Workshop Report Procurement and Supply Chain Management (PSM) Grand Challenges

Solution Implementation Planning Workshop.
Use Case: Pathogen Genomics Sequencing (PGS) and Related Diagnostics.

Dates: 27-28 June 2025 | Venue: Hyatt Regency, Nairobi, Kenya

GROUP PHOTO

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Executive Summary

The Science for Africa Foundation (SFA Foundation), and a broad network of regional and global partners, convened a two-day workshop from 27 to 28 June 2025 in Nairobi, Kenya. The workshop brought together researchers, policymakers, funders, manufacturers, and technical experts to address persistent procurement and supply chain management (PSM) challenges that continue to impede the effective roll-out of pathogen genomics sequencing (PGS) and related diagnostics across Africa.

The primary goal was to unpack these challenges and collaboratively design realistic, context-relevant implementation frameworks that could accelerate access to critical genomic tools. Participants sought to align clear priorities, timelines, success metrics, and investment opportunities that would help shift Africa from fragmented, costly systems to more efficient, resilient, and locally anchored models.

The discussions centered on four potential solution areas. First, improving market visibility and adopting alternative procurement models emerged as essential to streamline demand forecasting, consolidate fragmented orders, and leverage economies of scale. Plans were set in motion to establish a regional procurement observatory, supported by the formation of a technical working group and the promotion of bundled procurement models. These efforts are expected to drive down costs and enhance partnerships with suppliers. Second, participants focused on stimulating local manufacturing of essential laboratory consumables to reduce dependency on imports. This included strategies to support regional production through incentives, quality validation frameworks led by Africa CDC and AUDA-NEPAD, and preferential procurement policies to create predictable demand. Third, the workshop tackled trade facilitation and cross-border barriers, recognizing that lengthy customs processes, inconsistent HS codes, and unharmonized regulatory frameworks significantly delay access to vital supplies. Proposals included piloting multi-country fast-track import models, harmonizing trade codes, and engaging high-level political actors to position genomics as an urgent priority eligible for streamlined processes. Lastly, strengthening sample transportation was identified as critical for timely and quality-driven diagnostics. Participants explored integrating innovative delivery models such as drones and pharmacy pickups, stabilizing samples through validated protocols, and investing in high-quality biosafety packaging to expand geographic reach and reduce turnaround times.

By the end of the workshop, stakeholders had co-created integrated implementation plans that laid out short-term pilots (6-12months), medium-term scale-up strategies (18-36 months), and long-term sustainability goals over a five-year horizon. They also identified cross-cutting enablers, including early regulatory coordination at regional levels, blended financing models that pair donor seed funding with government commitments, and the use of artificial intelligence to strengthen demand forecasting and supply chain planning.

As the workshop drew to a close, participants acknowledged that translating plans into action will require sustained commitment from all stakeholders, strong political will, and deliberate coordination across countries and sectors.

All stakeholders are encouraged to actively promote these implementation plans within their institutions and networks, while mobilizing the resources needed to realize this shared vision. With collective effort,

the procurement and supply chain challenges identified can be transformed into opportunities for building a more responsive and resilient health system across Africa.

In conclusion, the workshop achieved the following outcomes:

1. Established a common understanding of the key procurement and supply chain management (PSM) bottlenecks
2. Co-designed practical, scalable frameworks for implementation
3. Identified key enablers and cross-cutting synergies among proposed solutions
4. Built momentum for coordinated and sustained action across the continent

Workshop Objectives

The workshop aimed at:

1. Unpack proposed solutions addressing procurement and supply chain management for pathogen genomics sequencing (PGS).
2. Co-design comprehensive, context-relevant implementation frameworks.
3. Align priorities, timelines, and successful metrics to support accelerated roll-out of PGS across Africa.

Day 1: Shared Understanding & Implementation Planning

Session Moderator: Evelyn Gitau, SFA Foundation

Introduction: Get to know each other

Fatu Badiane, Programme Manager, Grand Challenges Africa facilitated the Institutional introductions to ensure participants appreciated the diverse sectors represented in the workshop.

Welcome remarks: Introduction to the SFA Foundation and Why does PSM matter?

Tom Kariuki, CEO, SFA Foundation warmly welcomed all participants and set a deliberate tone by reminding everyone of the longstanding challenges in procurement and supply chain management (PSM), and the need to co-create practical, continent-driven solutions. At the Science for Africa Foundation, procurement and supply chain systems are seen as fundamental pillars across all impact areas. PSM challenges such as delivery delays, inefficiencies, and excessive costs are critical bottlenecks for African researchers. He shared that every cohort of scientists and innovators funded by SFA has faced procurement hurdles, whether grappling with customs delays, currency volatility, or rigid local procurement policies that simply do not match the realities of running complex laboratories. These barriers impose what he described as an '*invisible ceiling on Africa's innovation potential.'*

Tom went on to underscore that the challenges are multifaceted: they span financial constraints like high import duties and fluctuating exchange rates, logistical barriers including fragile transport networks and inconsistent cold chains, as well as policy and regulatory complications with overlapping permits and standards across more than 10 agencies in some countries. Political instability and lack of local manufacturing capacity further compound these difficulties. He stressed that the SFA Foundation does not approach these issues in isolation. Their business model is built on convening diverse stakeholders;

scientists, implementers, regional agencies, manufacturers, funders, and policy experts, to understand root causes and co-design sustainable, scalable solutions. This very workshop, he noted, embodied that ethos.

To conclude, Tom called on all participants to recognize PSM not as a minor administrative afterthought but as a strategic lever to drive Africa's science, innovation, and its health security forward. He urged the group to work collaboratively toward a unified approach, where even incremental improvements matter, and collective action becomes the norm.

Workshop Goals

David Blazes, Deputy Director Enterics, Diagnostics, Genomics Epidemiology and modeling (EDGE) Program at Gates Foundation, took the floor to outline the primary goals of the workshop, emphasizing that this gathering was structured around a solution implementation approach. He explained that the intention was not just to discuss ideas, but to build detailed, realistic roadmaps with clear activities, enablers, timelines, and metrics for success. He highlighted that the workshop would focus on four proposed solution areas: alternate procurement and market visibility, local manufacturing uptake, trade facilitation, and innovative sample transportation. The aim was to ensure that by the end of the two days, participants would have collaboratively designed phased implementation frameworks that address real-world constraints and opportunities across Africa's diverse contexts.

