Grounding coffee value in territory: Localised agro-food systems and the implementation of geographical indication in the global South

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Abstract

Geographical indication (GI) identifies a good as originating in a particular territory where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographical origin. GI protects origin-specified products and has been recognised as a mechanism for food system relocalisation and revitalisation. The rapid expansion of GI in recent years in the global South has drawn the interest of scholars of rural economic development, yet there has been a dearth of scholarship considering the role of territory in creating, managing, and marketing such standards. In contrast, we address global South GI through application of a localised agro-food systems (LAFS) approach, which addresses the interrelationship between identity-based foods and the territory. In this article, we examine how territorially exogenous and endogenous dynamics shape local dynamics of GI implementation and the capacity of GI to reinforce and sustain elements of a LAFS. Using a case study approach, we explore GI for coffee grown on the Galápagos Islands in Ecuador and analyse how territorial resources are mobilised through GI. We demonstrate that the Galápagos coffee sector exhibits elements of a LAFS, including a distinct coffee heritage and potential for collective action in production and commercialisation. However, intellectual property laws, agro-export policy priorities, institutional dysfunction, and lack of local cooperation impeded the mobilisation of territorial resources. Our case study demonstrates the analytical purchase gained from examining the role of territory for tropical commodity sectors characterised by territorial disembeddedness, complementing and extending critical scholarship on global South GI.

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Introduction

Geographical indication (GI) identifies a good as originating in a particular territory where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographical origin.[1] While GI primarily protects origin-specified products (Fournier, 2008), it has been recognised as a mechanism for food system relocalisation and revitalisation (Chabrol et al., 2017; Ilbery and Kneafsey, 2000; Mancini, 2013a). The rapid expansion of GI in recent years in the global South has drawn the interest of scholars of rural economic development, many of whom have challenged the efficacy and appropriateness of GI in these areas (see e.g., Besky, 2013; Bowen, 2015; Neilson et al., 2018). Yet while the value of GI is grounded in *territory* (Casabianca et al., 2006), there has been a dearth of scholarship considering the role of territory in creating, managing, and marketing such standards in the global South (except see e.g., Fournier, 2008; Mancini, 2013b; Pachoud et al., 2019).

In contrast, we address global South GI through application of a localised agro-food systems (LAFS) approach, which examines 'the interrelationship between identity-based foods and the territory' (Sanz-Cañada and Muchnik, 2016: 2). GI and LAFS are seen as mutually reinforcing: GI can institutionalise existing territorial elements (e.g., natural heritage, cultural heritage, networks) and strengthen territorialised identity and collective action (Bowen and Mutersbaugh, 2014; Fournier, 2008; Sanz-Cañada and Muchnik, 2016). Yet dynamics exogenous to the territory of GI also shape the mobilisation of territorial resources (Fournier et al., 2018), especially state institutions and legislation (Mancini, 2013b; Marie-Vivien et al., 2019). Inadequate and misaligned legal frameworks, institutions, and policies are frequently cited as impediments to the success of global South GIs (Barjolle et al., 2017; Bowen, 2010; Mancini, 2013a). In this article, we examine how these factors shape local dynamics of GI implementation and the capacity of GI to reinforce and sustain elements of a LAFS.

We use a case study approach (Feagin et al., 1991) to explore GI for coffee grown on the Galápagos Islands in Ecuador. Our analysis addresses territorially exogenous and endogenous dynamics to explain how territorial resources (natural and cultural heritage and socio-economic networks) are mobilised through GI (Fournier, 2008; Fournier et al., 2018; Sanz-Cañada and Muchnik, 2016). We demonstrate that the Galápagos coffee sector exhibits elements of a LAFS, in particular, a distinct coffee heritage and potential for collective action in production and commercialisation. However, Ecuador's intellectual property laws, agro-export policy priorities, and institutional dysfunction impeded the mobilisation of territorial resources, dynamics that were exacerbated by the lack of local cooperation concerning specification, commercialisation, and regulation. Our case study demonstrates the analytical purchase gained from examining the role of territory for tropical commodity sectors like coffee that are characterised by territorial disembeddedness (Daviron and Ponte, 2005). Further, our attention to the construction and mobilisation of territorial resources complements and extends critical scholarship on global South GI, which has tended to focus on supply chains and state capacity (e.g., Bowen, 2015; Mancini, 2013a; Neilson et al., 2018).

Background: Addressing tropical commodity GI through a territorial lens

Two interrelated factors explain the dearth of attention to territory in studies of global South GI. First, like initiatives such as fairtrade (Jaffee, 2014; Raynolds, 2012), GI can be adopted for value chain upgrading and export competitiveness (Chabrol et al., 2017; Nizam, 2017; Sautier et al., 2011), with principal markets in the global North (Besky, 2013; Bowen, 2015).[2] Second, scholars have consequently applied analytical frameworks

[1] This definition, drawn from the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), is accepted as an umbrella term for origin labels used in the marketing of agricultural products, agrifoods, and artisanal goods. Prominent examples include the French **appellations d'origine contrôlée** (AOC) and the European Union Protected Designations of Origin (PDO) and Protected Geographical Indications (PGI).

