South America Fire Fund

ANNEX: Financial Innovation

Renaissance Philanthropy

MARCH 2026

ANNEX: Financial Innovation

Executive Summary

The Financial Innovation Component tests and deploys instruments that shift incentives and direct capital for fire management across the Amazon, Chiquitánía, and Pantanal. These instruments are designed to change behavior at every level of the system. Without these interventions, the approach remains indefinitely dependent on philanthropic subsidies, with no mechanism to attract commercial or public finance at scale. Stream 1 (Public Finance) embeds wildfire in jREDD programs so that public revenues pay directly for fire prevention, brigade systems, real-time risk mapping, and public budget shifts from urban firefighting to landscape-scale fire management. Stream 2 (Private and Blended Finance) adds community savings clubs and producer associations, fire-criteria credit, partial guarantees, outcome-based contracts, and parametric insurance with rapid payouts.

Stream 1 - Public Finance

Jurisdictional Fire Finance

Embeds wildfire in jREDD benefit-sharing plans so municipalities can recieve a defined share

jREDD revenues fund:

- Local fire brigades (personnel, vehicles, training)
- Real-time fire risk mapping
- Community fire prevention plans
- Early warming systems
- Integrated fire management in municipalities

Stream 2 - Private & Blended Finance

Community Savings Clubs / Producer Associations
Pools capital, builds governance and social trust

First point of entry to stimulate social cohesion and financial management

Fire-Criteria Credit
Rewards fire-safe practices with better loan terms

Partial Credit Guarantees
De-risks lending into fire-prone areas

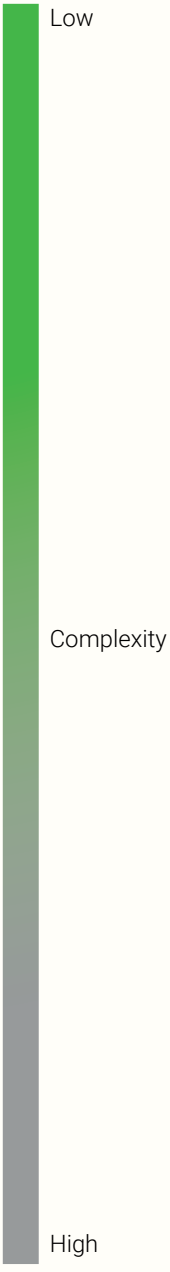
Outcome-Based Financing
Pays only for verified fire outcomes

Parametric Insurance
24-hour trigger payouts for brigades and communities

Commercial reinsurance markets at scale

Carbon & Biodiversity Credits
Connects fire outcomes to global climate finance

Corporate and government climate buyers



By Year 3, these instruments aim to produce behavior change at every level: governments treat fire as a fundable development priority; farmers adopt fire-safe practices because risk is explicit in loan underwriting; communities pool savings and invest in prevention to lower insurance costs; and corporate outcome payers sign structured, multi-year performance contracts. Across the funding scenarios, philanthropic investment in financial innovation will mobilize external capital, drawing on jREDD revenues, rural lending capital, corporate outcome payers, and insurance markets. These tools have proven track records globally; SAFF adapts them to South American fire-prone landscapes.

Fire Prevention & Resilient Stewardship	Enhanced Detection & Rapid Response	Integrated Fire Information & Decision Systems
• jREDD wildfire module, which negotiates fire into jREDD benefit-sharing so public flows fund fire management • Fire-criteria agricultural credit • Partial credit guarantees (5–10x leverage) • Outcome-based financing • Community savings clubs and producer associations • Carbon and biodiversity credit fire integration	• Brigade deployment and preparedness funded through jREDD revenues where fire negotiated in • Parametric insurance for rapid brigade mobilization within 24 hours of a qualifying fire event • OBF payments and parametric insurance tied to brigade response time and containment metrics	• Real-time fire risk mapping and Green Jurisdictions Database integration through jREDD • LiDAR and AI-enhanced risk modeling as verification infrastructure for OBF and parametric insurance triggers

Strategic Relevance: The financial innovation instruments in this component are not standalone tools. Each one is designed to reinforce a specific part of the fire management system. The table below maps how they connect to the Fund's three core strategies: preventing fire through better incentives and financing; enabling faster detection and response by putting stable funding behind brigades; and building the data and verification infrastructure that makes performance-based contracts commercially credible. An instrument that appears in multiple columns is have an impact across program lines. The jREDD module, for example, funds prevention and brigade deployment at once, while OBF and parametric insurance create both a response financing mechanism and a demand signal for rigorous fire data. Together they shift fire management from a cost that governments absorb after the fact to a fundable priority that attracts commercial capital both before fire starts and in the critical hours after it does.

