II.5 Theory of Change (ToC)

The Theory of Change for the SEAMARCS project outlines the causal pathway through which project activities will lead to meaningful and sustainable change in the region. The project is expected to contribute to improved coastal resilience and disaster preparedness by enhancing sea-level monitoring, data accessibility, and stakeholder capacity.

Impact:
The project's long-term impact is to enhance the resilience and adaptive capacity of coastal communities in Kenya, Mozambique, Seychelles, and Madagascar by equipping policymakers, institutions, and researchers with reliable, accessible, and actionable sea-level data. This data will inform decision-making, disaster risk reduction strategies, and sustainable coastal development. Strengthened institutional capacity and increased technical expertise among policymakers and researchers will ensure the long-term sustainability and effectiveness of coastal resilience efforts, ultimately benefiting the most vulnerable populations.

Outcomes:
The project will lead to strengthened institutional capacity by enhancing the skills and knowledge of policymakers, institutions, and researchers. This will result in a more coordinated approach to sea-level data management and coastal resilience planning, enabling effective policy formulation and implementation.

1. Strengthened institutional and technical capacity among national agencies to collect, manage, and utilize sea-level data for policy and planning.
2. Increased accessibility and utilization of sea-level data by stakeholders, ensuring evidence-based policy and decision-making.
3. Enhanced collaboration and knowledge-sharing between regional and national partners towards building an effective network of sea level operators.

Outputs:

1. Procurement and installation of the 'Sea-Level Station in a Box' concept to expand monitoring coverage and provide cost-effective, scalable solutions for data collection and management.
2. Enhanced institutional capacities through specialized training programs and provision of necessary technical resources for policymakers, researchers, and technical staff.
3. Development and deployment of a centralized, interoperable sea-level data management system.
4. Delivery of targeted training programs and capacity-building workshops for technical staff, policymakers, and local stakeholders, with emphasis on a sustainable network of sea level operators.

Activities:

- Conduct needs assessments to confirm/identify gaps in sea-level data collection and management.
- Procure and implement the 'Sea-Level Station in a Box' concept to install and upgrade sea-level monitoring stations, ensuring cost-effective and comprehensive data coverage.
- Organize capacity-building workshops and training sessions.
- Develop and launch a user-friendly data portal for real-time monitoring and dissemination.
- Facilitate stakeholder engagement meetings to foster partnerships and collaboration, ensuring the inclusion of institutional representatives and policymakers in key decision-making processes.
- Implement public awareness initiatives to educate coastal communities on the importance of sea-level data.
- Develop and distribute policy briefs to enhance decision-making at national and regional levels.
- Establish mentorship programs and peer-learning networks to sustain capacity-building efforts.
- Monitor and evaluate project implementation to ensure accountability and continuous improvement.

Key Assumptions:

- Governments and stakeholders are committed to integrating sea-level data into policy and planning frameworks.

- Technical staff, policymakers, and research institutions are willing to adopt and institutionalise new tools and methodologies, including the 'Sea-Level Station in a Box' concept, for data management and decision-making.
- Adequate financial and human resources will be allocated to maintain and sustain the implemented systems beyond the project lifespan.
- Coastal communities will recognise the value of sea-level data and actively participate in awareness initiatives.

By leveraging a multi-stakeholder approach and ensuring strong partnerships, the project will create lasting improvements in sea-level data management, contributing to regional and global climate resilience efforts. The proposed Theory of Change provides a clear roadmap for achieving the project's goals, fostering sustainability, and ensuring that the benefits extend beyond the immediate implementation period.

Theory of Change (ToC)

Impact	Enhance the resilience of coastal communities in Kenya, Mozambique, Seychelles, and Madagascar by providing policymakers and researchers with reliable sea-level data. This data will support decision-making, disaster risk reduction, and sustainable development. Strengthening institutional capacity and technical expertise will ensure the long-term effectiveness of resilience efforts, benefiting vulnerable populations.

