



**Slow, Difficult, and Expensive:**

# How the Lab Supplies Market is Crippling African Science

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Presented By : Deborah-Fay Ndlovu

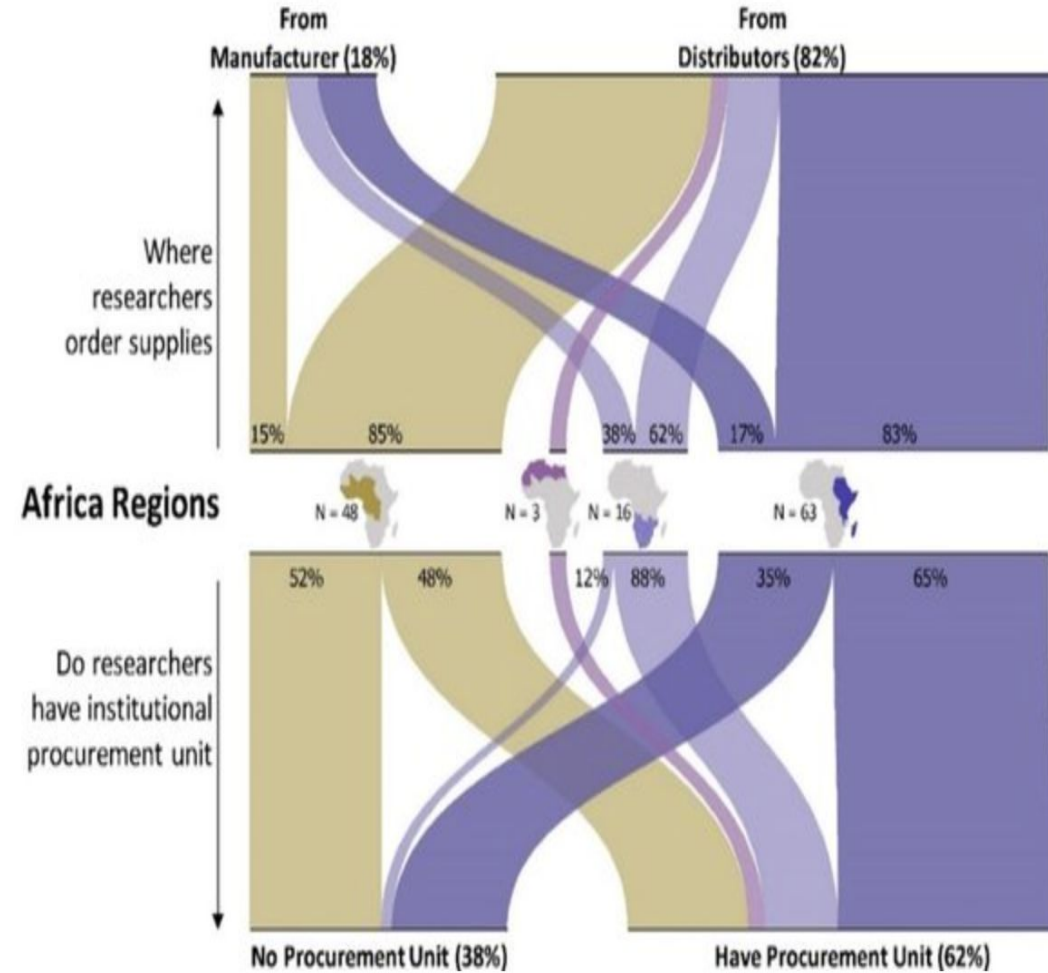
Authors: Allen Mukhwana, Oluwaseyi Shorinola,  
Deborah-Fay Ndlovu, Julius Osaso



# Survey



Surveyed **130** life scientists across **20** African countries





# Overview of the Issue

African researchers face longer wait times and higher costs for lab supplies compared to wealthier countries

- **Slow supply chains:** Significant delays in delivery of lab equipment and materials.
- **High costs:** Exorbitant expenses associated with procurement.
- **Difficult processes and regulations:** Complex and cumbersome regulations and procedures.