Key Partners

Role
Lead technical implementation in Brazil, Bolivia, and Peru respectively. Drive jREDD module design, LIFT assessment, and brigade program delivery.
Trainers of Trainers brigade model delivery; fire-criteria credit product design and TA to financial institutions.
Community savings club/producer association design and deployment; OBF structure adaptation from the SSF Impact Bond (world's first small-scale fisheries impact bond, Indonesia) and the broader Indonesian marine conservation OBF model.
Structuring outcomes-based payment and parametric insurance models.
Financial institutions that redesign and deploy fire-criteria loan products, absorb first-loss guarantee capital, and expand lending into fire-prone areas.
OBF facility design and legal structuring. Responsible for contract design between implementers, outcome payers, and verifiers.
Parametric insurance actuarial design, trigger calibration, and broker placement.
Phase 1 Corumbá partners do the following: manage the REDD+ Serra do Amolar carbon credit program and biodiversity credit pilot; fund and provide technical support; develop the biodiversity credit methodology; provide VCS verification; provide market linkage and co-investment for scaling.
Outcome payers for OBF facilities, including corporates with fire-exposed supply chains (paper, mining, furniture, soy, beef, timber) and utilities protecting water and energy infrastructure.
Public counterparts for jREDD benefit-sharing design, public budget realignment, and municipal fire program co-design. Primary decision-makers on whether fire is written into jREDD benefit-sharing plans.

1. Technical Analysis

1.1 Key Findings

The instruments in this component were selected because they have a proven track record in other sectors. They are informed by territory assessments led by local and technical partners, address a specific gap identified in the LIFT baseline assessment, and can be sequenced to match current readiness rather than assumed preconditions.

The six LIFT territories span the full range of financial readiness, from Corumbá, where two revenue-generating credit programs and a permanent brigade already exist, to Iñapari/Iñapari, where no jREDD program, no finance institution (FI) credit products linked to fire, and no brigade implementing entity are yet in place. By 2029 the Fund will have comparative evidence on which financial preconditions matter most for fire outcomes in very different jurisdictions in the Amazon, Chiquitanía, and Pantanal landscapes.

- **LIFT readiness for different financial innovations varies widely.** Instrument selection in each territory is driven by baseline readiness scores from local partners. jREDD is the highest-leverage public finance entry point: it can fund brigades, risk mapping, and restoration. The Fund's role is to ensure a defined share of jREDD revenues reaches local brigades and LIFT municipalities.
- **OBF requires anchor outcome payers identified in the early stages of instrument structuring and design.** Waiting to line up outcome payers after design wastes years. The Fund itself can serve as anchor outcome payer with other philanthropies or government and companies matched on top.
- **Parametric insurance is viable but must be designed appropriately to prevent moral hazard.** Community-based premium pools and payouts directed to brigades (not individuals) can be key design safeguards.

1.2 Key Risks of Not Incorporating Financial Innovation into the SAFF

Fire management programs that rely solely on government budgets and emergency response consistently underperform. Funding is intermittent, incentives are misaligned, and prevention loses out to suppression in every budget cycle. Without financial innovation, the approach remains dependent on philanthropic subsidy, with no path to commercial and public flows that can make fire management self-sustaining at scale. Global evidence shows that when financial mechanisms are embedded in fire and forest programs (through jurisdictional carbon revenues, outcome-based contracts, fire-safe credit products, and parametric insurance), landscapes are better managed, funding is more stable, and behavior changes faster. Where they have been omitted, programs stall when philanthropic interest wanes.

1.3 Comparative Insights and Examples

Stream 1: Jurisdictional REDD+ programs are now the primary channel through which public finance reaches forest landscapes at scale. The pattern is consistent: Pará lost an estimated $50M in jREDD revenues in 2024 due to fire; East Kalimantan's reductions were repeatedly undermined by peat fires. Programs that embed fire management from the design stage protect credit volume and program revenue. Those that do not are vulnerable to revenue losses.

International jREDD+ Examples Incorporating Fire and Forest Degradation

The following jREDD examples illustrate how including fire in program design protects revenues and strengthens credibility.

