

1 **ENTREPRENEURIAL ECOSYSTEM FOR COOPERATIVES: THE CASE OF KYRGYZ**
2 **AGRICULTURAL COOPERATIVES**

3

4 **ABSTRACT**

5 The article discusses the development of agricultural cooperatives in Kyrgyzstan from an
6 entrepreneurial ecosystem (EE) perspective. Agricultural development priorities explain
7 cooperatives' importance in Kyrgyz government's policies, but cooperatives still fail at countering
8 the challenges of the smallholder economy. Considering agricultural cooperatives as a form of
9 rural entrepreneurship, this paper aims to contribute to the discussion of the factors that support
10 cooperatives in developing countries adapting the EE framework to cooperative entrepreneurship.
11 Using a content analysis method, we analysed and coded textual data from documentary and
12 archival publications on the agricultural cooperatives in Kyrgyzstan published by the government,
13 cooperatives and their unions and the reports of international organizations. We identify five main
14 dimensions of the cooperative entrepreneurial ecosystem for cooperatives: (i) policy and
15 regulatory framework; (ii) education and skills; (iii) market environment; (iv) culture; (v)
16 networks. We found that even if the overall structure of cooperatives' EE can be comparable to
17 conventional enterprises, its sub-elements significantly differ for cooperative enterprises. Despite
18 its exploratory character and single-case research design, this article contributes to the theoretical
19 discussion on cooperative entrepreneurial ecosystems in post-socialist developing contexts and
20 offers a framework of analysis for cooperative development policies and practices.

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22 *Keywords: agricultural cooperatives, entrepreneurial ecosystems, transition economies,*
23 *Kyrgyzstan*

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28 *It is clear that cooperative enterprises are important partners for*
29 *the implementation of the 2030 Agenda for Sustainable*
30 *Development. To effectively leverage the role of cooperatives in*
31 *realizing the Sustainable Development Goals, the enabling*
32 *environment needs to be strengthened further’ (UN, 2019, p. 11).*
33

34 **1. INTRODUCTION**

35

36 Cooperatives’ contribution to society in general, and to the achievement of the Sustainable
37 Development Goals in particular, has been highlighted many times (Duguid, 2020; ILO & ICA,
38 2014; Iyer, 2020). With over three millions cooperatives across the world, counting for 10% of
39 global total employment and the largest 300 cooperatives and mutuals reporting a total turnover of
40 US\$2.2 billion in 2019 (ICA&Euricse, 2021; Karakas, 2019), cooperatives’ socioeconomic
41 importance is uneven across regions and sectors (Adeler, 2014; Bretos & Errasti, 2018; Rowe et
42 al., 2018; Zamagni, 2019). In Central Asia, their development is still slow although they are a
43 priority in the government strategies (Lerman, 2013; Lerman & Sedik, 2018).

44 Some scholars have identified various barriers to cooperatives’ development, including the
45 ‘entrepreneurial problem’ and costs associated with collective decision-making (Cornforth &
46 Thomas, 1990; Nilsson et al., 2016). Other studies focused on different aspects of cooperatives’
47 development, such as policies and legislative dimension (Rowe et al., 2018; Uzun, 2005),
48 governance costs (Nilsson et al., 2016), knowledge and education (Fontanari & Sacchetti, 2019),
49 leadership (Hejkrlik et al., 2021; Uzoagu, 2019), historical legacies (Avsec & Štromajer, 2014;
50 Gardner & Lerman, 2006). Some researchers have identified the key success factors of agricultural
51 cooperatives’ development that included ownership structure, membership policy, voting rights,
52 governance structures, residual claim rights (Chaddad & Cook, 2004), stable legal environment,
53 presence of a leader, government financial and technical support (Garnevska et al., 2011), internal
54 organization, the institutional environment, supply chains and markets strategies (Bijman &
55 Iliopoulos, 2014), social capital, solutions to excessive heterogeneity-induced high ownership
56 costs, tinkering, cooperative genius, and capacity to adapt to shocks and changes (Iliopoulos &
57 Valentinov, 2018), organizational, financial, operating keys to success (Sexton & Iskow, 1988).
58 These frameworks shed light on various factors that enable cooperatives’ development. However,

59 a comprehensive framework that grasps the complexity of cooperatives is missing, to allow
60 contextualisation for the fostering of cooperatives development in a developing economy a
61 systemic way. We contend that an approach based on entrepreneurial ecosystems (EE), defined as
62 the set of interconnected entrepreneurial actors, organisations, institutions and processes that
63 coalesce to connect, mediate and govern the performance within the local environment (Mason &
64 Brown, 2014), has the potential to address this gap.

