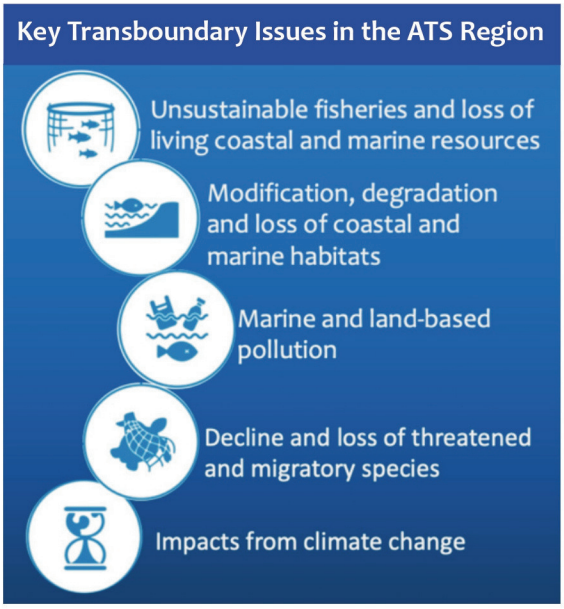
POLICY BRIEF

Country and Regional Commitments for ATSEA: Is it Worth It?

The Arafura and Timor Seas (ATS) link the Indian and Pacific Oceans and crucially play an important role in global ocean circulation. The ATS region is a semi-enclosed sea, extremely rich in living and non-living marine resources, including major fisheries and oil and gas reserves. The marine and coastal ecosystems of the 170-million-hectare ATS region provide ecosystem services estimated to be around **US$7.4 billion** to the four littoral nations (Australia, Indonesia, Papua New Guinea, and Timor-Leste). The ATS region, however, is facing increasing pressures from various anthropogenic and economic activities, and climate and environmental changes that threaten the continued flow of ecosystem services. The first Transboundary Diagnostic Analysis (TDA) provided an overview of five priority transboundary issues (unsustainable fisheries, habitat degradation, pollution, biodiversity loss, and climate change), and their impacts on ecosystem services and human well-being in the ATS region.

Article 123 of the United Nations Convention on the Law of the Sea (UNCLOS) places a responsibility and an obligation on countries bordering enclosed and semi-enclosed seas to cooperate in resource management, protection of the marine environment, and marine scientific research. Since 2003, representatives from governmental and non-governmental stakeholders working on



sustainable marine development issues in the four littoral countries have come together to promote integrated and ecosystem-based management of the ATS. Moreover, there are cultural reasons for transboundary collaboration and management. The seas have shaped human development, customs, and traditions that go beyond national jurisdictions. The collaboration has progressed through project-based initiatives under two GEF-supported and UNDP-implemented Arafura and Timor Seas Ecosystem Action (ATSEA) projects. Going forward, a long-term mechanism is being set in place to ensure the sustainable, inclusive, and resilient development of the coastal and marine resources in the region.

What is the value added of ATSEA?

Under ATSEA-1, the first Strategic Action Programme (SAP 2014-2024) and corresponding national Action Plans (NAPs) were developed and adopted through the 2014 Ministerial Declaration. Building on the results of ATSEA-1, the ATSEA-2 Project (2019-2024) got underway to support the implementation of the SAP and NAPs, including: (1) strengthening regional governance structures, enabling policies, and capacities of institutions and individuals in the participating countries; (2) carrying out priority actions to address the five priority transboundary environmental problems; and (3) developing and adopting a monitoring and reporting system. In accordance with the 2014 Ministerial Declaration, a Regional Governance Mechanism (RGM) has been designed with stakeholder inputs. The RGM, which will be formally established through a Ministerial Declaration in 2024, will be a key driving mechanism for long-term collaboration among the four ATS countries, including financing and sharing of resources to support the implementation of the SAP and NAPs. Both the TDA and SAP were updated to identify priority actions in the next ten years; a financing and investment strategy for the RGM has been drafted; and a five-year financial plan for SAP 2024-2033 is being crafted.