- Guyana (ART TREES, 2022–2024): Guyana generated 33.47 million verified credits for 2016–2020 and a further 7.14 million credits for 2021, issued in 2024. The program covers 18 million hectares and explicitly accounts for forest degradation from fire, which was essential to the volume of credits and revenue (around $150M, with at least 15% going directly to Indigenous communities). This shows that including fire in jurisdictional accounting increases both integrity and revenue rather than deterring buyers.
- Indonesia – East Kalimantan (FCPF, 2019–2024): Indonesia received a $20.9M advance payment under an agreement worth up to $110M, the first such payment in East Asia and the Pacific. After Indonesia's 2019 Forest Reference Emission Level revision, peatland fires were added as a missing carbon source; including these fires in the program design was a deliberate choice. The cost of ignoring fire is clear: peatland fires alone cost Indonesia an estimated $16–$28 billion in 2015, and total fire emissions reached 1.2 billion tonnes of CO_2e. East Kalimantan illustrates how treating fire as a core emission source protects both revenues and credibility.
- Mato Grosso, Brazil (REDD+ Early Movers, ART TREES preparation): Mato Grosso set an 89% deforestation reduction target in 2009, backed by UK and German public finance through the REDD+ Early Movers program. Near-real-time satellite monitoring now tracks both deforestation and fire, and the state is projected to generate around 200 million tonnes of credits worth up to $2B by 2030. The 2024 Amazon fire season brought a 104% increase in hotspots, making fire the state's primary revenue risk. State governments are therefore starting to treat fire not just as an environmental issue but as a budget and credit issue, which is exactly the shift this Fund seeks to accelerate.
- Costa Rica and Ghana (LEAF Coalition, 2023): Both signed LEAF Coalition purchase agreements worth over $60M at COP28, with corporate buyers including Amazon, Walmart, Bayer, and Nestlé. Both programs include degradation from fire in their reference emission levels. Fire-inclusive accounting attracted buyers rather than deterring them. For SAFF, the integrity signal is the commercial differentiator.
- Vietnam, Nepal, Ecuador (ART TREES pipeline, 2024–2025): All three in active validation. Vietnam explicitly includes fire degradation from tropical forest, drawing on Center for International Forestry Research (CIFOR) and World Forestry (ICRAF) research showing fire as a major, systematically underreported source

of degradation emissions. Programs entering the pipeline without fire are likely to face costly renegotiation as standards tighten.

Stream 2: Private and Blended Finance: The private and blended finance instruments in this component all have direct precedents in other sectors and geographies.

- RARE savings clubs and producer associations (Philippines, Indonesia, Palau, Marshall Islands, Brazil, Mozambique): RARE helped grow community savings clubs from 6 to 2,000 in six years, mobilizing over $5M and eventually $15M across about 45,000 members. These clubs built trust and basic financial skills, which then allowed communities to access formal credit, write grant proposals, and co-finance parametric insurance premiums. In this component, savings clubs play the same role: they are the entry point that makes later instruments (e.g. credit, guarantees, outcome-based contracts, and insurance) socially and financially feasible.
- San Martín, Peru (RA / Norandino): Rainforest Alliance provided ~$100k in technical assistance to Norandino, a cooperative serving coffee, cocoa, and palm producers. The TA covered credit eligibility design, software adaptation, georeferenced data tools, and loan officer training. RA then negotiated $1.5M from COFIDE to fund the credit line. By December 2024, Norandino had disbursed 41 green loans totaling $86,760. The $100k technical assistance investment unlocked a credit facility 15 times its size within 6 months.
- Charagua Iyambae, Bolivia (fire-led jREDD program in development): Bolivia's first Indigenous autonomous government, Fundación Nativa's brigade program operates across 60+ communities for 15 years. After 2019, fires did not enter Charagua territory, the only documented case in Bolivia during the record 2024 fire season. Internally measured emissions reductions were ~10 million tonnes/year but are not yet independently verified. Bolivia published its ART TREES concept in July 2025 (the first formal step; credits not yet issued). The benefit-sharing plan remains undesigned, the critical remaining challenge. First payments are targeted for mid-2027, contingent on completing registration and verification. Charagua is testing fire management as a primary jREDD strategy.
- Paramos, Colombia (parametric insurance): WTW structured a parametric product with payouts directed to fire brigades rather than individuals, preventing moral hazard. Community co-payment of premiums built shared responsibility. This is the direct precedent for the parametric insurance design in Corumbá.
- Indonesia outcome-based financing (RARE): In Indonesia, $1.8M in catalytic capital leveraged private impact investment at a ratio of about 7:1 for marine protected area outcomes. Communities receive simple, annual outcome payments to cover operational costs; they do not have to deal with the underlying financial structure. The model is now in its second year of outcome payments. This is the template for how the Fund's outcome-based facilities can channel private and philanthropic capital into clear, easy-to-understand performance payments at the community level.
- RARE Small-Scale Fisheries Impact Bond, Indonesia: The world's first impact bond dedicated to small-scale fisheries. US$6M, supporting three Managed Access with Reserves

areas in Southeast Sulawesi. Investors (Pershing Square Foundation, Minderoo Foundation) provide upfront capital; outcome funders repay against verified outcomes (e.g. fish biomass, fisheries management, benthic coverage). LeVoca and Reed Smith LLP provide legal structuring. The same partners engaged for the SAFF OBF facility, with directly transferable experience.

