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*Short communication*

# Custodian farmers' perspectives on improving Common Agricultural Policy payments for local-breed conservation in northern Italy

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**Abstract**
The purpose of this short communication is to draw attention to the issue of farmers' perception of Common Agricultural Policy (CAP) payments for the conservation of livestock biodiversity. We gathered data through semi-structured interviews with a sample of nine farmers located in north-western Italy (Lombardy and Piedmont). Based on these interviews, we identified the main challenges of the current subsidy mechanisms, including bureaucratic complexity, insufficient financial support, and concerns about long-term dependency. The farmers emphasised the need for policy refinements, such as the improved allocation of funds, active conservation strategies (e.g. genetic improvement programmes) and market-oriented solutions (e.g. niche product development). This study highlights a discernible gap between short-term subsidies and sustainable breed conservation, underscoring the significance of community-based approaches and consumer awareness in enhancing economic viability. The necessity for participatory policy and customised support to align conservation objectives with farmers' socioeconomic realities is emphasised, offering insights into more effective agrobiodiversity conservation within the CAP.

**Keywords:** Livestock biodiversity conservation; CAP payments on subsidies; Farmer perceptions; Direct subsidies; Genetic resources; Policy effectiveness.

**JEL codes:** Q18, Q57, Q12.

**Highlights:**

- Farmers have expressed concerns regarding Common Agricultural Policy payments for the preservation of livestock biodiversity.
- The main challenges identified by farmers include bureaucratic complexity, insufficient funding, and risks associated with long-term dependency.
- Farmers have called for better allocation of funds and market-oriented solutions.
- The possibility of stimulating and involving farmers in a participatory policy process has emerged, offering them tailored support that addresses their specific needs.

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## 1. Introduction

Agrobiodiversity – defined as 'the variety of animals, plants and micro-organisms used in food and agriculture, from genetic resources (varieties, breeds) to supporting species (soil microbes, pollinators) and ecosystems' (FAO, 1999) – is necessary to support the cultural (Hall, 2019) and ecological (Marsoner *et al*., 2018; Velado-Alonso *et al*., 2021) benefits linked to local livestock breeds. In the past 20 years, numerous scholars have emphasised that, to address the complex issue of preserving these livestock breeds, we need to combine economic, cultural, and ecological aspects (e.g., Boggia *et al*., 2002; Hoffmann, 2011; Martin *et al*., 2020). For example, Pirani *et al*. (2010) emphasised that at-risk breeds require a strategic combination of policy support and market-oriented interventions, underscoring the necessity of integrating conservation goals with the economic sustainability of custodial farming systems. The European Green Deal plays a central role in promoting the preservation of these breeds, supporting sustainability, and preserving agricultural diversity through a variety of initiatives. Among these initiatives is financial support for custodian farmers, who are individuals committed to conserving genetic diversity by protecting endangered local breeds.

The Common Agricultural Policy (CAP) specifically supports farmers in conserving local livestock breeds at risk of extinction through targeted payments. These payments have evolved over time, starting with Council Regulation (EC) No 1698/2005, which outlined support for rural

development, including 'local breeds in danger of being lost to farming'. This was further formalised with the introduction of Regulation (EU) No 1305/2013 and the CAP for the 2014-2020 period. Under the current CAP 2023-2027 framework, payments for the *in situ* conservation of local breeds are categorised as agro-climatic environmental payments, referred to as ACA14 ('Farmers as custodians of agrobiodiversity'- Ministero dell'Agricoltura, Sovranità Alimentare e Foreste, 2023) in the Italian National Strategic Plan. Farmers who voluntarily commit to conserving local genetic resources at risk of extinction are eligible for financial support, which is calculated per livestock unit (LSU) based on the additional costs and lower revenues associated with their maintenance compared with conventional breeds. These payments consider productivity differences between industrial and endangered breeds, and they are intended to support the broader goals of preserving agrobiodiversity. They are compatible with other agri-environmental measures and linked to investments, advisory services, training and collective approaches aimed at strengthening sustainability across farming systems. Although these payments have potential advantages, questions have been raised about their sufficiency and effectiveness, leading to calls for a more focused approach to agro-biodiversity conservation (Hermoso *et al.*, 2022).