There is value added demonstrated by ATSEA. By implementing the SAP and NAPs, the four ATS countries are making headway towards addressing the priority transboundary concerns in the region to achieve their shared vision, in line with their respective national priorities and targets and international commitments. The key outcomes of the ATSEA projects give credence to further continue and strengthen the regional governance and collaboration in the long term.

These include:

1. **Demonstration of Scalable International Best Practices.** ATSEA has been promoting and demonstrating integrated, inclusive, ecosystem-based, and climate resiliency approaches for addressing priority transboundary issues in the ATS region. Initiatives include including integrated coastal management (ICM), marine protected area (MPA) establishment and networking, gender equity and social inclusion (GESI) mainstreaming, among others (**Box 1**).

2. **Established Foundation and Relationships.** The foundation to bring about a long-term regional collaborative mechanism among the four countries has been built throughout the course of the two ATSEA projects. By employing participatory and multi-stakeholder approach, ATSEA's work and contributions to sustainable coastal and ocean management are steadily gaining appreciation at the local, national, regional, and global levels.

3. **Localizing Global and Regional Targets, linking science and policy with people.** ATSEA interventions have been recognized to demonstrate a strong bottom-up approach with key focus on community- and social-based approaches and solutions.
   The updated SAP and NAPs will support the replication and scaling up of these pilot initiatives and introduce other innovative approaches to support the blue economy initiatives.

4. **Enhanced Regional Monitoring and Reporting of ATS Status.** Periodic reports arising from the SAP monitoring system (currently under development), including best practices and emerging challenges, can enhance understanding of the ATS ecosystems, and help the ATS country partners to jointly assess outcomes, set strategic policies and plans, and support innovative

Box 1: Key achievements of ATSEA SAP 2012-2023

Based on the implementation of the first SAP, strong progress has been made across the region on many issues. These successes provide a strong basis for replication, scaling up, and introducing innovative actions in the next ten years.

- In support of sustainable fisheries management, the **Ecosystem Approach to Fisheries Management (EAFM)** and **Fisheries Improvement Projects (FIPs)** were adopted across major fisheries. For example, the ***EAFM Plan for Red Snapper fisheries*** was developed. The total EAFM coastline coverage is 5,205.92 km.
- Community-based monitoring, control, and surveillance (MCS), and strong regional and bilateral cooperation to tackle IUU fishing are being pursued.
- **Marine Protected Areas (MPAs) were expanded** with the creation of new MPAs (526,964.9 ha in Indonesia) and strengthening of existing MPAs (237,600 ha in Indonesia and Timor-Leste). The ***MPA Network Design and Roadmap*** was also developed and endorsed in 2022.
- ***Regional Action Plan (RAP) for the Protection of Sea Turtles*** was endorsed and recognized as complementary to existing National Plans of Action.
- **ICM plans incorporating climate change adaptation** had been developed and implemented, with stronger **engagement of women.** Alternative livelihood initiatives linked to ICM and ecosystem-based adaptation (EbA) have benefited 1,674 individuals (43% women). Through ATSEA, two sites covering 347.22 km of coastline are now under ICM.
- Technical assessments have been conducted (26 regional reports and 40 country reports), e.g., **land-based, and marine-based pollution**. New collaborations with industry on **regional oil spill preparedness and response** had been carried out.
- The ***Guide for Facilitators and Decisionmakers: Incorporating Climate Change Results into National and Local Planning*** (2023) has been endorsed as a tool for local managers and communities to understand climate vulnerability, identify effective adaptation measures, and develop local adaptation plans.
- Underpinning these successes is ***enhanced awareness and capacities*** on integrated management approaches through capacity and stakeholder engagement and strengthening of governance owing to the **ongoing refinement of enabling regulations and mechanisms**.
- There were 78,438 ATSEA-2 Project beneficiaries under various activities, of which 33,244 are women.

solutions to secure the collective vision and objectives for the region.

5. **Repository of ATS Information.** ATSEA has initiated the compilation of information from various national and regional studies and linkage to key information platforms, e.g., Coral Triangle Atlas (ctatlas.coraltriangleinitiative.org) and PEMSEA Sea Knowledge Bank (seaknowledgebank.net).