- Conexión Pazífico Sostenible, Colombia (approved March 13, 2026): The UN Multi-Donor Fund for Peace approved a results-based financing strategy for Tumaco and Roberto Payán, Nariño, committing 25 billion pesos designed to mobilize 96+ billion pesos in counterpart resources and a further 35 billion in additional leverage. It explicitly includes innovative results-based financing for ecosystem protection, modeled on outcome-based and blended finance principles, and designed for replication across conflict-affected Pacific territories.

2. Proposed Intervention Strategy

2.1 Implementation Model

Activities follow a sequenced, evidence-driven approach that starts with simpler instruments and adds complexity as LIFT readiness grows. Four principles shape delivery across all six LIFTs:

Adaptive and Evidence-Based. Instrument selection is driven by baseline readiness scores. Decision points at the end of Years 1 and 2 review jREDD progress, FI co-design, and OBF readiness, and determine which LIFTs move to more complex instruments. Each LIFT is matched to a comparison municipality to enable causal evaluation of what works.

Flexible and Fast-Starting. Savings clubs and FI technical assistance can launch in Year 1 in any LIFT, without waiting for land tenure clarification or full baseline data. jREDD engagement in Pará and Charagua is already active. Instrument designs adapt proven models (e.g. Rainforest Alliance/Norandino in Peru, RARE savings clubs in Asia and Latin America, WTW parametric insurance in Colombia) instead of starting from scratch.

Force Multipliers. Philanthropic capital pays for enabling work that others will not finance: legal templates, safeguards, product redesign, actuarial studies, and OBF facility design. These one-time investments unlock larger public, private, and blended flows already in the system but not yet reaching fire management.

Built on Local Legitimacy. Instrument selection reflects priorities identified by local partners at the Panama Convening. COMIF (Brazil) and Charagua Iyambae (Bolivia) are community- and government-led programs that the Fund augments, not replaces. Designing benefit-sharing plans in Charagua and Santa Cruz is the most politically sensitive remaining task and a precondition for directing jREDD revenues to fire management.

2.2 Instrument Overview

The table on the subsequent paes summarizes all financial innovation instruments by stream, complexity, mechanism, preconditions, and behavior change.

Complexity	What it does	Preconditions	Who changes behavior
Stream 1: Public Finance Builds the public backbone using jREDD revenues. Can operate independently of Stream 2.			
Jurisdictional and Municipal Fire Finance (jREDD, COMIF, Territorial Funds)			
Foundational	Embeds wildfire in jREDD benefit-sharing plans so public revenues fund fire prevention at the municipal level.	State or subnational government with REDD+ mandate; baseline satellite fire data; REDD+ safeguards and benefit-sharing framework, or mandate and capacity to develop them; access to a carbon registry or national tracking system; municipal capacity. Individual land titles not required.	Governments redirect fire budgets toward landscape prevention. Landholders join COMIF programs because participation shields them from fines. Companies gain a credible channel to invest in sourcing areas.
Stream 2: Private and Blended Finance Private, blended, and community capital tied to measurable fire outcomes, sequenced simple to complex. Formal land title not required for most instruments.			
Community Savings Clubs and Producer Associations			
Foundational	Small collectives pool savings into a fire-related reserve fund, gain legal status, and can federate into a Fire Trust Fund.	Basic community cohesion and at least one local champion or facilitating organization. No land tenure or baseline data required.	Households shift toward fire-safe practices by pooling risk collectively. Builds the organized community counterpart needed for jREDD benefit-sharing and parametric insurance co-financing.
Fire-Criteria Credit			
Moderate	Redesigns agricultural loan products to reward fire-safe practices with better terms and dual-purpose equipment financing.	At least one willing financial institution; georeferenced fire and land-use risk data sufficient to differentiate risk by farm or cluster; trained loan officers; functioning or incipient local fire brigades that can be strengthened through public or blended finance. Agrarian certificates or communal recognition accepted in lieu of formal title.	Farmers adopt firebreaks because it unlocks better credit. Financial institutions expand into fire-prone areas because fire risk is explicit in underwriting.

