

# Summary of Outcomes: Infrastructure Challenges in the Global South – How Do We Support Ocean Observing Beyond the Training?

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This discussion highlighted the persistent systemic barriers limiting the development, sustainability, and equity of ocean observing infrastructure in the Global South, and identified collaborative strategies to overcome them.

**Key systemic barriers** include chronic underfunding, limited scientific and technological capacity, shortages of trained personnel, and weak or inconsistent institutional and political support. Many initiatives rely on short-term, project-based funding that does not cover long-term operations, maintenance, or replacement of equipment. High equipment costs, import taxes, and logistical challenges further strain limited resources. Political instability and poor integration of ocean observing into national policy frameworks result in fragmented efforts, low visibility, and insufficient prioritization. Additionally, ocean observing is often narrowly focused on coastal zones, neglecting offshore and basin-scale needs. Data collection and communication gaps reduce the relevance and impact of observations for decision-makers.

**International collaboration and equity-focused approaches** are essential to addressing these challenges. The discussion emphasized the importance of regional cooperation, shared infrastructure, and collective global action rather than isolated national initiatives. Strengthening existing institutions and building regional hubs and centers of excellence—such as the Pacific Island Centre of Excellence in Ocean Acidification—were identified as effective, sustainable models. Improved data management, accessibility, and communication are also critical to ensuring observations inform policy and societal needs.

**Effective long-term support mechanisms** go beyond funding alone. Key strategies include mentoring and North–South partnerships, train-the-trainer approaches, and building capacity at the organizational level to ensure institutional continuity and reduce brain drain. Regional knowledge centers and networks (e.g., WIOMSA) play a vital role in coordinating efforts, pooling resources, and sharing expertise. Open technologies, standardized monitoring practices, and transparent data-sharing platforms help align infrastructure with local priorities and capacities. Successful capacity building should leave a lasting institutional legacy, supported by exchanges, fellowships, and mobility schemes for local experts, as well as strengthened skills in proposal development and project management.

**Funding for large-scale infrastructure** requires a diversified and strategic approach. Traditional sources include international donors, development banks, and climate finance mechanisms, complemented by innovative options such as public–private partnerships, philanthropic funding, and private-sector contributions (e.g., from extractive industries via environmental impact requirements). Emerging

opportunities lie in linking ocean observing to climate services, risk reduction, insurance, shipping, and adaptation planning. Bilateral and multilateral funding arrangements coordinated by organizations such as POGO or IOC could help establish more stable, long-term support.

Overall, the discussion stressed that sustainable ocean observing in under-resourced regions depends on long-term, equitable investment; strong regional and international partnerships; institutional capacity building; and alignment with local priorities. The focus must shift from short-term visibility to lasting impact that empowers local communities and supports science-based decision-making over time.