

Currimjee Foundation

Executive Report

Relocation of Spider Frames and Adaptive Coral Restoration at La Cambuse

March 2026

Executive Summary

Coral reefs remain among the most biodiverse and valuable marine ecosystems, yet they continue to face increasing pressure from climate change, coastal disturbance, overfishing and pollution. At La Cambuse, the Currimjee Foundation has used coral farming as a practical tool for reef restoration and conservation awareness. Recent regulatory restrictions on fragment outplanting through asexual reproduction have, however, required the project to adapt its restoration model while preserving ecological integrity and programme momentum.

In response, the project has shifted toward two complementary, regulation-compliant interventions: first, enhancing natural coral recruitment by refurbishing spider frames with an epoxy-sand coating to improve substrate suitability for larval settlement; and second, relocating selected frames to a more suitable site within the lagoon to reduce fishing damage and sediment stress. Together, these measures represent an adaptive, science-based management response designed to maintain restoration outcomes under changing operating conditions.

Programme monitoring continues to demonstrate encouraging ecological and social value. Surveys have recorded more than 150 natural coral recruits on existing frames, biodiversity monitoring has identified 72 fish species and 25 additional marine taxa, and education outreach has reached 28 schools, 1,692 learners and 86 teachers. Although the 2025 bleaching event significantly reduced coral survival, the nursery continues to provide an important platform for experimentation, monitoring and public engagement.

Key Project Highlights

Indicator	Current Position
Funding support	MOL International funding in place since 2022
Adaptive measure 1	Refurbishment of spider frames with epoxy-sand coating to promote natural coral settlement
Adaptive measure 2	Relocation of five refurbished spider frames to a new lagoon site
Natural recruitment	>150 natural coral recruits previously recorded on existing frames
Nursery output	631 coral fragments cultivated and deployed on 55 spider frames since 2023
Current survival	181 surviving colonies recorded to date, equivalent to a 28.7% overall survival rate
Biodiversity record	72 fish species, 25 other marine species and 14 seaweed species documented
Education outreach	28 schools reached, engaging 1,692 learners and 86 teachers

1. Background and Strategic Context

The Currimjee Foundation has been implementing a coral farming initiative at La Cambuse with financial support from MOL International since 2022. The project was designed to contribute to reef recovery, demonstrate practical restoration techniques and strengthen public awareness of the ecological importance of coral reefs in Mauritius.

The policy environment has since evolved. Government restrictions on coral farming through fragment outplanting now limit the continued use of earlier restoration methods based on asexual propagation. This regulatory change directly affects the original project deliverables and required a transition toward

alternative interventions that remain scientifically valid, environmentally responsible and compliant with the updated framework.

Against this backdrop, the Foundation adopted an adaptive management approach focused on maintaining restoration value while reducing ecological risk. The revised strategy prioritises the enhancement of natural recruitment processes and the relocation of frames to a more suitable operating environment within the lagoon.

2. Adaptive Restoration Approach

2.1 Enhancing natural coral recruitment

Recent surveys at the coral nursery identified more than 150 natural coral recruits on existing spider frames, demonstrating that sexual reproduction is already occurring and that the La Cambuse site retains viable coral populations. This evidence provided a strong rationale for shifting the project toward methods that support natural larval settlement rather than direct fragment outplanting.

To strengthen these natural processes, spider frames that no longer supported live corals, or that retained only dead fragments, were refurbished with an epoxy-sand coating. This treatment is intended to create a more favourable settlement surface by mimicking the texture of natural reef substrate, consistent with practices used in restoration projects in the Maldives and Indonesia.

The use of resin is being carefully controlled and limited. Ongoing monitoring will assess settlement success, the durability of the treated frames and any unintended environmental effects. This cautious implementation is important to ensure that the intervention remains proportionate, evidence-based and aligned with best practice.



Figure 1. Refurbished spider frame prepared with resin and sand prior to deployment.

2.2 Relocation of spider frames to a more suitable site

The second adaptive intervention involved relocating spider frames from the original nursery site to a new location within the La Cambuse lagoon. The previous site, situated approximately 25 metres from shore, was subject to two persistent pressures: recreational fishing activity and sediment-related stress caused by rough sea conditions and nearshore sand resuspension.

Although the nursery lay within a protected area, fishing lines, hooks and sinkers repeatedly damaged coral fragments and contributed to the loss of nursery stock. In addition, wave-driven sediment plumes reduced water clarity, increased deposition on the frames and diminished light availability for corals. These factors collectively undermined the suitability of the original location for long-term nursery management.

To reduce these pressures, five refurbished spider frames were relocated to a new site approximately 50 metres from the beach at GPS coordinates -20.453533, 57.701064. The new location offers improved water clarity, reduced sand movement and lower exposure to fishing-related disturbance, thereby creating more favourable conditions for future monitoring and restoration trials.



Figure 2. Google Maps view showing the previous nursery area and the new relocation site at La Cambuse.