David also stressed the importance of this effort in preparing the ground for potential future investments. He noted that the Gates Foundation, along with other funders, are actively looking to assess where to channel strategic support. Insights from this workshop will directly inform future Requests for Proposals (RFPs), helping funders identify scalable, impactful interventions. Moreover, he underscored that rigorous assessment of feasibility and the clarity of implementation of pathways developed here would be critical. This would not only ensure that donor resources are effectively targeted but also build the case for multi-partner commitments to strengthen procurement and supply chain systems that underpin pathogen genomics sequencing and broader health innovation across the continent.

He concluded by encouraging participants to think ambitiously, so that the frameworks created would be robust enough to secure both technical buy-in and sustained funding for implementation.

Presentation: Shared Understanding of PSM Challenges & Proposed Solutions

Leads: Maeve Magner, Renuka Gadde, Ishmael Muchemenyi, and Trevor Peter.

This presentation showcased major procurement and supply chain management (PSM) challenges impacting pathogen genomics across Africa and introduced a coherent set of proposed solutions as a foundation for the breakout work to follow. The team delivered a collaborative presentation that outlined the complex landscape of barriers faced by research institutions, public health agencies, and manufacturers. They highlighted how fragmented procurement systems, lack of demand visibility, high import costs, customs delays, and inadequate local manufacturing capacity continue to stifle timely access to essential equipment, reagents, and diagnostic tools. They then laid out four primary solution areas identified through extensive research, pre-engagements, and expert consultations:

GC1 - Improving Market Visibility & Adoption of Alternative Procurement Models to shift from fragmented purchases to more inclusive and streamlined procurement based on transparent demand that leverages economies of scale.

1. Improving visibility of market demand, orders, and pricing
    - Establish a Regional Demand & Procurement Observatory
    - Create a Genomic Sequencing Procurement Working Group
2. Adoption of Alternative Procurement Models by buyers shifting Risk & Responsibility upstream
    - Adoption of Alternative Procurement Models by buyers i.e., pooled procurement, Inco terms, bundling, pay per use.

GC 2 - Unlocking the Potential of Regional Manufacturing for Lab Local manufacturing uptake reduces dependency on imports from outside of Africa by fostering regional production of priority consumables, supported by predictable demand.

1. Prioritize lab supplies within regional manufacturing initiatives i.e., AfCDC, PVAC, Donors
    - Prioritize laboratory supplies within the regional manufacturing framework of Africa CDC, PVAC, governments and other organizations.
    - Africa CDC to assess and validate regionally manufactured lab products.
2. Finance and de-risk the manufacturing of high priority products that address Africa's health needs.
    - Establish a competitive de-risking mechanism.
    - Catalyze procurement: Mobilize Donor and Government adoption of regionally manufactured laboratory consumables, including preference for "*Made in Africa*" products in their procurement.

GC 3 - Removing Trade Barriers to the Flow of Laboratory Supplies. Streamline cross-border movement of priority goods by tackling policy bottlenecks, harmonizing HS codes, and reducing VAT and duty-related barriers.

1. Recruit a technical team of customs/importation experts to;
    - Work hands-on with the Importer of Record (Laboratory or Ministry of Health) and Customs process stakeholders to identify and resolve current challenges in 5-7 countries experiencing importation issues.
    - Document the importation/cross-border challenges, map the current processes, and conduct a gap analysis to inform a facilitated customs/importation workshop.
2. Conduct an importation/customs workshop, hosted by Africa CDC, to concretely identify 2-3 ways forward.

GC 4 Reaching the Laboratory Without Delay: Fixing the First Mile of Genomic Sequencing

Sample transportation innovations to integrate new delivery modalities such as drones and ride-share couriers, mainstream alternative sampling techniques such as dried blood spots (DBS) and strengthen packaging requirements:

1. Rapid Turnaround – Pilot drone, pharmacy, and ride share models in remote or high-priority settings. Develop and pilot innovative transport modalities.

2. Stabilize specimen, to address cold chain requirements - Validate DBS and other alternative samples for sequencing workflows. Standardize and validate DBS and other novel collection methods.
3. Source cost-effective high-quality biosafety packaging suitable for use in alternative transportation models and for safe and flexible sample transport.

The presentation set a strong foundation for the rest of the workshop by ensuring participants had a collective understanding of both the challenges and the scope of proposed pathways, ready to be refined into actionable plans during subsequent breakout sessions.

Breakout 1: Implementation Focused Workstreams

Moderated by Sofonias Tessema, Africa CDC

Four breakout groups were established each according to the solution areas, participants then self-opted into one of them. The groups looked to explore:
What processes, policies, technology tools, and financing models are needed for implementation of their solution areas? Who are the critical stakeholders and how to engage them? What are realistic timelines?

Group facilitators presented their discussion points in plenary. It was noted during the plenary presentations that aligning these frameworks would maximize impact and create synergies across solutions.

1. **Group 1 (Improving Market Visibility and Alternative Procurement):**
   The group endorsed the proposed solutions aimed at enhancing market visibility and strengthening alternative procurement. They supported the establishment of a regional demand and procurement observatory to improve forecasting, consolidate demand, and increase market transparency by aggregating demand forecasts, order volumes, pricing data, and delivery performance. This would provide clearer market signals, reduce investment risks for local manufacturers and distributors, and facilitate better coordination among buyers.
   They also agreed on scaling up more inclusive procurement models across at least 5–6 countries. These models include all-inclusive pricing and bundling (integrating equipment, reagents, maintenance, and training into a single package) and assigning greater responsibility to suppliers for delivery logistics. This builds on initial alternative procurement pilots already underway.
   To drive these efforts, the group recommended setting up a procurement working group under a relevant regional agency, bringing together key stakeholders to provide governance and oversight. They emphasized the importance of consistent terminology for procurement models and proposed the creation of working groups and dedicated project teams to oversee governance and ensure effective implementation.
2. **Group 2 (Local Manufacturing):** The group adopted four interventions aimed at establishing market conditions that drive adoption of regional manufactured products (for example plasticware, nuclease-free water, and other products). These included

(i) continuing to advance more robust and routine visibility of market demand for priority laboratory consumables to guide investments in manufacturing capacity, e.g. making routine demand forecasts part of the market observatory initiative.
(ii) efforts to establish preferential procurement policies for "*Made in Africa*" laboratory products, which are otherwise seen as too risky for local companies and investors due to fragmented and uncertain demand.
(iii) targeted investment in manufacturing capacity for "quick wins" to catalyse the market and fill key market opportunities for regional products.
(iv) continued support for market entry pilots to assess the feasibility, utility, and impact of a pipeline of priority products and
(v) the establishment of stable systems for quality validation by regional authorities such as AfCDC and AUDA-NEPAD.

