Strengthening the Mitigation Hierarchy in Pacific Island Countries and Territories

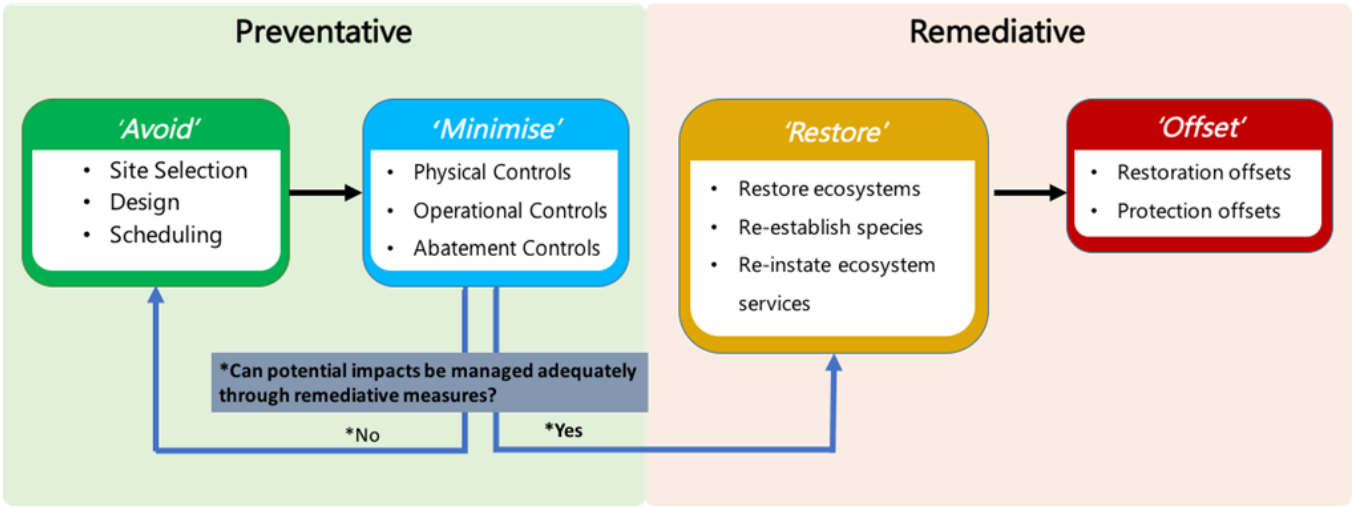
Guidance note

Using the mitigation hierarchy to reduce impacts

The Mitigation Hierarchy provides a strong foundation for sustainable development and is the best-practice approach for companies and governments to manage impacts.

What is the mitigation hierarchy?

The mitigation hierarchy (MH) is a step-by-step tool used to limit the negative impacts of development projects on biodiversity.



Adapted from: Cross-Sector Biodiversity Initiative (CSBI). (2015). *A Cross-sector Guide for Implementing the Mitigation Hierarchy* (p.9)

The mitigation hierarchy consists of four steps:

1. Avoid > **2. Minimise** > **3. Restore** > **4. Offset**

These four steps have to be followed in order – **Avoid**, then **Minimise**, then **Restore** impacted areas and finally **Offset** any impacts that remain. Preventing impacts (steps 1 and 2) is most effective. Restoring or offsetting impacts is usually more costly, and has a higher risk of failure.

In practice, applying the MH is not a linear process: projects will often need to go through a series of avoid and minimise iterations to ensure that they have prevented impacts as much as possible. The diagram above shows a simple illustration of this iterative process.

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1 Avoid

We **avoid** impacts by considering biodiversity at the very start of project planning, before site selection and project design.

We carefully plan **where** to place project facilities, **when** to do certain activities and consider **how** to design project facilities/equipment, to avoid impacts that would otherwise take place.

For example, we place roads outside of rare habitats, select a season for seismic operations when whales are not present, and choose to bury power lines to prevent bird collisions.

2 Minimise

After we have avoided impacts as much as possible, we now **minimise** remaining **impacts**. We do this by modifying the physical design of some facilities (**physical controls)**, managing how staff or contractors do their jobs **(operational controls)**, or taking steps to reduce pollutants **(abatement controls)**. For example, deploying silt curtains during the construction of a jetty would be an operational control to reduce sediments settling on nearby coral reefs and harming them.

3 Restore

Restoration means taking actions to repair what we have removed (impacts that cannot be fully avoided or minimised).

We typically do this after the project has finished or after a certain facility is no longer used. Re-planting trees after mining closure is an example of restoration.

Residual impacts: After the effective application of the three first steps, impacts are now much less significant and smaller in extent. However, some impacts will remain, no matter how hard we have worked to reduce them; these are called **residual impacts.** When we have significant residual impacts, we can use Offsets to manage them and satisfy the expectations of external stakeholders.