65 Entrepreneurial ecosystems (EE) are based on the common belief that certain attributes exist
66 outside the boundaries of a firm but within a region, and which contribute to the competitiveness
67 of a new venture (Isenberg & Onyemah, 2016; Spigel, 2017). Originally and primarily oriented
68 toward high-growth and technological entrepreneurship, EEs have recently been studied in the
69 context of social enterprises and other hybrid organisations to explore how different logics of
70 market and community drive entrepreneurial ecosystems (Díaz González & Dentchev, 2020;
71 McMullen, 2018; Roundy et al., 2018; Thompson et al., 2018). The ecosystem approach has also
72 been applied to social enterprises and cooperatives in public policy areas (European Commission,
73 2020; Hoover & Abell, 2016), yet focusing on Western countries.

74 While most existing studies on EEs have been conducted in developed countries (Stam,
75 2014; Thompson et al., 2018), an increasing number of studies examine EEs in developing
76 countries (Lingelbach et al., 2005; Roundy et al., 2018). A range of unique contextual factors
77 affect EEs in the latter context, including underdeveloped institutions, missing key stakeholders,
78 unavailability of basic business support, unclear and inconsistent policies, scarcity of financial
79 resources, lack of human capital, disjointed infrastructure, inhibiting culture, and patronage
80 networks (Cao & Shi, 2020; Mansour et al., 2018). Furthermore, in developing contexts,
81 entrepreneurship is often equated with self-employment and small businesses with limited skills,
82 abilities and capacities to develop innovation and drive high-growth businesses (Chohra, 2019).
83 This means that the operationalization of entrepreneurial leadership may require combined efforts
84 from governments, universities, and the private sector (Miles & Morrison, 2020).

85 In this article, we aim at proposing an adaptation of the entrepreneurial ecosystem (EE) to
86 cooperative enterprises as it allows adopting a holistic approach, focusing on both internal and
87 external factors of cooperatives' development, identifying strengths and weaknesses, as well as
88 the key actors within the ecosystem while embedding the analysis in the local context. Provided
89 that cooperatives represent both enterprises *and* democratic institutions, we aim at developing an

90 EE framework that grasps their complexity to foster their development in more systemic ways.
91 Given the lack of an adaptable comprehensive framework for cooperatives' development—
92 especially in developing countries—we ask in this paper: *What are the attributes of an*
93 *entrepreneurial ecosystem (EE) that facilitate and/or prevent cooperatives' development in the*
94 *context of developing countries, in which cooperatives represent a new type of entrepreneurial*
95 *organisation?* To address this question, we focus on the agricultural cooperatives in post-socialist
96 country setting and explore the case of agricultural cooperatives' development in Kyrgyzstan. In
97 the transition economy that shifted to the market economy only thirty years ago, the benefits of
98 cooperation in the agricultural sector appeared to be self-evident (Lerman & Sedik, 2009). This
99 allowed identifying their EE in the context where entrepreneurial traditions represent a recent
100 phenomenon.

101

102 We first present the theoretical background on cooperatives and entrepreneurial ecosystem
103 framework for cooperatives; second, we discuss the methods and data collection as well as the
104 research setting; third, we present the results and discussion section with the adaptation of the EE
105 framework to the case of Kyrgyz agricultural cooperatives. The analysis undertakes an innovative
106 attempt to link the existing entrepreneurial ecosystem approach with agricultural cooperatives,
107 providing insights on the entrepreneurial ecosystems in the under-explored region of Central Asia.
108 The research can have policy implications for enabling the ecosystems for cooperatives in
109 developing and transition countries.

110

111 **2. BACKGROUND**

112

113 Cooperatives are jointly-owned and democratically-controlled enterprises that seek to satisfy
114 their members' needs (ICA, 2015a). Analysing agricultural cooperatives, Bijman et al. (2012, p.
115 107) consider that 'cooperatives are economic organisations, and activities that do not fit in their
116 business models are not taken up or are discontinued, sooner or later'. To integrate agricultural
117 cooperatives in the neoclassical theory, some researchers investigated how their member-based
118 design affects their market performance (Cook et al., 2004; Royer, 2014), addressing the criticisms
119 toward cooperatives as the "second best" organizations (Alchian and Demsetz 1972; Jensen,
120 Meckling, 1986, Williamson, 1985; North, 1993). More recently, cooperatives were recognised as

121 'hybrid' organisations that bring together social mission and commercial logic (Bauwens, 2013;
122 Luyckx et al., 2022; Smith & Besharov, 2019). Researchers had extensively studied their
123 organisational complexity, tensions between different dimensions of the cooperative identity
124 associated with divergent goals, values, norms, (Ajates, 2020b), as well as the tensions between
125 cooperatives' democratic political structure and its capitalist economic structure (Mooney, 2004).
126 Cooperatives, as hybrid organisations and enterprises of the social economy, combine the creation
127 of social value with economic results (Battilana & Lee, 2014; Herrera & Davó, 2016; Luyckx et
128 al., 2022; Smith & Besharov, 2019). They share a set of principles and organisational features that
129 distinguish them from conventional enterprises as they are owned, governed and controlled by
130 members. They contribute to fair income distribution, promote economic democracy, de-
131 commodify necessities and fictitious commodities, contribute to community development and
132 maximize value, instead of profit (Billiet et al., 2019; Novkovic, 2021).