As highlighted by Ahtiainen and Pouta (2011), there has been limited evaluation of CAP support for the conservation of animal genetic resources, with only a few pioneering empirical studies (e.g., Cicia *et al*., 2003; Birol *et al*., 2006) and a lack of in-depth analysis of factors that shape farmers' participation. There are several obstacles, including excessive bureaucracy and the perceived inadequacy of payments. In Slovenia, Juvančič *et al*. (2021) found that CAP procedures are considered overly burdensome – particularly for small farms – while uniform per-unit payments often fail to reflect real opportunity costs. A stated-preference survey of 301 livestock farmers revealed that willingness to accept compensation was 27% lower than current rates for sheep and goats but 5% higher for pigs, indicating that differentiated payments could be more cost-effective and should be paired with reduced administrative requirements and market support. A discrete choice experiment with 159 German cattle breeders confirmed that farmers prefer short, flexible contracts and collective bonuses linked to breed population increases, while rigid technical conditions act as deterrents (Schreiner, Latacz-Lohmann, 2024). Notably, many breeders would participate even without monetary compensation, highlighting strong intrinsic motivations.

Given these concerns, we explored how CAP payments can be tailored more effectively to support the conservation of biodiversity while simultaneously addressing the needs of custodian farmers. Specifically, the objective was to explore how Italian farmers experience the tools and measures designed for the conservation of local cattle breeds within the framework of CAP policies. To this end, we conducted an exploratory study to examine the perspectives of farmers – the direct beneficiaries of these policies – focusing on the practical barriers and opportunities they encounter when participating in CAP programmes.

## 2. Method

### *2.1. Study area*

We focused on farmers in the north-western Italian regions of Lombardy and Piedmont, areas distinguished by both highly intensive livestock systems and long-standing traditions of breeding local cattle breeds. We selected these regions because they are important in Italy's livestock sector and because modern, large-scale operations coexist with small-scale farms dedicated to conserving endangered local breeds. By examining these contrasting agricultural contexts, we aimed to understand how local conservation measures under the CAP framework interact with everyday farming practices.

### *2.2. Sampling strategy*

The sampling strategy, based on the concepts proposed by Patton (2002) and expanded upon by Staller (2021), can be classified as purposive, incorporating elements of criterion sampling. We devised this approach to identify cases that might either enrich patterns discerned through data analysis or serve as counterexamples for exploring divergent explanations. The selection criteria were grounded in principles that recognise how economic activities in rural settings are shaped by local traditions, institutional constraints, and collective relationships[1]. We used this perspective to understand how farmers balance economic imperatives with cultural values in the context of breed conservation. In Lombardy and Piedmont, small-scale farms maintaining local breeds exemplify this balance: they have adapted to external economic forces while anchoring their practices in local traditions and communal ties. As described by Tregear and Cooper (2016), this balance highlights the interdependencies that sustain traditional farming systems in such industrialised regions. To identify eligible participants, we collaborated with a breeder association to select farms that met specific requirements such as geographic proximity, the conservation of endangered breeds and sustainability-oriented practices. Access to the farming community was facilitated through collaboration with the president of this association, who acted as a gatekeeper. This intermediary enabled us to establish a rapport and trust with the participants and provided deeper insights into the context. The final sample comprised nine farms, all situated within a 150-km radius, ensuring uniformity in contextual conditions. Initially, we selected 12 farmers from the breeders association, and 11 agreed to participate in the study. We later excluded two of these farmers: one due to farm closure and one who declined further involvement, expressing distrust in research methods and satisfaction with existing practices. The final sample comprised nine farms (see Table 1 for the farm characteristics).

[1] As Granovetter (1985) points out, economic actions are *embedded* in social structures whereby there is no actor as an 'atom' within the market, but farmers' decisions as entrepreneurs are immersed in and shaped by local traditions, institutional constraints, and collective relations. In this study, we applied this perspective to understand how farmers manage the tension between economic imperatives and cultural values in the context of breed conservation.