The group also discussed a range of potential product categories for regional manufacturing, including lyophilized PCR kits, filter paper, and molecular-grade ethanol. There is also a need to prioritize laboratory supplies in regional manufacturing discussions that often focus more on vaccines and other products.

3. **Group 3 (Trade Facilitation):** The group emphasized that streamlined customs processes, harmonized HS codes, and coordinated Duty and Tax exemptions would accelerate cross-border movement of both imported raw materials for local production and finished diagnostic products. This was an area highlighted as one of the biggest challenges being experienced by the laboratories that needed to be addressed as a priority for both international and regional imports. They recommended harmonized HS codes, Duty and Tax exemptions, and piloting multi-country fast-track models under AfCFTA/ EAC/ ECOWAS.
4. **Group 4 (Sample Transportation):** This group validated the challenges associated with sample rejections at the laboratories, as a result of poor handling but the majority as a result of sample transportations. The group agreed the focus should be on the three (3) solutions presented for sample transportation: rapid turnaround response, sample stabilization during transportation, and cost-effective bio-safety packaging. Given other health programs have addressed some of these issues previously both in terms of samples transportation and use of drones/ride share, i.e. Zipline in Rwanda and Ghana, Drones in Democratic Republic of the Congo, Drone Pilot for sample transport in Malawi.

   The group highlighted the need for comprehensive landscape analysis to scope what is already in use and to leverage existing systems for faster adoption. They also explored innovations such as cold chain and better bio-safety packaging.

Participants also discussed how these frameworks would collectively strengthen preparedness for future health emergencies by enabling faster deployment of diagnostics and reagents. They agreed that advancing them in isolation would lead to missed synergies, duplication of efforts, and slower scale-up, reinforcing the need for a holistic, interconnected approach that spans procurement, manufacturing, trade policy, and last-mile delivery.

Breakout 2: Identifying Interdependencies and Consolidation of Implementation Plans.

Moderated by: Jenn Maroa, Gates Foundation

In this combined extended session, participants regrouped to delve into the interdependencies across the four proposed solutions, recognizing that isolated interventions would fail to deliver sustainable impact. The discussions focused on identifying shared platforms and delivery mechanisms that could support multiple objectives simultaneously such as a regional procurement observatory and integrated data dashboards that could serve procurement, regional manufacturing, and trade policy agendas all at once. Groups examined how sequencing activities could minimize duplication and leverage early wins to unlock downstream benefits. It was broadly agreed that getting market visibility helps manufacturers (both international and regional) understand the demand better and therefore influences their investments in the markets. Addressing customs and importation challenges as a priority helps unlock current supply challenges and removes barriers for regional manufacturing and cross continental sample transportation. Visibility to market demand also influences the logic for alternative procurement models, including pooled procurement. While successes in trade facilitation, i.e. streamlined customs processes, harmonized HS codes, and coordinated duty and tax exemptions would accelerate cross-border movement of both import procurement. Efficient trade and procurement systems would also ensure a more reliable flow of critical supplies needed to support innovative transport pilots, such as drones and pharmacy collection networks, and sustain them beyond short-term grants.

During the plenary presentations, groups shared integrated approaches, such as utilizing procurement data to guide decisions on which products to prioritize for regional production and leveraging existing sample transport infrastructure, such as pharmacy networks or national blood services, to also distribute laboratory reagents and consumables. These cross-cutting strategies were seen as crucial for creating an efficient, interconnected ecosystem.

In the final part of the session teams consolidated their insights into draft implementation plans that mapped out clear horizons:

- Short-term pilots (6–12 months) create visibility on demand across countries, landscape customs and importation challenges, assess demand and procurement observatories, bundled purchasing contracts, and development and validation of market ready tools for regional production of simple laboratory consumables.
- Medium-term scale-ups (18–36 months) to broaden product portfolios, operationalize the demand and procurement observatory, integrate harmonized HS codes, and expand and operationalize innovative transportation pilots across more countries.
- Long-term sustainability goals (5 years) aimed at embedding these models into national systems, ensuring regulatory and policy alignment, securing blended financing, and building robust local capacity.

Key enablers identified included early regulatory coordination at regional levels, catalytic seed funding to offset initial risks for manufacturers and distributors, and targeted capacity building to ensure African institutions could sustain these systems without long-term external dependence.

Wrap-Up and Participants reflections:

As Day 1 ended, participants were invited to share their reflections on the discussions and collective work accomplished.

- They expressed appreciation for the rich diversity of perspectives in the room, bringing together research institutions, funders, policy agencies, manufacturers, and technical experts. This multidisciplinary engagement was repeatedly highlighted as a critical strength of the workshop.
- Several participants noted that the day's sessions had deepened their appreciation of how interconnected the proposed solutions truly are. What began in the morning as separate thematic tracks: procurement, regional manufacturing, trade facilitation, and sample transport, by the afternoon had clearly revealed overlapping needs, stakeholders, and enablers. Many remarked that the process of jointly identifying interdependencies helped them see opportunities for smarter sequencing of activities and more efficient use of resources.
- A particularly insightful point was raised by the representative from BroadReach, who emphasized the transformative role that artificial intelligence and advanced data analytics could play in strengthening these frameworks. They highlighted that AI could help build smarter procurement platforms, enable predictive demand forecasting, and optimize supply chain operations by learning from historical patterns. This sparked interest across several groups, reinforcing that digital tools should be intentionally embedded in the design of procurement observatories and regional data platforms from the outset.
- There was also a strong sense of urgency and optimism. While acknowledging the complexity of challenges ranging from fragmented procurement practices to customs bottlenecks and underdeveloped manufacturing ecosystems, participants agreed that Africa does not have to start from scratch. Instead, they can leverage existing platforms regional economic agreements, and lessons from COVID-19 and past experience and successes (e.g., HIV viral load) to accelerate implementation.
- Others appreciated the focus on grounded, practical frameworks. Rather than dwelling only on abstract barriers, the breakout sessions pushed teams to lay out concrete steps, realistic timelines, and financing options. Several participants highlighted that mapping out short-term pilots alongside medium- and long-term ambitions gave them a clearer view of how to start moving forward immediately.
- A few reflections underscored the importance of political engagement and sustained advocacy, noting that technical solutions alone would not overcome entrenched regulatory and fiscal obstacles. Participants emphasized the need to build stronger science diplomacy efforts to influence policy shifts and to secure buy-in from finance and trade ministries, not just health actors.
- Many expressed a shared confidence that by continuing this kind of collaborative design paired with robust monitoring and joint learning the community could turn what have long been recurring problems in Africa's health research landscape into strategic opportunities for systemic strengthening.