133 Many studies have analysed cooperative development. Sexton & Iskow (1988) argued that
134 agricultural cooperatives' success factors in the US were related to the economic environment as
135 well as organisational, financial, and operational factors. Studying industrial cooperatives in
136 Tanzania, Abell (1990) shows that the development of cooperatives depended on a competitive
137 environment, production interdependencies, and above all, on the availability of skilled
138 management. Historical and cultural factors can also impact cooperatives' development as they
139 represent social movements embedded in their local context (Diamantopoulos, 2011; Nilsson et
140 al., 2016), although the tensions between the local and the global, and cooperative and capitalist
141 space increase with the internationalisation of their activities (Ajates, 2020a). Other researchers
142 emphasize the prominence of public policies and legislation on other factors in explaining
143 cooperatives' development because they impact cooperatives' taxation, level of capitalisation, and
144 access to finance and to support infrastructure as is the case for cooperatives' experiences in
145 Mondragon in Spain, in the Emilia-Romagna, Trentino regions of Italy, and in Canadian provinces
146 (Adeler, 2014; OECD, 2014). Analysing these three 'co-op hot spots', Rowe et al. (2018) uncover
147 six primary forms of policy support that have been successfully deployed to support cooperative
148 growth: cooperative recognition, financing, sectorial financing, preferential taxation, supportive
149 infrastructure, and preferential procurement. In Ecuador, for example, Social and Solidarity
150 Economy policies have had a positive effect on the size of cooperatives (Buendía-Martínez et al.,
151 2020). In post-socialist economies, where agricultural production collectives were a dominant type

152 of farming, after 1990 reforms, they were transformed into cooperatives, however, communist
153 legacy persisted, while ‘lacking trust was identified as a major obstacle to cooperative
154 development in all case study cooperatives’ (Bijman et al., 2012, p.98).

155 In some regions, and especially developing countries, public policy equates with top-down
156 cooperative development (Develtere & Pollet, 2008), that stems from heavy reliance or even
157 dependence on the state. In Russia, for example, cooperatives flourish in regions that provide
158 ample budgetary support, despite no observable tendencies for bottom-up development (Yanbykh
159 et al., 2019). Russian cooperatives generate high governance costs due to inefficiencies in
160 collective decision-making, monitoring management, excessive managerial discretion, and risks
161 with residual earnings (Nilsson et al., 2016). In China, government financial and technical support
162 represents one of the important factors for the successful development of farmer cooperatives
163 (Garnevska et al., 2011; Zhang, 2017). Government support does not, however, guarantee
164 cooperatives’ success. Ortmann & King (2007) show that in South Africa despite the commitment
165 of the government to support cooperatives through a dedicated and favourable legal environment,
166 inherent problems of cooperatives, i.e., free-rider, horizon, portfolio, and control and influence
167 cost problems, have led to vaguely defined property rights, poor management, lack of training,
168 conflict among members, and lack of funds. Cornforth & Thomas (1990) identify six main barriers
169 to cooperative development, among which ‘the entrepreneurial problem’ is the first as the ‘biggest
170 challenge facing those who wish to promote cooperative development is to find ways of helping
171 to create a culture, or sub-cultures, which are sympathetic to cooperatives ideals and forms of
172 enterprise’ (p.455).

173 Entrepreneurial ecosystems (EE) have recently been extensively studied (Alvedalen &
174 Boschma, 2017; Isenberg & Onyemah, 2016; Roundy et al., 2018; Spigel, 2020; Stam & Van de
175 Ven, 2021) but not yet in relation with agricultural cooperatives. The entrepreneurial ecosystem
176 approach differs from industrial district, cluster, and innovation system approaches by its holistic
177 character, its emphasis on ‘the role of the social and economic context surrounding the
178 entrepreneurial process’ (O’Connor et al., 2018, p.6), and its view of the entrepreneur as a co-
179 creator along other stakeholders (O’Connor et al., 2018). In contrast, the industrial district
180 approach focuses on external business environments and the interaction between a community of
181 people and a population of firms within a socio-territorial entity (Becattini, 1990), while the cluster
182 approach focuses on ‘geographic concentrations of interconnected companies, specialised

183 suppliers, service providers, firms in related industries, and associated institutions [...] in particular
184 fields that compete but also co-operate' (Porter, 1998, p. 78).