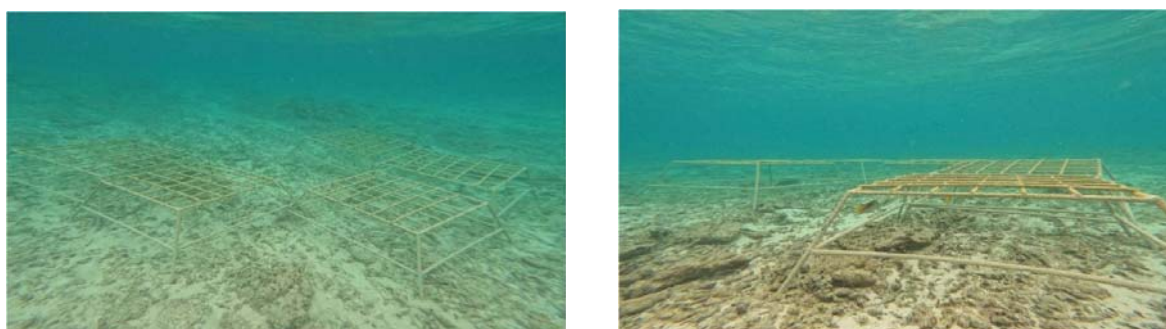


Figure 3. Underwater views of the relocated spider frames within the lagoon.

3. Ecological Monitoring and Performance

3.1 Site condition improvements

Initial observations indicate that the relocation has materially improved operating conditions at the nursery. Reduced disturbance from fishing gear and lower exposure to sediment plumes are expected to

improve frame stability, visibility and coral health, while also making monitoring more efficient and reliable.



Figure 4. Photographs of spider frames and coral growth at the new site.

3.2 Biodiversity monitoring

Monthly biodiversity monitoring has been conducted in and around the nursery since September 2023. To date, assessments have recorded 72 fish species, 25 species of other marine organisms, including echinoderms, molluscs and crustaceans, and 14 species of seaweed. These observations confirm that the nursery is embedded within a biologically rich lagoon ecosystem.

Biodiversity indices further reinforce this conclusion. Recorded values include a species richness index of 4.17, an evenness index of 0.91 and a dominance index of 0.020. Together, these values suggest a healthy and well-balanced community in which species are broadly distributed and no single taxon dominates the system.

3.3 Coral performance and bleaching impacts

The nursery has focused on *Acropora* spp. and *Pocillopora* spp. Since 2023, a total of 631 coral fragments have been cultivated and deployed using 55 spider frames. These outputs reflect substantial field effort and demonstrate the nursery's role as an active restoration platform despite a challenging regulatory and climatic context.

Progress was significantly affected by the severe bleaching event that struck Mauritius between March and April 2025. Driven by thermal stress and seawater temperatures reaching 32 degrees Celsius, this episode caused the loss of more than 60% of live coral cover and had major impacts on reefs around the island. At La Cambuse, the resulting overall survival rate currently stands at 28.7%, equivalent to 181 surviving colonies.

While this result reflects the scale of climate-related disturbance facing coral restoration efforts, it also underlines the importance of maintaining nursery infrastructure, monitoring performance and testing adaptive approaches that can improve future resilience.

4. Education and Community Awareness

The project continues to generate strong educational value alongside its ecological objectives. Between 2024 and March 2026, the Currimjee Foundation delivered school awareness sessions using projector-based presentations to introduce learners to coral reef ecology, reef threats and restoration practice.

During this period, 28 schools were reached, engaging a total of 1,692 learners and 86 teachers. Eighteen schools were visited in 2025 alone, indicating a notable expansion in outreach activity. This education component strengthens the wider impact of the programme by linking field restoration with awareness, stewardship and long-term behavioural change.



Figure 5. Selected school awareness sessions delivered as part of the coral farming outreach programme.

5. Recommended Next Steps

- Maintain routine monitoring of the relocated frames to assess natural settlement rates, substrate condition and any unintended impacts associated with the epoxy-sand treatment.
- Document comparative performance between the previous and new nursery locations, with particular attention to turbidity, sediment deposition, fishing disturbance and coral recruitment outcomes.
- Continue biodiversity monitoring to track ecosystem condition around the nursery and build a longer-term evidence base for ecological recovery at La Cambuse.
- Use the lessons from the 2025 bleaching event to strengthen climate-risk planning, including heat-stress monitoring and response protocols where feasible.

- Sustain and expand the school awareness programme to reinforce public understanding of coral reef conservation and the adaptive evolution of the project.

6. Conclusion

The relocation of spider frames and the adoption of substrate refurbishment for natural recruitment represent a timely and well-considered response to changing regulatory and environmental conditions at La Cambuse. Rather than pause restoration activity, the Currimjee Foundation has repositioned the project around approaches that are compliant, practical and ecologically grounded.

Although the programme continues to operate under significant climate pressure, particularly in the aftermath of the 2025 bleaching event, current monitoring results confirm that the site retains important ecological value and remains a relevant platform for restoration innovation, biodiversity observation and conservation education.

Overall, the revised project direction demonstrates strong adaptive management and provides a credible basis for continued support, learning and stakeholder engagement. With sustained monitoring and careful evaluation, the La Cambuse nursery can continue to contribute meaningfully to coral reef resilience in Mauritius.