## 2. High(er) Costs

### Dependence on Distributors:

- ❖ Over 80% of researchers procure lab supplies through dealerships
- ❖ Manufacturers are reluctant to engage directly with African researchers due to logistical challenges

### Premium pricing:

- ❖ Lab supplies cost 25-116% more in Africa compared to UK manufacturer prices

### Impact:

- ❖ Reduced access to cutting-edge research tools.
- ❖ Overstretched research budgets.

Items	Manufacturers' UK List Price (GBP)	Kenyan Price (Converted to GBP)	Difference
Monarch® Genomic DNA Purification Kit	£170	£215.157	27%
Monarch® HMW DNA Extraction Kit for Cells & Blood	£72	£95.233	32%
Phusion® High-Fidelity DNA Polymerase	£98	£148.141	51%
NEBNext® Ultra™ II DNA Library Prep Kit for Illumina	£551	£728.935	32%
SARS-CoV-2 Rapid Colorimetric LAMP Assay Kit	£750	£926.445	24%
Eppendorf Reference® 2 (2 - 20 uL)	£327	£680.661	108%
Eppendorf Reference® 2 8 Channel (10 - 100 uL)	£902	£1,877.258	108%
epT.I.P.S.® Standard (0.5 – 20 µL) - 1000 Tips	£58	£122.889	114%
epT.I.P.S.® Standard (2 - 200 µL) - 1000 Tips	£37	£79.757	114%
epT.I.P.S.® Standard (50 - 1000 µL) - 1000 Tips	£64	£135.721	114%

# Logistics Infrastructure

## Challenges:

- ❖ Long delays: 3-6 months to receive supplies
- ❖ Customs and Infrastructure Challenges: African logistics performance is poor, leading to added costs
- ❖ Shipping fees are often higher than the supplies themselves

## Impact:

- ❖ Substandard alternatives are often used due to delays
- ❖ Disruption to research timelines.
- ❖ Increased dependence on external suppliers.



# Cumbersome Regulations

## Challenges

- Varying regulatory standards across African countries.
- Lengthy approval processes.
- Inefficiencies in public procurement systems.
- Exchange Rate Fluctuations:
- Costs not accounted for in research budgets
- Lack of Affordable Service Contracts: Malfunctioning equipment due to poor maintenance options

## Impact

- Hindered scientific progress in critical fields like health and agriculture.



# Case Study: Impact of COVID-19

## What happened

- Lab closures due to supply shortages.
- Difficulty in acquiring testing materials and PPE.
- Greater demand on already strained logistics networks.

## Consequences for African Science

### Key Impacts:

- Limited capacity for innovation.
- Slower response to emerging global challenges (e.g., pandemics, climate change).
- Exodus of researchers to regions with better research infrastructure.

# Potential Solutions

## Strengthening Local Supply Chains:

- Encouraging local manufacturing and innovation.
- Simplifying regulatory processes.

## Regional Cooperation:

- Standardizing regulations across African countries.
- Developing pan-African procurement frameworks.

## Public-Private Partnerships:

- Engaging local businesses to support science infrastructure.
- Leveraging global partnerships for capacity building.



# The Grand Challenges Africa

Proposed multi-pronged multi-sectorial solutions approach....

# 1. Governance and Policy Solutions

## Policy and regulatory reforms

- ❑ Fast-track of customs clearance for select public health institutions
- ❑ Harmonization of standards
- ❑ Specialised import regulations