[2] Accessing foreign markets is usually the central motivation for global South states and producers to establish GIs, yet domestic markets may also be a consideration (see e.g., Hamrick et al., 2024; Mancini, 2013b).

that address power relations in the passage of goods from local to global (Bowen, 2010). Thus, it is common to use global value chain (GVC) analysis to highlight *coordination* at nodes where value is added and *governance* of benefits distribution along a chain (Gibbon and Ponte, 2008; Kaplinsky, 2000). Yet this downplays territorially grounded social relations in favour of attention to producer-consumer economic relations (Bowen and Mutersbaugh, 2014: 204).[3]

In contrast, the LAFS framework jointly addresses sectoral and territorial dynamics (Muchnik et al., 2007).[4] A LAFS is defined by the "spatial concentration of a diffused entrepreneurial and institutional mesh [of production, distribution, and services] ... located in one single territory" (Sanz-Cañada and Muchnik, 2016: 2).[5] In the LAFS literature, territory is a multidimensional category, comprised of localised and interlinked material, conceptual, social, and organisational factors that shape local food identity and social relations (Bowen and Mutersbaugh, 2014; Mascarenhas and Touzard, 2018; Muchnik et al., 2007). The concept is useful analytically to assess the degree of territorial concentration and/or dispersion present in diverse aspects of food systems (Boucher and Brun, 2010; Mancini et al., 2019), or to evaluate policies and tools intended to enhance local food resources (Mascarenhas and Touzard, 2018; Sanz-Cañada and Muchnik, 2016).

GI is one mechanism to foster the relationships among people, territory, and food that defines a LAFS (Sanz-Cañada and Muchnik, 2016),[6] which can be strengthened through formalised collective action dynamics and territorial boundaries (Fournier, 2008; Fournier et al., 2018). The territorial embeddedness of GI encourages its application to counter the 'placelessness' of conventional agro-foods (Ilbery and Kneafsey, 2000; Mancini, 2013a), offering consumers a guarantee of origin and quality that incentivises producers to preserve traditional methods and qualities (Barham, 2003; Carimentrand et al., 2019). Further, proponents argue that GI can support economic development and diversification, empower producers through collective action, and preserve agrobiodiversity, knowledge, and rural cultures (Barham and Sylvander, 2011; Barjolle et al., 2017; Chabrol et al., 2017; Mariani et al., 2019; Marie-Vivien, 2008; Teuber, 2010).

Nonetheless, GI does not necessarily reinforce territorial development, which may be deemphasised in favour of increased production and sales (Durand and Fournier, 2017; Fournier et al., 2018). Embedding (or 'anchoring') a LAFS requires stakeholders to pursue collective action strategies and deepen the ties between food and the territory (Sanz-Cañada and Muchnik, 2016). For LAFS scholars, the *terroir* concept serves as an analytical tool for assessing the territorial embeddedness of GI systems (Mancini, 2013b; Sanz-Cañada and Muchnik, 2016). *Terroir* describes an irreproducible and inalienable linkage among territorialised environmental features, cultural traditions, and agrifood character (Casabianca et al., 2006). *Territory*, relatedly, can be understood as a form of coordination through which local resources (e.g., environmental, human, agricultural) are brought together to construct a spatially and socially specific product identity, which can become the basis of value creation (Leloup et al., 2005; Sanz-Cañada and Muchnik, 2016). GI, then, can be a mechanism for transforming the space of *terroir* into a territory (Fournier et al., 2018).

Scholars have used the LAFS approach to examine territorially exogenous and endogenous dynamics that shape the success of GI initiatives. State institutions and laws can support the development of territorial elements and collective action (Mancini, 2013b; Marie-Vivien et al., 2019), which are likewise shaped by consumer engagement and competition from non-local producers (Barrionuevo et al., 2019; Mariani et al.,

[3] For a full review of the distinctions between addressing alternative food networks and food localisation using the LAFS approach or the GVC approach, see Bowen and Mutersbaugh (2014).

[4] We are grateful to an anonymous reviewer for clarifying this point.

[5] The concept, coined in French as **Systèmes agroalimentaires localisés** (SYAL), was developed in the 1990s by researchers from the French Agricultural Research Centre for International Development (CIRAD).

[6] The potential synergy between GI and territorial embeddedness has been explored through other lenses, such as the Institutional Analysis and Development (IAD) framework, which emphasises territorial collective action dynamics (Quiñones Ruiz et al., 2020; Quiñones-Ruiz et al., 2015), and the conventions theory framework, which addresses coordination (Barham, 2003; Oledinma and Roper, 2021).

2019; Sgroi and Modica, 2022). Also crucial is the social construction of food quality and local identity through the definition of GI product specifications, a process that can spur internal controversies over aspects such as the production area (Boga et al., 2023; Hegnes, 2019) and trade-offs between innovation and tradition (Aspoy, 2019; Mancini et al., 2019; Mariani et al., 2019; Millet, 2019). Finally, GI can institutionalise collective action through the creation of formal organisational structures, which may reduce internal competitive dynamics and facilitate producer cooperation in production and marketing (Fournier, 2008; Fournier et al., 2018; Sanz-Cañada and Muchnik, 2016). GI initiatives may also provide networks for research, mutual learning, and advising that support collective territorial identification (Cerdan et al., 2018; Chiffoleau and Touzard, 2014; Mariani et al., 2019), but these dynamics are shaped by structural factors such as public policy and organisational governance (Crespo et al., 2014; Mariani et al., 2019; Pachoud, 2019).

However, with few exceptions, the literature on LAFS and GI has emerged from analysis of European cases, with little analysis of the effectiveness of emerging GI initiatives in the global South.[7] This geographical limitation is compounded by a categorical focus on highly processed goods such as wines and cheeses (see e.g., Barrionuevo et al., 2019; Boucher and Brun, 2010; Cerdan et al., 2018; Crespo et al., 2014; Mancini, 2013b; Pachoud, 2019), which largely ignores commodity goods (except see Fournier, 2008). We tackle this empirical gap by addressing a global South coffee GI. Coffee is an important cash crop, yet economic benefits for growing regions are limited by power imbalances in the global market (Daviron and Ponte, 2005). GI has been proposed as a mechanism for rebalancing coffee markets (see e.g., FAO, 2016), following the example of alternative strategies such as fairtrade (Jaffee, 2014; Raynolds, 2012) and growth in speciality and single-origin coffee (Daviron and Ponte, 2005; Fischer et al., 2020). Coffee GIs have been established recently in Colombia, Honduras, Indonesia, Vietnam, Guinea, Kenya, and Ethiopia (Chabrol et al., 2017; Nizam, 2017; Sautier et al., 2011; Teuber, 2010), among others. Researchers have pointed to perennial challenges such as producer organisation, institutional capacity, supply chain structures, and consumer ignorance (Barjolle et al., 2017; Neilson et al., 2018; Teuber, 2010), which may shape coffee GI towards conventional quality standards rather than local identity (Galtier et al., 2013). Yet the analytical focus of this research on value chain dynamics and government activity limits a fuller exploration of the role of territory.