**Table 1.** Farmers/farm characteristics

| Pseudonym | Gender | Age (years) | Education level | Organic certification | Breed specialisation | Herd |
|---|---|---|---|---|---|---|
| Eleonora | F | 38 | Bachelor's degree | Yes | Dual-purpose: meat and milk (cheese) | 7 |
| Carlo | M | 54 | High school diploma | No | Meat production | 23 |
| Roberto | M | 36 | High school diploma | No | Meat production | 23 |
| Paola | F | 63 | High school diploma | Yes | Meat production | 26 |
| Samuele | M | 56 | High school diploma | No | Meat production | 75 |
| Giovanni | M | 52 | Middle school | No | Meat production | 5 |
| Lucia | F | 62 | Middle school | Yes | Meat production | 20 |
| Giuseppe | M | 53 | Master's degree | Yes | Meat production | 105 |
| Dino | M | 67 | High school diploma | Yes | Dual-purpose: meat and milk (cheese) | 57 |

### *2.3. Data collection*

For our fieldwork (January-May 2023), two researchers conducted semi-structured interviews with farm owners or managers, alternating the interviewer and observer roles. The 60-90-minute sessions, recorded and supplemented with field notes, explored breeding strategies, economic challenges, and CAP subsidy experiences within the farmers' working environments. This setting fostered spontaneous dialogue while enabling direct observation of livestock management practices. The research design evolved iteratively: initial interviews under an established project revealed unexpected concerns about subsidy mismanagement, prompting a dedicated second phase to examine financial mechanisms' impact on conservation.

Our longitudinal engagement – built through repeated farm visits for data collection and technical activities – created a rare observational opportunity. By participating in routine operations such as farm visits and breeding selections, we gained privileged insights into work practices while strengthening farmer-researcher trust. This sustained presence allowed us to contextualise the interview findings through informal conversations and firsthand observations of breed management challenges. The dual-phase approach combined systematic data collection (structured around farm histories, business models, and conservation strategies) with the flexibility to pursue emergent themes, particularly regarding subsidy effectiveness and alternative sustainability models.

### *2.4. Data analysis*

We adopted a hybrid thematic analysis approach (Braun, Clarke, 2006; Fereday, Muir-Cochrane, 2006) combining inductive and deductive methods. After transcribing the interviews, they were read repeatedly for data familiarisation while preserving the original meanings and contextual nuances. The coding phase integrated inductive identification of emergent themes from raw data with deductive application of embeddedness theory (Hess, 2004) and agricultural policy frameworks. Through constant comparative analysis (Miles, Huberman, 1994), codes were systematically clustered into coherent thematic patterns, focusing particularly on farmers' conservation narratives (Buetow, 2010). Cross-farm comparison revealed both commonalities and significant differences in the participants' experiences with breed conservation policies and subsidy systems. Two primary

thematic areas emerged: tensions between CAP subsidy dependency and long-term sustainability, and farmers' proposals for cooperative models and market differentiation strategies. Methodological rigor was ensured through multiple validation strategies including triangulation with observational data and documentation, peer debriefing sessions (Nowell *et al.*, 2017), and systematic reflexivity to monitor the positioning of the researcher and potential bias influences (Galdas, 2017). The final interpretation balanced theoretical contextualisation with authentic perspectives from the participants, maintaining solid grounding in the farmers' concrete experiences while connecting the findings to the broader agricultural policy literature and ensuring analytical transparency throughout the interpretive process.

## 3. Results

As shown in Table 1, the participants included both male and female farmers aged 36-67 years. The educational level varied, ranging from middle school to a master's degree. While some farmers were certified organic producers, others were not, reflecting diverse farming practices. The focus of the farms varied from single-use meat production and dual-purpose systems involving both meat and milk (cheese) production. The number of animals on each farm ranged from 5 to 105, representing both small and big-scale operations within the sample. Below, we present the two key thematic areas that emerged during the interviews.

### *3.1. Perceived shortcomings in the implementation of CAP financial support for livestock conservation: the balance of economic dependency versus long-term viability*

This theme relates to the concerns raised by farmers regarding the shortcomings of CAP financial support for livestock conservation, with a particular focus on issues related to the distribution and effectiveness of aid. It also includes the possible improvements to the system to better support livestock breed conservation initiatives suggested by farmers during the interviews.