185

186 **3. METHODS AND DATA**

187

188 **3.1. Entrepreneurial ecosystems and cooperatives**

189

190 The literature on EEs suggests that there can be different configurations as their underlying
191 logics vary in terms of the nature and number of the EE elements and their interactions. For the
192 World Economic Forum (2014), an EE is represented by eight pillars, among which three appear
193 to be of pivotal importance for entrepreneurs: accessible markets, human capital/workforce, and
194 funding and finance. (Mason & Brown (2014) focus on actors in the EE and propose a taxonomy
195 based on the role they play in the ecosystem: enterprises, resource providers (government, finance
196 providers), entrepreneurial connectors within ecosystems (professional networking organisations,
197 entrepreneurship clubs, professional associations, and diaspora associations), and entrepreneurial
198 orientation within ecosystems (perceptions of entrepreneurship, culture). Beugre (2017), studying
199 the EEs in sub-Saharan Africa, distinguishes national, regional, local, and organisational levels of
200 entrepreneurial ecosystems and identifies five major pillars of the entrepreneurial ecosystem at the
201 national level: government, institutions of higher education, private sector, citizens, and
202 international organisations. Stam (2015) emphasizes the importance of 'cause and effect' relations
203 and proposes a causal scheme of interaction between the framework and systemic conditions of
204 the ecosystem that leads to particular outputs and outcomes of the ecosystem. Spigel (2017)
205 categorises the EE elements according to material, social and cultural attributes, in which
206 ecosystems represent multiple overlapping sets of attributes and institutions that encourage
207 entrepreneurial activity. Other authors explored the diversity of entrepreneurship, including hybrid
208 organisations, within an ecosystem (Roundy, 2017), studying how social enterprises interact with
209 the entrepreneurial ecosystem (Díaz González & Dentchev, 2020; McMullen, 2018). For the
210 social enterprise ecosystem, a recent mapping of the European Commission (2020) identifies four
211 dimensions in the European Union (EU): the capacity to self-organise; resources; visibility and
212 recognition; and research, education and skills development. The Democracy at Work Institute of
213 the US Federation of Worker Cooperatives developed in 2016 the Cooperative Growth Ecosystem

214 framework that has eleven elements: member skills and capacity; financing; technical assistance;
215 growth-oriented co-op developers; business supports; connections to market; policy; advocacy
216 partnerships; values-driven businesses, attitudes and culture; and cooperative education.

217

218 **3.2. Method, data collection and data analysis process**

219

220 Given the exploratory nature of the research question, the importance of the contextual conditions
221 for the phenomenon under study, and the dynamic nature of EE development, we adopt a
222 longitudinal single case study approach (Yin, 2003). We study this issue looking at Kyrgyz
223 cooperatives from the country's independence after the collapse of the Soviet Union in 1991 until
224 2020 to observe whether the conditions of cooperatives' development change over time and if so,
225 what factors can explain this change. This approach allows us to identify the contextual conditions
226 of cooperatives' development, in a case in which entrepreneurial traditions represent a recent
227 phenomenon. We use the single-case study method also because of its revelatory nature as few
228 studies have investigated the challenges of the development of cooperatives in post-socialist
229 countries using the entrepreneurial ecosystems outlook.

230 Data sources for the study included documentation and archival records on agricultural
231 cooperatives in Kyrgyzstan that were collected from multiple sources grouped into three main
232 categories: (i) cooperatives and their apex organization, (ii) government, and (iii) international
233 development agencies. Provided that EE elements represent a broad range of policy areas, relying
234 on documentary sources of information allowed us to cover these diverse EE elements.
235 Documentation from cooperatives includes all publicly available protocols of the annual
236 cooperatives' forums, minutes of workshops, and yearly compilations of the website news of the
237 Cooperatives' Union of Kyrgyzstan. From the government database, we collected laws and
238 policies on cooperatives, including country development plans and strategies in which agricultural
239 cooperatives were mentioned. We also analysed studies and reports published by international
240 development agencies studies and reports that discussed agricultural cooperatives. Our analysis is
241 therefore limited to the information we could retrieve from published sources, such as the
242 government policies, reports and studies commissioned by the international organisations and the
243 Cooperatives' Union of Kyrgyzstan (CUK) website publications.

244

245 **Table 1: Data sources**

246

247 Data were analysed in four distinct steps (see figure 1): first, a short longitudinal account of
248 the case was written to obtain a holistic understanding. This allowed both researchers to start on
249 the same page with regard to the chronology of events and the development of the cooperative
250 entrepreneurial ecosystem in Kyrgyzstan. Then, using the content analysis method (Birmingham
251 & Wilkinson, 2003), the first author reviewed the data and coded them using NVIVO software
252 following a structural coding (Saldana, 2009) to cluster the information around EE domains
253 identified in extant literature under the broad thematic groups of policy, education, markets,
254 culture, and networks (See Table 2.) During this first round, excerpts that could not be classified
255 in these clusters were coded thematically; the second round of coding was then undertaken after
256 the results were refined using elaborative coding (Saldana, 2009). The authors discussed how to
257 make sense of the non-classified codes during several meetings. Such an approach allowed us to
258 further refine the EE theoretical constructs for cooperative enterprises taking into consideration
259 their organizational and business particularities. Finally, the codes were looked at from a
260 longitudinal perspective against the backdrop of the chronological initial account, to identify the
261 evolution of the EE. In Table 2, we present our coding tree, along with the matching EE domains
262 identified in extant literature.