In this article, we apply a territorial lens to explore the application of GI in the Galápagos Islands coffee sector. Understanding *territory* as a form of coordination of local resources to construct a spatially and socially specific product identity (Leloup et al., 2005; Sanz-Cañada and Muchnik, 2016), we examine the constitution of those resources and their institutionalisation under a GI framework. We address first the natural heritage, cultural heritage, and socio-economic networks of the Galápagos coffee sector, which LAFS scholars have identified as causally relevant factors for the embeddedness (or 'anchorage') of food (Sanz-Cañada and Muchnik, 2016). We then analyse territorially exogenous and endogenous dynamics that shape how these resources are mobilised through GI (Fournier, 2008; Fournier et al., 2018). In particular, we argue that Ecuador's legal and policy frameworks for GI ultimately impeded, rather than enabled, the institutionalisation of local collective action dynamics.

Research Design

This article emerged from the integration of data and findings from the authors' respective ethnographic case studies (Feagin et al., 1991), addressing GI law, development policy, implementation, and socio-economic outcomes in Ecuador. From 2019 to 2023, the authors separately collected interview, observational, and documentary data during fieldwork in various locales in Ecuador and in the Galápagos Islands. The primary data are 57 semi-structured interviews with GI coffee stakeholders, including producers, policymakers, ministry officials, and consultants and technical advisors. Throughout data collection, we maintained careful contemporaneous fieldnotes and interview recordings, in order to collect rich data and support the

[7] This gap is even more surprising given that the LAFS approach was developed by French researchers working on food systems in developing contexts such as Latin America and Francophone Africa (Bowen and Mutersbaugh, 2014; Mascarenhas and Touzard, 2018).

descriptive validity of our findings (Maxwell, 1996). We coded and analysed primary data using a constructivist grounded theory approach, which allowed us to maintain reflexivity regarding how our personal experience and research backgrounds shaped the processes of data collection and analysis (Charmaz, 2006).

We selected the Galápagos Islands coffee sector because it represents an extreme case for study (Seawright and Gerring, 2008). Producers here share the challenges of coffee production and marketing across the global South, including:

- Increased intermediary power since the decline of the International Coffee Agreement (Talbot, 2004)
- Prevalence of globally defined quality norms and standards, including physical and organoleptic aspects (e.g., Specialty Coffee Association) or values-based aspects (e.g., Fairtrade International, USDA Organic) (Ponte, 2004; Raynolds, 2012)
- Threat of pests such as leaf rust and borer beetle (McCook, 2019).

However, other less common dynamics distinguish the Galápagos case. The islands are renowned for endemic biodiversity and scientific research, and the presence of a strong tourist market offers the potential for local producers to exploit symbolic marketing, in-person service quality, and synergies with the tourism sector. Indeed, the popularity of Galápagos induces actors to smuggle and repackage cheaper, non-local coffee, threatening the viability of local growers. While the representativeness of this case is limited (Seawright and Gerring, 2008), it highlights the importance of territorial factors in the creation and management of a coffee GI.

Findings: Factors of territorial embeddedness for Galápagos Islands coffee

Prior studies have shown how GI can reinforce pre-existing elements of a LAFS (Fournier, 2008). In this section, we underline elements of natural heritage, cultural heritage, and socio-economic networks in the Galápagos Islands that underline territorially embedded coffee identity (Fournier, 2008; Sanz-Cañada and Muchnik, 2016).

Natural heritage factors of territorial embeddedness

The natural heritage of a LAFS concerns elements of the physical environment: climate, soils, and ecosystems (Sanz-Cañada and Muchnik, 2016). In the Galápagos Islands, these elements contribute to the distinction of locally grown coffee. First, the species *Coffea arabica* typically requires cultivation at 1200–1800 metres above sea level, where climatic conditions allow for the bean's slow maturation and flavour development (Lambot et al., 2017). Yet on the Galápagos Islands, such coffee can be cultivated at lower altitudes than almost any other region (300–450 metres).[8] Galápagos locals and scientists relate that a one-metre increase in island elevation is equivalent to a four-metre increase on the mainland, which derives from the archipelago's geography. It sits at the confluence of cold, warm, and deep currents in the Pacific Ocean, which generate rapid transitions between ecoclimatic zones: hot, dry coastal areas; mid-altitude transition zones; and cool, humid highlands (see Fig. 1).

Second, soil is a key element of the *terroir* of origin goods (Barham, 2003; Lambot et al., 2017). The soils of Galápagos are young and volcanic; in particular, the primary coffee-growing islands (Santa Cruz and San Cristóbal, see Fig. 1) are only 1.7–3.2 million years old. The process of breaking down volcanic rock into organic soil is ongoing, which shapes coffee production; for instance, on Santa Cruz, coffee cannot generally be planted neatly in rows but rather irregularly spaced in available gaps between large rocks. These young soils provide a rich source of mineral and organic matter for productivity. Further, they influence Galápagos coffee's distinctive flavour: strongly metallic and pleasantly bitter with proper processing.

[8] Similar microclimatological effects are present in the region of Jipijapa, Ecuador, with slightly higher cultivation altitude (450–530 metres).