6. **International Recognition and Support for the ATS Region.** The establishment of an ATS RGM (with regional and national components) that coordinates and monitors the implementation of SAP and corresponding NAPs, and their outcomes will demonstrate ATSEA's value, enhance ATSEA's international recognition, and leverage support and partnerships.

7. **An ATS Region-Specific Platform for Collaboration and Coordinated Action.** ATSEA is the only platform addressing various priority transboundary issues in the ATS region with the 4 ATS countries as members. Experience from the two ATSEA projects highlights the value of having such a regional platform to facilitate information sharing, and coordinate strategies and actions. During the next phase, it is envisioned that under the guidance of the Council of Ministers (COM) and the direction provided by a Regional Coordination Committee (RCC) and supported

by a Regional Secretariat, a Regional Stakeholder Working Group (RSWG) will be created to provide inputs and deliver regional elements of the updated SAP, supported by National Stakeholder Working Groups (NSWGs). At the country level, National Coordination Committees (NCCs) will coordinate and oversee delivery of national priority actions by relevant agencies, and in some cases, National Stakeholder Working Groups (NSWGs).

Is there a need to continue ATSEA?

The work in the ATS is not yet finished. The updated TDA identified priority transboundary areas of concern that still need to be addressed. As the core of ATSEA's regional programme of collaborative action, the SAP can uniquely strengthen the management of the ATS Large Marine Ecosystem. The SAP 2024-2033 will focus on the following:

1. Preventing and reducing marine plastic pollution from land-based sources and abandoned, lost, and discarded fishing gear (ALDFG).
2. Preventing and responding to oil spills.
3. Reducing the incidence of small-scale Illegal, Unregulated and Unreported (IUU) Fishing.
4. Conserving regional populations of endangered, threatened, and protected (ETP) species and their critical habitats.
5. 'Cross-cutting' strategic objectives to be mainstreamed in the implementation of the four components: (a) governance; (b) climate change; and (c) gender equity and social inclusion.

The updated SAP also supports existing national-level *blue economy* initiatives, such as: Australia's Oceans Policy, Indonesia's Blue Economy Roadmap (2023-2045), Indonesian Ocean Policy, Timor-Leste's Financing the Blue Economy Roadmap, Timor-Leste National Oceans Policy, and Papua New Guinea National Oceans Policy (2020-2030).

The experience from the two ATSEA projects highlights the value of having a regional governance mechanism that will serve as a platform to facilitate continuous and regular coordination and deliver more targeted actions to achieve the 20-year vision. Furthermore, the potential economic and environmental benefits to be gained from shared governance and SAP implementation far exceed the costs involved in the RGM and SAP implementation.

What are the economic benefits to be gained?

Working together to address the transboundary issues will give several benefits to the ATS countries. Using available data, the estimation of benefits focused on marine debris and IUU fishing reduction and the avoided costs (**Table 1**).[1] Reducing marine debris pollution and IUU fishing will also contribute to the protection of ETP species and habitats,

Table 1. Benefits from SAP Implementation (Components 1 and 3) and Governance (US$)

	Benefits: 10% reduction of costs per year				
	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5
a. MARINE DEBRIS	808,434,594	727,591,135	654,832,021	589,348,819	530,413,937
b. IUU FISHING	72,276,818	65,049,137	58,544,223	52,689,801	47,420,821

[1] The estimation of the benefits is based on the following assumptions: 10% reduction of marine debris is based on the SAP target for components 1, while the 10% reduction in IUU fishing is assumed as the SAP focuses on small-scale IUU fishing only.

mitigation of threats to health, food security, and livelihoods, and improving the blue economies of the four countries. The total benefits will obviously be higher if the benefits from other SAP activities are included.

