win scenario, because it will stretch the value of pre-existing investments and make a clear investment case for new funding commitments. We expect CARI will align stakeholders to issue calls for collaborative investment across sectors in specific R&D challenges for Africa, which would serve the purpose of de-risking investment by any individual stakeholder or sector. An African government is more likely to reach its stated target for R&D investment (1 percent of GDP) if it knows that private sector partners are on board to help usher discoveries through the development and delivery stages. Likewise, private sector companies are more likely to invest resources in Africa if they know governments and other funders are committed to building a sturdy R&D infrastructure on the continent.

GOVERNANCE

In its initial stages, CARI has focused on building support among key stakeholders and spurring interest in the concept underlying the initiative. We have earned the sponsorship of important African leaders and the enthusiastic support of private sector champions. What's next is a broad-based consultative process to propose a strategic framework for CARI, leading in short order to a specific set of activities. This process will unfold over the course of 2017 in a variety of settings. During this period, an interim Steering Committee from AESA, the New Partnership for Africa's Development, the National Institutes of Health, the Bill & Melinda Gates Foundation, and the Wellcome Trust is leading the effort. In the coming months, CARI will recruit a "Leadership Group" with representatives from African governments foundation partners, like-minded funders, and private sector partners.

NEXT STEPS

- Formalize interim governance and plan for long-term arrangements
- Develop a road-map
- Recruit early adopters and champions and
- Secure initial funding