Day 2: Delivery Models, Budgeting & Commitments

Session Moderator: Fatu Badiane, SFA Foundation

Breakout 3: Success Metrics and Budget

In this critical session, participants regrouped into their thematic teams to define what success would tangibly look like for their proposed solutions, and to outline the budget ranges and financing models that could realistically support implementation.

Each group began by articulating short-, medium-, and long-term outputs and outcomes, identifying practical indicators to monitor progress. Examples of metrics discussed included:

- Alternative Demand & Procurement Observatory: Number of institutions onboard and reporting, frequency and completeness of data updates, reductions in average lead times, and percentage on-time-in-full (% OTIF), reductions in cost and lead times.
- Regional Manufacturing: Share of laboratory consumables locally produced, validated, and accepted by regulatory agencies, and the percentage cost reduction compared to imports. Indirect metrics include building local skills, establishing employment, and helping economic growth.
- Trade Facilitation: Number of countries adopting harmonized HS codes and Duty/ Tax exemptions, and reduction in customs clearance times across pilot corridors. To be achieved through expert staff seconded into the IOR organization to collaborate with them and relevant importation stakeholders, including freight forwarders, and government departments (i.e., Customs, Ministry of Health, Ministry of Foreign affairs).
- Sample Transportation: Percentage decrease in sample rejection rates due to improved cold chain or packaging, and average turnaround times from collection to lab delivery, increase in sample transport footprint and geographic/population coverage for laboratories.

Financial discussions then explored budget estimates for initial pilots versus full scale-up, recognizing the need for catalytic donor investments to de-risk early phases, coupled with government co-financing and potential supplier or industry contributions. Provisional figures shared by the groups ranged from:

1. $500,000/year for two years for establishing and operating a regional demand & procurement observatory and its data tools. This includes the development and implementation of a system for self-sustainability. $1M/year for 2 years to expand and make routine use of alternative procurement models across 5-6 countries representing the majority of the genomic sequencing market in Africa.
2. $800,000 to $2 million for pilots to validate and produce high priority regionally manufactured laboratory consumables depending on volume and geographic scope and to catalyze their market entry. ~$1 million/year for 18 months – 5 years for coordination, policy work, and platform development.
3. Approximately $250,000 for consultant fees and coordination, $150,000 per year for meetings and operational costs, about $300,000 for consultants, workshops, and publications, and roughly $400,000 to support advocacy events and technical facilitation.
4. Up to $6 million over two years for testing and integrating innovative sample transportation networks, including drones and private courier models, with sufficient contingency stock and biosafety packaging.

Groups also discussed blended financing models, highlighting opportunities to pair donor seed funding with cost savings achieved through pooled procurement and regional tax exemptions.

These refined blueprints were then brought into a plenary session for validation, where each group presented their plans in detail to the wider audience. This step was essential to surface interdependence, allow for enriching the proposals, and build collective ownership. Throughout the feedback discussions, it was consistently highlighted that Africa CDC and AUDA-NEPAD would serve as pivotal hubs for driving regional regulatory alignment, convening multi-country working groups, and hosting shared platforms like the procurement observatory. Their roles were seen as crucial not only for coordinating technical elements but also for facilitating the high-level political buy-in needed to streamline customs procedures, secure VAT exemptions, and foster shared data systems across borders.
See Annex C: Groups implementation plans.

Workshop Closing

In the closing session, Jonathan Underwood from Wellcome, David Blazes from the Gates Foundation, and Evelyn Gitau of the SFA Foundation each took a moment to reflect on the collective work accomplished over the two days. They all underscored that while these discussions had been rich, strategic, and rooted in practical realities, the real test lies ahead in translating these blueprints into action.

- Jonathan highlighted that the detailed roadmaps and robust metrics developed by the groups now offer a compelling case for collaborative investment and political support. He stressed that Wellcome sees these efforts not as isolated pilots but as critical building blocks toward more resilient, self-sustaining health innovation systems in Africa.
- David echoed this, emphasizing that the Gates Foundation is actively looking for well-defined, locally led pathways that demonstrate both technical rigor and a commitment to regional cooperation. He noted that the output of this workshop would directly inform upcoming funding priorities and potential joint calls with other funders.
- Evelyn concluded by reminding participants that procurement and supply chain systems are not simply technical or administrative domains; they are strategic levers for unleashing Africa's scientific and public health potential. She called on everyone to maintain the same spirit of partnership and urgency shown over these two days as they return to their institutions to champion the next steps.

Together, the speakers emphasized that moving from plans to implementation would require continued multi-stakeholder engagement, transparent data sharing, and an unwavering focus on aligning regional efforts to achieve scale and sustainability.

In closing it was agreed the groups had achieved the following.

- Established a shared understanding of current PSM bottlenecks
- Co-designed practical and scalable implementation frameworks
- Identified key enablers and cross-solution synergies
- Built momentum for coordinated action across Africa

Annex A: Workshop Agenda

Procurement and Supply Chain Management (PSM) Grand Challenges

Solution Implementation Planning Workshop
Use Case: Pathogen Genomics Sequencing (PGS) and Related Diagnostics.

Dates: 27-28th June 2025.

Venue: Hyatt Nairobi, Kenya.

Day 1: Shared Understanding & Implementation Planning Friday 27th June 2025 Session Moderator: Evelyn Gitau, SFA Foundation		
Time	**Session**	**Lead**
8:30– 8:45 am	Introductions	Fatu Badiane, SFA Foundation
8:45–9:00 am	Welcome remarks: Why does PSM matter?	Tom Kariuki, SFA Foundation
9:00-9:15 am	Workshop Goals • Overview of the Solution Implementation Planning approach for PSM in PGS and related diagnostics, expected outputs: roadmaps	David Blazes, Gates Foundation
9:15–10:00 am	**Presentation: Shared Understanding of PSM challenges, Pre-engagement efforts and insights, Highlight of the Proposed Solutions:** 1. Alternate Procurement, Demand & Market Visibility 2. Local Manufacturing Uptake 3. Trade Facilitation & Cross Border Movement 4. Sample Transportation • Each solution introduced with its rationale, draft scope, and potential delivery model	Maeve Magner, Strategic Advisor Scaling & Sustaining Innovation for Impact Renuka, Ish, Trevor Sofonias Tessema, Africa Pathogen Genomics Institute