Avoided cost of marine debris to the blue economy. Marine plastics threaten marine species and ecosystems, food safety and quality, human health, livelihoods, and coastal tourism, and contributes to climate change. The costs of marine debris to the blue economy of Australia, Indonesia, and Papua New Guinea amount to $430,658, 139, $458,585,800, and $9,016,721, respectively.[2] The combined cost of damage is around **USD 898.3 million**. The SAP targets the **prevention of 1,000-5,000 tonnes of plastic pollution in the marine environment as well as reduction in ALDFG waste by more than 10%.**

Avoided losses in fisheries due to IUU fishing. A prevalent threat for the ATS region is the widespread IUU fishing. The estimated prevented volume of loss for ATS countries is 40,154 tonnes and the prevented economic loss is $US 80,307,576.[3] The SAP targets **IUU fishing in small scale fisheries in transboundary waters**. ATSEA acknowledges the importance of regional networks in combating IUU fishing, particularly through the ATS Monitoring, Control, and Surveillance (MCS) sub-regional group under the Regional Plan of Action on IUU Fishing (RPOA-IUU). With functioning governance mechanisms, and the holistic, ecosystem-based management of fisheries and other coastal and marine resources, the collapse of fisheries and loss of biodiversity in the region can be mitigated.

Avoided cost of oil spills. The ATS region is vulnerable to oil spills, especially in the Timor Sea. One of the biggest oil spills was the Montara disaster in 2009, wherein around 40 million liters of oil were accidentally leaked to the sea. It was reported that the oil spill affected seaweed farms in Indonesia and resulted in a decline in fish landings in one port in southwest Timor Island.[4] PTTEP Australia had agreed to pay a settlement of **US$129 million** to some 15,000 seaweed farmers in Indonesia's East Nusa Tenggara (NTT) province who were affected by the oil spill.[5] The Indonesian government is also asking for additional compensation (US$1.75 billion) for the environmental damage and to cover restoration efforts.[6] The SAP focuses on **building national and regional capacity on joint oil spill preparedness and response** to prevent the potential environmental damage. The purpose is to help prevent spills from happening and coordinate all aspects of the response if an oil spill occurs, including stopping the flow of oil, containing the oil, cleaning it up, properly disposing the contaminated materials, and training personnel to prevent and control future spills.

Protection of coastal and marine ecosystems. A major benefit of having a RGM in place in the ATS region is the coordinated and integrated coastal and ocean management that includes restoration and protection of ETP species and their critical habitats, and application of sustainable practices to deter and end IUU fishing, reduce pollution from land- and sea-based sources, and adapt to climate change. Such actions can contribute to ensuring that the ecosystem services in the ATS region will continue to benefit the future generations. The estimated value of coastal and marine ecosystem services in the ATS region is around **US$7.4 billion per year**.[7]

2 McIlgorm, A., K. Raubenheimer and D.E. McIlgorm. 2020. This study did not include estimates for Timor-Leste.
3 ATSEA-2. 2023.
4 Spies, *et al*. 2021.
5 A. Muh. Ibnu Aqil. 2022.
6 A. Muh. Ibnu Aqil. 2022.
7 Choesin, *et al*. 2021.

How much does it cost to support the RGM and implement the SAP?

The countries in the ATS region want the RGM to be 'fit for purpose' and cost effective. With the full size of the Regional Secretariat and conduct of in-person RGM meetings, the estimated RGM cost is around **US$502,560** for the first year. Due to limited resources, however, the four ATS countries agreed to reduce the size of the Secretariat for the first two years and fill in the other staff positions in the third year or when funding becomes available. The cost of the scaled-down Regional Secretariat consists of the remuneration of the core staff (Regional Director; Resource Mobilization and Finance Specialist; Administration and Accounting Officer, Executive Assistant), and the secretariat office costs[8] (e.g., utilities, office supplies, internet and software subscription, security and janitorial services, etc.). The RGM meetings are primarily the meetings/workshops of the RCC, COM, and RSWG. **Table 2** shows the annual cost of the scaled-down Regional Secretariat for the first two years, and full-size Regional Secretariat thereafter, office costs, and conduct of RGM meetings. The costs of the National Secretariat, NCCs, and NSWGs are not shown in this table since the costs of these bodies will be shouldered by the countries.

