AFB/EFC.30/Inf.3 - Annex I
September 2022

Ex Post Evaluation Summary - Samoa

Enhancing Resilience of Samoa's Coastal Communities to Climate Change

Structure protecting houses and road from the sea funded by the Adaptation Fund.
Vaiala, Samoa, 2022

Technical Evaluation Reference Group
ADAPTATION FUND

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Enhancing Resilience of Samoa's Coastal Communities to Climate Change

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The Technical Evaluation Reference Group of the Adaptation Fund (AF-TERG) is an independent evaluation advisory group accountable to the Fund Board. It was established in 2018 to ensure the independent implementation of the Fund's evaluation framework, which will be succeeded by the new evaluation policy from October 2023 onwards. The AF-TERG, which is headed by a chair, provides an evaluative advisory role through performing evaluative, advisory, and oversight functions. The group is comprised of independent experts in evaluation, called the AF-TERG members. A small secretariat provides support for implementation of evaluative and advisory activities as part of the work programme.

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This report was presented to the Adaptation Fund Board intersessionally between the first and second parts of its 35th meeting.

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Acronyms and Abbreviations

AF-TERG	Technical Evaluation Reference Group of the Adaptation Fund
CCA	Climate Change Adaptation
CIM	Community Integrated Management
DRR	Disaster Risk Reduction
FGD	Focus Group Discussion
IE	Implementing Entity
KII	Key Informant Interview
LTA	Land Transport Authority
M&E	Monitoring and Evaluation
MIE	Multilateral Implementing Entity
MNRE	Ministry of Natural Resources and Environment
PDS	Planning Development Strategy
R-R-T	Resistance-Resilience-Transformation
ToC	Theory of Change
UNDP	United Nations Development Programme

Project General Information

AF Project ID	**WSM/MIE/Multi/2011/1/PD**	
Country	Samoa	
Project Title	**Enhancing Resilience of Samoa's Coastal Communities to Climate Change**	
Intervention Area	139 villages in 25 districts, including infrastructure investments for a subset of those villages	
Implementing Entity	**Type:** Multilateral Implementing Entity (MIE) **Name:** United Nations Development Programme (UNDP)	
Executing Entity	Ministry of Natural Resources and Environment (MNRE)	
Budget (USD)	US$ 8,732,351	
Start date	28 January 2013	
Completion date	June 2018	
Years	Five years	
Sector	Multi-sector project	
Overall Goal	Reduce vulnerability to the adverse impacts of climate change and respond to the impacts of climate change, including variability at local and national levels through (i) reduced exposure at national level to climate-related hazards; (ii) strengthening institutional capacity to reduce risks associated with climate-induced economic losses; (iii) strengthening awareness and ownership of adaptation and climate risk reduction processes at local level; and (iv) increasing adaptive capacity within the relevant development and natural resources sectors.	
Project Components and Outcomes	**Component 1.** Develop awareness, knowledge and capacity at the community level on climate change and food insecurity related risks	**Outcome 1:** Strengthened awareness and ownership of coastal adaptation and climate risk reduction at community and national levels in 25 districts and 139 villages.
	Component 2: Integrated community-based coastal adaptation and disaster risk management measures[1]	**Outcome 2:** Increased adaptive capacity of coastal communities to adapt to coastal hazards and risks induced by climate change in 25 districts and 139 villages.
	Component 3: Institutional strengthening to support climate-resilient coastal management policy frameworks	**Outcome 3:** Strengthened institutional capacity of government sectors to integrate climate and disaster risk and resilience into coastal management-related policy frameworks, processes, and responses.
Project Ratings at Terminal Evaluation	Overall Project Outcome Rating	Moderately Satisfactory (4 out of 6 points)
	Overall Quality of Monitoring and Evaluation (M&E)	Moderately Satisfactory (4 out of 6 points)
	Overall Likelihood of Sustainability	Moderately Likely (3 out of 4 points)

1. This component was selected for the ex post evaluation of the project 'Enhancing Resilience of Samoa's Coastal Communities to Climate Change'.

Evaluation Background

The Samoa ex post evaluation is the first of a series of pilot ex post evaluations of strategically selected projects that have been closed between three to five years. At the request of the Adaptation Fund Board (the Board), the Technical Evaluation Reference Group of the Adaptation Fund (AF-TERG) is drawing on these projects for post-implementation learning and impact evaluation.

The AF-TERG commissioned the ex post evaluation of this project to analyse one or several project outcome(s) in order to answer two questions:

i. Have the project outcomes/impact(s) been sustained since project completion?

ii. How are the sustained project outcome(s) climate-resilient?