10:00–10:20 am	**Group Photo and Coffee/Tea Break**	**All Participants**
Moderated by Sofonias Tessema, Africa CDC		
10:20–11:55 am	**Breakout 1: Implementation Focused Workstreams** ● Groups discuss the proposed solution to ensure shared understanding. How and What will it take for each solution to be implementable? Please consider: 1. ***Processes****: What key steps or activities need to happen to bring this solution to life?*	**Group Facilitators:** 1. Alternate Procurement, Demand & Market Visibility (Meeting room: Regency B) **Lead: Bridget Mogale, Illumina** **Co-lead: Iruka Okeke, University of Ibadan Rapporteur: Linda Murungi, SFA Foundation** 2. Local Manufacturing Uptake (Meeting room: Regency B) **Lead: Renuka Gadde, CHAI**

	2. ***Stakeholders:*** *Who needs to be involved, and what strategies will ensure their meaningful engagement?* 3. ***Policy****: What policy changes, regulatory approvals, or institutional support are required?* 4. ***Technology:*** *What technologies or tools are essential to increase efficiency or scale this solution?* 5. ***Finance****: What financing mechanisms could be used (e.g., public budgets, donor funds, blended finance)?* 6. ***Timelines:*** *What is the realistic timeline for implementation**?***	**Co-lead: Yaw Bediako, Yeemachi Biotech Rapporteur: Denis Chopera, SFA Foundation** 3. Trade Facilitation & Cross Border Movement (Meeting room: Meeting 7) **Lead: Ishmael Muchemenyi, PFSCM Co-lead: Vincent Okungu, University of Nairobi Rapporteur: Caxton Murira, SFA Foundation** 4. Sample Transportation (Meeting room: Meeting 8) **Lead: Isabella Oyier, KWTRP Co-lead: Rapporteur: Faith Kiyuka, SFA Foundation**
12:00-12:30 pm	**Plenary Presentation** • Each group shares highlights and insights from their breakout discussions. *(5 mins each group and 5 mins Q&A)*	**Group Facilitators/ rapporteurs**
12:30–13:30 pm	**Lunch**	**All Participants**
Moderated by Jenn Maroa, Gates Foundation		
13:30–14:00 pm	**Breakout 2: Identifying interdependencies to enhance coordination of the frameworks.** *To explore:* • Intersections across solutions: *Where do our solutions intersect or address common challenges, stakeholders, or geographies? (10mins)* • Shared delivery platforms or alliances *What existing or proposed platforms, partnerships, or delivery mechanisms can we leverage across solutions? (5 mins)* • Harmonized timelines and sequencing *How can we align timelines or sequence activities to maximize impact and reduce duplication? (10mins)* • Any other? *(5 mins)*	**Group Facilitators as above.**
14:05-14:35 pm	**Plenary Presentation** • Each group shares highlights and insights from their breakout discussions. *(5 mins each group and 5 mins Q&A)*	**Group Facilitators/ rapporteurs**
14:35–14:45 pm	**Health Break**	**All Participants**
14:45-15:25 pm	**Groups consolidate inputs from breakout sessions 1 and 2 into implementation plans (40 minutes)** *To outline:* • Activities (short-, medium-, and long-term) • Enablers e.g., regulatory support	**Group Facilitators as above**
15:30–16:30 pm	**Plenary presentation: Group Presentations of refined implementation plans** *(each group 10 mins)* • Each group presents their refined draft implementation plans.	**Group Facilitators/ rapporteurs**

16:30-16:45 pm	**Wrap-Up Day 1 summary & Day 2 Preview**	Jenn Maroa, Gates Foundation
18:00-20:00 pm	**Networking Dinner: Hyatt Regency- 16th Floor**	**All Participants**
Day 2 – Delivery Models, Budgeting & Commitments Saturday 28th June 2025 Session Moderator: Fatu Badiane, SFA Foundation		
Time	**Session**	**Lead**
09:00–09:10 am	Recap of Day 1 & Framing for Day 2 • Reflections and set-up for action-focused sessions.	Doris Wangari, SFA Foundation
9:10- 10:00 am	**Breakout 3: Success Metrics & Budget (50 mins)** Each group defines: • M&E frameworks- short-, medium and long- term outputs/outcomes, Indicators (30mins) • Budget estimates (20 mins)	**Group Facilitators as above**
10:00-10:45 am	**Group Refined Solution Plan** • Each group consolidates their draft implementation plans (based on Day 1 inputs and breakout 3)	**Group Facilitators as above**
10:45-11:00 am	**Tea/ Coffee Break**	**All Participants**
11:00–12:30 pm	**Final Presentations & Group Feedback** *(15 min each group and 10 mins Q&A for each group presentation)* • Final group presentations and plenary discussion	**Group Facilitators/ rapporteurs**
12:30-13:00 pm	**Workshop closing:** • Appreciation and Next steps.	Jonathan Underwood, Wellcome David Blazes, Gates Foundation Evelyn Gitau, SFA Foundation
13:00–14:00 pm	**Lunch**	**All Participants**
Free afternoon		

Annex B: List of Organizations invited.

Access to Medicine
Africa Centers for Disease Control and Prevention (Africa CDC)
Africa Health Research Institute (AHRI), South Africa
Africa Medical Supplies Platform (AMSP)
African Continental Free Trade Area (AfCFTA)
African Institute of Biomedical Science and Technology (AiBST)
African Population and Health Research Center (APHRC)
African Union Development Agency – New Partnership for Africa's Development (AUDA-NEPAD)
Asia Pathogen Genomics Initiative / Duke-NUS Centre for Outbreak Preparedness
Axmed
Brevard Horizon Supplies

BroadReach Group
Carramore International Limited
Center for Research on Emerging and Re-Emerging Diseases (CREMER/IMPM), Yaoundé Cameroon
Centre International de Recherche & de Formation en Génomique Appliquée et de Surveillance Sanitaire (CIGASS) Senegal
Chan Zuckerberg Biohub San Francisco
Clinton Health Access Initiative, Inc. (CHAI)
Corning Life Sciences
Developing Excellence in Leadership and Genomics Training for Malaria Elimination and Antimicrobial Resistance Control in Africa (DELGEME)
Ellison Institute of Technology (EIT)
F&S Scientific
Foreign, Commonwealth & Development Office (FCDO)
Gates Foundation
Global Health Research Unit for Genomic Surveillance of Antimicrobial Resistance, Ibadan
Grand Challenges Canada (GCC)
Health 4 Development (H4D)
Ignite Venture Studio
Illumina, Inc.
Independent Consultants
Inqaba Biotec East Africa Ltd
INSEAD – The Business School for the World Institute of Genomics and Global Health (IGH),
Redeemer University
inSupply Health
ISN
JSI
KEMRI-Wellcome Trust Research Programme, Kenya (KWTRP Kenya)
Kenya AIDS Vaccine Initiative (KAVI)
Kenya Medical Research Institute (KEMRI)
Lasec – Laboratory and Scientific Equipment Company
Malawi-Liverpool-Wellcome Programme (MLW)
MedAccess
Ministry of Health, Kenya (MoH Kenya)
National Institute for Communicable Diseases (NICD), South Africa
Noguchi Memorial Institute for Medical Research (NMIMR), Ghana
Novartis Foundation
Oxford Nanopore Technologies
Pasteur Network – Africa
People that Deliver.
Presidential Initiative for Unlocking the Healthcare Value Chain (PVAC), Nigeria