Assumptions	- Governments and stakeholders are committed to integrating sea-level data into policy and planning frameworks. - Technical staff, policymakers, and research institutions are willing to adopt and institutionalize new tools and methodologies, including the 'Sea-Level Station in a Box' concept, for data management and decision-making. - Adequate financial and human resources will be allocated to maintain and sustain the implemented systems beyond the project lifespan. - Coastal communities will recognise the value of sea-level data and actively participate in awareness initiatives.

Outcome	The project will lead to strengthened institutional capacity by enhancing the skills and knowledge of policymakers, institutions, and researchers. This will result in a more coordinated approach to sea-level data management and coastal resilience planning, enabling effective policy formulation and implementation.

Assumptions	- National and regional institutions will demonstrate sustained commitment to integrating sea-level data into policy and planning frameworks. Governments and agencies will adopt the necessary policies and allocate resources to support long-term data-driven decision-making.	- Key stakeholders, including policymakers, researchers, and technical personnel, will actively participate in capacity-building initiatives and collaborate effectively to create a coordinated approach to sea-level data management and coastal resilience planning.	- Sufficient funding and technical resources will be available throughout the project duration and beyond to ensure the successful implementation and sustainability of the sea-level monitoring systems and capacity-building efforts.	- Institutions and personnel will have the technical adaptability and willingness to integrate new sea-level monitoring technologies and data management systems into their workflows, ensuring effective utilisation of collected data for decision-making and planning.
Outputs	Output 1.1 Procurement and installation of the 'Sea-Level Station in a Box' concept	Output 1.2 Enhanced institutional capacities through specialised training programs and provision of technical resources	Output 1.3 Development and deployment of a centralised, interoperable sea-level data management system	Output 1.4 Delivery of targeted training programs and capacity-building workshops
Assumptions	- Adequate procurement procedures and supplier availability will be in place. - There will be sufficient technical capacity to operate and maintain the stations.	- Key stakeholders will have the willingness and time to participate in training programs. - Funding and logistical support for training activities will be sustained. - Trained personnel will effectively apply acquired skills in their respective roles.	- Adequate IT infrastructure will be available for system deployment. - Users will be willing and able to adopt the new data management system. - Data governance policies will be supported by national institutions.	- Participants will actively engage and apply knowledge gained. - Training materials will be relevant and accessible to stakeholders. - Continued funding will support follow-up training activities.

	- Regulatory approvals for installation sites will be granted without delays.			

Activities	1. Develop procurement plans and technical specifications for sea-level monitoring stations.	1. Conduct training needs assessments to tailor capacity-building programs.	1. Conduct system requirements analysis and stakeholder consultations.	1. Identify key stakeholders and customise training content to their specific needs.
	2. Engage with suppliers and conduct procurement processes in line with UNESCO standards.	2. Develop and deliver specialised training modules for policymakers, researchers, and technical staff.	2. Design and develop a user-friendly data management portal with real-time visualisation capabilities.	2. Organize in-person and virtual training sessions on sea-level monitoring and data interpretation.
	3. Coordinate logistics for station installation, ensuring compliance with safety and environmental regulations.	3. Organize workshops and seminars focused on the interpretation and application of sea-level data.	3. Ensure system interoperability with existing national and regional platforms	3. Facilitate knowledge exchange through peer-to-peer learning opportunities.
	4. Conduct field testing and calibration of installed stations to ensure accuracy.	4. Provide technical equipment and resources to strengthen institutional capacity.	4. Provide training to relevant stakeholders on data acquisition, quality control, management, and retrieval.	4. Develop educational materials and training manuals for long-term reference.
	5. Provide on-site technical training to local personnel for system operation and maintenance.	5. Establish mentorship programs to support continuous learning and skills development.	5. Develop a data governance framework to ensure quality and consistency of data inputs.	5. Implement follow-up training to reinforce capacity-building efforts.
	6.Develop an operational manual for long-term station maintenance and troubleshooting.	Quality assurance and monitoring	Quality assurance and monitoring	Quality assurance and monitoring
	Quality assurance and monitoring			