These evaluations aim to gauge the overriding desired impact of the Adaptation Fund (the Fund): "adaptive capacity enhanced, resilience strengthened, and the vulnerability of people, livelihoods, and ecosystems to climate change reduced." The team is working to evaluate this impact across all the ex post evaluations commissioned.

Evaluation Process

National evaluator Karen Komiti began the ex post evaluation at the end of October 2021. It covered different stages over five months: review of project documentation; selection of outcomes to evaluate ex post; field visit and data collection; data analysis; and report write-up.

Before beginning the evaluation, the national evaluator and five key project implementing entity (IE) representatives participated in a three-day training on ex post evaluation, and piloting processes and methods. The training was instrumental in building local capacity on ex post methods and approaches. It also facilitated discussions that led to selection of outcomes for the ex post evaluation pilot.

Evaluation Scope

The scope of the evaluation was determined in consultation with the IE and national stakeholders from the executing entity. The complete report describes the process to select the outcomes for evaluation and the findings of the fieldwork evaluation. The pilot focused on evaluating seven structures in four sites that aim to protect against flooding, storm surges, and coastal erosion:

- Infrastructure Site 1: Salei'a 1 km rockwall and Salei'a 28 m bridge
- Infrastructure Site 2: Manase twin 35 m wave breakers and Manase 90 m rockwall
- Infrastructure Site 3: Vaiala 0.66 km seawall
- Infrastructure Site 4: Salimu/Musumusu 2.2 km road and Salimu/Musumusu 1 km rockwall

Evaluation Methods and Limitations

The ex post fieldwork consisted of administering qualitative community participatory tools, Focus Group Discussions (FGDs), one-on-one Key Informant Interviews (KIIs), transect walks, and field observation.

Target population/sample frame and data collection were limited to households near the structures. Sample size was influenced by available resources and availability of households to participate in data collection. Multiple sampling methods were used, including stratified purposive sampling, and systematic, purposive, and convenience sampling. From a total population of 104 households across five villages/four infrastructure sites, the team selected a target population of 68 who reside closest to the structures. From this group, a sample of 28 households participated in FGDs and KIIs: 17 at Infrastructure Site 1: Saleia rockwall and bridge; four at Infrastructure Site 2: Manase wave breakers and rockwall; and seven at Infrastructure Site 3: Vaiala seawall.

The selection of methodologies and analysis was limited by three factors:

1) there was no Theory of Change (ToC) at project design;

2) data during project evaluations were collected at the output level rather than at the outcome level; and

3) the selection of infrastructure as a focus resulted in a small sample size.

Findings: Sustainability, Resilience, and Impact

Sustainability

Five years after construction, the structures across four sites/six villages remain physically intact but some sections of Manase and Salimu/Musumusu rockwalls appear to be deteriorating. In general, the structures are adequately and routinely maintained by stakeholders at household, village, and government levels. These activities have not diminished in the years since project closure, despite the absence of secure funding in government operational budget, an infrastructure-specific risk management plan, and co-financing to enable maintenance beyond closure.

"Ownership is high across all seven structures."

Site 1: Salei'a rockwall and bridge

The Salei'a revetment rockwall was completed in 2016 as a protection barrier from wetland and Muliolo stream flooding. The Salei'a bridge was rehabilitated as a replacement of the bridge over the Muliolo stream/river outlet to connect to the rockwall. Following the rockwall construction, heavy rains in 2017 and 2018 trapped water in the encompassed area. Villages were flooded due to lack of drainage outlets in the rockwall and its relocation further back from villages. This led to local efforts to modify the rockwall design and alleviate flooding from behind village homes. This suggests there is emerging sustainability.

Field observation showed that both the rockwall and bridge are kept clean from debris and weeds through village and individual household activities. It also confirmed minor cracks on the crest and sides of the sidewall due to heavy treading from traffic. However, there is no evidence along the repaired section that recent activities have weakened its structure. Recent climate and human disturbances have led to modifications in the rockwall design. However, they have not subjected the structure to forces beyond the limits of its climate resilience or structural design.

Site 2: Manase twin wave breakers and rockwall

In Manase, the twin breakers and the rock and concrete revetment wall were constructed along the shoreline across two tourist operators. The shoreline protection measures were considered the best option for maintaining the beach and promoting tourism in the village.

Field observations have shown that the rockwall, and around it, is kept clear of debris and creepers by a tourist operator who benefits from the shoreline protection measures. Several sections show signs of deterioration. Despite the lack of local efforts to repair the structure, the rockwall continues to provide adequate coastal protection for surrounding natural and human systems. There are no visible signs of degradation around the wave breakers.