Complexity	What it does	Preconditions	Who changes behavior
Partial Credit Guarantees			
Moderate	SAFF provides first-loss guarantee capital (30% to 50% of losses) enabling financial institutions to expand fire-criteria lending into higher-risk areas.	6 to 12 months of performance data on fire-criteria loans, or comparable agricultural portfolio data in the same region; financial institution able to segment by geography and fire risk; agreed minimum risk-sharing by the financial institution, with SAFF or a partner providing first-loss guarantee capital.	Financial institutions and development banks expand portfolios because downside risk is shared. Bridges pilot credit and full commercial viability.
Outcome-Based Financing			
Complex	Pays implementing partners only when independently verified fire outcomes are achieved: reduced burned area, improved brigade response times, maintained tree cover.	Baseline fire and land-cover data; independent verification infrastructure (satellite or other remote-sensing monitoring, fire incident reporting); implementing entity with legal capacity to receive and disburse funds; identified outcome payers with 3 to 5 years of patient capital.	Implementing entities maintain sustained fire management because payment depends on verified results. Corporates move from ad-hoc CSR to structured multi-year performance contracts.
Parametric Insurance for Fire			
Very complex	Rapid payouts based on pre-agreed triggers (weather indices, fire risk thresholds, area burned). Funds brigade preparedness, response, loan servicing, and early recovery.	Several years of historical fire occurrence and loss data, covering multiple significant fire seasons; local insurance distribution channel; regulatory clarity on parametric products; clear rules on payout use and linkage where possible to credit and OBF programs to reduce moral hazard.	Communities invest in prevention because it lowers premiums over time. Brigades gain stable pre-fire funding that traditional indemnity insurance cannot provide
Carbon and Biodiversity Credits			
Most complex	Connects fire management outcomes to global climate and nature finance.	Verified jurisdictional or project forest baseline and multi-year historical monitoring data (commonly 5 to 10 years, per methodology); legal standing of project proponent; regulatory clarity on crediting and any stacking with domestic instruments or Article 6; identified buyers. Registry verification required but not limited to Verra: ART TREES, Gold Standard, Plan Vivo, or national Article 6 registries are alternatives.	Corporate and government buyers pay for fire management as a climate solution. Fire moves from emergency cost to investable asset class.

2.3 Integration with LIFTs

Instruments are deployed differently across the six LIFT territories based on financial readiness scores (1–4 scale). Readiness varies, ranging from Corumbá (score 2–3) to Iñapari (score 1). Territories with the highest readiness receive the most complex instruments immediately; lower-readiness territories begin with savings clubs, capacity building with producer associations and local financial institutions, and a Year 3 readiness assessment that determines Phase 2 instrument entry. In the full $100M configuration, the same financial innovation package is also applied in six additional LIFTs, expanding the total number of territories to twelve.

LIFT	Readiness score	$30M instruments	$100M additional instruments	Basis for instruments selection
Corumba, Mato Grosso (Brazil)	2-3 (highest)	OBF facility design; carbon and biodiversity credit fire integration; parametric insurance Products 1 and 2	OBF anchor outcome payment; OBF expansion to Para	Corumba satisfies all preconditions for three instruments at once. The Pantanal brigade is formalized under State Decree 15,654/2021 and has been continuously operational since 2020. IHP (Instituto Homem Pantaneiro) Pantera AI detects fires within 3 to 5 minutes across 1.3 million hectares. Carbon and biodiversity credit programs are already generating revenue here, so connecting them to fire outcomes does not require new program development. At 97% private titled land, parametric insurance triggers can be independently verified; WTW (Willis Towers Watson) structured a comparable product for fire brigades in Colombia. As additional funding becomes available, the anchor payment activates the OBF facility and draws additional capital from corporate co-payers; expansion to Para is sequenced after Corumba produces verified results.
Paragominas, Para (Brazil)	2	jREDD benefit-sharing engagement; fire-criteria credit technical assistance; partial credit guarantees (Year 2-3)	Para jREDD full state-level scale-up; Paragominas fire-criteria credit technical assistance; partial credit guarantees full facility	Para has a signed $180M LEAF Coalition (Lowering Emissions by Accelerating Forest Finance) agreement and lost approximately $50M in jREDD revenues in 2024 due to fire, giving the state a direct financial incentive to name fire management in the benefit-sharing plan. Municipalities receive no share of revenues unless explicitly named. Free, Prior and Informed Consent (FPIC) consultations are active. Existing trade-organization brigades provide a collective base, but no credit product yet links fire-safe practices to lending terms, which is what the technical assistance addresses. The guarantee is introduced after six to twelve months of loan performance.