263

264 Figure 1: Data analysis process

265

266 **Table 2: Coding tree for EE segments for cooperatives and matching EE dimensions in the**
267 **extant literature**

268

269 **4. CASE STUDY: AGRICULTURAL COOPERATIVES IN KYRGYZSTAN**

270

271 Agriculture in Kyrgyzstan is a key economic sector. It counts for one-third of the country's
272 labour force (FAO, 2020). In the early 1990s, when the centrally-planned Soviet economy was
273 dismantled, the newly independent Kyrgyz Republic fully liberalised its agricultural sector.
274 Privatisation of state-owned assets and distribution of small parcels of land to a large numbers of
275 small farmers became one of the main challenges for the effective functioning of value chains that

276 prevented smallholders from gaining high incomes and improving their livelihoods (World Bank,
277 2018). Former state and collective farms were transformed in the 1990s into four main types of
278 farming structures: peasant farms, state farms, collective farms, and private plots. Lerman and
279 Sedik (2009) mention that in 1988 just 500 collective and state farms controlled over 1.3 million
280 hectares or 98% of arable land; while twenty years later after the reforms, individual farms (the
281 traditional household plots and some 300,000 peasant farms that have emerged since 1992) control
282 950,000 hectares; while 350 000 ha is controlled by holdings of privatized successors of collective
283 and state farms. As a result, the average farm size decreased from 15 ha in 1994-96 to 3 ha in 2002
284 (Mogilevskii et al., 2017). In 1993, there were 125 agricultural cooperatives, in 1996 their number
285 reached 631: including 463 production cooperatives and 122 service cooperatives, among which
286 16 cooperatives were active in the dairy sector, 23 in cereal processing, 74 in the fruit and vegetable
287 sector, and 9 in the meat and fish sectors (The State Program of development of agricultural
288 cooperative movement, 2002). The Concept of development of agricultural cooperative system of
289 2017 references that in 2006 there were 1240 cooperatives; while according to the National
290 Statistics Committee, in 2019 there were 464 collective farms, which included 328 cooperatives
291 (National Statistics Committee, 2020). The decrease in number of cooperatives is explained by the
292 artificial increase in cooperatives between 2005 and 2010 as farmers were then pushed by the
293 government to establish cooperatives which resulted in the situation where farmers registered a
294 cooperative but could organise their enterprise otherwise. The share of products of collective farms
295 (including agricultural cooperatives, among other in the classification of the National Statistics
296 Committee) remain small in the structure of production of basic agricultural products small with
297 only about 4.5% (ICA, 2021).

298

299 The reforms generated positive trends in agricultural production during the first years of
300 independence but the decrease in agricultural land use and the lack of modernization and resources
301 negatively affected the agricultural productivity of the country (Lerman, 2013). According to the
302 World Bank, Kyrgyzstan is among those countries with very low agricultural labour productivity
303 and a large share of smallholder farm units (World Bank, 2018). Cooperatives appear to be a
304 natural solution to the issue of small-scale production as they offer the benefits of collective
305 operational size and assured access to supplies and markets for their members (Lerman & Sedik,
306 2009). Yet despite this and government programmes for promoting cooperatives, they still failed

307 at addressing smallholder issues, and according to the World Bank (2018), these government
308 policies lacked specific options for providing public support to cooperatives and producer
309 organisations.

310 The CUK published on their website, with reference to the study commissioned by Japan
311 International Cooperation Agency (JICA) in 2013, that agricultural cooperatives in Kyrgyzstan
312 can be grouped into four main categories: (i) Soviet-type cooperatives represented by large
313 cooperatives based on former collective and state farms; (ii) cooperatives created in the framework
314 of donor-funded projects which operate on the basis of foreign examples; (iii) ‘family’
315 cooperatives which represent a cooperative led by a single person most often a head of one family;
316 and (iv) ‘fictive’ cooperatives that have been legally established but do not function. Lerman &
317 Sedik (2009) distinguish production cooperatives – the successors of former collective farms –
318 from service cooperatives that provide farm services to members and non-members. According to
319 their research, most cooperatives in Kyrgyzstan are production cooperatives (Lerman & Sedik,
320 2017). They found that cooperative members are generally satisfied with the services they receive
321 from the cooperative (over 60% of members), while the reasons for not joining cooperatives are
322 mostly linked to the fact that there is no cooperative in the vicinity that they can join (55% of
323 respondents) and because they want to preserve their independence (42%). Their reluctance to join
324 a cooperative could also be related, according to the authors, to the influence of Soviet-style
325 agriculture, which did not observe the basic principles of voluntary participation and democratic
326 governance. Other reasons include lack of understanding of benefits, insufficiency of
327 information about cooperatives. Indeed, the information on Kyrgyz cooperatives is scarce, and no
328 information is available on the size, turnover, type of activities, number of employees, of
329 cooperative organizations.