4 Offset

Offsets are ***measurable*** conservation actions carefully designed to compensate for residual impacts. The idea is to create positive impacts ('gains'), usually elsewhere, to compensate for the project's residual impacts. We do this until we achieve a target of No Net Loss or Net Gain (see the next section). It is often challenging and expensive to implement a successful offset program, so it should always be considered as a **last resort**.

In practice, there are two types of offsets:

Restoration Offsets – different to step 3, above; we create or restore habitat **outside** of the project impact area. The aim is to repair someone else's damage to compensate for our residual impacts. For example, by planting trees in an already degraded ecosystem.

Protection/Averted Loss Offsets – we prevent future damage (that is predicted to occur, not from our project) by taking better care of the current situation. For example, by improving fisheries management to reduce future impacts on threatened fish species.

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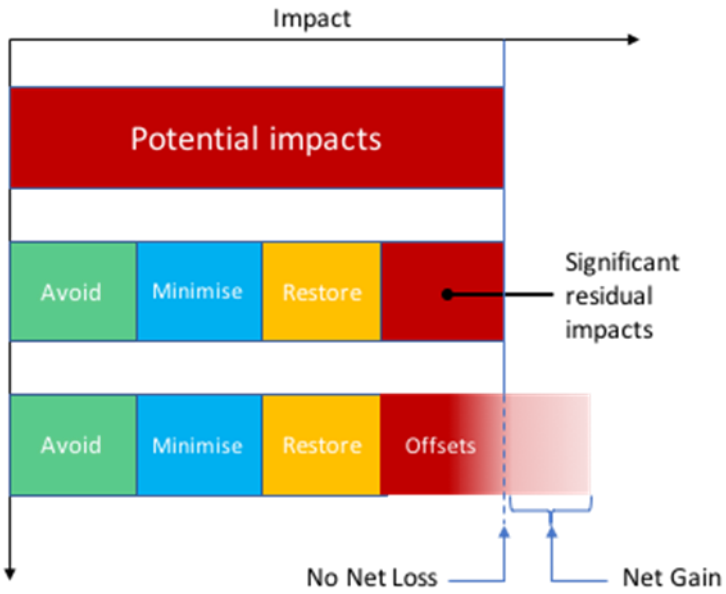
What is the goal of the MH?

A quantitative target will help focus efforts and provide a way to measure success. When applying the MH, the best-practice goal is to achieve **No Net Loss (NNL)** or, whenever possible, **a Net Gain.**

NNL is a term used to describe the situation when positive impacts from applying the Mitigation Hierarchy ('gains') are equal to the negative impacts ('losses') from the project, so that no loss remains. Where the gains exceed the losses, Net Gain or 'Net Positive Impact' results.

In theory, we are usually required, by law or loan conditions, to achieve NNL or Net Gain for all impacted biodiversity. This is unlikely to be realistic for **all** biodiversity, however, due to the huge diversity of organisms in any area and, in practice, a subset of biodiversity, called **Priority Biodiversity**, is identified for which we need to achieve NNL or Net Gain.

Priority Biodiversity is those species and ecosystems of highest conservation concern because they are threatened and/or have a very limited distribution. One highly respected framework for identifying priority biodiversity is the International Finance Corporation (IFC) Performance Standard 6 (PS6), which outlines thresholds for identifying 'Critical Habitat' for priority biodiversity. PS6 requires NNL for impacts on Natural Habitat and Net Gain for impacts on Critical Habitat.



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Effective implementation of the MH ultimately benefits the PICTs' important species and ecosystems.

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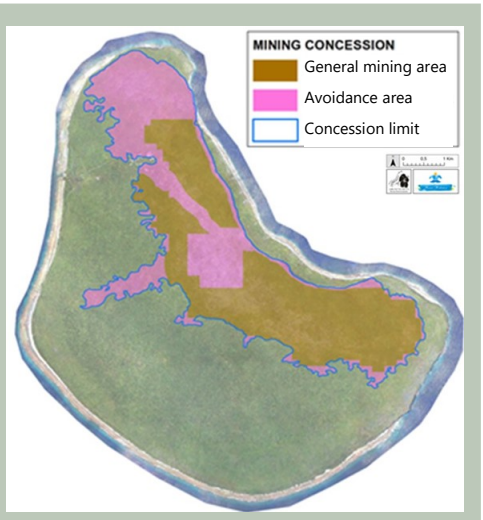
Case study

Makatea phosphate mine



Makatea (French Polynesia) is a remote atoll which was heavily mined for phosphate 50 years ago. The mined areas were not rehabilitated and remain heavily degraded and dangerous. A proposal to mine the remaining phosphate uses the first three steps of the mitigation hierarchy '**avoid**, **reduce**, **restore'**.

To **avoid** significant impacts on biodiversity, part of the phosphate resource will remain untouched because it is an important site for endemic birds and trees; has cultural importance (site of ancient graves and legends); and has scenic importance.