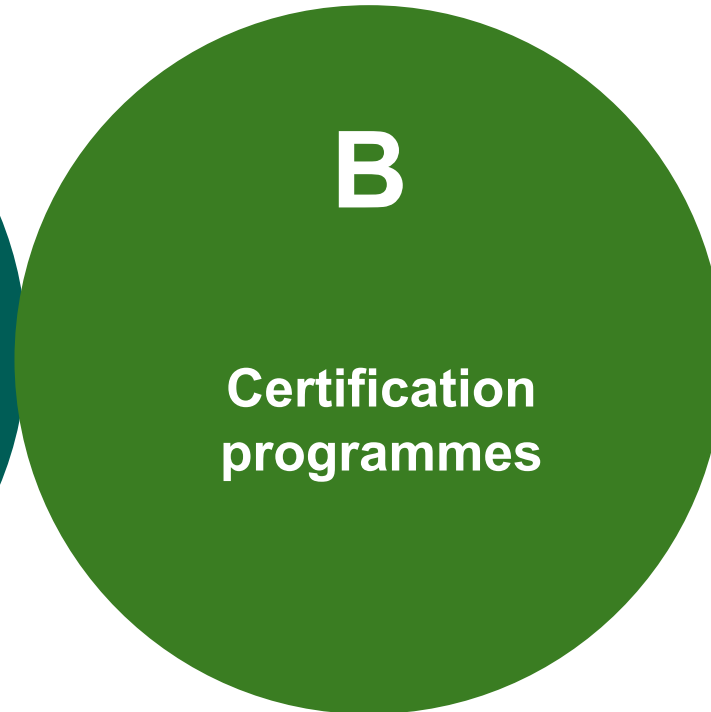
## Advocacy and awareness

- Stakeholder advocacy
- Awareness campaigns

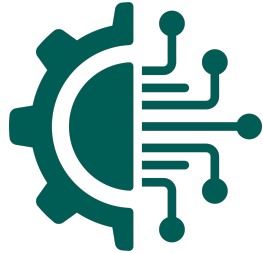
## Risk Management

- Integrity and anti-corruption matters
- Contingency planning

## 2. Capacity building and partnership

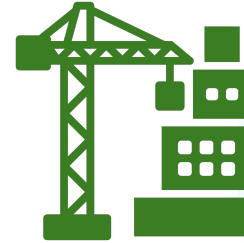


### 3. Technology and infrastructure development



#### Technology integration

- Electronic procurement systems
- Supply chain management software



#### Infrastructure enhancement

- Leapfrog technologies for ecosystem development
- Identification and certification of specialised scientific infrastructure
- Consolidated centralised warehousing facility for African scientists

## 4. Operational efficiency and financial management

### Process optimisation

- SOPs update and support for institutions

### Project delivery

- Service Level agreements and performance monitoring
- Feedback mechanisms

### Financial interventions

- Budget adjustments
- Cost management

# Way forward

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- The SFA Foundation is keen to contribute to the development of a robust logistics and procurement infrastructure that supports sustainable scientific growth across Africa. We seek partners to collaborate with.
- We invite you to fill out the 20-minute survey- information will be **kept confidential** and built towards a sustainable solution.

**Email:** [d.ndlovu@scienceforafrica.foundation](mailto:d.ndlovu@scienceforafrica.foundation)



# We believe science & innovation will be central to delivering sustainable development for Africa



The Science for Africa Foundation (SFA Foundation) is a pan-African, non-profit, public charitable organization created to support, strengthen, and promote science and innovation in Africa.

## Our research landscape:



Discovery Sciences



Translational Sciences



Implementation Sciences



*From Science to Impact*

We promote inter and trans-disciplinary research and ensure that social sciences, humanities and arts inform our work.



**Health:** Securing global public health security



**Climate and Environment:** Driving global climate change adaptation, mitigation and resilience priorities



**Agriculture:** Driving advancements to secure biodiversity, food security and improve livelihoods

# Key Takeaways

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- The lab supplies market poses significant challenges to African science.
- Addressing delays, costs, and regulatory hurdles is essential for advancing research and innovation.
- Collaborative efforts between governments, institutions, and private entities are critical to overcoming these barriers.





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You



Riverside Drive, Chiromo, Nairobi, Kenya

E-Mail: [info@scienceforafrica.foundation](mailto:info@scienceforafrica.foundation)

T: +254 705 199 199



[www.scienceforafrica.foundation](http://www.scienceforafrica.foundation)

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