Table 2. Cost of the Regional Governance Mechanism (US$)

	Year 1		Year 2		Year 3		Year 4		Year 5	
	Regional	National	Regional	National	Regional	National	Regional	National	Regional	National
Regional Secretariat	273,022		273,022		459,660		459,660		459,660	
RGM Meetings	8,200	38,010[a]	26,600	71,730[b]	26,600	54,950[c]	26,600	71,730[b]	26,600	54,950[c]
TOTAL	**281,222**	**38,010**	**299,622**	**71,730**	**486,260**	**59,950**	**486,260**	**71,730**	**486,260**	**59,950**

Notes: [a] RCC meeting only; RSWG meeting will be held online.
[b] RCC, RSWG and COM meetings; COM meeting will be held every two years.
[c] RCC and RSWG meetings

Source: Financing and Investment Strategy for the ATS Regional Governance Mechanism (draft as of 23 October 2023).

The estimated cost of implementing the priority regional activities (including some related country-level activities) of the SAP for five years, together with miscellaneous administration and support costs and contingency cost, is around **$7.5 million** (**Table 3**). The cross-cutting issues – governance, climate change, and gender equity and social inclusion (GESI) – are integrated in the four components. The cost of the National Action Plans is not included in Table 3.

Table 3. Cost of SAP implementation: Preliminary estimates (US$)

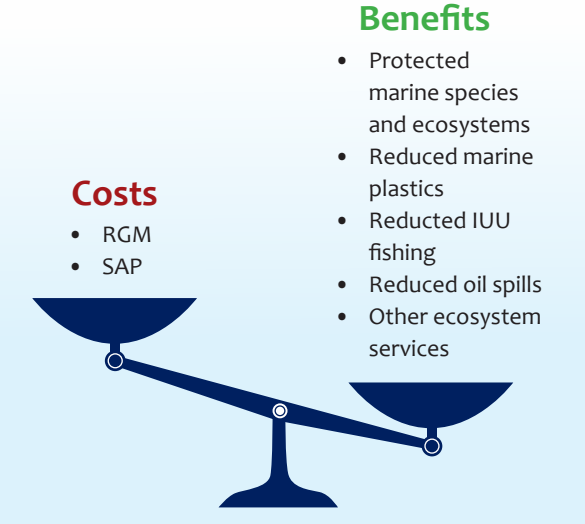
Item	Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	TOTAL
SAP						
Component 1: plastic pollution	221,260	611,215	471,562	1,003,470	1,222,000	**3,529,507**
Component 2: oil spills	0	271,245	89,863	203,873	162,500	**727,480**
Component 3: transboundary, small-scale IUUF	181,123	258,187	92,749	383,500	598,000	**1,513,558**
Component 4: ETP species and critical habitats	230,750	795,873	422,936	286,000	13,000	**1,748,559**
TOTAL	**633,133**	**1,936,519**	**1,077,109**	**1,876,843**	**1,995,500**	**7,519,103**

Source: Financial Plan for the Strategic Action Program (draft as of 24 October 2023).

[8] Other cost reduction considerations include foregoing the purchase of laptops, printers, office furniture, etc. in the initial years as these items from ATSEA-2 can still be used by the incoming secretariat in 2025.

Is it economically viable to support the RGM and SAP?

Cost-benefit analysis is a systematic process used in analysing which decisions to make and which to give up from an economic perspective. Two indicators, **net present value** (NPV) and **benefit-cost ratio** (BCR),[9] were estimated to assess the viability of the RGM and SAP (**Table 4**), and to let decisionmakers know if they are doing the 'right thing'. The NPV, which is the present value of net benefits, should be positive (NPV > 0), and the BCR should be greater that one (BCR > 1) to justify the operationalization of the RGM and the implementation of the SAP. The NPVs and BCRs were estimated over a ten-year period and using 3%, 7% and 10% discount rates.[10] The NPVs range from $4.2 billion (at 10% discount rate) to $5.2 billion (at 3% discount rate). The BCRs show that the benefits are >200 times higher than the costs. **These indicators show that the stream of benefits to be gained from having an RGM and implementing the SAP over the next ten years outweighs the stream of costs over the same period.**



Financing the RGM and SAP

Cost-sharing arrangements for the RGM. The financing from grants, donors, and partners may not yet be available in 2025-2026, after the closure of ATSEA-2 in 2024, as it takes time to process grant financing and partnership arrangements. The revised RGM costs— US$281,222 in 2025 and US$299,622 in 2026 (Table 1)—indicate the bridge financing that would be needed. **Figure 1** shows the breakdown of the costs, and how each item can be funded.