It was reported from both key informant interviews and fieldwork, that wave breakers at Manase accelerated erosion on the adjacent beaches due to re-directing of waves to the west. Field observations and satellite images confirmed severe sand erosion following construction of the wave breakers. In addition, reports of sand mining on private land were also confirmed. This highlighted potential maladaptation and the possible reverse progress made by the structures in replenishing sands and protecting shoreline in the long term.

Site 3: Vaiala seawall

Vaiala seawall was completed in 2015 to protect against tidal tides and storm surges. Its design allowed for utility services (e.g. electric power lines), which were previously located on the coastline, and for a cement pedestrian footpath both at its crest and base.

In the 2018 Community Integrated Management (CIM) Plans for Vaimauga West, the Vaiala seawall was deemed "in very good condition". It was also reported to have "improved the scenery" along the Vaiala coast. Field observations showed no visible defects on the seawall. The structure continues to provide adequate coastal protection for surrounding natural and human systems. There was no structural damage following recent climate disturbances, and the seawall has become a key recreational feature in the Apia urban area.

The Vaiala seawall demonstrates the most indications of clear sustainability i.e. it has no visible defects and a clean structure. High ownership could be observed in the villages. Routine lawn maintenance by the Land Transport Authority (LTA) is augmented by Ministry of Natural Resources, Environment and Meteorology contractors through waste management and rubbish collection.

Site 4: Salimu/Musumusu road and rockwall

The Salimu/Musumusu road is a 2.2 km stretch, protected by a 1 km rockwall, that aims to protect village properties from coastal erosion and flooding. Field observations have shown some signs of destabilization on sections of Salimu/Musumusu rockwall. Wetland and stream water run-off flows onto the road and there are weeds along the shoulder. In addition, there is no parallel drainage to guide wetland and stream run-off to cross culverts, and ponds on the road. Despite the road condition and the need for maintenance to improve drainage of wetland and stream overflow, neither the LTA nor the villages have tried to make repairs.

The road will likely continue deteriorating. Furthermore, rising sea levels will undermine capacities and limits of infrastructure along the coastline. There is merit in considering the CIM Plan that proposes relocation of key infrastructure and village farther inland, away from coastal and flood erosion hazard areas.

FIGURE 1: **Examples of sustained and unsustained structures**

Infrastructure site 3: Vaiala seawall – no visible defects (landside view, left; seaside view, right)

Infrastructure site 4: Salimu/ Musumusu rockwall – rocks are crumbling into wetlands and water is collecting on the road

TABLE 1: Assessment of Sustainability Conditions

Sustainability assessment	Findings
Ownership *Sustained motivation; who benefits from the intervention enough to sustain it locally? Who is using it/ demanding it?*	Ownership is high across all seven structures, mostly at the village level (Salei'a and Vaiala villages), and at household/beneficiary level in Manase (rockwall). Only the Salei'a rockwall was modified by villagers, and not the other six infrastructures that remained intact. This was done to alleviate flooding from behind village homes. The modification reflects the post-approval redesign to meet needs for the bridge repair while expanding gardens and graves for local ownership (but at the cost of asset effectiveness). Soon after its construction, the Salei'a rockwall caused flooding due to lack of drainage outlets in its design and its relocation further back from villages. Trenches were dug during project implementation, which appeared to have solved problems.
Resources *How is the intervention being resourced to be sustained? Are these financial, in-kind, technical, or other?*	IThe Manase wave breakers and rockwall are the only examples observed that generate indirect resources through sand accumulation; the structures observed during the ex post fieldwork are kept clean by the community (Salei'a rockwall and bridge) and by individual beneficiary households (Manase rockwall). While there are community and government cleaning activities at the Vailala seawall and Salimu/Musumusu road and rockwall, the latter are in dire need of repair and maintenance as the road is already flooding. There are no indications of road maintenance by the Samoan LTA in spite of inclusion in the annual road maintenance plan. In the absence of a large climate shock, the presence of flooding at normal times of this road speaks to unsustainability.
Capacities *What are the necessary project knowledge and skills to be transferred to the national stakeholder partner? How will training be sustained for specific sectoral behaviour change among new entrants onward?*	Project activities directed explicitly at capacity strengthening were not evaluated under the scope of this ex post evaluation [2] Nevertheless, the evaluation observed that no new capacities were generated at Vaiala seawall and Salimu road and rockwall; however, extensive consultations were held at all infrastructure sites prior to building the structures. Neighbouring villages' key informants believe the Salei'a rockwall provides no direct protection from flooding, and that the Manase wave breakers have accelerated coastal erosion in adjacent beaches.
Partnership *What continued project knowledge and skills are needed from which stakeholder partners? What local contracting with direct and indirect partners are needed to sustain project operations?*	In general, the structures are adequately and routinely maintained by local stakeholders at household, village, and government levels. The LTA annual maintenance programme plays an important role in maintaining the infrastructures and keeping them clean, at the exception of the Salimu/ Musumusu rockwall that shows deterioration. Local efforts also maintain the structures. For example, the Salei'a rockwall and bridges are kept clean from debris and weeds through village and household activities, and clear of vandalism and loitering through village council curfews, enforced by household closest to the structures. There is also a curfew on the Vaiala seawall, and the village rules also prohibit loitering and littering on the structure. In Manase, the rockwall is maintained by the neighboring tourist operator.

