

ENTREPRENEURIAL ECOSYSTEMS IN RIVERINE ECONOMIES UNDER SEASONAL DISRUPTION: A MULTI-SITED STUDY OF MARAJÓ ISLAND (PARÁ, BRAZIL)

INTRODUCTION

Entrepreneurial ecosystem research explains regional variation in entrepreneurship by analysing how place-based configurations of actors, institutions, intermediaries, and enabling infrastructures shape venture entry, survival, and growth. Much of the evidence, however, comes from well-connected regions where mobility, basic services, and finance are relatively reliable. This concentration limits what ecosystem research can explain about regions where exchange is recurrently disrupted.

Riverine and island economies highlight the issue. Seasonal hydrological variability, long travel times, and dependence on ports and waterways generate routine interruptions in transport, electricity, digital connectivity, and public administration. For producer households and small firms, these discontinuities impose time-to-market constraints, spoilage and inventory risks, search costs, and payment uncertainty. They also shape the feasibility of formalisation, scaling, and upgrading through basic processing, storage, packaging, or compliance with buyer and procurement requirements.

This extended abstract proposes a mechanism-based, municipality-comparative study of entrepreneurial ecosystem functioning on Marajó Island in northern Brazil, a large fluvio-estuarine territory at the mouth of the Amazon River in Pará. Marajó combines pronounced seasonal dynamics with persistent deficits in infrastructure reliability and service provision. Existing research documents diverse resource-based livelihoods and locally embedded value chains, alongside indications of substantial value leakage and reliance on public transfers and administrative employment.

Three literatures are particularly relevant: studies of mobility and service deficits; work on sector specific value chains, especially extractive and agri food activities; and analyses of governance, participation, public procurement, and inclusion-oriented financial initiatives. An entrepreneurial ecosystem perspective can integrate these strands, yet ecosystem research has

rarely been designed to treat seasonal disruption and informality as core, comparable features of ecosystem functioning.

Four gaps motivate the study. First, much work remains locality-specific; integrated mapping of actors, intermediaries, and market channels across municipalities is rare. Second, infrastructural scarcity is often described but not translated into entrepreneurship-relevant mechanisms that can be traced across sites. Third, governance arrangements are frequently analysed, but their empirical linkage to enterprise outcomes and resilience is seldom operationalised. Fourth, comparative evidence is limited on how intermediation and liquidity infrastructures shape upgrading trajectories and local value retention under seasonal cashflow volatility.

The study contributes a mechanism to the explanation of the outcome of entrepreneurial ecosystem functioning under seasonal disruption. It integrates ecosystem mapping with value chain reconstruction and specifies three focal mechanisms, transaction frictions, liquidity and cashflow constraints, and coordination capacity, through which infrastructure unreliability and hybrid governance influence outcomes such as entry, upgrading, value retention, and resilience. The municipality comparative design is intended to generate transferable insights for ecosystem research and place-based policy in peripheral, climate-exposed regions.

RESEARCH QUESTIONS

The main research question is: How do environmental vulnerability, infrastructure conditions, and hybrid governance jointly shape the structure, inclusiveness, and resilience of an entrepreneurial ecosystem in a riverine economy?

Four subsidiary questions guide the empirical analysis:

1. Which actors, intermediaries, and market channels constitute the entrepreneurial ecosystem, and how do these configurations vary across municipalities?
2. How are opportunity structures and value chains organised in core livelihood domains, where do bottlenecks and upgrading opportunities emerge, and how do these relate to local value retention or leakage?
3. Through which mechanisms do mobility and basic services influence entrepreneurial outcomes such as entry, time to market, market reach, formalisation, and scaling potential?

4. How do governance arrangements and intermediary and liquidity infrastructures affect coordination capacity, inclusion, conflict handling, and resilience to seasonal and climate related shocks?

THEORETICAL FRAMEWORK

The study adopts an entrepreneurial ecosystem lens with clear territorial boundaries and an emphasis on observable exchange relations rather than static inventories of actors. Ecosystem functioning is conceptualised as the patterned organisation of market access, brokerage, and coordination under constraint. Three mechanisms link seasonal disruption and institutional arrangements to outcomes.

Transaction frictions capture the time and cost burdens required to access inputs and buyers. In riverine settings, frictions are shaped by variability in travel time, seasonal interruptions, port congestion, and limited storage or preservation capacity. These factors influence market reach, the viability of perishable products, and the feasibility of meeting quality and timing requirements that enable higher value capture.

Liquidity and cashflow constraints refer to delays and limits in payments, savings, and credit that affect working capital and reinvestment. Seasonal discontinuities can amplify liquidity constraints through irregular income streams, delayed settlement practices along value chains, and limited access to formal financial services. Public transfers, public procurement, and inclusion oriented credit initiatives may stabilise liquidity for some actors, yet access may be mediated by local institutional interfaces and intermediaries.