*Farmers' concerns about financial support for local breed conservation*

For the 2023-2027 period, measure ACA14 ('Farmers as custodians of agrobiodiversity') provides annual financial support calculated per LSU: from €98.48 to €358.61 per LSU per year in Lombardy, and €400 per LSU per year in Piedmont. Payments, disbursed in a single tranche by the end of the year, are fully compatible with other agri-climate-environmental commitments (AECM) and with regional animal welfare schemes. In addition, beneficiaries have free access to advisory services (SRH01) and technical training (SRH03) provided by regional rural development agencies, including annual on-farm visits, genetic management workshops, and administrative support. All interviewed farmers acknowledge the value of this package, considering the higher costs of raising these 'less productive animals' (Samuele, 56). As Eleonora (38) pointed out, 'the subsidies are essential for us, but we can't rely on them forever'. Carlo (54) added, 'if they cut these subsidies in the next CAP plan, it will no longer be worth keeping these animals'. While many farmers appreciated the immediate financial relief, concerns about the long-term implications of this dependence were widespread. There seems to be a general feeling that relying on long-term subsidies might limit

innovation and self-sufficiency. As Roberto (36) emphasised, ‘we need to find a way to make these breeds economically viable on their own [...], otherwise I’m sure many of us (probably most) will stop raising them soon’.

Another issue that came up was criticism of how funds are distributed. Some farmers believe that the subsidies are often inefficient or poorly allocated. ‘Some of us... [I won’t name names...] yes, they get the subsidies, but they don’t actually invest in improving the breed [...] it seems like they just keep these animals for other reasons, mainly to display them to the public in a farm as part of a tourist attraction, among other animals’ (Giovanni, 52).

*Balancing short-term support with long-term sustainability*

A recurring issue in the discussions is the tension between the short-term support provided by CAP aids and the long-term sustainability of breed conservation. While many farmers appreciated the immediate financial assistance, they expressed concern that long-term reliance on these subsidies could undermine the development of more *sustainable* models. In particular, some farmers suggested that increasing the market value of products derived from local breeds – such as premium meats and cheeses – could reduce their dependence on subsidies. The farmers expressed concerns about their dependency on CAP subsidies while also acknowledging that alternative economic models would be difficult to sustain within current policy frameworks. One farmer explained, ‘If we can create a market for our products, like cheese from these local breeds, then we don’t need to rely so much on the aids’ (Paola, 63). However, others, particularly older farmers, expressed doubt that niche markets alone would be enough to generate sufficient income. They argued that CAP aid should continue to play a role, though not be the sole source of support. In contrast, younger farmers were more optimistic about the potential for creating sustainable niche markets. Moreover, the farmers highlighted concerns about the misuse and misallocation of CAP funds. Several of the interviewees mentioned that some farmers only maintain the minimum number of autochthonous animals required to qualify for aid, without making substantial investments in conservation. This has led to calls for improved transparency and accountability in how funds are distributed. As one farmer pointed out, ‘we need more controls in place to make sure the aids are going to those who are serious about conservation. Otherwise, it’s just money wasted’ (Lucia, 62).

*Shifting towards active conservation strategies*

The interviews highlighted the need to move from mere passive protection of local breeds to active conservation strategies. CAP subsidies have been essential so far in keeping these breeds alive, but many farmers are calling for more proactive measures. As Giuseppe (53) observed, ‘if we can improve the breeds themselves, then they can become more economically viable [...] The aids should be helping us do that, not just paying us to keep things as they are’.

The farmers advocated for dedicated support to selection programmes that increase genetic variability, strengthening resistance to diseases and climate stress, while being aware of possible trade-offs on growth or yield. An exclusive focus on productivity risks undermining the rusticity of the animals. Therefore, they see CAP funds as a key tool to balance these trade-offs, while safeguarding both farm profitability and the ecological robustness of native breeds. This call for active conservation aligns with the most recent agricultural policies, which are increasingly oriented towards sustainability and innovation. Research has confirmed that targeted selection of traits such as disease

resistance, heat tolerance, and feed efficiency –already documented in Mediterranean sheep and cattle – can enhance resilience without reducing agro-biodiversity (Biscarini *et al.*, 2015).

### *3.2. Proposed solutions for sustainable breed conservation*

This thematic area includes the solutions proposed by the farmers to improve breed conservation practices, focusing on approaches that promote sustainability and long-term viability from farmer perspective.

