Why Finance Fails Without Governance and How to Reverse the Pattern

What Samaná Bay Reveals About Money, Incentives, and System Stability

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Executive Reflection

In conservation and development practice, finance is persistently offered as the decisive intervention. When ecosystems degrade, governance weakens, or livelihoods erode, the reflexive response is to mobilise more funding. Climate finance, biodiversity finance, blue carbon mechanisms, blended finance vehicles, impact investment instruments, and results-based payment schemes are all presented, with varying degrees of sophistication, as mechanisms capable of unlocking solutions at scale. The argument is structurally appealing: conservation faces a funding gap; finance can close it; close the gap and outcomes improve. The evidence does not support this logic as a general proposition.

Decades of experience across conservation, development economics, and institutional reform show that finance introduced into weakly governed systems frequently accelerates the problems it is designed to solve. It deepens fragmentation rather than resolving it. It concentrates benefits among actors already positioned to capture them rather than distributing them according to stewardship contribution. It creates new incentive structures that optimise for reporting performance rather than for on-the-ground ecological health. And it locks trajectories into place — not the trajectories that project designers intended, but the trajectories that the underlying governance conditions were already producing.

Samaná Bay offers a precise and instructive lens into this paradox. The region attracts growing interest from donors, international financial institutions, and impact investors precisely because of its ecological value: globally significant whale breeding habitat, extensive mangrove and seagrass systems, intact watershed forest cover, and the economic potential of a marine tourism economy that is still, within limits, governable. That attractiveness is real. The risk is that financial interest is accelerating faster than the governance architecture required to direct it toward stewardship rather than extraction. This paper examines why that risk is structural rather than incidental, and what reversing the pattern requires.

Money Is a Signal, and Signals Reshape Systems

The foundational misconception in development finance practice is that money is neutral — that it simply enables whatever objectives are attached to it and delivers those objectives with an efficiency proportional to the volume deployed. This assumption is wrong in ways that matter enormously for governance design. In complex adaptive systems, money is one of the most powerful signals that circulates through the system. It changes behaviour, redistributes power, creates new winners and losers, and reshapes incentive structures whether or not these effects are intended by those deploying it (Levin et al., 2013; Meadows, 2008).

Complex systems respond to signals, not to plans. When a significant new financial flow enters a social-ecological system, actors across that system adapt with a speed and creativity that formal governance processes rarely anticipate. Narratives are reframed to align with funding criteria. Institutional mandates are reinterpreted to capture new resources. Coalitions form around funding opportunities. Actors who were operating cooperatively before the funding arrived begin competing for share. Those who were operating in complementary ways begin competing in overlapping ones. These adaptations are rational at the individual and organisational level. Collectively, they often produce outcomes that nobody intended and that undermine the goals the funding was meant to advance.

In Samaná, as in many coastal regions where livelihoods are diverse, margins are thin, and institutional relationships are still forming, this dynamic is a concrete operational risk rather than a theoretical concern. The fishing communities working the bay's nearshore zones, the whale-watching operators navigating seasonal regulation, the upland farming families managing plots on watershed slopes, and the civil society organisations trying to hold the governance space together are all operating in a context of economic scarcity. Introducing new financial flows into this context without the governance architecture required to direct them predictably and fairly does not improve that context. It introduces new competition into a system whose fragile cooperation depends on perceptions of equity that competitive finance rapidly erodes.

The Empirical Pattern: Finance Before Governance Produces Capture

The conservation economics and development finance literature is consistent on one empirical finding with sufficient force that it should be treated as a design principle: where governance is weak and legitimacy contested, new financial flows are captured by the most powerful or best-connected actors in the system. This outcome is not primarily produced by bad intentions or outright corruption, though both occur. It is structural. It follows predictably from the interaction between financial complexity and institutional asymmetry.

Studies of Payments for Ecosystem Services programmes, carbon market mechanisms, conservation trust funds, and biodiversity finance instruments across diverse geographical and ecological contexts repeatedly demonstrate the same pattern (Ferraro & Hanauer, 2014; Wunder et al., 2018; Muradian et al., 2013). Actors with legal literacy — who understand the eligibility criteria, the monitoring requirements, the contract structures, and the appeals processes — are better positioned to access funding than actors without it. Actors with political access — who can engage with the institutions administering funding, manage relationships with oversight bodies, and navigate the informal dimensions of compliance assessment — are better positioned than actors without those relationships. Actors with financial resilience — who

can absorb the up-front costs of participation, bridge the timing gaps between expenditure and reimbursement, and sustain operations during disputes — are better positioned than actors living closer to economic margins.

