

A bright future for researchers improving Botswana's agriculture and economy



In Botswana, Seeding Labs equipment is supporting new research helping local farmers

Google “Botswana” and you’ll undoubtedly find images of large, striking animals crossing the Okavango Delta. Elephants, giraffes, zebras, and others flock to this region during annual floods, making it a region noted for its unique flora, fauna, and biodiversity.

As breathtaking as they are, though, this wildlife often overshadows Botswana’s other large animals: domesticated livestock, which are handled by small farms and industrial operations throughout the country.

There are more cows in Botswana than people, and they are **essential to the survival of many farmers** across the semi-arid country. While cattle farming is important to Botswana’s cultural identity, intensifying seasonal droughts threaten its future.

The lives of cattle—and the livelihoods of their farmers—are in real danger.

Looking to the future

For Botswana to move into a **more sustainable and secure future**, farmers there need to ensure that their animals have healthy feed, something that is in short supply as climate change makes accessing nutritious grains more difficult.

Force Thema, PhD at the Botswana University of Agriculture and Natural Resources, says change begins with something as simple as animal feed.

Above: The first-ever Instrumental Access shipment to Botswana is paying dividends, as **Dr. Force Thema** and his team are using the equipment to help cattle farmers produce more and better beef and milk.

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Healthier livestock for local farmers ... *continued*

“Livestock is our livelihood,” he explains, noting the nation-wide benefits that come from having a healthy cattle population. “We need to know how to take care of them so that we can make sure people here have better health, food security, and education.”

It’s a bold claim to make, but Dr. Thema is certain that his work can deliver the kind of future that Botswana demands, where the country’s population enjoys a more secure way of life.

For the many rural subsistence farmers who rely on milk and beef production especially, **animal nutrition translates directly to economic stability**. When farmers can reliably produce milk and beef, they can count on selling those products consistently and making a dependable wage.

Tools to see solutions through

Dr. Thema now has the tools to see these ideas through. Previously, he lacked the equipment to run complex analyses to even assess animal nutrition, let alone address the problem itself.

Using equipment from Instrumental Access, Dr. Thema is developing a **proprietary probiotic** for livestock, one that can allow animals to absorb more nutrients from their feed and produce more and better-quality beef and milk.

By analyzing current nutritional levels in the animals’ feed and comparing it with animal waste after feeding, he can understand how the cattle absorb their feed and what nutrients they need to support better digestion. With the right nutrition, livestock can be healthier and more productive.

From there, he says, it is a matter of developing the right supplement to ensure the health and productivity of livestock throughout Botswana.

“We are an agricultural university, and we focus on applied research, like these probiotics,” he says. “These will result in more milk and beef production, and they will allow the feed to be fully digested.”

For a country looking to build a healthier economic future, Dr. Thema’s work is a much-needed push towards more security, potentially establishing stronger ties between university research and the agricultural sector.

“Livestock is our livelihood. We need to know how to take care of them so that we can make sure people here have better health, food security, and education.”

Force Thema, PhD

Botswana University of Agriculture and Natural Resources

Hope for a brighter, healthier future

Equipping Dr. Thema with modern scientific instruments is the first step to ensure that Botswana can move into a future with healthier livestock and more prosperous local farmers. It is a future he is excited to help make reality.

“I hope that this work will give us the information we need to **improve the lives of farmers across our country**,” he says. “So many people depend on livestock for their wellbeing, and we need to make sure that they are maximizing their profits so they can support their families.”



Dr. Thema (*right, back row*) says this work can “give us the information we need to improve the lives of farmers across our country.”

This is just a taste of the impact of Instrumental Access! To learn more about the ways Seeding Labs is supporting research for locally led development, visit seedinglabs.org/research

2023 in review: A selection of highlights from our 15th year!



January 2023

Nearly 400 pieces of Instrumental Access equipment arrived in Benin, at the Université d'Abomey-Calavi. This is the second shipment to the Department of Human Biology.

Researchers are advancing their plans to establish a center of excellence, focused on **antimicrobial resistance**, research that rapidly advanced after the initial Instrumental Access shipment to the department in 2020.



October 2023

Seeding Labs proudly attended the Partnership for Quality Medical Donations' annual Education Forum, hosted by Direct Relief.

Our CEO Melissa P. Wu, PhD, Direct Relief CEO Thomas Tighe, and Children International CEO Susana Eshleman, opened the conference with a panel discussion on health systems strengthening.

Melissa encouraged the membership to look to the roles that local universities and research institutes can play in strengthening health systems, noting that investment in these institutions is necessary for health systems to build long-term resiliency.

This capped our first year of membership in this consortium of corporations and NGOs promoting sustainable access to quality health care in underserved communities and populations in crisis.



May 2023

Thanks to the generosity of our donors, our **first Instrumental Access shipment to Vietnam in 6 years** arrived on campus at Phenikaa University in Hanoi.

"Instrumental Access equipment will help develop our research on lipidomics in common diseases in the Vietnamese population, like heart and liver disease," says Dr. Khanh Do (above, right).

Equipment will support their work in the healthcare sector, allowing them to more accurately diagnose these diseases across the country.



November 2023

Seeding Labs launched a new logo and a new vision for the future, announcing our more intentional focus on international development as the centerpiece of our work.

Our CEO Melissa P. Wu, PhD, described the shift, writing, "Seeding Labs still stands for science, and increased access to resources for science...but we move our mission forward now with more energy, more intent, and more focus on **how science can accelerate locally led development** and improve lives in developing countries."

It takes a large community to sustain our work! To support more milestones like these in 2024, please visit <https://donate.seedinglabs.org>.

Opening a world of solutions for thousands of researchers

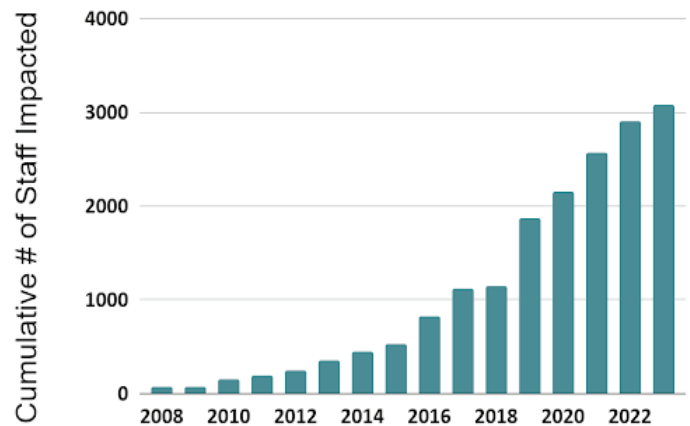
More university researchers each year are experiencing a world where they can chart new futures in the lab.

This chart shows the number of faculty and staff each year whose research has been impacted by the generosity of our supporters.

Since 2008, 3,075 faculty members worldwide have had access to much-needed equipment at their universities.

No more sending samples abroad to be analyzed ... no more losing out on grant opportunities because of a lack of equipment...

Together, we have worked to support a global network of researchers who are finding solutions for development, from developing countries!



Pictured above: Each year, the number of university faculty with access to equipment from Seeding Labs has grown!

You can ensure these numbers continue to grow by making a gift at <https://donate.seedinglabs.org>

Thank you to our signature partners who make Seeding Labs and Instrumental Access possible!

Solving today's development challenges takes all of us, and we all work together for the common good. Our commitment to global development runs deep, and there is always room to support one another.

Seeding Labs is proud to partner with corporations, foundations, and NGOs to ensure that our programs reach the most people and ensure a brighter and healthier future for all.