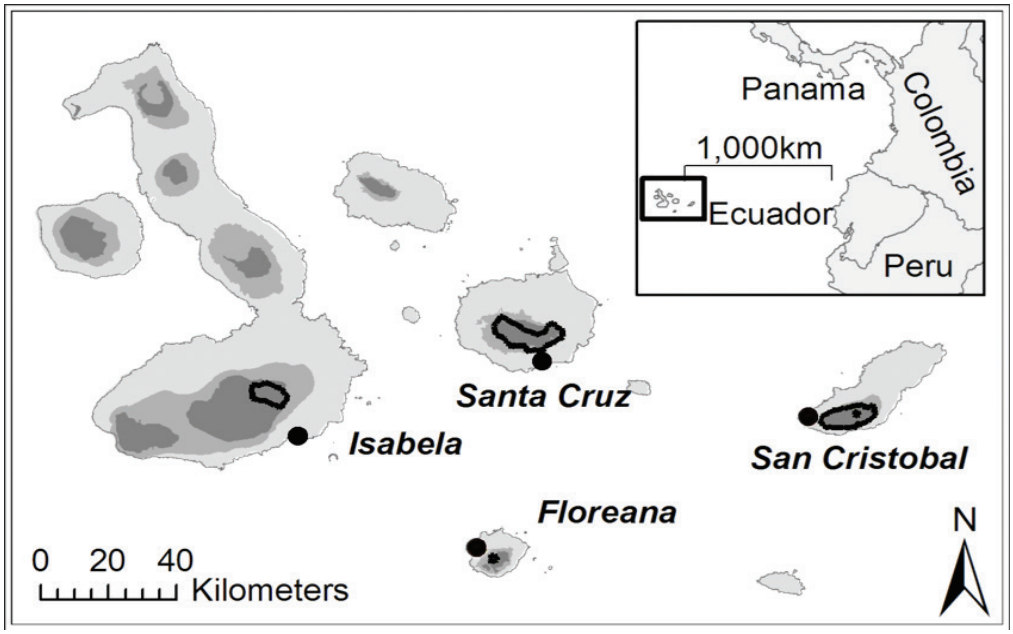

Fig. 1. Location map of Galápagos. Broad climatic zones are shown (light: arid, medium: transition, dark: humid). The four permanently inhabited islands are labelled. Inhabited areas are shown within lines (rural) and as points (urban).

Source: Guezou et al. (2010)

Third, the ecosystems of the Galápagos Islands are the source of their worldwide fame and attraction for tourists. The islands are popularly associated with Charles Darwin, and his voyage on *The Beagle* and brief exposure to the islands' unique ecosystems are credited – perhaps apocryphally – with inspiring his theory of natural selection. Concerning biodiversity, the islands are recognised for high rates of endemism (species that are exclusive to the region), with prominent examples such as marine iguanas, flightless cormorants, finches, and the giant tortoises from which the islands derive their name. In recognition of its unique status in natural history, the archipelago was declared a UNESCO World Natural Heritage Site in 1978. Further, the islands and the surrounding marine waters are protected as the Galápagos National Park and Galápagos Marine Reserve. The association with Darwin, natural history, and scientific conservation represents a symbolic resource for forging a distinctive local food identity.

Cultural heritage factors of territorial embeddedness

The cultural heritage of a LAFS is closely linked to natural heritage through *terroir*, represented by adaptation of practices and productive varieties to the physical environment and the development of traditions and know-how (Sanz-Cañada and Muchnik, 2016). In this regard, it must be noted that coffee has been part of the human history of Galápagos since settlement began in the 19th century. The earliest settlements were sugar and coffee plantations, and island lore suggests that coffee was introduced by a plantation owner who obtained Bourbon coffee beans from French Caribbean colonies, eventually bringing an estimated 100,000 plants into production (Latorre, 1991). The islands' extant coffee farms are argued to trace their genetic roots to these original beans; studies conducted by Ecuador's agricultural ministry have even employed phenotyping to suggest that Galápagos coffee represents a genetically distinct variety due to the evolutionary pressure of the islands (MAG, 2015).

After plantation agriculture fell into decline in the early 20th century, coffee was taken up by smallholder producers, including former plantation labourers and settlers from Europe, North America, and the Ecuadorian mainland (Grenier, 2000). Current coffee producers inherited their lands, practices, and varietals from these forebears. Coffee plantations occupy one-third of farmland (700 hectares) on the islands, the second largest component of rural land use after pasturage (Puente-Rodríguez et al., 2019). The average coffee farm today is 2–6 hectares,[9] and there is scant adoption of industry-standard practices for fertilisation, shade management, and pruning, largely due to high labour costs. Production practices can be idiosyncratic; for instance, around

[9] The exception is Hacienda El Cafetal, a 250-hectare farm on the site of the original plantation where coffee was introduced in the 1800s.

60% of producers use fresh water to wet-process their coffee, while the remainder use more readily available brackish water from local grottos (MAG, 2015). Likewise, an agricultural survey recorded six means of drying coffee, including under a canopy, on the beach, or directly on the ground (MAG, 2015). These traditions do not generally conform with the best practices for coffee production, although they represent adaptation to the territory's constraints. For example, the use of brackish water is common for a wide variety of household uses on Galápagos (e.g., washing dishes, showering, cleaning), while fresh water is generally reserved for human consumption.

Producers are likewise heterogeneous. The agriculture survey referenced above recorded producer demographics, income, and production practices (MAG, 2015). Based on these data and our own fieldwork, there are three broad types of coffee producers across the islands. The first category includes those for whom coffee represents a connection to family heritage but does not generate much income. The second category includes those who derive primary income from coffee but lack financial resources to modernise production. Most producers in these categories do not harvest or process coffee, selling their crop lump sum to intermediaries. Many such producers hope for more competitive intermediary markets, higher prices, and investment to modernise production practices.