2. The ex post evaluation focused on evaluating assets, as these were selected through the process of co-creation with local stakeholders.

Resilience[3]

The project targeted communities in natural systems marked by increased flooding risks due to increasing frequency and intensity of daily above-average rainfall (>300 mm), and average annual rainfall that will increase by 1.2 per cent into the twenty-first century. This environment is coupled with powerful winds and heavy rains during cyclone events, including Val and Ofa in 1990 and 1991. Heavy rainfall is a threat to livelihoods and human well-being, as well as natural ecosystems. It brings risk of losing terrestrial species and increased risk of saltwater inundating fresh/groundwater. The area also faces significant changes to coastal shorelines and potential habitat loss with rising sea levels. The human systems sustaining project results to date include strong cooperation from beneficiary districts, strengthened human resources in government agencies, and strong political and strategic support. The most relevant policy to the project is the district-level CIM Plans, which serve as the key national reference document for Disaster Risk Reduction (DRR) / Climate Change Adaptation (CCA) interventions and planning for community development, in the newly launched Planning Development Strategy (PDS) 2021–2026. Table 2 outlines key resilience characteristics exhibited by the intervention infrastructures.

TABLE 2: Resilience by Characteristics

Resilience characteristics	Findings
Redundancy *(Creating a duplicate or back-up system to support resilience to climate disturbances if/when one option fails)*	The Salei'a rock wall amounted to a hard solution or duplicate barrier to augment forest growth and block the force and volume of inland rivers. It also generated a secondary community backyard/natural space of about 3.6 ha. The additional protected space is sustaining existing agricultural, forestry, and grazing land functions. Given time and reduced saturation, this space has potential for improved farm production and yields, reduced inundation and erosion of habitat, and functionality. The Salimu/Musumusu road and rockwall replaced an older road and rock defense, and connected Uafato to Falefa, which serves as a back-up in case of disruptions to other routes.
Diversity *(Reflecting a wide and deep variety of actors and inputs working towards common goals in complexity and climate resilience)*	All four infrastructure sites involved some collaboration among a variety of villagers, contractors, and national government to build, and later maintain, the structures. The Salei'a rock wall has engaged a variety of actors (national government, community leaders, community households) to plan and maintain rockwall functions. There is also some anecdotal evidence of less frequent inland flooding and water overflow disturbances, and no loss of tree cover even after flooding, which may support local biodiversity. In terms of biological diversity, the Manase wave breaker has anecdotally shown evidence of protecting fish life, turtles, and shellfish; and evidence of beach and environmental restoration (for the immediate coastline). However, as observed during fieldwork, the wave breakers inherently change the way beaches erode/move (especially to the southwest of this wave breaker), The long-term impact of this beach movement is not known.

3. The AF-TERG developed a resilience analysis framework and applied it during ex post evaluation desk reviews and fieldwork. Details of the framework are available in Annex III.

TABLE 2: **Resilience by Characteristics** (continued)

At Scale *(Providing the temporal or spatial scale needed for natural and/or human systems to maintain or change their functions and/or structures in the face of climate disturbances)*	The benefits of the Salei'a rock wall have the potential to maintain or change (human and natural system) functions by generating newly utilized space and to produce communal benefits in response to climate disturbances. The space has been used for growing bananas, cocoas, tamarinds, pandanus, and nitrogen-fixing gatae; and some horse grazing. Two dwellings have been built since asset completion in 2016.
Dynamism (flexibility) *(Demonstrating flexibility – around an equilibrium – in approach and strategy towards reaching common objectives)*	The hard infrastructure of the rock wall and wave breakers both serve to reduce the dynamism of natural systems. In the case of the Salei'a rock wall, the area behind the wall became a vegetated communal space with potential for future flexibility/adaptability in (household/local) use under changing conditions. The Manase wave breakers have reduced dynamism of natural sand movement along the beach. This has resulted in beach replenishment and shoreline stabilization for two tourist operators south and southeast of the assets since completion. However, the reverse – rapid shoreline erosion – is also occurring on shorelines to the southwest of the assets, and demonstrates an example of maladaptation.
Continuous Feedback Loops *(Supporting communication lines, access to information or partnerships for sustainability of outcomes)*	The Salei'a rockwall generated some natural feedback loops between neighbouring communities by physically connecting them with a communal space and also requiring cooperation for maintenance.