The actors who are most dependent on ecosystem health — small-scale fishers, subsistence farming households, community organisations whose social capital is place-based and whose advocacy capacity is limited — are consistently the least well-positioned to compete in these environments. The ecological stewardship that conservation finance is nominally designed to reward is frequently most reliably practiced by precisely these actors. The governance gap between what finance is designed to achieve and what the structural conditions of weakly governed systems actually produce is therefore at its widest where it matters most.

In Samaná, introducing blue carbon finance, biodiversity credit mechanisms, or large-scale PES programmes before governance coherence is established would risk reproducing this pattern with high precision. The actors currently best positioned to navigate complex financial instruments are not the fishing communities and smallholder farmers whose land management practices most directly determine the ecological condition of the bay's watershed and nearshore systems. They are the legal entities, tourism businesses, and development interests that have the institutional infrastructure to engage with financial mechanisms requiring formal property rights, monitoring compliance, and administrative capacity. Finance arriving before governance alignment would reinforce existing inequalities while generating the appearance of conservation investment. The reporting metrics would improve. The underlying conditions would not.

Why Results-Based Finance Often Underperforms in Complex Systems

Results-based finance — in which payments are tied to demonstrated outcomes rather than to activities or inputs — is frequently proposed as the corrective to the capture problems described above. The logic is internally coherent: align financial incentives with conservation outcomes rather than with process compliance, and actors will have direct incentives to produce the outcomes rather than to perform participation in the processes ostensibly designed to achieve them. In simple, attributable systems with stable baselines and responsive ecological indicators, this logic functions reasonably well. Complex coastal systems are not this kind of system.

In systems characterised by non-linear ecological dynamics, multiple interacting pressures, delayed responses, and climate-driven variability, outcomes are rarely attributable to specific interventions with the precision that results-based payment schemes require (Holling, 2001; Scheffer et al., 2009). Mangrove carbon sequestration rates depend on sediment dynamics,

salinity regimes, and hydrological connectivity that are determined by watershed land use, rainfall patterns, upstream agricultural practices, and estuarine processes that no single actor controls. Reef fish biomass responds to fishing pressure, water quality, coral health, and recruitment success, each of which operates on different time scales and responds to different drivers. Humpback whale calving success in Samaná Bay is influenced by vessel density, acoustic disturbance, and prey availability in feeding grounds thousands of kilometres away. Attributing any measured change in these indicators to a specific governance intervention, on a timeline that a finance mechanism requires, is an exercise in analytical overconfidence.

The practical consequences of this overconfidence are well documented. When outcomes cannot be reliably attributed, measurement becomes contested. Parties dispute baselines, challenge indicator selection, and negotiate monitoring methodologies in ways that consume governance energy that would be better directed toward stewardship. Pressure to demonstrate results within payment cycle timescales encourages short-term optimisation — managing for the indicators rather than for the underlying ecological processes the indicators are meant to represent. Behaviour that produces measurable indicator improvement while degrading unmeasured system functions is incentivised rather than discouraged. The finance mechanism, which was designed to align incentives with conservation outcomes, ends up aligning them with measurement performance instead (Muradian et al., 2013; Wunder et al., 2018).

There is a deeper problem that results-based finance does not resolve and sometimes worsens. Intrinsic stewardship motivation — the commitment to care for a place because of cultural identity, livelihood dependence, and genuine ecological understanding — is among the most durable and cost-effective drivers of conservation behaviour that governance systems can draw on (Ostrom, 1990; Folke et al., 2010). Introducing external financial incentives into systems where intrinsic motivation exists does not simply add to what was already there. It can crowd it out, by reframing stewardship as a transaction whose value is defined by the payment rather than by the relationship between community and ecosystem. When payments stop — as they do at the end of project cycles, when donor priorities shift, or when monitoring reveals underperformance — the intrinsic motivation that the payment structure displaced may not return.