Producers in the third category are generally younger and better educated. They view coffee as a lucrative business venture, yet for most, coffee income is secondary to tourism or government work. Nevertheless, producers in this group are interested in innovation and added-value opportunities, with plans to exploit the potential of 'third wave' coffee (Fischer et al., 2020) production through social media marketing, value-added labels (e.g., USDA Organic), or contracts with speciality traders. They have also experimented with different final products to better dispose of their coffee, such as coffee liqueurs and espresso. Local coffee shops, inspired by the global popularity of barista culture, have innovated their offerings: not just a range of espresso drinks (cappuccino, caffè latte, espresso martinis), but also techniques and instruments for preparing brewed coffee (e.g., V60, Chemex, AeroPress). Another effort, a 'coffee route' proposed by the tourism ministry, would engage the growing number of on-island tourists through tours and tastings from local farms. While these initiatives are incipient, they suggest an increasing recognition among locals, tour operators, and tourists of the quality and unique character of Galápagos coffee, pointing to the potential for territorially rooted identity.

Socio-economic networks and territorial embeddedness

Socio-economic networks can include economic ties, regulators, associations, and agencies that emerge to support the valorisation of the territorially specific identity of agro-food (Sanz-Cañada and Muchnik, 2016). Considering local market power, Galápagos coffee producers face significant challenges. Many producers characterise agriculture as the 'little brother' of the tourism sector, the latter of which accounts for two-thirds of recent economic growth (Taylor et al., 2009) and exercises significant economic and political power. This growth of tourism has tightened the local labour market, leading to a decline in the percentage of the island population working in agriculture from 16% in 1980 to a current figure of 6% (Puente-Rodríguez et al., 2019). High labour costs and increased competition from mainland coffee have made profitability a chronic challenge for local producers (Chiriboga et al., 2007).

Total annual coffee production is around 200 tons (MAG, 2015), 98% of which is sold unroasted to intermediaries (around $3/pound), while only 2% is packaged for sale in local souvenir shops (around $15–20/pound). The main markets for Galápagos coffee are:

Traditional buyers. Purchase through lump sum contracts. Concerned with volume over quality. Integrated into value chains for speciality, blended, and instant coffee.
New entrants. Purchase small lots of the highest scoring speciality coffee for large chains such as Starbucks. More active in offering technical assessment.
Local markets. Supermarkets and speciality shops that buy green or roasted and ground coffee, as well

as 'buy local' fairs organised by community groups.
Hospitality. Restaurants and hotels generally prefer imported coffee from conventional chains.
Souvenir shops. Some sell genuine local coffee, but much of what is branded 'Galápagos coffee' is repackaged mainland coffee, with mark-ups reported as high as 600%.
Direct sales. Several producers have tried direct internet sales internationally, but report difficulties with customs enforcement.

In sum, existing socio-economic networks provide limited outlets for coffee and actively facilitate the misappropriation of local identity. Even so, the interest of new intermediaries indicates growing recognition of Galápagos coffee's distinctive territorial identity. Likewise, the emergence of local markets, some self-organised by producers, demonstrates the potential for collective action to strengthen the LAFS. Finally, even the issue of coffee smuggling suggests that the association with Galápagos can develop markets, yet in this circumstance free-riding and usurpation must be controlled through regulatory mechanisms like GI.

Findings: Mobilising territorial resources through GI

Having outlined the elements of a LAFS that could have been reinforced through GI (Fournier, 2008; Sanz-Cañada and Muchnik, 2016), in this section we analyse territorially exogenous and endogenous dynamics that shaped the mobilisation of territorial resources (Fournier, 2008; Fournier et al., 2018). We argue that Ecuador's legal and policy frameworks for GI did not adequately consider the constraints on collective action among Galápagos coffee producers, resulting in failure to achieve consensus in the construction of production specifications and a deficit of collective self-regulation.

Territorially exogenous elements: GI law and agro-export policy in Ecuador

Dynamics external to the territory of a LAFS can shape internal interactions (Fournier et al., 2018). For GI, the broader policy and legislative context is crucial to the effective and equitable mobilisation of LAFS resources (Mancini, 2013a, 2013b; Marie-Vivien et al., 2019). In this section, we examine Ecuador's legal and policy frameworks and their relevance to GI implementation and regulation.

Ecuador's GI laws have been shaped by international agreements. As Ecuador is a member nation of the World Trade Organization, it is subject to the definition of GI in TRIPS. However, as TRIPS allows member nations to regulate GI as they see fit, in practice it does not have an impact on Ecuador's laws. In contrast, as a member of the Andean Community of Nations,[10] Ecuador is bound by Decision 486, the language of which is reflected in its national intellectual property laws. In theory and practice, this means that Ecuadorian GIs align closely with *terroir*, in that product qualities or characteristics are considered to be *essential* or *exclusive* with regard to their places of origin.[11] As such, Ecuador's laws mirror much of what has made GI successful in European countries.[12] However, a major shortcoming is that these laws recognise GI as a category of industrial property akin to trademarks. This limits the ability of policymakers to affirm rural development motivations for GI projects and excludes heritage aspects, such as local know-how and history. In contrast, European GIs must take into account traditional practices, heritage, and cultural diversity, which, when considered alongside geographical factors, can provide greater rural development benefits (Barham and Sylvander, 2011).