330 Cooperatives’ interests are represented by the apex organization, the Cooperatives’ Union of
331 Kyrgyzstan (CUK). CUK was established on 9th February 2007 by the decision of the General
332 Assembly of cooperatives with the support of the ‘Development of Commodity and Service
333 Cooperatives’ Project (GTZ). The goal of the CUK is to assist its members in establishing and
334 maintaining cooperative principles and the promotion and protection of their interests at the
335 regional and national levels. CUK is a non-profit organization operating on the principles of self-
336 financing and self-sufficiency. As of 2021, the CUK website reports that the Union brings together
337 250 cooperatives, mainly from the agricultural sector. The activities of the CUK include providing

338 consultations, training, and education services to its members; representing cooperatives' interests
339 at government working groups; building partnerships; and advocacy and awareness raising on
340 cooperative principles and values.

341

342 **5. RESULTS**

343

344 The objective of this paper was to discuss factors that support cooperatives in developing
345 countries adapting the entrepreneurial ecosystem (EE) framework to cooperatives. Despite its
346 exploratory character and single-case research design, applying the EE lens to cooperatives'
347 development allows us to make several contributions to both the theory and practice of
348 cooperatives and the challenges of their international development, as well as to the EE theoretical
349 framework.

350 This conceptual framework allowed us to identify the factors and the actors that contribute
351 to and hinder agricultural cooperatives' development in Kyrgyzstan. The EE approach thus appears
352 to be relevant in the context of developing countries where cooperatives are disadvantaged in many
353 ways and remain often outside government policies aimed at developing entrepreneurship. Based
354 on existing EE research, we identified 15 attributes that are important for the development of
355 cooperative enterprises. We then grouped these 15 EE elements in five distinct dimensions (see
356 Figure 1), which we present below.

357

358 **Table 3: Dimensions of the entrepreneurial ecosystem for agricultural cooperatives in** 359 **Kyrgyzstan**

360

361 The development of cooperatives in Kyrgyzstan can be divided into three distinct periods
362 that bring forward different EE elements. The first period (1991-2005) corresponds to the
363 transformation of the socialist economy into a market economy, during which it was important to
364 build the new legal and regulatory framework for cooperatives. The second stage of agricultural
365 cooperatives' development corresponds to the period between 2005 and 2010, during which the
366 government attempted to increase the number of cooperatives using administrative methods: the
367 President Bakiev declared on the occasion of the meeting in the White House in 2008 that
368 'consolidation of collective and peasant farms, creation of agricultural cooperatives should be one

369 of the main activities of heads of municipalities and governors’, which became of the stimuli to
370 create cooperatives together with long-term credit, tax benefits and other measures that led to the
371 increase in number of cooperatives (JICA, 2012). The third phase covers the period of 2010-2020,
372 during which Kyrgyzstan has opened more to regional and international trade, which has included
373 greater emphasis on factors, related to competitiveness, transportation, logistics and certification
374 systems.

375

376 **5.1. Policy and Regulatory Framework**

377

378 Cooperatives require specific laws, policies and institutions that take their organizational
379 peculiarities into account and address their specific needs (Henry, 2017). The EE framework
380 uncover that the policy and regulatory framework for cooperatives in Kyrgyzstan is represented
381 by three key elements: cooperative legislation, supportive policies and institutions of support.

382 *Cooperative legislation:* After the 1991 and 1999 laws ‘On Cooperation’ introduced the
383 basis for cooperatives in Kyrgyzstan, a new law was passed in 2004 recognising cooperative
384 principles. Despite the creation of laws specifically aimed at cooperatives, ambiguity and issues
385 persist, for example in the provisions on the commercial nature of cooperatives: ‘A cooperative
386 can be a commercial or non-commercial organisation’ (art.5, Law of 1991); ‘Cooperatives can be
387 created in the form of commercial or non-profit organisations’ (Art 3.3., Law of 1999), and
388 ‘Cooperatives can be created as commercial cooperatives, if the main purpose of their activities is
389 to make a profit (agricultural cooperative, financial cooperative and others)’ (Art 3.2., Law of
390 2004). Similarly, the 1991 law stated that ‘Dividends are the part of the profit assigned to the
391 shareholder, proportional to the value of his share’ (Art.58), introducing an ambiguity between
392 commercial and cooperative enterprises. The 1999 law attempted to differentiate ‘cooperative
393 payments’ from ‘dividends’ stating that the latter can be paid only to associate members and on
394 ‘complementary’ shares (Art 1.11.), while the 2004 law kept the ‘cooperative payments’ but
395 changed the definition of the dividend as ‘part of the cooperative’s net profit paid on shares of
396 cooperative members in the manner prescribed by this Law and charter of the cooperative’ (Art
397 1.8.). In the Tax code, agricultural cooperative payments to members are considered as ‘dividends’
398 (Art 153/8-g). Agricultural cooperatives, as other agricultural producer organisations, are exempt
399 from income tax, as well as VAT and sales taxes, however, to be tax-exempt, these cooperatives

400 need to demonstrate that 75 per cent of their revenues originate from their own agricultural
401 production (art.153 of the Tax Code), which can be difficult to prove for farmers that often lack
402 proper bookkeeping system.