Coordination capacity refers to the ability of actors and intermediaries to share information, organise collective action, and manage routine disputes. Under high uncertainty and limited formal enforcement, coordination infrastructures, associations, cooperatives, producer groups, and community organisations, may reduce risks through joint transport, collective bargaining, shared storage, and problem solving. At the same time, coordination can reproduce exclusion when membership rules and brokerage power concentrate benefits and restrict access to services or markets.

Outcomes are defined in line with regional development concerns: enterprise entry including informal activity, constraint adapted upgrading as incremental improvements such as basic processing, packaging, preservation, collective logistics, or compliance with procurement

requirements, local value retention versus leakage, and resilience understood as continuity of exchange and income generation under seasonal disruption.

RESEARCH DESIGN AND METHODS

A multi sited comparative design is implemented across three municipalities on Marajó Island: Soure, Breves, and Afuá. The sites share the broader riverine economy but differ in accessibility and intermediary density. Soure offers comparatively straightforward access from Belém and is expected to provide clearer visibility of service related activities and municipal interfaces. Breves is a principal urban node in the regional river network and is suited to examining denser brokerage structures and differentiated intermediary roles. Afuá serves as a contrast case in which river based mobility and seasonal disruption are especially pronounced, sharpening inference on how reliability constraints shape market access and coordination.

The study combines qualitative ecosystem reconstruction with a concise set of municipality level indicators for contextualisation. Primary data comprise approximately 45 to 60 semi structured interviews, about 15 to 20 per municipality, with entrepreneurs and producer households formal and informal, trading and transport intermediaries, representatives of associations or cooperatives, and relevant municipal actors. Sampling is purposive and guided by ecosystem functions: market access, logistics, coordination and collective action, and liquidity and exchange.

A central technique is transaction reconstruction interviewing, in which respondents describe ordinary transactions step by step from production or collection to transport, sale, and payment. This approach identifies where delays, costs, and risks arise; which intermediaries resolve them; and how value is distributed across actors. Focused structured observation is conducted in local markets and transport interfaces such as ports and landing points to document routines, bottlenecks, brokerage interactions, and coordination practices. Secondary indicators drawn primarily from IBGE support contextual profiles of each municipality, focusing on accessibility and mobility proxies, service reliability and connectivity conditions, and sectoral structure.

Ethical procedures address the risks of indirect identification in small communities. Participation is voluntary and based on informed consent; early pseudonymisation and data minimisation are applied; and non anonymised data are securely stored with restricted access.

COMPARATIVE ANALYSIS APPROACH

Analysis proceeds in two steps. First, within each municipality, a case reconstruction links ecosystem configuration, actors, intermediaries, institutional interfaces, and market channels, to the three mechanisms and to observed outcome patterns. Case outputs include an ecosystem map, a focused value chain reconstruction in a locally salient livelihood domain, and a mechanism profile describing transaction frictions, liquidity constraints, and coordination capacity.

Second, cross-site comparison uses structured matrices to identify mechanisms to outcome patterns across Soure, Breves, and Afuá. The comparison assesses whether differences in ecosystem configuration and constraint environments correspond to differences in outcomes such as upgrading feasibility, inclusiveness, and value retention. Particular attention is paid to trade-offs: intermediation may lower search costs and enable market access, yet increase value leakage when surplus is captured by external buyers or dominant brokers; inclusive liquidity instruments may stabilise exchange, yet their reach may remain limited to groups that can navigate institutional interfaces.

EXPECTED IMPLICATIONS

The study is designed to clarify how seasonal disruption becomes consequential for entrepreneurship through observable mechanisms. It is expected to identify which combinations of ecosystem configuration and institutional arrangements reduce transaction frictions, stabilise liquidity, and strengthen coordination capacity, and under what conditions the same arrangements reinforce exclusion or value leakage. By operationalising infrastructure reliability and governance through mechanism tracing, the project advances ecosystem research beyond inventories of elements toward explanations that link constraints and intermediation to entrepreneurial outcomes under volatility.

For regional policy, the study aims to identify leverage points for strengthening locally anchored value creation in riverine economies. Potential leverage points include investments

that reduce time to market and spoilage risk, for example storage, preservation, and transport reliability; institutional interfaces that expand market access without reinforcing exclusion, for example procurement and compliance support; and liquidity arrangements that buffer seasonal cashflow volatility while maintaining broad accessibility. The comparative evidence base is intended to inform the design of intermediary infrastructures that support inclusion and resilience rather than deepen dependency on extractive brokerage. It also informs climate adaptation policy.