PRESENTATION

Creating a Finance Model for Risk Transfer

- BUILDING RESILIENCE, PREPARATION FOR CATASTROPHIC EVENTS AND POST-EVENT
- SUMMARY FOR PILOT SITES

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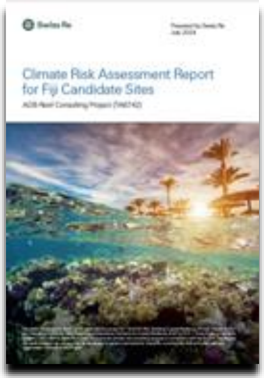
Swiss Re process and contribution to the consulting program

1

Climate & Disaster Risk Assessment

Analysis: Desktop research to understand climate risks, informed by historical data and current trends.



2

Impact and Insurability Assessment

Relevance:
Understanding actual experiences and needs – local stakeholders reef ecologists, natural capital assessments, local regulatory environment

3

Risk Transfer Recommendations

Solutions: Concepts that can be translated into self-funded or insurance solutions

Recommended disaster risk finance and insurance solutions are dependent on the data availability and stakeholder needs

Swiss Re

Recommendations for Pilot Sites

Based on expert reports and stakeholder consultation, recommendations for all pilot sites start with a **holistic Risk Management Program** that includes:

- protection & resilience building - conservation and enforcement actions to protect existing reef, restoration of degraded reef
- disaster preparation - planning, resources and capability for post event action
- risk transfer - parametric insurance to provide prompt claims payout post event

This is funded by a **blended financing approach**, combining

- designated amount of tourist levies and user fees,
- government and/or commercial budgets, and
- philanthropic/donor support including

Implementation is staged to ensure

1. Ownership and financing established
2. Enforcement, protection and resilience building programs in place
3. Integration of insurance program once disaster preparedness capability is in place

Parametric (index-based) insurance cover is recommended to compliment the coral reef risk management program for hazards which are high severity and low frequency. Response to risk/hazards which occur frequently should be self-financed from the trust (or other risk management entity).

Lessons learned:
local stakeholders readily identified potential immediate benefits from incremental additional spending on protection of reef, such tourist regulation, marine vessel anchoring and illegal fishing

Risk Management Approaches

Effective and holistic risk management uses a combination of all approaches

Asset
Coral reef & related income

Hazard
Natural or man-made

Risk Management Approach

Accept	Avoid	Reduce	Transfer
Accept the risk requires effort to manage Seek to better understand and manage risk	Threats are moved away from the site Site is protected from harm	Build resilience to withstand damage Disaster preparation and recovery planning	Use insurance to cover financial costs of risk Claim payout funds recovery and loss of earnings
Current state, ownership and financing	*Reef protected against threats and stressors*	*Specific risk reduction actions*	*Parametric SST or rainfall insurance*

FINANCING REQUIRED TO TAKE ACTIONS | **INSURANCE**

Recommendations – Risk Management Program

Accept	**1.Risk owner established. Identification and prioritisation of risks** *Charitable trust proposed as risk owner (and policy holder) to be set up.* *Financed by donor/climate finance, tourism contributions and other sources.*
Avoid	**2. Enforcement and protection management programs in place** *Implementation and enhancement of programs to manage tourist impacts* *Coral restoration and onshore activities to improve reef resilience including Crown of Thorns (COT) control program*
Reduce	**3. Resilience building and disaster preparation initiatives** *Build capability and purchase equipment for disaster preparedness and post event action* *Accumulate emergency fund for frequent or moderate causes of reef damage*
Transfer	**4. Integration of insurance program** *Parametric insurance to fund post-event recovery and restoration*

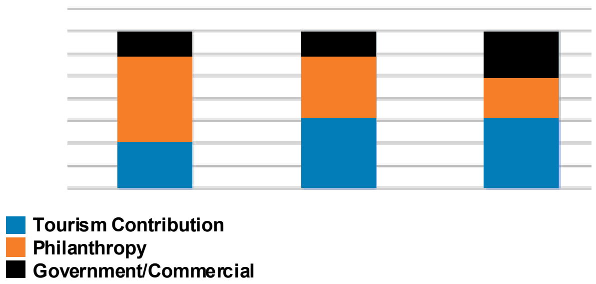
FINANCING NEEDS TO BE IN PLACE FIRST → THEN INSURANCE CAN BE CONSIDERED

Example of Financing Model

A blended financing approach is recommended for all pilot sites:

- pool of philanthropic/donor revenues, tourism contributions or visitor levies, government budget and commercial revenues, and
- supplement with alternative/innovative sources such as blue carbon credits, green bonds and impact investments.

Illustrative representation of blended financing model



Year	Funding Source	Recommendations and Potential Approaches
1	**Tourism / visitor levies** **+ philanthropic grant** **+ commercial revenues or government budget**	• Tourism sector contribution to provide core funding, optimise collection of levies if possible. • Upfront grant support to build the supporting financing model, facilitated by expert local NGOs, • Potential for allocation of local or national government budget, particularly for seed funding
2	**Tourism / visitor levies** **+ philanthropic grant** **+ commercial revenues or government budget**	• Sustained source of tourism sector contribution • Execution on grant-funded development work to help implement commercial revenue and alternative/innovative models, e.g.,debt for nature swaps, international donors, blue carbon credits • Potential for allocation of local or national government budget
3	**Tourism / visitor levies** **+ philanthropic grant** **+ commercial revenues or government budget**	• Sustainable model of tourism sector contribution • As the government & commercial funding stabilises, philanthropy may be scaled down • Policyholder explores use of insurance to help to cover the costs of recovery post disaster. Expected long-term insurance cost to be covered from existing or alternative/innovative sources

Recommendations: Financing

Illustrative Financing budget in USD

- Costs were derived Ecosystem Valuation and Cost Benefit Analyses and allow for on-going conservation, restoration & monitoring activities and pre-event disaster preparation costs.
- Total budget was derived from potential expansion of tourist levies and visitor fees at most sites, as a reasonable first estimate of potential budget.
- Conservation & restoration activities include recovery costs for smaller or uninsured events (such as monitoring, repairs following marine vessel damage to reef and response to Crown of Thorns outbreaks). Ideally accumulation of reserve fund.
- Illustration below shows one large event occurring in year 4, with maximum payout to be spent on post-disaster response and recovery, restoration and monitoring.
- If larger area of restoration and expense amounts are viable, insurance premiums & payouts may be increased approximately pro-rata.

Lessons learned: the Cost Benefit Analyses clearly showed that funding of post-disaster recovery and restoration actions for high priority areas at reef sites was economically sensible and justified

YEAR	1. Ongoing Operational Management	2. Conservation & Restoration Activities	3. Disaster Preparation Activities	4. Annual Insurance Premium	5. Insurance Payout (assuming event in year 4)	Total Estimated Budget (sum of 1. to 4.)
1	50,000	70,000	60,000	0	0	180,000
2	50,000	70,000	7,000	23,000	0	150,000
3	50,000	70,000	7,000	23,000	0	150,000
4	50,000	70,000	7,000	23,000	180,000	150,000
5	50,000	70,000	7,000	23,000	0	150,000