403

404 *Supportive policies:* New state policies aimed at fostering cooperatives were adopted in 2002
405 and 2017. According to the CUK (2016), cooperatives need specific policies to: 1. Identify (and
406 implement) a unified vision of cooperatives as instruments of regional development; 2.
407 Systematise the interaction of state and local authorities, as well as international partners; 3. Attract
408 financing for the implementation of the program, as well as to study the mechanisms of financing
409 the agricultural sector with the help of cooperative lending institutions. The State Programme for
410 the Development of the Agricultural Cooperative Movement in the Kyrgyz Republic in 2002
411 (hereinafter, ‘State programme 2002’) aimed at creating a regulatory framework and favourable
412 conditions for the development of cooperatives. In 2017, the Concept for the Development of the
413 Agricultural Cooperative System in Kyrgyzstan for 2017-2021 (hereinafter ‘Concept 2017’) held
414 that ‘the development of agricultural cooperatives in the Kyrgyz Republic is at the initial stage’
415 and thus aimed to create more ‘favourable legal conditions for the effective operation of
416 agricultural cooperatives’; improve cooperatives’ access to finance; build infrastructure; and
417 develop advisory services for cooperatives. In addition to these policies, cooperatives were
418 discussed in the country strategies of 2003 and 2007 in relation to ‘the creation of commodity
419 cooperatives and associations’ (2003) and the ‘the creation of enlarged cooperatives’ (2007)
420 respectively. In 2013, the National Sustainable Development Strategy acknowledged that the
421 efforts to stimulate cooperation between agriculture, the processing industry, and the trade sector
422 failed to produce the expected results and thus recommits the state’s support to cooperatives: ‘The
423 strategic direction for the transformation of agriculture in the medium term will be the
424 implementation of reforms aimed at enlarging and consolidating small farms into cooperatives -
425 ‘sources of growth’, creating favourable conditions for their activities in the agricultural sector’.
426 Support for cooperatives continues to be discussed in the government policies of 2017 and 2018
427 in relation to the development of the agricultural sector.

428

429 *Institutions of support:* as the ILO notes (2001), unlike traditional enterprises, cooperatives
430 can find themselves out of the institutional mandates, which is particularly relevant for the

431 countries, where cooperatives still need to develop. The Ministry of Agriculture is responsible for
432 the development of agricultural cooperatives. Because of its capacity and resources issues, the
433 CUK advocated for a dedicated structure especially for development of cooperatives: ‘Specialists
434 and ministers in the Ministry of Agriculture change frequently, and our work is slowing down.
435 [...] Without a special cooperative structure and system, agricultural cooperatives will never
436 succeed’ (CUK, 2017). Concept 2017 mentions that ‘in order to formulate and implement state
437 policy in the field of agricultural cooperative movement development, an Interdepartmental
438 Coordinating Council for the development of agricultural cooperatives is created under the
439 Ministry of Agriculture, Food and Processing Industry and Land Reclamation of the Kyrgyz
440 Republic [...], with the inclusion of representatives of relevant state and public and other
441 organisations’, however, no information is available as for the functioning or the work outcomes
442 of this Council.

443

444 Our analysis thus show that cooperatives require a well-adapted policy and regulatory
445 framework with clear legislation that distinguishes them from other types of organisations as in
446 the regions without long-standing cooperative culture, these policies must clearly distinguish
447 cooperatives from regular businesses but also from the types of cooperation as understood in the
448 communist past. Although Kyrgyzstan has a law on cooperatives, its confusing terms regarding
449 ‘commercial cooperatives’, ‘dividends’ complicate differentiating cooperatives from regular
450 enterprises. This confusing nature of the law likely impacts cooperatives’ activities and prevents
451 potential members from joining cooperatives. Moreover, policies on cooperatives had a short time
452 span, targeted agricultural development only, and did not address the issues of cooperative
453 governance and its business model. Compared to other countries, where cooperatives benefit from
454 a policy support that provision their policies with financial resources, through credit, financing,
455 supportive infrastructure, and procurement (Rowe et al., 2018), Kyrgyzstan mostly have policies
456 that expect external donor support for funding. Although cooperatives’ development requires an
457 active involvement not only of the Ministry of Agriculture, but also of other ministries and
458 agencies that oversee such as areas as the development of private sector, export relations, access
459 to finance, local development. The absence of dedicated institutions within the government system
460 translates into a situation where there is no ownership of cooperative policies, but on the other
461 hand, this may also prevent excessive government intervention.

