

PROJECT PROPOSAL

Mapping Global Talent Pipelines in Biosecurity: Gaps, Opportunities, and Pathways for Growth

Project Type: Landscape analysis, organizational mapping, field-building strategy

Duration: 3 months

Mentor: Dr. Aparupa Sengupta

Ideal Mentees: Individuals with interest in global health security, workforce development, science policy, sociology of science, or talent pipeline design.

Project Overview

Biosecurity is rapidly evolving, yet many nations lack a clear understanding of their talent pipelines—where expertise is concentrated, where gaps exist, and what kinds of training pathways are needed to meet future challenges. This project seeks to build a **global map of biosecurity talent pipelines**, with an emphasis on understanding disparities between high-income and low- and middle-income countries (LMICs), emerging training models, and opportunities to strengthen the field through targeted interventions.

Project Goals

1. **Map existing training pipelines** in biosecurity (universities, fellowships, government programs, NGOs, multilateral institutions).
2. **Identify capability gaps** across regions and expertise areas (e.g., biosurveillance, lab biosafety, policy, threat assessment, governance).
3. **Analyze barriers to entry** for students and professionals—funding, mentorship, access to training, regional inequities.
4. **Produce recommendations** for strengthening global talent pipelines, especially in the global south.

Why This Matters

Talent is one of the scarcest resources in global biosecurity. As technological, geopolitical, and biological risks evolve, the world needs a clearer understanding of where investments in training and mentorship could have the highest impact. SPAR's expansion into biosecurity offers a unique opportunity to inform the future of talent development.

Three-Month Work Plan

Month 1 – Landscape Review of Existing Pipelines

- Identify universities, training programs, fellowships, and policy institutions producing biosecurity talent.
- Gather public data on curricula, program scope, regional distribution, and focus areas.
- Conduct interviews or short surveys (optional).
- Deliverable: *Global pipeline database + preliminary regional snapshots.*

Month 2 – Gap Analysis & Barriers to Entry

- Identify talent gaps by domain (biosafety, biosecurity policy, global health security, surveillance, data analysis, governance).
- Analyze structural barriers, especially in LMICs: access, funding, mentorship, institutional support.
- Compare high-income and LMIC talent ecosystems.
- Deliverable: *Gap analysis report + global south inclusion analysis.*

Month 3 – Recommendations & Final Outputs

- Develop recommendations to strengthen pipelines: training modules, fellowship models, mentorship networks, international partnerships.
- Produce a final white paper and visualizations (maps, charts).
- Optional: Build a “Biosecurity Talent Pathways” digital guide for students and institutions.
- Deliverable: *White paper + summary brief*

Projected Outcomes

- A comprehensive map of global biosecurity training pathways.
- Identification of priority talent gaps and underserved regions.
- Actionable strategies for improving global south participation.
- Concrete recommendations for funders, governments, and educational institutions.
- A high-impact, policy-relevant research output suitable for broader dissemination.