This limitation in law is compounded by policy limitations. At the national level, Ecuadorian agricultural policy focuses on servicing primary commodity sectors that make up the bulk of the country's non-petroleum exports (World Bank, 2022). The pressure on agriculture and trade ministers to increase export revenues has been intensified in recent years due to falling global petroleum prices. In this context, value-added and

[10] Comprised of Ecuador, Colombia, Peru, and Bolivia.
[11] For this reason, the origin labels protected in Ecuador are technically 'designations of origin' (**denominaciones de origen** in Spanish), a direct translation of the French term ***appellations d'origine***.
[12] There are notable differences, however. For instance, Decision 486 establishes a 10-year limit for GI declarations, after which they must be renewed. Under European law, GI are perpetual.

quality initiatives are of secondary importance to politicians and policymakers. For instance, there is no line in the national budget dedicated to developing or supporting GI, and there are few actors in Ecuador with the requisite expertise in GI recognition, administration, and management. This lack of institutional infrastructure to monitor and control origin is common to developing countries (Neilson et al., 2018). Scientific research is also limited concerning the evidentiary basis for establishing a link between typical product character and geographical origin, an area in which Ecuadorian ministries have relied heavily on French technical assistance.[13]

While countries such as France have a single institution dedicated to GI, this has not been possible in Ecuador due to financial and legal constraints. Instead, state institutions coordinated on an ad hoc basis until 2019, when a presidential decree led to the establishment of a working group to formalise coordination. The working group's purpose was to expand GI protection, identify potential products, evaluate policy impacts, and monitor traceability. The institutional members are:

- National Intellectual Rights Service (SENADI):[14] Institution with legal authority to determine GI regulations, process applications, evaluate documentation, authorise users, and manage reciprocal recognition of third-country GIs. Poorly funded and understaffed; among 160 technicians and administrators, only 2 work on GI.
- Ministry of Agriculture (MAG): Provides technical assistance and training, establishes producer cooperatives, produces technical feasibility studies, and inspects producers for post-declaration compliance. Serves as informal liaison between SENADI and producers because its technicians are more often in the field.
- Ministry of Production, Foreign Trade, Investment, and Fisheries: Mandate to promote and facilitate GI exports. Granted leadership over the GI working group.
- National Secretary of Higher Education, Science, Technology, and Innovation: Minor role due to its purview over the development of knowledge resources and human capital.[15]

Relatedly, staff turnover at ministries has disrupted the development of a coherent, coordinated state policy regarding GI. New presidential administrations tend to replace not just political appointees, but technical and administrative personnel as well. These changes hamper any progress that has been made on GI policy. For instance, an agricultural technician related that several projects had to be started from scratch because files had been stored on the personal computers of laid-off staffers. One producer related feeling frustrated with the uncertainty these policy changes cause: 'It's not just the delay – they [the government] completely change it. They say to you, "Go over here! No, no, no! Sorry, we took that away. So over here!"' Among Galápagos producers, many had been incentivised to pursue GI because of optimistic price projections, only for sales contracts to fall through when authorisations of use were not issued.

Territorially endogenous elements: Institutionalising collective action through GI

In order to mobilise the territorial resources of a LAFS, local actors must come to see greater benefit in cooperation than in pure competitive dynamics (Fournier et al., 2018). This can occur through simple geographical proximity, but can also be constructed and reinforced through organised interactions (Fournier, 2008; Fournier et al., 2018). For GI initiatives, two relevant aspects of collective action have been identified in the literature: the collective definition of product specifications (Aspoy, 2019; Mancini et al., 2019; Mariani et al., 2019), and the creation of formal organisational structures for cooperative commercialisation and regulatory oversight (Chiffoleau and Touzard, 2014; Pachoud et al., 2019). In the case of the Galápagos coffee

[13] For instance, the specifications for the Cacao Arriba GI did not consider the geographical location from which the product originates. Any producer within the territory of Ecuador can be authorised to use the GI if they follow the production specifications. Because each region's geography is distinct, the final product will be non-uniform in organoleptic character.

[14] Prior to 2018, SENADI was called the Ecuadorian Institute of Intellectual Property, although for clarity we will refer to the institution as SENADI regardless of the timeframe under discussion.

[15] While these are defined as the primary governance institutions for GI in Ecuador, the decree leaves open the possibility that other institutions will be involved depending on the nature of a GI product. For instance, products that may not be successfully exported but may be valuable for tourism promotion would necessitate the involvement of the Ministry of Tourism.

GI, the construction of production specifications and the creation of a cooperative oversight structure have not reinforced the LAFS, but rather proven detrimental to the development of local social capital and the mobilisation of territorial resources (Fournier, 2008).

GI production specifications[16] outline the practices and/or product parameters necessary for a user to be authorised. For specifications to be effective, they must increase added value by signalling product differentiation based on origin; to be fair, they must allow for the equitable distribution of benefits from this added value (Galtier et al., 2013). The initial specifications for the Galápagos coffee GI were developed in 2015, an initiative led by technicians from Ecuador's agriculture ministry and a technical assistance agent from the French National Institute of Origin and Quality (INAO). Producer involvement in this effort was limited: they provided information to institutional actors through farm visits and focus groups and received technical assistance workshops on GI regulation, *terroir*, coffee best management practices, and tasting techniques (i.e., 'cupping'). Further, the logistical challenges of transport on and between islands meant that many producers were unable to participate at all.

The development of these specifications was therefore neither consensual nor producer-led, yet institutional actors argued that this was necessary to correct and standardise producers' suboptimal and heterogeneous practices. For instance, one technician justified imposing the condition of selective harvesting: 'If we had left the harvest as [producers] had always done it, the coffee that would result would taste terrible, because they had harvested green [coffee] cherries, mature, over-mature, dry cherries.' The basis for the imposition of these specifications was the notion that GI alone would not facilitate Galápagos coffee's marketability without simultaneously building a reputation for quality. Following this logic, the initial specifications were to enforce strict practices on GI users to ensure consistent quality, which included elements such as pruning, fertiliser application, water usage, fermentation timeframes, proper storage equipment, and techniques to roast and grind coffee.

At the same time, based on the recommendation of the French technical advisor, a System of Internal Control (SIC) was developed to verify producer compliance with the specifications and ensure product traceability. The Galápagos SIC was modelled on France's regulatory system to include four nested levels of verification:

1. Producer self-monitoring (through record-keeping of agronomic management practices applied and pre-declaration of anticipated yield).
2. Collective oversight (inspections conducted by a regulatory body of the producer organisation to corroborate producer records, flag inadequacies, and impose sanctions).
3. Third-party inspections of the cooperative from an external, independent auditor.
4. Systemic oversight provided by Ecuador's intellectual property service.