LIFT	Readiness score	$30M instruments	$100M additional instruments	Basis for instruments selection
Santarem, Para (Brazil)	1-2	jREDD CITA (Council of Indigenous and Traditional Communities of the Tapajos and Arapiuns) engagement; savings clubs x2	Additional savings clubs x3; fire-criteria credit technical assistance; partial credit guarantees; OBF facility design	CITA represents 14 indigenous peoples and 126 villages and is the required governance counterpart for jREDD benefit-sharing; revenues cannot be directed to Santarem without their agreement. Santarem has no producer cooperatives or microfinance institutions (MFIs) active in fire-related lending, so savings clubs are the entry point: they create the legally recognized collective entity that all subsequent instruments require. As additional funding becomes available, additional clubs are established first, then fire-criteria credit technical assistance is introduced into that base, guarantees follow once performance data exists, and OBF comes last because Cargill's grain terminal makes outcome payer contracting feasible only once the governance and credit infrastructure are in place.
Robore, Santa Cruz (Bolivia)	1-2	jREDD technical assistance gap (Charagua and Santa Cruz); fire-criteria credit technical assistance; OBF facility design and anchor payment	OBF Year 2 payments and scale-up; parametric insurance expansion	Charagua Iyambae is the only Bolivian territory where fires did not enter during the 2024 fire season. Over 60 brigade communities have operated under a shared governance structure for 15 years. A buyer group including Volkswagen, Salesforce, and Microsoft is engaged, but a technical assistance gap remains to complete the benefit-sharing design and unlock revenues. Brigade communities also serve as the collective entity for fire-criteria credit, so both instruments are introduced together. The OBF anchor payment is feasible here because mining and agricultural companies with fire-exposed assets in the Chiquitania are identified outcome payers; each dollar draws five to seven from co-payers. At $100M, OBF Year 2 payments activate once verified results exist and parametric insurance follows the Corumba pilot, which provides the insurer relationships needed.
Cruzeiro do Sul, Acre (Brazil)	1	Savings club	Acre jREDD fire integration; FI engagement and capacity building; fire-criteria credit and guarantees (Bolsa Verde)	Cruzeiro do Sul has no producer cooperative, no MFI active in fire-related lending, and no legally recognized collective entity, so a savings club is the necessary starting point. As additional funding becomes available and jREDD integration takes place because Acre has a signed ART TREES (Architecture for REDD+ Transactions) agreement with Standard Chartered (August 2025) and completed benefit-sharing consultations in May 2025; naming Cruzeiro do Sul would fund a permanent brigade from revenues already flowing. Capacity building targets a documented gap: federal funds are allocated to this territory but only 20-30% is spent each year due to limited proposal capacity. Fire-criteria credit and guarantees are introduced through Bolsa Verde MFIs already operating locally, which reduces the cost and timeline of product development.

LIFT	Readiness score	$30M instruments	$100M additional instruments	Basis for instruments selection
Iñapari, Madre de Dios (Peru)	1	Savings club; SINAGERD (Peru's National Disaster Risk Management System) federal fund access support; financial literacy training	Additional savings clubs x2; institutional foundations deepened. No private instruments in Phase 1.	Iñapari has no brigade entity, no MFIs active in fire-related lending, and no producer cooperatives. Land tenure includes 52% protected area and 23% Forest Stewardship Council (FSC) timber concessions, which rules out title-dependent instruments. A savings club establishes the first legally recognized collective entity. SINAGERD (Peru's National Disaster Risk Management System) disaster funds are formally allocated to this territory but only 20-30% is spent due to limited proposal capacity; support to access those existing funds requires technical support, not new capital. Financial literacy training is needed because no financial institution has yet offered a fire-related product to local cattle ranchers or concession operators. No private instruments are introduced in Phase 1; a Year 3 readiness assessment sets the Phase 2 agenda.

2.4 Key Stakeholders

The following table provides a complete picture of all stakeholders with roles in financial innovation, including implementing partners listed in the Executive Summary above.

Category	Role in financial innovation
State governments	Decide whether fire management is written into jREDD benefit-sharing plans and whether public budgets shift toward prevention.
Indigenous and community councils	Primary governance counterparts for jREDD benefit-sharing and future OBF in Santarém and Roboré. Program viability in both LIFTs depends on their leadership.
Orchestration partners	Lead technical implementation across all six LIFTs. Drive jREDD design, LIFT assessments, and carbon/biodiversity credit management.
Financial institution partners	Redesign and deploy fire-criteria agricultural loan products. Absorb first-loss guarantee capital and expand lending into fire-prone areas.
Technical assistance partners for savings clubs, producer associations, and financial institutions	Provide technical assistance for fire-criteria credit product design at local financial institutions, and design and deploy community savings clubs and producer associations across low-readiness LIFTs.
OBF design, structuring, and legal partners	Design OBF facility structures, adapt OBF models from proven precedents, provide financial modelling and transaction advisory, and draft contracts between implementers, outcome payers, and verifiers.
Parametric insurance design, structuring, and legal partners	Actuarial design, trigger calibration, financial modelling, and broker placement for both parametric insurance products.
Carbon and biodiversity credit partners	Verify, develop methodology for, and provide market linkage for carbon and biodiversity credit programs.
Corporate and utility outcome payers	Anchor outcome payers for OBF facilities. Companies and utilities with fire-exposed supply chains or infrastructure converting ad-hoc CSR into structured multi-year performance contracts.