Finance Accelerates Existing Trajectories Rather Than Changing Them

The most fundamental insight from complexity science about finance in social-ecological systems is also the most counterintuitive for development practice: financial flows do not determine system trajectories. They amplify them. In a system already moving toward coherence, accountability, and stewardship, finance accelerates that movement. In a system

already moving toward fragmentation, competition, and extraction, finance accelerates that movement instead. The trajectory is determined by the governance conditions that exist before the finance arrives. Finance is a multiplier, not a driver.

This finding has direct design implications that most conservation finance architecture does not yet incorporate. It means that the question of whether to mobilise finance for a system like Samaná Bay is substantially less important than the question of when to do so and on what governance foundations. Finance that arrives before governance foundations are established will amplify fragmentation. Finance that arrives after governance foundations are established will amplify coherence. The ecological outcomes produced by these two scenarios are not small variations around a mean. They are qualitatively different system trajectories.

In Samaná, the current governance landscape involves multiple well-intentioned initiatives operating in parallel without a shared institutional framework capable of aligning their objectives, coordinating their interventions, or preventing their competition for resources and legitimacy from becoming a driver of fragmentation in itself. Foro Ambiental, CEBSE, government agencies across MIMARENA and MINETUR, municipal authorities, enforcement bodies, and the whale-watching sector are each pursuing legitimate mandates with real commitment and meaningful capacity. Without an integrative governance architecture, additional funding flowing into this landscape does not produce better coordination. It produces more elaborate versions of the parallel operation that already exists, with higher stakes and sharper competition for institutional prominence.

This pattern is extensively documented in development economics research on project proliferation in weak institutional environments (Andrews et al., 2017). The mechanism is simple and operates consistently: funding creates organisational incentives to demonstrate distinctiveness and added value, because distinctiveness is what justifies continued investment. Distinctiveness in a fragmented system means differentiation from other actors in the same space rather than integration with them. Finance therefore rewards the institutional behaviour — marking boundaries, claiming unique contributions, maintaining separate monitoring systems, cultivating separate donor relationships — that most directly undermines the system-level coherence that effective stewardship requires.

The Sequencing Principle: Why Governance Must Precede Finance

Across conservation science, development economics, and institutional reform literature, one finding emerges with sufficient consistency across diverse contexts to warrant treatment as a design principle rather than a hypothesis: sequencing matters more than scale. A modest financial flow introduced into a governance system with established legitimacy, clear rules, and

functional accountability will produce more durable stewardship outcomes than a large financial flow introduced into a system without these foundations (Ostrom, 1990; Gutiérrez et al., 2011). This is not an argument for small budgets. It is an argument for building the institutional architecture that allows any budget to be effective before asking the budget to do institutional work it cannot perform.

The sequencing principle has a specific implication for the relationship between Phase Zero work and conservation finance in Samaná. Phase Zero — the socio-political feasibility and permission phase — is not a bureaucratic preliminary or a donor reporting requirement. It is the governance-building investment that determines what any subsequent financial flow will actually produce. Establishing shared understanding of the system's ecological thresholds, negotiating the institutional roles of the actors who must coordinate for governance to function, creating the safe spaces required for honest dialogue about power and incentives, and generating the procedural legitimacy that compliance depends on — these are the investments that transform finance from an accelerant of fragmentation into a stabiliser of stewardship. The sequencing is load-bearing.

What this means in operational terms is that the governance diagnostic work, the stakeholder engagement process, the institutional design of the Samaná Bay Conservation Authority, and the establishment of the monitoring and learning architecture must precede the activation of conservation finance mechanisms, including blue carbon, biodiversity credits, and PES schemes. The temptation to run these tracks in parallel — to pursue finance while governance is still forming, on the logic that financing the governance process itself requires demonstrating financial readiness — is understandable and must be resisted. Finance deployed to build governance capacity is not the same as finance deployed into a system that already has governance capacity. The first risks creating financial dependencies that distort the governance process it is meant to support. The second rewards a governance foundation that has demonstrated it can direct finance toward stewardship outcomes.

What Finance After Governance Actually Produces

When governance foundations are established before finance arrives, the behaviour of financial flows changes in ways that are well documented across fisheries, forest governance, and integrated coastal management contexts globally. The change is not primarily about the volume of investment or the sophistication of the financial instrument. It is about the institutional environment the finance enters and the governance conditions that determine what the finance can reward.