As far as the resistance-resilience-transformation typology, all seven structures exhibit various levels of resilience (mainly passive resistance and some resilience)[4]. All have remained standing in the face of several climate disturbance impacts in the intervening years. The impact of Category 2 Tropical Cyclone Gita in 2018 landed at winds of 86 km/h and gusts of 115 km/h. Heavy rainfall events in December 2020 and January 2021 measured above average (>300 mm) daily rainfall records of 932 mm, which were reportedly felt mainly on Upolu Island. The impact on Savaii Island residents was limited to a few damaged beach huts, and disruptions to electricity, communications, and water supply.

The Salei'a rockwall ensures its primary function of continued protection and alleviation of flooding. It also exhibits characteristics of resilience, as it serves new purposes for the population and natural environment e.g. a new growing space. Shoreline protection measures comprise the Vaiala seawall, Manase wave breakers and rockwall, Salimu/Musumusu road and rockwall, and Salei'a bridge. They have maintained intended functions to control coastal erosion within the surrounding human (village dwellings) and natural systems (eroded beach and shoreline). However, beach erosion has drifted southward in the case of the Manase wave breakers.

4. See Annex 1 on Resilience analysis framework for more details on levels of resilience.

Impact

Emerging Project impact

The project aimed to reduce the vulnerability of Samoa to the effects of climate change and respond to this threat, particularly through reduced exposure to climate-related events and increased adaptive capacity within the relevant development and natural resources sector.

Regarding this objective, all seven structures have addressed vulnerabilities of communities regarding the targeted hazards. With all infrastructures still standing post-project completion, such structures have reduced the population's exposure to climate-related events. Sustainability prospects,[5] however, are better for some infrastructure sites (Vaiala seawall, Manase twin wave breakers and rockwall) than others (Sale'ia rockwall and bridge, Salimu/Musumusu road and rockwall).

The project has had unintended impacts. Salei'a rockwall caused flooding due to lack of drainage outlets; and Manase wave breakers are claimed to have accelerated sand erosion on adjacent beaches.

Adaptation Fund impact

In relation to the intended impacts – "adaptive capacity enhanced, resilience strengthened and the vulnerability of people, livelihoods, and ecosystems to climate change reduced", all seven structures withstood several climate disturbances impacts in the intervening years. However, the capacities and limits of the structures have yet to be tested by severe or prolonged force of climate shock events, such as Category 4 Cyclone Evan in 2012 and the 2009 tsunami. The past climate disturbances had only limited impact on Savaii Island residents during the intervening years.

5. Sustainability prospects were assessed to the degree possible without engineering records and study.

Conclusions

Sustainability: The evaluator revisited the key assumptions and risks to project sustainability in the ToC that was recreated during the evaluation process, as well as the sustainability projections made at project completion in the final evaluation. This aimed to assess if assumptions were still valid and needed to be confirmed during fieldwork. The assessment, which occurred during preliminary fieldwork, concluded that the projection of sustainability (rated "likely" at project level) made at the final evaluation was mainly correct for the outcome that was evaluated.

Resilience: The resilience analysis tool indicates that the infrastructures exhibit various levels of resilience, mainly passive resistance and resilience, in the face of warming temperatures (projected to reach 2.70C by end of the century) and sea-level rise (expected at 5.2 mm per annum).

Impact: All infrastructures have addressed vulnerabilities with regards to flooding, storm surges and coastal erosion, and enhanced the adaptive capacities of communities along the shoreline and wetlands. How well this was done depends on the infrastructure; half show signs of deterioration. It is also unclear how long this impact will last, given there were no large climatic shocks to test the structures since project completion. Climate and natural events will, however, continue with progressive severity. The evaluation has shown that communities are still vulnerable to other multiple hazards.

Lessons Learned and Corresponding Recommendations

Lesson Learned: The process for outcome selection allowed the ex post evaluation team to draw important lessons, particularly regarding how to evaluate assets ex post, deal with data quality and/or availability for ex post. For example, the review of the project results framework showed there was no ToC at project design, and that only output-level data were collected during project evaluations. In addition, there were no indicators or measures in the project results framework that enabled the collection of data that could capture change; i.e. there were no measurable outcomes for change.

Recommendation: Improve M&E quality from baseline to endline.

Lesson Learned: Rigid structures generally require less maintenance. The project-funded structures were built to withstand extreme climate disturbances with a typically useful life of least 30 to 50 years. Therefore, they are not prone to gradual degradation in strength. Funding for monitoring structures following the completion of the project could identify the premature deterioration of structures that might necessitate their repair and eventual replacement.