Category	Role in financial innovation
Research and verification partners	Generate baseline fire data and support jREDD monitoring, verification, and OBF outcome measurement.
Technology partners	Provide the measurement infrastructure that makes OBF contracts credible and parametric insurance triggers accurate.
International finance institution partners	Provide guarantee capital, co-fund jREDD technical assistance, and create pathways to development finance for fire-criteria credit programs.
Philanthropic co-funders	Co-fund enabling costs across all instruments: jREDD technical assistance, OBF facility design, credit guarantee capital, actuarial studies, product redesign, and OBF facility design that financial institutions, governments, and corporates will not fund independently.

2.5 Core Activities

Primary output	Secondary outputs	Activity	Description
Scenario 1: $30M Fund			
1.1.2	1.4.2, 2.1.4	Para: jREDD fire module	Engage Para ART TREES benefit-sharing consultation to direct jREDD revenues to brigade funding and integrated fire management in Paragominas and Santarem municipalities.
1.1.2	1.4.1, 1.4.2, 2.1.4	Santarem: jREDD CITA engagement	Inform Para benefit-sharing plan to name Santarem LIFT municipalities as fire management recipients via CITA.
1.1.2	2.1.4	Robore: jREDD technical assistance gap	Support Charagua Iyambae's fire-led jREDD program to name Robore LIFT municipalities as brigade funding recipients. Covers Charagua ($1M) and Santa Cruz ($3M) technical assistance gaps.
1.1.2	2.1.4	Acre: jREDD fire integration	Engage Acre ART TREES program to name Cruzeiro do Sul as a fire management beneficiary. Benefit-sharing consultations completed May 2025.

Primary output	Secondary outputs	Activity	Description
Scenario 1: $30M Fund			
1.2.3	1.1.2, 1.4.1	Savings clubs x4: Santarem (x2), Cruzeiro do Sul, Iñapari	Launch 4 community savings clubs at $25k each. Entry point for credit, OBF, and insurance in LIFTs with no collective financial infrastructure.
1.2.3	1.4.1	Fire-criteria credit TA: Para and Robore	Technical assistance to local financial institutions to redesign agricultural loan products so fire-safe practices qualify for better terms.
1.2.3	1.4.1	Para: partial credit guarantees (initial tranche)	First-loss guarantee capital (30 to 50%) to local financial institutions, leveraged 5 to 10x (Years 2 to 3).
1.4.1	2.1.4	Corumba: OBF facility design	Commission OBF facility design: legal structure, outcome definition, investor term sheets, verification framework.
1.4.1	2.1.4	Robore: OBF facility design and anchor payment	Design OBF mechanism and deploy anchor outcome payment (Years 2 to 3) to attract corporate co-payers.
1.4.1	1.4.2	Corumba: carbon and biodiversity credit fire integration	Embed fire management into IHP's REDD+ Serra do Amolar (135k ha) and Jaguar Stewardship credits (50k+ ha).
1.4.1	2.1.4	Corumba: parametric insurance Products 1 and 2	Design and place two parametric products. Product 1 protects OBF outcome payers against force-majeure fire. Product 2 provides 24-hour brigade response payouts.
1.4.2	1.1.2, 1.2.3, 1.4.1, 2.1.4	FI Component Management and Staffing (2 full-time staff)	Core FI team covering instrument design, partner engagement, reporting, and adaptive management across all 6 LIFTs. 2 full-time staff at Scenario 1; scales to 4 at Scenario 2.
1.4.2	1.1.2, 1.2.3, 1.4.1, 2.1.4	Cross-Cutting Legal and Structuring Functions	Legal templates and safeguard consultations not covered within individual instrument budgets.
2.1.4	1.1.2	Brigade financial sustainability pathways	Cross-reference only. jREDD revenues, once flowing, fund brigade systems directly. Budget captured under Output 1.1.2.
S4, Obj 1		Monitoring, Evaluation, and Learning	Evaluation of the financial innovation component: tracks instrument performance, verifies outcomes against stated targets, and provides the evidence base for Phase 2 decisions.