Public Procurement and Disposal of Public Assets Authority, Uganda (PPDA Uganda)
Revital Healthcare Ltd.
Science for Africa Foundation (SFA Foundation)
South African Medical Research Council (SAMRC)
The African Centre of Excellence for Genomics of Infectious Diseases (ACEGID)
The African Continental Free Trade Area (AfCFTA)
Developing Excellence in Leadership and Genomics Training for Malaria Elimination and Antimicrobial Resistance Control in Africa (DELGEME Plus)
The National Institute for Communicable Diseases (NICD)
ThermoFisher Scientific
University of Ibadan (UI), Nigeria
University of Nairobi (UoN), Kenya
University of Science, Techniques and Technologies of Bamako
Wellcome
Wits Health Consortium t/a AIRU
World Health Organization (WHO)
Yemaachi Biotech.

Annex C: Group Implementation Plans

Grand Challenge 1: Improving Market Visibility & Adoption of Alternative Procurement Models

Objective: To enhance visibility of genomic sequencing market dynamics and drive adoption of more efficient, inclusive procurement models that reduce costs, improve forecasting, and enable sustainable supplier partnerships across Africa.

Key Challenges Addressed:

1. Fragmented and product-based procurement rather than service-based models, exacerbated by limited demand visibility and weak price leverage; buyers have to manage cumbersome and unreliable supply chains. Procurement for genomic sequencing is highly complex and fragmented across Africa given the many funders and procurement organizations involved across multiple programs. Manufacturers and Channel Partners engage with multiple buyers with orders being small and unpredictable**.**
2. Lack of long-term supplier commitments and limited ownership of supply chain due to inadequate procurement models and unpredictable procurement patterns.
3. Absence of national and regional platforms to aggregate and analyze procurement data and to forecast demand.
4. Research, public health and clinical use each have different procurement and regulatory processes and requirements resulting in scientists currently spending a

significant amount of time managing the PSM (i.e. chasing orders, tax exemptions, customs clearances etc.) vs working on sequencing.

Strategic Solutions & Workstreams

Workstream 1: Establishment of a Regional Procurement Observatory

Category	Description
Activities	Establish technical working Group; develop Term of Reference (ToRs); and governance; draft concept note; design dashboard; operationalize data gathering systems, pilot observatory with institutions
Outputs	Term of Reference (ToRs); concept note; data architecture & dashboard; pilot reports; drafted and approved policy documents; piloted technology tools
Outcomes	Improved visibility into procurement trends & pricing; enhanced forecasting & planning; transparency for negotiations; data-driven procurement decision-making; increased stakeholder engagement and collaboration
Indicators	Institutions / data sources onboarded; frequency & quality of data updates; % market coverage; number of products covered; market reports published
Impact	Data-driven procurement system; transparency and reduced delays & costs; evidence base for donor & government decisions;
Timeline	2–6 months to set up Working Group & draft policies; 6–12 months system development & pilot; 12–18 months analysis & scaling
Budget	$ 500,000/year

Workstream 2: Development of an All-Inclusive Pricing Model & Bundled Procurement

Category	Description
Activities	Establish a technical WG; build existing pilots co-design features with buyers, suppliers & trade facilitation players; introduce and make routine alternate procurement models across a set of countries; gather feedback; refine & establish pathway to scale
Outputs	Regional and country-specific procurement WGs; alternate procurement adopted and routine across most major buyers in high demand countries, functional procurement platforms pricing models; training & engagement materials
Outcomes	Streamlined ordering; reduced cost per genome; stable buyer demand and reliable supply; integration of local manufacturers into supply chains; stronger regional and national coordination
Indicators	% cost reduction and reduced time for order to deliver; platform usability; procurement cycles completed; throughput increases; % OTIF.

Impact	Easy to use and affordable genomic tools; stronger procurement systems; sustained health innovation; faster epidemic responses and resolution, and improved clinical care/health outcomes, reduced AMR
Timeline	2 years
Budget	$1 million/year

Cross-Cutting Enablers:

i. Africa CDC and AUDA-NEPAD as central hubs for regulatory and policy alignment.
ii. AI forecasting tools embedded into observatory functions.
iii. Early catalytic donor funding combined with long-term supplier engagement.
iv. Alignment with trade facilitation and sample transport initiatives.

Grand Challenge 2: Local Manufacturing Uptake

Objective: To stimulate sustainable local and regional manufacturing of high-demand, low-complexity laboratory consumables (for example nuclease-free water, plastic consumables, PCR pellets, filter paper, ethanol, etc.) to reduce dependency on imports from beyond the continent, strengthen Africa's biomedical ecosystem, and build resilient supply chains that can be responsive in times of health emergency.

Key Challenges addressed:

1. Overreliance on international imports of laboratory consumables makes Africa vulnerable to global supply chain disruptions and currency fluctuations.
2. Limited prioritization of laboratory consumables in regional or national manufacturing strategies (focus often remains on vaccines or diagnostics), commercial viability is not always clear.
3. Market uncertainty (especially in the public sector) is due to fragmented demand across fifty-four (54) countries and unclear aggregated forecasts discouraging investment.
4. Lack of incentives (such as tax breaks, concessional finance, or equipment subsidies) for local manufacturers.
5. Regional manufacturers face lengthy and complex regulatory approval processes across local, regional, and international levels, while lacking access to quality technical support and validation resources, limiting their eligibility for procurement tenders
6. Regional manufacturers and downstream channel partners face significant financing gaps due to perceived risk, lack of guaranteed demand, and high upfront capital needs to grow operations, and provide cost-competitive products.
7. Persistent mistrust in the quality and reliability of African-made laboratory products, hindering adoption.