Clear rules reduce the uncertainty that drives competitive rather than cooperative behaviour. When actors understand what behaviours are rewarded, what is prohibited, how decisions are made, how disputes are resolved, and how the rules themselves can be changed through legitimate processes, the incentive to game the system diminishes. The governance architecture does not need to be perfect. It needs to be predictable enough that the actors engaging with it can plan their behaviour around shared expectations rather than around individual strategies for capturing advantage. Predictability itself is a governance product of significant value, and it is one that governance investment can deliver before finance arrives (Tyler, 1990; Ostrom, 1990).

Legitimacy, established through procedurally fair governance processes, changes compliance behaviour in ways that substantially reduce the enforcement burden on finance mechanisms. When actors believe that the rules are fairly made, consistently applied, and genuinely responsive to the ecological and social realities of the system, they comply even when enforcement capacity is limited. When finance mechanisms operate in high-legitimacy governance environments, they encounter actors who are already predisposed toward stewardship behaviour and who experience financial rewards as recognition of commitments they were making independently. The finance amplifies motivation that was already present. In low-legitimacy environments, finance must generate the motivation itself, which it does less efficiently and less durably.

Institutional memory — the documented record of decisions made, evidence considered, commitments given, and lessons learned — is the governance asset that allows finance to compound over time rather than to restart from zero at each project cycle. When financing arrangements change, when donor priorities shift, when institutional leadership turns over, institutional memory allows governance continuity to be maintained. The learning embedded in earlier decisions informs later ones. Commitments made under previous financing arrangements remain legible and accountable. Trust built through consistent governance behaviour survives the interruptions that development finance cycles inevitably produce (Andrews et al., 2017; Walker & Salt, 2006).

Implications for Blue Carbon, PES, and Biodiversity Finance in Samaná

The specific conservation finance instruments with potential relevance to Samaná Bay — blue carbon credits, biodiversity offset mechanisms, Payments for Ecosystem Services programmes, and climate adaptation finance — each carry specific governance preconditions that the current institutional landscape in the bay does not yet consistently meet. Understanding these preconditions is essential to designing a financing strategy that produces stewardship outcomes rather than stewardship theatre.

Blue carbon mechanisms — which monetise the carbon sequestration capacity of mangrove, seagrass, and saltmarsh ecosystems — require demonstrated permanence and additionality. Permanence means that the carbon stored will remain stored for the duration of the crediting period, which is typically decades. In Samaná Bay, permanence depends on integrated land-sea governance: without control of the watershed processes that deliver sediment loads affecting mangrove health, without governance of the coastal development pressures that fragment mangrove coverage, and without enforcement authority over the drainage modifications that alter mangrove hydrological regimes, permanence commitments are not credible (Wunder et al., 2018; Dasgupta, 2021). The mangrove system cannot be governed as a carbon asset in isolation from the terrestrial system that determines its condition. Blue carbon finance therefore depends on the ridge-to-reef governance integration that the SBCA is being designed to provide.

Biodiversity finance, increasingly structured around the Kunming-Montreal Global Biodiversity Framework and national biodiversity strategies, requires verifiable baseline data, agreed indicator frameworks, and governance systems capable of delivering the management responses that biodiversity outcomes depend on. In Samaná, the ecological monitoring infrastructure is developing, the scientific partnerships through CEBSE provide credible research capacity, and the biodiversity assets — whale breeding habitat, mangrove systems, reef biodiversity, watershed forest cover — are of genuine global significance. The governance capacity to translate ecological monitoring into management decisions, and to enforce those decisions consistently across the full ridge-to-reef system, is the missing element. Finance premised on biodiversity outcomes cannot be credible until the governance system capable of delivering those outcomes is operational.

Payments for Ecosystem Services in the watershed context — mechanisms that compensate upland landowners for land management practices that protect downstream water quality and reduce sediment loads — offer significant potential for building the terrestrial governance relationships that the bay's ecological condition depends on. They also carry specific legitimacy requirements: the communities receiving payments must regard the payment structure as fair, the monitoring as honest, and the governance body administering the scheme as credible. These requirements bring the design challenge back to legitimacy and institutional trust before finance, consistently and across every instrument type.

The Cost of Getting the Order Wrong

The failure mode produced by finance preceding governance does not typically announce itself dramatically. Projects launch with genuine commitment. Early reporting shows promising indicators. Stakeholder engagement is active. Monitoring data is generated. The problems emerge at the system level, over time, in ways that the individual project metrics do not capture and the individual reporting cycles do not reveal.