Many of the farmers emphasised the potential of community-driven approaches, highlighting the importance of local networks and consortia in improving breed production and marketing. These networks can facilitate knowledge exchange and resource sharing, enabling farmers to overcome challenges related to breed conservation. For example, breed-specific consortia allow farmers to work together on marketing strategies, share breeding techniques, and advocate for more tailored policy support. As one farmer put it, 'working together, we can do more [...] If we want to keep these breeds alive, we need to build strong local networks that can support each other' (Roberto, 36). This perspective reflects a growing recognition that successful breed conservation often requires collective action and the pooling of local resources.

In addition to community-based models, several farmers pointed to the importance of increasing consumer awareness to support breed conservation. Raising awareness about the cultural and environmental significance of local breeds could lead to greater demand for niche products, such as locally produced meats and cheeses, thus creating new markets that would contribute to the economic viability of these breeds. Some farmers proposed initiatives aimed at educating consumers, particularly through outreach programmes in schools. This would help foster a deeper understanding of the role these breeds play in both local heritage and sustainable agriculture, ultimately encouraging consumers to make more informed purchasing decisions. As one farmer suggested, 'we need to teach people – especially young people – about the importance of these breeds, so they grow up understanding their value and choose to support them' (Samuele, 56).

The farmers also pointed to the potential of these community-based models to address the unique challenges faced by those working with autochthonous breeds. By collaborating, farmers can overcome financial and technical barriers that might be difficult to handle individually. These cooperative models help in creating a sense of shared responsibility and a unified voice in advocating for breed-specific policies.

## 4. Discussion

Efforts to preserve local breeds can be justified not only to preserve livestock genetic heritage, but also to balance cultural values, economic viability and environmental sustainability. Yet, the practical challenges farmers face often come down to economic concerns.

Embeddedness theory, as outlined by Granovetter (1985) and elaborated by Hess (2004), reveals that farmers' economic decisions emerge from a single socio-institutional context and depend on a coherent interplay between horizontal relationships and vertical constraints. Based on the interviews, farmers rely on peer networks and the regional livestock association to share knowledge, to build trust, and to maintain the flexibility needed for collective innovation. At the same time, they

must align their investment and management choices with the timing, amounts, and conditions of payments. When the policy incentives and community support are not properly synchronised, social capital remains underutilised and farmers struggle to translate innovation into practice, underscoring the need for policies that harmonise institutional 'push' with community 'pull'. We examined farms located in areas characterised by highly intensive agriculture, where the protection of local breeds is an exception. These farms are significantly dependent on CAP subsidies, which points to a strong integration in the institutional system (Tregear, Cooper, 2016). While public support sustains them, it may also limit their independence and innovation. Moreover, while farmers recognise the cultural and ecological value of these breeds, many view conservation efforts as secondary to their immediate financial needs. This creates a tension, where the cultural importance of these breeds may not be enough to drive long-term, sustainable farming practices without clear economic incentives.

The gap between the theoretical value of conservation and the practical reality of agriculture is evident in all agricultural practices, not only in the case of local breeds. For example, research on agricultural cooperatives has highlighted that, although the theory behind cooperatives suggests benefits such as market power and resource sharing, in practice, these cooperatives often face significant inefficiencies (Candemir *et al*., 2021). This example illustrates how, in many cases, there is a discrepancy between theoretical goals and practical challenges. Regarding the conservation of local breeds, success depends not only on economic incentives, but also on the strength of local networks and the ability of farmers to collaborate in accessing specialised markets and gaining greater visibility for their products. Many farmers are primarily focused on economic survival, and unless they see a direct and tangible benefit from their conservation efforts – such as better market access, higher prices, or government support – they are unlikely to prioritise these initiatives. An effective approach might involve formulating breeding programmes that prioritise productive traits conducive to the development of distinctive products, supported by targeted marketing strategies. However, these initiatives must also preserve the historical and cultural value of local breeds. The improvement of genetic performance through structured breeding plans could be facilitated by financial support from European Union (EU) funds, thus ensuring systematic genetic improvement. Although EU funds and advisory services support supply chain and marketing projects, real success depends on the active engagement of farmers (Marescotti *et al*., 2024). Specialised agencies can facilitate funding and strategies, but a bottom-up approach, where farmers co-design and lead initiatives, seems crucial for a dynamic and sustainable conservation of local breeds (Haile *et al*., 2023).