A province-wide producer cooperative was formed to carry out the collective oversight function.

In addition to this administrative role, the cooperative was to serve a commercial function as the liaison between producers and buyers. Such a management model is common in France, particularly for GI cheese (e.g., Comté) (Bowen, 2011). This represented an opportunity for the GI to institutionalise collective action dynamics in the Galápagos coffee LAFS (Fournier, 2008). As envisioned, GI coffee producers would deliver their harvest to a central processing centre and the cooperative would take charge of processing, packaging, and sales, leveraging economies of scale to add value and collective marketing efforts to build a territorial coffee identity. To enable this, the state and several foundations donated roasting and grinding equipment for processing facilities on Santa Cruz and San Cristóbal islands.

This model of GI regulation soon ran into major issues. At the first harvest after the declaration of the GI in 2015, inspections by the MAG revealed that no producers were in full compliance with the specifications, and

[16] **Cahier des charges** in French or **pliego de condiciones** in Spanish.

therefore no authorisations of use were granted. A period of recrimination followed during which producers blamed the government for creating overly ambitious specifications to which they had not consented. As one related in an interview: 'Some technicians came from [the capital] Quito and said, "It's necessary to do this, wash with fresh water, all the processing." They put it, not us. It came from outside.' As this producer suggests, there was a strong feeling that the original specifications were produced in a top-down, non-consultative process. In 2018, the producer cooperative sent a letter to SENADI requesting revisions to the GI specifications. These changes (see Table 1 for examples) were approved in 2019, after which an initial group of 12 producers were authorised to use the GI.

Table 1. Examples of changes made to Café de Galápagos production specifications (emphasis added)

Topic	2015 version	2019 version
Pruning	One pruning of shade trees each year	Starting in the second year of use, carry out one pruning of shade trees each cycle.
Fertilization	At least one edaphic application each year, starting in the second year of use.	Starting in the third year of use, carry out as necessary at least one edaphic application.
Selective harvesting	Harvest only mature cherries (red or yellow), not green or semi-ripe.	harvest mature cherries (red or yellow), trying not to exceed 20% semi-ripe and 3% green ... however, this will not be subject to verification of compliance.
Drying	Drying must be carried out in African beds under canopies or freely explosed to the sun. Mechanical dryers may also be used.	Drying the protected coffee can be by sun or mechanical means, through use of appropriate machinery and infrastructure.
Water use	Use fresh water throughout the process.	Use clean water with salinity between 0 and 1.8 mg/L throughout the process; however, this will not be subject to verification of compliance.

Source: The authors

While the 2015 specifications aimed to improve and standardise coffee quality by adhering to industry-wide best practices, the revised version served to codify existing practices that, in the view of producers, they had developed to accommodate the political-economic and geographic realities of Galápagos coffee production. For instance, requiring the labour-intensive process of selective harvesting could increase production costs, so the new specifications allowed for some leniency on this point. Agronomic best management practices for pruning and fertilisation could be gradually phased in. A major point of contention concerned the use of fresh water, which is often unavailable in large quantities, especially during the dry season or prolonged periods of drought. The revised specifications permit the use of brackish water in post-harvest processing. In general, the revised specifications are less strict regarding practices and timeframes. Rather than a standard, the document offers a menu from which producers can select practices that best represent their existing capabilities and facilities.

While the Galápagos GI showed collective action issues in the construction of specifications, a more serious issue arose with the role of the producer cooperative. First, regarding its commercialisation role, the cooperative received little buy-in from producers. The state was unable to provide financial support to the cooperative, so it lacked liquidity to pay producers for their harvest on delivery. This model increased the financial risk to producers, as they would have to wait for the cooperative to make sales to receive compensation. Especially for producers who relied on coffee sales for the bulk of their income, this proved unfeasible for maintaining cash flow. Despite the potential for collective action premiums from quality and volume, many producers opted to sell to other intermediaries or under private brands.

Second, regarding its regulatory role, the cooperative has proven unable to exercise oversight. This can be partially attributed to producers' unfamiliarity with the French SIC model. Yet even more detrimental to collective action was the unwillingness of cooperative members to act as gatekeepers for their own and others' participation. As one related regarding the function of the cooperative regulatory body: 'I didn't like

that, that I must review how many bags [of coffee] or that I have to say, "You comply or you don't comply." Horrible! Because besides that, I stand to benefit from the [GI], so I would be judge and jury.' Galápagos producers suggested that inspecting one another would create the appearance of a conflict of interests, and especially in the small community of producers – some 130 across the islands – this would engender interpersonal discomfort and ill feelings. Indeed, nearly a decade after the GI declaration, the regulatory body has not been empanelled. Rather, the agriculture ministry stepped in to perform inspections on the cooperative's behalf, although these have been pro forma (to be discussed below). Further, as the government has been unable or unwilling to designate a third-party auditor, the ministry has also filled this role, creating an actual conflict of interests.

While producers balked at the idea of collective oversight, they also ensured that many stipulations in the GI specifications would be entirely exempt from verification. As seen in Table 1, stipulations regarding water use and selective harvesting are not subject to verification at all, and lack of compliance cannot result in sanction or revocation of authorisation. Further, producers are not even expected to comply fully with the specifications. This can be seen in the official inspection form that agricultural technicians use in the field, which includes this caveat: 'This [process] does not mean that [the producer] must, at the moment of inspection, comply with 100% of the practices.' Aspects commonly used to verify product traceability (e.g., declarations of parcel size and yield) cannot be disputed by inspectors; rather, producers must be taken at their word. As a result, inspections are largely pro forma, merely offering technical advice that producers can apply or ignore. These changes, in addition to the potentially negative impacts on coffee quality, threaten the very credibility of the SIC and its guarantee of origin.