Recommendation: Given the capital investments in the structures, clear maintenance agreements with the government or other actors should be included in the project design.

Lesson Learned: With reference to the shoreline and flood protection measures that were evaluated, insufficient time and severity of natural and climate disaster events have occurred to adequately weather/test the sustainability and resilience of the structures. However, the evaluation can conclude that these structures will increase resilience with respect to livelihoods and ecosystems.

Lesson Learned: : Wave breakers and rockwalls, although not prone to gradual degradation in strength, are known to suddenly fail under storm surges. The 2014 technical assessment of the measures recommended ecological monitoring of the structures every six months, as well as ongoing maintenance of beach replenishments.

Recommendation: Given the terminal evaluation report, there is merit in undertaking a detailed close range examination of structural components to determine structural concerns, defects, damage, or deterioration.

Additional Lessons and Recommendations from the Pilot

For Implementing Entities

Lesson Learned: Post-implementation systematic capturing and dissemination of cross-sectoral adaptation experience is needed to support integrated adaptation measures at national and community levels.

Recommendation: Build institutional memory. The project should leave behind information for stakeholders and communities in clear data retention knowledge management systems at both donor and national levels. This would allow for continuous learning that could inspire enhancements to their resilience to climate change.

Lesson Learned: Limited civil engineering technical capacity was available to review solutions. Built capacity did not translate to provision of technical support to communities in techniques for analysis, structured evaluation of options, and selection of preferred responses. Filling these gaps would allow for informed site-specific adaptation assessments, planning, and technical measures, and especially quality assurance to reduce the risk of maladaptation caused by the options selected.

Recommendation: Fill technical capacity gaps at the community level to supervise the civil works funded by the project.

Lesson Learned: A more strategic assessment of alternative ways, options, or locations would maximize the impact of interventions funded under the project.

Recommendation: Apply due diligence and quality assurance before committing to a specific site and structure.

Lesson Learned: A key enabler to implementing ex post methods is record-keeping at IE level. This would enable the measure and capture of data that could demonstrate change in capacities or assets that are the focus of ex post evaluation. Basic engineering plans were not available at donor or government sites for the structures supported by this project, which complicated the evaluation.

Recommendation: Keep good records for at least five years after project completion enforced via post-implementation data archiving indicators in the results framework.

For the Adaptation Fund and funders

For projects designed with infrastructure components:

Create/develop institutional mechanisms within agencies responsible for the activity implementation, as a component, early in the project. This should enable and ensure that project infrastructures are subjected to required technical due diligence in design, construction, and maintenance.

For improvements in M&E to capture data on sustained results after project completion:

Two recommendations were provided by the in-country evaluator, with regards to capturing data at higher levels:

1) Incorporate indicators for ex post evaluation in the results framework at project design. This would help inform project IE and key stakeholder agencies of reporting obligations at post-implementation, and the data needs required for ex post evaluation, prior to the end of the project.

2) Create/develop post-implementation results framework with key indicators designed/defined to capture sustained results e.g. a focus on outcome-level indicators.

For continued awareness about project results and how they have reduced vulnerabilities/ enhanced resilience of communities:

Create/develop a communications platform that captures project products early/right at the start of the project. This would include a communications strategy that guides how the project products and key information would be kept during and after project completion; how the receiving ministry would institutionalize results before project end; and how awareness and updates of results would be disseminated after project end.

For the AF-TERG on methods

1) The ex post team should discuss the merits of using a Theory of Sustainability, which was used instead of a Theory of Change, for subsequent ex post evaluations. The Theory of Sustainability produced different outcomes and outputs than stated in the project results framework/Theory of Change produced at project design. This choice affected the selection of outcomes for the evaluation. In a similar way, training materials should balance the examination of resilience and sustainability with an understanding of the operating environment follow project implementation.

2) Simplify methodologies and research questions and contextualize/customize data-gathering tools. The Samoa pilot implemented a "good enough methodology," but it was difficult to apply the concepts to data collection at community level.

ANNEX 1: Resilience Analysis Framework

Phase one of the ex post evaluations developed an innovative framework to assess climate resilience, as it is one of the ultimate goals of climate change adaptation. This area is pivotal to climate change adaptation yet has rarely been measured.