Workstream 1: Proof-of-Concept Production & Market Activation

Category	Description

Activities	Provide targeted support for regional manufacturing capacity for high priority “quick win” laboratory consumables Develop commercial feasibility and business case models to guide investments in new products, where these analyses are not available. Establish technical and regulatory validation processes led by Africa CDC & AUDA-NEPAD. Execute cross-country pilots to evaluate the utility and impact of regionally manufactured products, to build demand, and demonstrate viability.
Outputs	Feasibility assessments, business case documents, and market data. Product validation reports. Mobilize procurement preference frameworks for local products. Expanded adoption and market penetration of regionally manufactured products. Pilot case studies demonstrate greater supply chain efficiency, lower costs, and faster delivery times.
Outcomes	Increased trust and uptake of African-made laboratory products. Proof of concept of market conditions to drive scale-up and adoption. Early-stage local supply chain integration. Lower prices, higher supply chain diversity and competition Greater resilience to supply chain disruptions
Indicators	Number of validated and approved/recommended local products. Number of procurement contracts awarded to local manufacturers. Reduction in lead times (e.g., from 60 days to under 20). Cost comparison vs. imports. Reduction in import duties, or waivers available, for regionally manufactured products
Impact	Reduced dependency on imports. Shorter, more resilient supply chains. Cost-savings and greater pandemic preparedness Growth of the biomedical and manufacturing ecosystems in Africa, and workforce development, focusing on youth and women.
Timeline	12-24 months for pilots, validation, and local procurement agreements.
Budget	~$800,000 to $2 million depending on scale (includes capacity, validation, and working capital).

Workstream 2: Market Shaping & Ecosystem Strengthening

Category	Description
Activities	Create a continental platform/catalog to map manufacturers and forecast demand. Establish data pipelines into a procurement observatory. Build policy frameworks that incentivize local manufacturing (customs waivers, preferential procurement). Engage procurement agencies to include local products. Conduct stakeholder training and establish PPP incentives.

Outputs	Digital continental manufacturing & demand platform. Policy papers and procurement guidelines. Training modules and PPP agreements.
Outcomes	Increased market transparency and reduced risk for manufacturers. Stronger local-regional integration (leveraging AfCFTA). Policy alignment reduces regulatory and customs barriers.
Indicators	Number of manufacturers onboarded. Policies adopted provide incentives or reduce barriers. % increase in local lab consumables in public tenders. Stakeholder satisfaction metrics.
Impact	Expanded sustainable manufacturing capacity across Africa. Lower carbon footprints and coordination costs. Economic benefits, including youth and women employment.
Timeline	Medium to long term (18 months – 5 years).
Budget	~$1 million/year for coordination, policy work, and platform development.

Cross-Cutting Enablers

i. Africa CDC & AUDA-NEPAD leading validation and regional coordination.
ii. Ministries of Finance, Trade & Industry driving customs, tax, and procurement policy shifts.
iii. Ministries of Science and Technology
iv. Private sector and investors co-financing pilots and driving innovation.
v. Procurement agencies to ensure local products are integrated into purchasing frameworks.
vi. Data visibility through observatories for demand forecasting and investment cases.

Grand Challenge 3: Trade Facilitation & Cross-Border Movement

Objective: To reduce customs delays, harmonize trade regulations, and lower the costs of importing genomic sequencing and diagnostic supplies by leveraging regional platforms, streamlined policies, and coordinated customs processes across African countries.

Key Challenges Addressed:

1. Difficulty in defining the problem concretely beyond general issues like "customs is the problem," requiring identification of detailed breaking points and bottlenecks in the process.
2. Fragmented procurement for genomic sequencing and Limited visibility in demand and pricing, leading to multiple actors (donors, laboratories, governments) procuring separately, reducing opportunities for pooled procurement, price leverage, or long-term supplier partnerships.

3. Long and unpredictable clearance times for genomic sequencing inputs and lab consumables, sometimes taking up to three months.
4. Fragmented registration processes in each country, creating duplication and delays. Manufacturers must register sequencing products separately in each country, a slow, resource-intensive process that delays regional access. Registration lead times can be lengthy and inhibit the adoption of new products entering the market.
5. Duty waivers for genomic imports are available but must be requested for each shipment, creating delays and administrative burdens. Approval processes vary widely, making access slow, inconsistent, and often costly.
6. Inconsistent or misclassified HS codes, due to limited product awareness and inconsistent clearance protocols leading to improper categorization, unpredictable delays, fines, and further slowdowns at customs.
7. Tax and import duties increase the landed costs of essential genomics products, making them more expensive and sometimes uncompetitive.
8. Lack of harmonized regulatory frameworks across African countries, preventing seamless trade even under existing regional blocs.
9. Unharmonized policies for trade routes at a pan-African level
10. No centralized African mechanism to manage genomics-related customs and trade facilitation.
11. Without solid baseline data on how long goods take to clear, it is hard to prioritize interventions.
12. Underuse of existing logistics networks and private sector partnerships such as global express courier associations that could collectively approach ministries of finance and customs authorities.
13. The lack of understanding about the importance and urgency of facilitating genomics by high-level government officials and strategically position genomics as an "emergency issue" (like Mpox or Ebola) to leverage existing emergency regulatory exceptions and fast-track processes.

Workstream 1: Streamlining Coordination & Technical Working Groups

Category	Description
Activities	Conduct a landscaping analysis to highlight existing frameworks, declarations, mandates and data sources. Africa CDC hosts a secretariat to coordinate a multi-sectoral platform (consortia) with customs, finance, health ministries, and suppliers to drive regulatory harmonization and policy changes, leveraging its influence with heads of state and interfacing with initiatives like AMRH, WHO Afro, and AMA To address customs/import gaps, recruit specialized technical working groups (TWGs) of customs/import experts, RECs, and implementing partners, who will establish operational terms of reference and regular meetings to develop an action plan for these processes.