Rather than inspections, producers favoured coffee grading as a determinant of authorisation. The modified specification document requires coffee to undergo physical evaluation of density, size, defects, and humidity – as in the original version – and adds sensory evaluation ('cupping') as a parameter. Coffee would undergo assessment following Specialty Coffee Association protocols, which evaluates ten quality aspects (e.g., aroma, flavour, body, sweetness, acidity) on a scale of 1–10; after which defects are subtracted to produce a final score from 0–100 (SCAA, 2015). A score of 80, which is regarded as the minimum for speciality-grade coffee, would be required for a producer to use the GI. In effect, grading supersedes inspection as the mechanism for qualification, which even MAG technicians acknowledge. As one related in an interview: 'In the end, what locks [qualification] down, the key, is the cup. The physical and organoleptic analysis of the sample. That is what tells you that it is certified.' This system forgoes local collective action in favour of conformity to conventional, industry-developed standards of coffee quality (Galtier et al., 2013).

Discussion and conclusion

We have addressed the role of GI in the coordination of territorial resources and creation of a specific local coffee identity in the Galápagos Islands. The natural heritage resources of the archipelago include distinctive microclimates and soil for growing coffee, as well as symbolic elements connected to its unique status in scientific and natural history. Likewise, coffee has been present throughout the human history of Galápagos under various agricultural systems (plantations, smallholders), an element of specific cultural heritage for producers to organise around. Finally, while the coffee sector is small with only limited market outlets, it possesses the potential to build on existing socio-economic networks.

In this context, the GI initiative could have effectively mobilised these resources by fortifying collective action (Fournier, 2008; Fournier et al., 2018), yet it was hampered due to territorially exogenous and endogenous dynamics. At the national level, Ecuador's intellectual property laws have proven inadequate for aligning GI with policies for effective territorial development (Barham and Sylvander, 2011; Fournier et al., 2018), due to the exclusion of heritage, cultural diversity, and tradition as elements of *terroir*. Additionally, the state institutions with a stake in GI were unable to effectively support producer collective action or the mobilisation of

territorial elements (Mancini, 2013b; Marie-Vivien et al., 2019), largely due to misaligned policy goals, ad hoc coordination, and personnel turnover. As has been noted in other contexts in the global South (Durand and Fournier, 2017; Mancini, 2013a; Neilson et al., 2018), inadequate institutional infrastructure and policy misalignment impeded the success and efficacy of this GI initiative despite the strong foundation of territorial resources in Galápagos.

Within the territory of Galápagos, these legal and institutional dynamics exacerbated competitive social relations among coffee producers. The initial product specifications emerged from a process that was neither consensual nor participatory, and in particular failed to reinforce the cultural heritage of coffee production (Fournier, 2008), leading to producer dissatisfaction and ultimately revision of the standard. While the definition of GI specifications can reveal controversies over tradition vis-à-vis innovation (Aspoy, 2019; Mancini et al., 2019; Mariani et al., 2019; Millet, 2019), in this case these controversies were left unresolved, resulting in a highly individualised and idiosyncratic framework of production practices. Further, the use of speciality coffee grading as the sole mechanism of qualification not only fails to ensure local sourcing but degrades the territorial specificity of coffee in favour of a conventional global coffee standard (Galtier et al., 2013). Additionally, the failure to empanel a regulatory body within the producer cooperative diminishes collective quality assurance (Fournier, 2008) and reduces opportunities for mutual learning and knowledge sharing through producer networks (Cerdan et al., 2018; Chiffoleau and Touzard, 2014; Mariani et al., 2019), which can further impede collective territorial identification. Finally, the absence of a mechanism for collective marketing and commercialisation means that producers with the GI operate individually, which reduces their power in local and international coffee markets (Daviron and Ponte, 2005; Fischer et al., 2020; Galtier et al., 2013) and reinforces competitive over cooperative behaviour (Fournier et al., 2018). The Galápagos coffee GI not only failed to strengthen collective action dynamics and collective product identification, but proved detrimental to the mobilisation of territorial resources and local social capital (Fournier, 2008).

In this article, we have addressed the role of territory in a global South GI case. We have argued that scholarly attention to territorial social relations complements and expands prior scholarship on GI in developing contexts, which has highlighted supply chain relations and the role of the state (Barjolle et al., 2017; Mancini, 2013a; Marie-Vivien et al., 2019; Nizam, 2017). We have explored territorial and extra-territorial factors that shape the mobilisation of territorial resources and the capacity of GI to reinforce a LAFS. Our case demonstrates that territorial elements of natural and cultural heritage and socio-economic networks are necessary but not sufficient criteria for success. Rather, factors such as laws, policy, and institutions are crucial to the mobilisation of territorial resources. Yet as we argue, the state is relevant not only concerning producer-consumer economic relations; its role must be considered for the interaction of these elements with local social relations. Absent due consideration of the external context and territorial social, political, and economic dynamics, GI systems in the global South are as capable of impeding as facilitating the development of a LAFS.

Nevertheless, our case may be exceptional or even extreme in many respects (Seawright and Gerring, 2008), which calls for caution in generalising to other global South GI. Indeed, we would argue for greater attention from policymakers and scholars to the particularities of territory. We encourage more such scholarship, especially regarding GI as a counter-commodity initiative for products such as coffee, cocoa, tea, produce, and staple grains. Additionally, while our work has focused on collective action dynamics, other elements of the LAFS framework, such as quality construction, branding and communication, knowledge, and technology (Barrionuevo et al., 2019; Fournier et al., 2018; Mancini, 2013b; Mariani et al., 2019) would benefit from greater depth of study in global South contexts.

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