The resilience analysis framework covers five components:

(i) The climate disturbances (shocks and stresses)

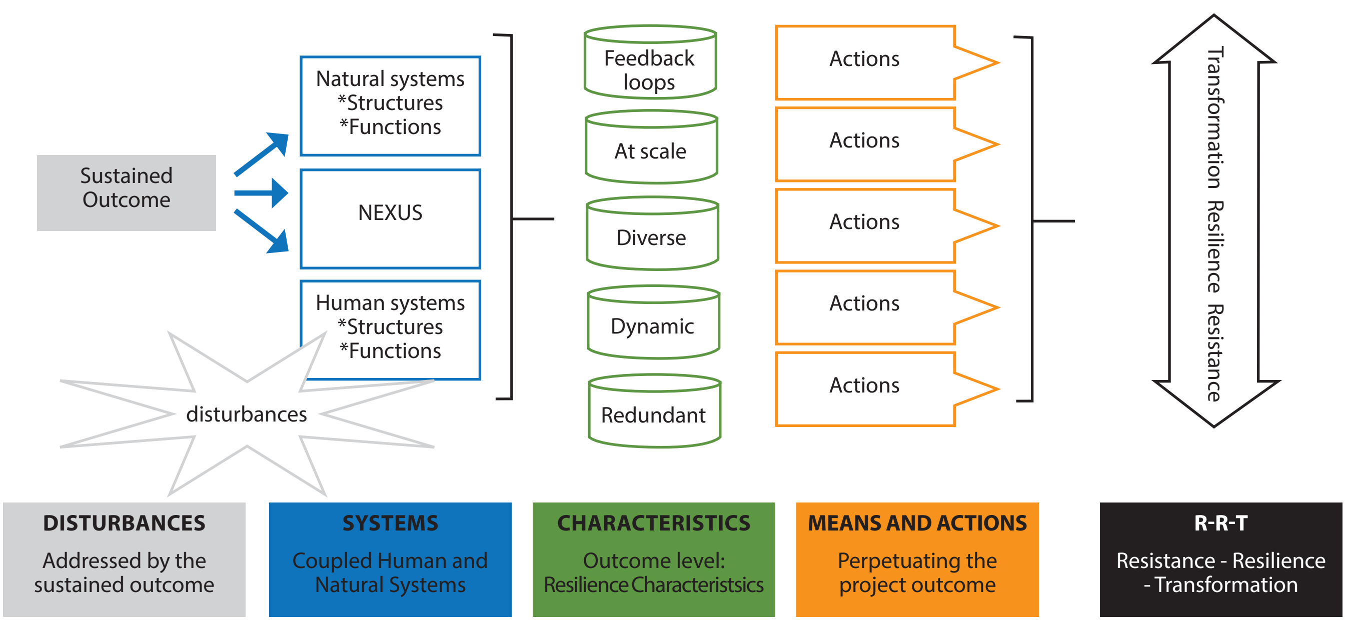
(ii) The human and natural systems (and their nexus) affected by and affecting project outcomes

(iii) The characteristics of resilience in the outcomes

(iv) The means and actions supporting outcomes (exemplifying characteristics of resilience)

(v) A typology of resistance-resilience-transformation (R-R-T) into which the overall project can be mapped based on how actions are designed to maintain or change existing structures and functions.