Conflicts that were latent harden as competition for financial resources makes the stakes of institutional positioning higher. Trust that was fragile erodes as actors observe that financial benefits are not distributed according to the stewardship principles the funding nominally rewards. Enforcement capacity that was limited becomes politically untenable as the economic interests consolidated around the funding flows push back against regulatory conditions they find inconvenient. Ecological processes that were degrading slowly accelerate as the governance attention that would have detected and responded to threshold-approach signals is consumed by financial compliance and reporting requirements instead (Scheffer et al., 2009; IPBES, 2019; Walker & Salt, 2006).

By the time these dynamics become visible in project evaluation, the path dependencies are substantial. Institutional relationships have been structured around the financial flows. Actor strategies have been optimised for financial access. Political relationships have been cultivated in the directions that funding has rewarded. The system that emerges from this process is not simply a worse version of what was designed. It is a different system, organised around different incentives, with different feedback dynamics and different political economies that resist the redirection toward stewardship that the original financing was designed to produce.

Samaná Bay remains in the preventive window. The governance architecture that would direct finance toward stewardship rather than toward the amplification of existing fragmentation is still being built. The decision about when to activate the specific financing instruments that the bay's ecological assets could support — blue carbon, biodiversity credits, high-value tourism finance, PES — will determine more about the long-term trajectory of the bay's governance and ecology than almost any other single choice in the initiative's design. Getting the order right is the primary financial design task.

Finance as Reinforcing Mechanism, Not Leading One

The role of finance in a well-sequenced governance and conservation strategy is to consolidate and stabilise trajectories that governance has already established, to reward stewardship behaviour that governance has already made legible, and to lock in institutional arrangements that governance has already made legitimate. This is a fundamentally different role from the one finance is typically asked to play in conservation project design, where it is expected to initiate change, generate cooperation, build institutions, and produce stewardship motivation where it did not previously exist.

Finance excels at consolidation. Once governance foundations are in place — once rules are clear, legitimacy is established, institutional memory is building, and the system's actors are oriented toward stewardship rather than extraction — even modest financial flows can deepen

and accelerate the positive trajectory that governance has created. Predictable financial rewards for stewardship behaviour reduce the economic risk of the choices that stewardship requires. Longer-term finance horizons allow governance institutions to make commitments that span project cycles. Transparent financial flows that visibly reward the actors whose stewardship contributions are most ecologically significant build the credibility of the governance system in the eyes of actors whose compliance is essential but whose trust is still conditional.

The real-options logic that underlies investment under uncertainty supports this sequencing directly (Arrow & Fisher, 1974; Dixit & Pindyck, 1994). Investors — including conservation finance instruments — value predictability and the reduction of downside risk more than speculative upside, particularly in contexts characterised by institutional uncertainty and complex ecological dynamics. Governance clarity reduces uncertainty. Established legitimacy reduces enforcement risk. Functional institutional memory reduces the probability of costly governance collapse. Each of these governance assets makes conservation finance cheaper to deploy, longer in horizon, and more patient in expectations — all of which improve its alignment with the long-term stewardship objectives that the ecological condition of Samaná Bay requires.

Closing Reflection

The choice that faces Samaná Bay with respect to conservation finance is not whether to pursue it. The ecological assets are real, the global interest is genuine, and the long-term stewardship of the bay will require financial resources that extend well beyond what civil society and government can mobilise from domestic sources alone. The choice is one of sequencing and foundation.

Money does not fix complex systems. It magnifies what is already there. A governance system that is coherent, legitimate, and functionally accountable becomes more so when finance arrives on appropriate terms. A governance system that is fragmented, contested, and operating through parallel rather than integrated institutions becomes more so as well. The decision about when to introduce specific financial instruments, and on what governance foundations, is therefore the central financial design question — more important than the instruments chosen, the volumes mobilised, or the measurement frameworks employed.

Restraint in activating conservation finance before governance foundations are demonstrated is not timidity or under-ambition. It is institutional risk management of the highest order. The governance window in Samaná is open. The ecological assets that would make finance credible are still intact. Building the foundations that finance can reward and stabilise, rather than rushing finance into a system whose governance conditions will determine how it behaves regardless of designer intent, is the work that this moment requires.

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