Primary output	Secondary outputs	Activity	Description
Scenario 2: $100M Fund. All Scenario 1 activities carried forward, plus additional activities below			
1.1.2	2.1.4	Para jREDD: full state-level scale-up	SAFF co-funds full state-level legal architecture locking in durable benefit-sharing formula. Incremental to Scenario 1.
1.1.2		Madre de Dios: institutional foundations	Support Iñapari municipality to access SINAGERD federal disaster funds. Financial literacy training for cattle ranchers and FSC concession operators.
1.2.3	1.1.2	Acre: financial institution engagement and capacity building	Build Cruzeiro do Sul municipal capacity to access Fundo Amazonia and Fundo Casa grants. CAR registration used as collateral proxy for smallholders.
1.2.3	1.4.1	Paragominas: fire-criteria credit TA	Technical assistance to financial institutions for fire-criteria loan products, sequenced after Scenario 1 producer aggregation.
1.2.3	1.1.2, 1.4.1	Additional savings clubs x7: Santarem (x3), Cruzeiro do Sul (x2), Iñapari (x2)	Scale savings clubs in low-readiness LIFTs to build premium-pooling base for parametric insurance.
1.2.3	1.4.1	Para: partial credit guarantees (full facility)	Expand from Scenario 1 initial tranche to full facility ($1.5M), leveraged 5 to 10x, across Paragominas and Santarem.
1.2.3	1.4.1	Acre: credit guarantees (Bolsa Verde integration)	First-loss guarantee capital to financial institutions where Bolsa Verde programs operate, leveraged 5 to 10x.
1.2.3	1.4.1	Santarem: partial credit guarantees	First-loss guarantee capital to financial institutions serving soy supply chain smallholders, leveraged 5 to 10x.
1.4.1	2.1.4	Corumba: OBF anchor outcome payment	Anchor outcome payment triggering 5 to 7x co-payer commitments from corporates and utilities.
1.4.1	2.1.4	OBF expansion: Para and Corumba	Extend OBF facility design to Para and fund anchor payments. Engage Suzano, Hidro, and soy actors as outcome payers.
1.4.1	2.1.4	Santarem: OBF facility design	Design OBF facility with Cargill grain terminal as outcome payer, paying CITA brigade structures for verified outcomes.

Primary output	Secondary outputs	Activity	Description
Scenario 2: $100M Fund. All Scenario 1 activities carried forward, plus additional activities below			
1.4.1	2.1.4	Robore: OBF Year 2 payments and scale-up	Year 2 outcome payments to attract corporate co-payers. Verification report is the commercial trigger.
1.4.1	2.1.4	Parametric insurance expansion to Robore	Extend parametric insurance Products 1 and 2 to Robore following Corumba pilot.
1.4.2	1.1.2, 1.2.3, 1.4.1, 2.1.4	FI Component Management and Staffing (4 full-time staff)	Core FI team scaled to 4 full-time staff to manage the expanded portfolio. Incremental cost above the 2-staff Scenario 1 base.
1.4.2	1.1.2, 1.2.3, 1.4.1, 2.1.4	Cross-Cutting Legal and Structuring Functions (at scale)	Legal templates, safeguard consultations, and cross-instrument structuring at full portfolio scale.
S4, Obj 1		Monitoring, Evaluation, and Learning (full evaluation)	Full independent evaluation of the financial innovation component: verifies instrument outcomes, assesses causality, and produces the evidence base for scaling decisions and funder reporting.

2.6 Gap and Risks

Risk / Gap	Nature	Mitigation
jREDD fire module rejected by state governments	Political	Active municipal level support for a fire-approach
Moral hazard in parametric insurance (intentional fires to trigger payouts)	Design	Layer parametric with OBF and credit access. Direct payouts to brigades, not individuals. Community-based premium pools create social policing. Trigger design distinguishes uncontrolled fire from managed burns.
Land tenure gaps blocking credit access	Legal	CAR (Rural Environmental Registry) used as proxy in Brazil. Community certification letters accepted in lieu of formal title (Peru model). Municipal-level recognition of communal territories sufficient for most instruments.
Outcome payers not identified before OBF design	Sequencing	Fund serves as anchor outcome payer in Roboré. OBF site selection criteria include presence of willing outcome payers. Potential value chain actors identified in initial assessment.
LIFT too early-stage for private instruments	Readiness	LIFT intentionally scoped as institution-building in Phase 1. Year 3 readiness assessment determines Phase 2 instrument entry point. Provides the floor case for the experimental comparison.
Climate variability making fire outcomes unpredictable	Measurement	Statistical matching to comparison municipalities isolates intervention effect from climate variation. LiDAR and AI risk modeling tracks fires missed by satellites. Multiple years of data before OBF contracts finalized.

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