Table 4. Cost – Benefit Analysis

Discount Rate	PV OF COSTS	PV OF BENEFITS	NPV	BCR
3%	20,038,482	5,167,520,078	5,147,481,596	258
7%	16,777,174	4,560,748,668	4,543,971,494	272
10%	14,846,156	4,192,742,510	4,177,896,354	282

[9] Given the time value of money, a dollar is worth more today than it will be tomorrow. To account for this economic fact, future costs and benefits need to be "discounted" in order to calculate today's value (***Present Value***). The discount factor, also known as the cost of capital, usually reflects the interest rate. The present value factor is $1/(1+r)^n$ where r is the rate of discounting, and n is the number of years. The ***net present value*** (NPV) involves summing up the present value of potential benefits (B), and then subtracting the sum of the present value of total costs (C). The ***benefit-cost ratio*** (BCR) involves dividing the sum of the present value of future benefits (B) by the sum of the present value of costs (C). The NPV should be positive (NPV > 0), and the BCR should be greater that one (BCR > 1) to justify the approval of a proposed action or project.

[10] There are various approaches in determining the appropriate discount rate to use. Projects must meet the Pareto test, which occurs when the present value of benefits compensates for the capital foregone and the consumption displaced. The social opportunity cost approach to the discount rate is the most likely to meet this objective (Burgess and Zerbe 2011).

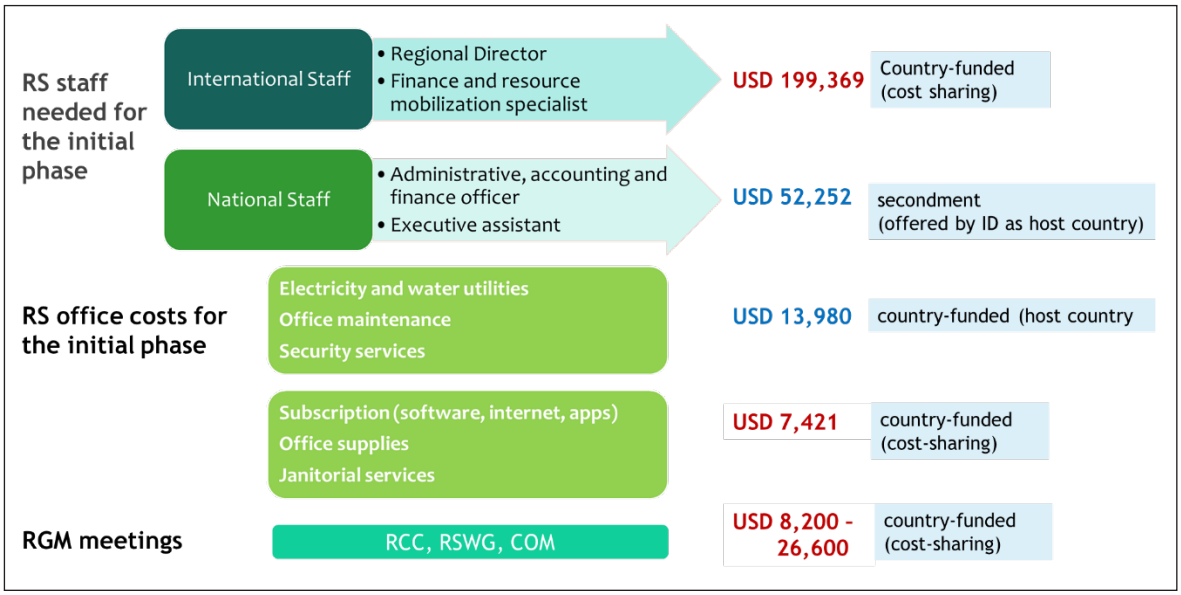


Figure 1. Bridge Financing for the RGM

Considerations for supporting the SAP implementation. Some national-level activities of the SAP may be mainstreamed in the national plans and budget of the countries, especially during the first two years. These include gap and status assessment reports, stakeholder consultations, and national workshops. Synergies through co-financing arrangements and collaborative partnerships with on-going projects and/or funded projects in the pipeline may also be explored for the implementation of the SAP and NAPs during the initial phase.