	Develop a framework to assess the country's maturity levels with a view to strengthening systems and encourage south to south collaborations. Pilot multiple trade facilitation models in regional blocks (e.g., EAC, ECOWAS, SADC), testing different combinations of pre-clearance, exemption lists, registration pathways, and coordinated logistics. Drive policy harmonization for trade routes at a pan-African level, potentially under the Africa CDC as an umbrella body.
Outputs	Landscaping report Functional consortium with clear governance, TORs, work packages and mandates 6 TWGs operationalized. Roadmap of activities, defined roles, TORs. Policy briefs and policy amendments
Outcomes	Improved inter-country collaboration and joint action on customs and regulatory barriers. Institutionalized platform for continuous problem-solving.
Indicators	A harmonized coordination mechanism Number of TWGs operational. Frequency of meetings. Participation by relevant stakeholders, e.g. RECs, Ministry of Health, Ministry of Finance. Number of policies, declarations and mandates for different countries and regional blocks highlighted
Budget Estimate	Landscaping analysis Secretariat set up and running costs with dedicated staff. Consultant fees, coordination: ~$250,000. Meetings & operational costs: ~$150,000/year.
Timeline	Short term (6–18 months) to establish a platform, with continuous coordination. Longer term activities related to policy formulation / harmonization and advocacy activities

Workstream 2: Landscaping and Gap Analysis

Category	Description
Activities	Conduct mapping of import/cross-border systems to identify bottlenecks, HS code inconsistencies, duplication. Develop actionable recommendations and classify countries into tiers based on their current capabilities. Host dissemination workshops and build work packages.
Outputs	Comprehensive landscaping analysis & policy report. Framework to tier countries and guide South-South collaboration.

	Recommendations on aligning customs practices under AfCFTA, AMA, and AMRH.
Outcomes	Targeted interventions based on data. Strengthened country-to-country learning and technical assistance.
Indicators	Landscaping report published. Number of dissemination activities. Framework adopted by RECs.
Budget Estimate	~$300,000 (consultants, workshops, publications).
Timeline	Short to medium term (6–18 months).

Workstream 3: Advocacy and Policy Shaping

Category	Description
Activities	Engage regulatory & trade authorities, Heads of State, RECs for tax/duty exemption commitments. Advocate to classify genomics under emergencies or essential goods. Build consensus on harmonized HS codes, VAT exemptions, mutual recognition of approvals.
Outputs	High-level advocacy meetings. Agreed declarations or policy statements at AU or REC levels. Country commitments on streamlined customs.
Outcomes	Lower import costs and faster clearance times. Policies that support easier movement of genomic inputs across borders.
Indicators	Number of political meetings. Policy statements that will be signed. Reduction in turnaround times from baseline.
Budget Estimate	~$400,000 (advocacy events, technical facilitation).
Timeline	Medium to long term (12 months – 3 years), aligning with policy cycles.

Cross-Cutting Enablers

i. Africa CDC & AUDA-NEPAD to host and coordinate the consortium and harmonization work.
ii. Ministries of Finance, Customs, Trade for tariff and HS code decisions.
iii. Private logistics & express associations to help standardize customs approaches.
iv. Link to the Procurement Observatory for real-time data on shipments and lead times.

Grand Challenge 4: Strengthening Sample Transportation

Objective: To reduce turnaround times, improve sample integrity, and expand geographic reach for pathogen genomics and other diagnostics by integrating innovative transport models, strengthening existing referral systems, and ensuring resilient cold chain and biosafety logistics across Africa.

Key Challenges Addressed

1. Poor cold chain infrastructure and long distances lead to delayed or degraded samples, particularly in rural or remote areas. Transporting samples from peripheral sites to centralized laboratories is logistically difficult and expensive, limiting coverage while cold chain limitations, exposure to heat and long travel distances often lead to degraded or unusable specimens, and long delays in receiving the samples, especially from remote areas.
2. Fragmented transport systems by disease programs like HIV, TB, and COVID-19 often have their own separate referral networks, which are not optimized for shared use.
3. Lack of innovative, flexible transport options such as the use of drones, pharmacy pickups, ride-share couriers, or private lab networks in routine systems.
4. Insufficient stocks of high-quality biosafety packaging, PPE, and temperature control items.
5. Innovative sample types like dry blood spots offer improved stability and usability for genomic sequencing, but their adoption is limited by a lack of validated protocols, data, and trained personnel.
6. Weak end-to-end visibility and quality monitoring during sample transit.
7. Existing sample transportation guidelines often exist on paper but are not decentralized or fully operationalized at local levels.
8. Heavy reliance on donor or outbreak-specific catalytic funding, with limited transition to sustainable MOH funding.
9. Underutilized opportunities to share costs and leverage existing transport capacity remain largely untapped by private-public partnerships.

Workstream 1: Rapid Turnaround & Innovative Transportation

Category	Description
Activities	Map referral networks and turnaround times. Pilot drones, ride-share, pharmacy pickups. Integrate successful pilots into national hub-and-spoke systems. Develop predictive protocols for sample shelf life and oversampling.
Outputs	Landscape and baseline reports. Piloted multi-modal transport with SOPs. Coordinated referral network.
Outcomes	Faster, more reliable sample transport. Extended coverage to remote areas. Better outbreak surge readiness.
Indicators	% meeting SLA turnaround. Reduced average turnaround time (hours). Integrated transport contracts are signed.
Budget Estimate	~$6 million over 2 years.
Timeline	Short to medium term (6–24 months).

Workstream 2: Sample Stabilization

Category	Description
Activities	Sample collection validation. Improving Cold Chain Validation of identified pathogens Validation of cold chain packaging for different pathogens
Outputs	Prioritized test pathogens for sample collection Validated methods for >80% priority pathogens. Routine and outbreak Standard Operating Procedures (SOPs) developed.
Outcomes	Validated sample collection for 80% of the Africa CDC priority pathogens. Operational readiness
Indicators	Number of countries/facilities using validated sample collection methods. Standard Operating Procedures (SOPs) for validated sample collection methods for Africa CDC priority pathogens
Budget Estimate	~$1 million.
Timeline	Short to medium term (6–18 months).

Workstream 3: Cost Effective Biosafety Packaging

Category	Description
Activities	Develop standard kits with packaging, PPE, data loggers. Build a case to integrate temperature loggers into procurement.
Outputs	Standard kits. Validated methods for >80% priority pathogens. Routine and outbreak Standard Operating Procedures (SOPs) developed.
Outcomes	Temperature data loggers incorporated in procurement. Standardized kits are in use for routine and outbreak response.
Indicators	Number of sample rejections due to degradation % rate of sample loss or rejection
Budget Estimate	~$1 million.
Timeline	Short to medium term (6–18 months).

Workstream 4: Policy, Government Engagement & Capacity Building

Category	Description
Activities	Engage Ministries: Health, Finance, trade to secure policies & budgets. Advocacy by CSOs & champions. Train Community Health Workers, collectors, laboratories. Formalize Private Public Partnerships with private laboratories.
Outputs	Policy analyses. Signed commitments.

	Trained personnel. Advocacy reports.
Outcomes	Higher domestic funding. Institutionalized systems in national plans. Build community trust in new models.
Indicators	Signed policy commitments. Volume of govt funding allocated. Number trained.
Budget Estimate	~$300,000.
Timeline	Continuous, key results in 12–36 months.