To **reduce** significant impacts on biodiversity:

- A biosecurity policy will reduce the risk of invasive alien species colonising the atoll from mining equipment
- Mine workers will not be allowed to harvest coconut crabs
- Operational procedures will reduce the impact of operations on soil and underground fresh water.

To **restore** the site, the remaining coralline rocks and walls will be crushed to allow stable vegetation rehabilitation. The extent to which this will restore the original biodiversity and ecosystem services is still uncertain.

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Case study

Voluntary mangrove offsets in Fiji

Naisoso is a 45ha island located at the mouth of the Sabeto River in Viti Levu, Fiji, and is separated from the mainland by a mangrove basin of approximately 110ha. The mangrove basin borders the Sabeto River and acts as a flood buffer for the river.

In 2006, the developer, proposed an integrated resort development comprising residential and tourism/resort lots and a marina. An environmental consultancy company was commissioned to undertake an EIA, which included a detailed Coastal Processes Study.

Pre– and post-development: aerial photo of Naisoso in 2006 (above left) and Google image in 2016 (above right) and Naisoso Resort Development plan (2014) (below).

Why offset?

The developer had already demonstrated good practice use of the mitigation hierarchy by relocating the marina to avoid the best mangrove habitat in the basin.

A new canal was needed to access the internal lots bordering the mangrove basin. However, even after steps to avoid, minimise and restore, the canal dredging would result in an estimated loss of 8.8ha of mangrove. Following discussions between the developer and the Fishing Rights Owners of the mangrove basin, the developer applied to the Department of Lands for a lease to preserve all remaining mangroves (105ha) by way of compensation for this loss.

The proposed reserve management plan allowed for traditional fishing activities by the Fishing Rights Owners and active conservation measures for the reserve. The proposed reserve and plan was included as a commitment of the EIA. The Department of Lands acted on the recommendations of the EIA and, in 2011, a 99 year lease for state land was issued as a Mangrove/ Marine Protected Area to the developer.

Conclusions

In the absence of biodiversity offset legislation in Fiji, or any administrative recognition of biodiversity offsets in the EIA process or for alternative mitigatory measures, the actions undertaken at Naisoso were good biodiversity offset practice within the mitigation hierarchy. The developer avoided the best mangrove habitat on the banks of the Sabeto river by relocating the marina, and offset the loss of 8.8 ha of mangrove through the creation of a mangrove protected area.

Certain commitments in the EIA remain to be implemented. In particular, the management plan has not been prepared in consultation with the Fishing Rights Owners.

In addition, the plan would be more robust if the lease for the protected area (or at least management control) was vested in the National Trust of Fiji or an appropriate local NGO, with the annual lease rental being paid by the developer. Such an arrangement would likely require a formal administrative framework which does not currently exist.

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How does the MH link to Environmental Impact Assessment (EIA)?

The main function of an EIA is to assess the environmental and social impacts of a project to inform decision-making on project mitigation. The MH is thus central to good EIA, as it the process of decision-making based on mitigation. Further, it helps to cost-effectively limit impacts and raises the chance of influencing both project design and consent decisions.

Most of the PICTs have good laws/policies for applying the mitigation hierarchy within EIA, but enforcement and developer experience are limited.

What would improve implementation of the MH in the PICTs?

- Application of EIA to small-scale projects and impacts;
- Land management plans, biodiversity databases and competent professionals to help with the application of mitigation;
- Good cooperation between the design team, decision-makers, and stakeholders. Local community stakeholders typically have high expectations of mitigation as they are disproportionately affected by unmitigated project impacts, especially when the project area is under customary ownership;
- Effective monitoring, evaluation and enforcement of mitigation implementation during the project, and adaptive management to address any issue.

More information

- A Cross-Sector guide for Implementing the Mitigation Hierarchy provides a practical approach and guidance. The guide written by The Biodiversity Consultancy on behalf of the Cross-Sector Biodiversity Initiative (CSBI).
- The Nature Conservancy sets out 10 principles for applying the Mitigation Hierarchy.
- The Biodiversity Consultancy (TBC) has published industry briefing notes on Offsets and Marine Offsets.
- IUCN has recently produced an Offsets Policy that outlines good practice in offsets, based on a more detailed technical paper.
- The Business and Biodiversity Programme (BBOP) Standard on Biodiversity Offsets provides a framework for designing, implementing, and verifying offsets.

Specific to the PICTs region

Under the *Restoration of Ecosystem Services and Adaptation to Climate Change (RESCCUE)* project, stakeholders have identified provisional roadmaps for strengthening mitigation hierarchy and offsets implementation in the region, based on a systematic review of the national offset policies and practices that exist to date.

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RESCCUE

This guidance note has been developed as part of the RESCCUE project.

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