The Financing and Investment Strategy for the RGM and draft Financial Plan for the SAP 2024-2033 identified potential funding sources and other financing mechanisms that may be delved into once the Regional Secretariat has been established. There are also various options for financing in phases in the short, medium, and long term (**Figure 2**).

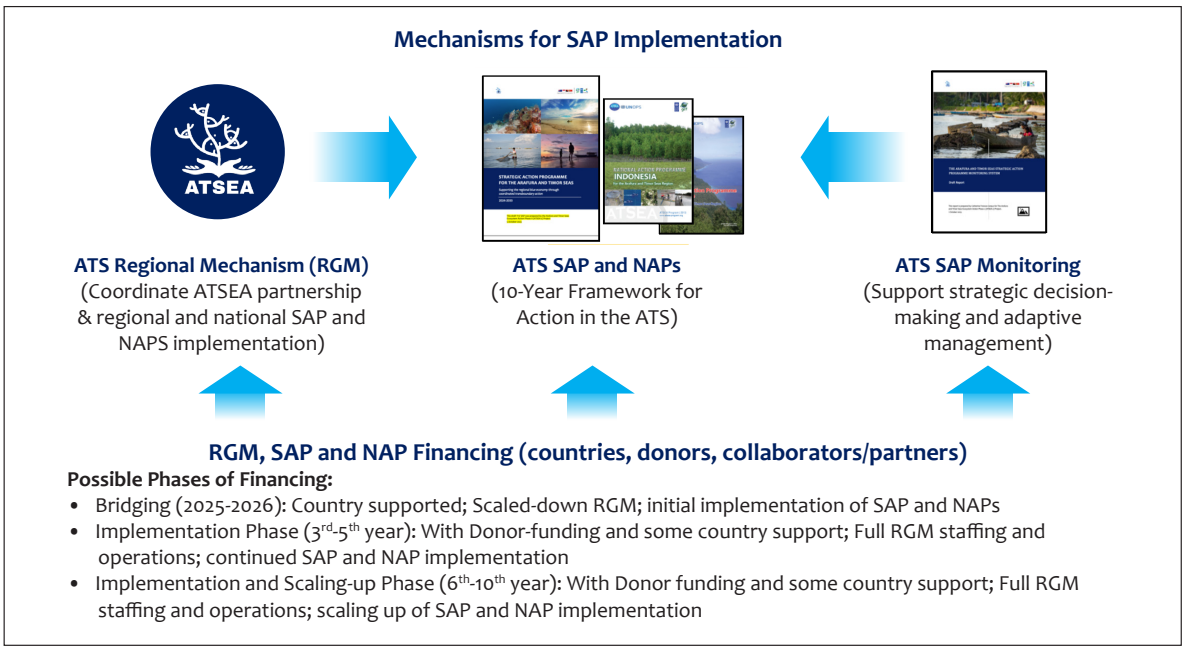


Figure 2. Financing the RGM and SAP in Phases

Conclusion

Fostering and sustaining the established foundation and gains from the regional cooperation and collaboration through the implementation of a long-term programme-based approach will further enhance the value added of ATSEA to the region. Furthermore, preliminary estimates show that the RGM and SAP implementation will yield very high net benefits to the region. On this note, the four countries need to find a way to finance the Regional Secretariat and RGM for the first two years of the next phase or until external funding (e.g., GEF) becomes available. It would be ideal if each country would annually contribute $65,000-70,000 (in cash or in kind) to cover the bridge financing. This is to ensure continuity and smooth transition and avoid delays. It will also exemplify the commitment of the four countries to take on the governance and some actions themselves even with limited resources to achieve their shared vision for the ATS and contribute to their regional and global obligations. By demonstrating a collective commitment to support the RGM and show country ownership of the programme, the ATS region will have stronger leverage to attract additional funding, investments, collaborative partnerships, and technical assistance from international organizations, development banks and aid agencies, donors, and private sector for the SAP implementation.

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