A key consideration is that many farmers who raise local breeds do not have a flagship product, such as the premium products found in other sectors, which makes it even more difficult for them to justify the extra effort involved in breed conservation. Without a high-value product on which to rely, the challenge of balancing conservation efforts with financial sustainability becomes even more pronounced. The comparison between beef cattle farming in Galicia and Parmigiano-Reggiano cheese production in Emilia Romagna made by Swagemakers (2021) helps illustrate this point. Both regions highlight the importance of local breeds and sustainable farming practices. However, their strategies differ significantly. In Emilia Romagna, Parmigiano-Reggiano has strong brand recognition, with cooperative structures that allow farmers to negotiate better deals and promote a product that consumers are eager to pay a premium for. On the other hand, Galicia's beef sector still relies heavily on public subsidies and agri-environmental schemes, which can sometimes feel like a band-aid solution rather than a pathway to long-term sustainability. This discrepancy shows that while

market incentives are crucial, government support plays a key role in making sure these breeds – and the farmers who care for them – remain viable (Swagemakers, 2021).

Another important aspect is the ecosystem services that local breeds provide. These animals help maintain agro-biodiversity, but their impact on soil health and carbon sequestration is not as clear. The available evidence is not definitive, and the outcomes depend heavily on factors such as farming practices, grazing systems, land use, and overall management. It is essential to recognise that breed alone does not determine environmental impact: its contribution to emission reductions depends on improving production efficiency (Cusack *et al.*, 2021) rather than merely selecting a specific breed. The value of these services often goes unrecognised in market systems, and their full potential can only be realised by considering these additional variables.

Looking at consumer awareness, there is clearly an opportunity to do more. While there is a growing market for sustainable, locally produced goods, many consumers do not fully understand the value of local breeds or the role they play in maintaining agro-biodiversity and cultural heritage (Boaitey *et al*., 2018). If more consumers understood the unique qualities of products made from these breeds – whether it's meat from Galician cattle or cheese from Emilia Romagna – they might be willing to pay a premium price, a finding in line with research by Demartini *et al*. (2021). This would, in turn, make conservation more economically viable for farmers.

## 5. Conclusion

Our findings suggest that conserving local livestock breeds in intensive agricultural contexts requires more than financial subsidies: it demands an integrated policy framework that empowers custodial farmers, aligns institutional incentives with community dynamics, and fosters market viability, moving beyond financial subsidies alone. The farmers emphasise the need for public policy to go beyond simple payment schemes by streamlining administrative procedures, enhancing market access, and investing in skills development. Cooperatives and producer associations are essential partners in this effort to pool resources, to disseminate technical expertise, and to secure better market terms. However, without mechanisms for genuine farmer participation in policy design, top-down interventions risk remaining detached from on-farm realities and failing to address the practical challenges that producers face daily. A complementary bottom-up governance model – operationalised through regional participatory forums of farmers, researchers, extension agents, and policymakers – seems to offer a pathway forward. These platforms can co-construct genetic improvement programmes, supply-chain financing schemes, and consumer-outreach campaigns that integrate farmers' experiential knowledge with scientific innovation. As the farmers pointedly remind us, 'these animals aren't pandas'. This provocative assertion challenges us to recognise a fundamental distinction. Unlike iconic wildlife that primarily serves symbolic conservation purposes, local livestock breeds are living agricultural systems that simultaneously deliver cultural heritage, economic value, and ecosystem services. Future research should rigorously evaluate farmer-led, marker-assisted breeding trials embedded within bottom-up governance structures, assessing their effects on breed resilience, farm profitability, and community well-being. By outlining potential

alignments between institutional 'push' and community 'pull', this case study provides practical guidance for the sustainable management of local breeds in rural areas.

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**Author Contributions**

AFC: Conceptualization, Methodology, Software, Data Curation, Writing - Original Draft Preparation, Visualization, Investigation, Writing - Reviewing and Editing; MEM: Conceptualization, Investigation, Writing - Original Draft, Writing - Reviewing and Editing; EG: Writing - Original Draft Preparation, Conceptualization, Validation, Supervision; AG: Writing - Reviewing and Editing, Funding Acquisition, Supervision

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