FIGURE A.1: Understand ex post resilience: framing for resilience analysis



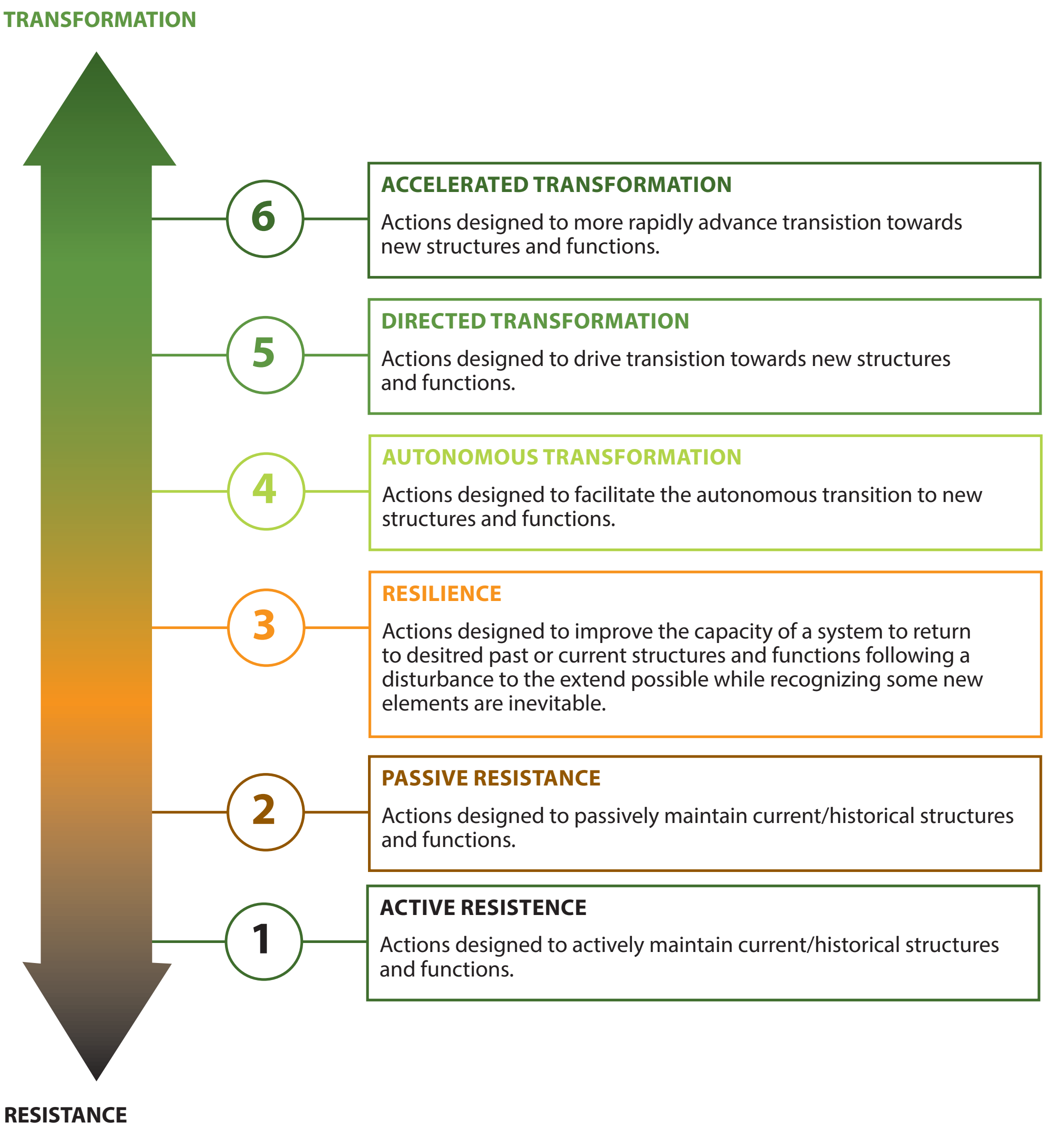
Within this structure, two analytical frameworks were suggested for use in ex post evaluations of Fund projects:

- **Resilience characteristics:** The first framework provides a set of characteristics that may be inherent to sustained outcomes to support resilience to climate disturbances. Five characteristics can be displayed by sustained outcomes in both human and natural systems, indicating how and in what ways the sustained outcomes contribute to resilience:
  - **Redundancy** (Creating a duplicate or back-up system to support resilience to climate disturbances if/when one option fails)
  - **Diversity** (Reflecting a wide and deep variety of actors and inputs working towards common goals in complexity and climate resilience)
  - **At Scale** (Providing the temporal or spatial scale needed for natural and/or human systems to maintain or change their functions and/or structures in the face of climate disturbances)
  - **Dynamism** (Demonstrating flexibility – around an equilibrium – in approach and strategy towards reaching common objectives)
  - **Continuous Feedback Loops** (Supporting communication lines, access to information or partnerships for sustainability of outcomes)

- **Resistance-Resilience-Transformation (R-R-T) Typology of adaptation actions:** The second framework can be used to categorize adaptation actions that support or bolster assets and capacities for resilience, and beyond. The R-R-T typology focuses on whether actors are passively or actively maintaining structures and functions (resistance), or whether they are seeking to fundamentally overhaul structures and functions in light of climate disturbances (accelerated transformation). At ex post, the typology allows to define where the ex post asset(s) outcome could fall, both individually and collectively. The outcome is assessed on an action-based spectrum, of six scales (Figure 2):
  - **Accelerated transformation**
  - **Directed transformation**
  - **Autonomous transformation**
  - **Resilience**
  - **Passive resistance**
  - **Active resistance**

Resilience, the third scale, can be seen as "actions designed to improve the capacity of a system to return to desired past of current structures and functions following a disturbance to the extent possible while recognizing some new elements are inevitable."

FIGURE A.2: Resistance - Resilience - Transformation (R-R-T scale)



Source: Peterson St-Laurent, G., Oakes, L.E., Cross, M. et al., 2021.[6]

6. Peterson St-Laurent, G., Oakes, L.E., Cross, M. et al. (2021). R-R-T (resistance-resilience-transformation) typology reveals differential conservation approaches across ecosystems and time. Communications Biology 4, 39. Available at: https://doi.org/10.1038/s42003-020-01556-2