462

463 **5.2. Education, Skills and Knowledge**

464

465 The EE framework allowed to identify that cooperative education, knowledge and skills
466 development imply activities at different levels:

467

468 *University education:* One of the things that undermine the development of cooperatives is
469 the ‘lack of qualified specialists capable of professionally organising and managing cooperatives’
470 on the one hand, and ‘an insufficient number of specialists [in the government and municipal
471 institutions], who know the methods and tools for the development of cooperatives’ (CUK, 2020).
472 The Training Centre for Cooperatives at the National Agrarian University established in 2018 with
473 the support of the Turkish Cooperation and Cooperation Agency (TIKA) is a step in the right
474 direction even though it does not offer degree courses (CUK, 2020).

475

476 *Member skills development and training:* To compensate for this lack of educational
477 programmes, the CUK has launched its ‘coop-to-coop’, which feature peer-to-peer education. For
478 example, the CUK arranged to send representatives of Kyrgyz cooperatives to training
479 programmes that were organised in India by the ICA and exchange experience with peers from Sri
480 Lanka, Myanmar, Nepal, India and Palestine (CUK, 2018). Training on cooperative management
481 is also sometimes offered by international donors, but these donors generally focus on providing
482 training regarding agricultural production, processing, marketing—although the importance of
483 raising ‘awareness among farmers on forms of cooperatives and associations promote service type
484 of cooperation’ is also mentioned (FAO, 2018).

485

486 *Knowledge and information:* Government policies emphasize the importance of information
487 dissemination on cooperatives among the rural populations. In 2017, the intention was to ‘organise
488 informational work among farmers about the advantages of agricultural cooperatives, holding
489 training seminars on special plans, exchange of experience’, and ‘develop educational and
490 methodological materials for the organisation of a training system and advanced training for
491 specialists of agricultural cooperatives’. And yet, the CUK still considers that there is a lack of
492 knowledge about cooperatives, their role in the economy, their diversity, and their principles in

493 Kyrgyzstan (CUK, 2018). The CUK is, however, increasingly partnering with international
494 organisations for capacity building: for example, since 2019 the Union provided capacity building
495 on aqua-culture cooperatives within the project with FAO, and on fruit value-chains within the
496 project funded by the European Bank for Reconstruction and Development (EBRD).

497

498 In Kyrgyzstan, despite occasional training opportunities within donor-funded projects that
499 do not necessarily target cooperatives but the agricultural sector, members and potential members
500 of cooperatives lack knowledge regarding the specificities of the cooperative organisational model.
501 This situation has resulted in a knowledge deficit on how to run cooperative enterprises to ensure
502 member participation, democratic decision-making regarding production and business processes,
503 which, coupled with the experience of collective farming, require substantial investments in
504 information and communication on the Western models of cooperation for a cultural shift and
505 greater consistency in the different actors' efforts regarding their support to cooperatives. This is
506 particularly important in a post-socialist context, where they are attributed an important place in
507 the economic strategies, and pursue social goals, while their difference must be learned vis-à-vis
508 investor-owned corporations (Kalmi, 2007), but also versus collective farms and soviet-style
509 cooperatives. The EE approach to training and skills development could allow identifying what
510 are the specific areas where cooperative members need training and knowledge, both in terms of
511 management, but also in the areas of agricultural production and marketing. For example, the
512 ecosystem approach could help to link and relate to the importance of knowledge to other EE
513 segments, such as access to markets: what knowledge base is required in the area of overcoming
514 policy and regulatory issues; for finding their 'niche' markets; for promoting the cooperative
515 difference and culture; for building partnerships.

516

517 **5.3. Market Environment**

518

519 The development of rural entrepreneurship depends on a range of factors that enable the
520 market environment propitious for innovations and growth. The EE lens to the market environment
521 of Kyrgyz agricultural cooperatives allowed us to identify three key issues related to challenges
522 with the access to the markets, support services and financial resources.

523 *Access to markets:* On the domestic market, large agricultural cooperatives started
524 commercialising their products in local retail supermarkets: ‘Previously farmers were unable to
525 sell their products to retail chains [...] due to the lack of the required volumes and quality of the
526 products supplied’ (CUK, 2018). Cooperatives also increasingly engage in international trade,
527 such as the agricultural cooperative Issyk-Kul Organic that sends its medicinal herb products to
528 Germany (CUK, 2018, 2019). The German international development agency (GIZ) reports that
529 their project supported walnut cooperatives to connect with processing companies that allowed
530 them to export 1.500 megatons of kernels, which accounted for 34% of the country's export (GIZ,
531 2015). Cooperatives have also adapted to the foreign market demand by mastering new types of
532 crops such as quinoa (CUK, 2016) and medicinal herbs (CUK, 2019). Remaining barriers to
533 international trade, however, include the challenges relating to certification and transport and
534 storage logistics. These barriers have given rise to market intermediaries, a phenomenon that
535 increases final prices and is likely to reduce sales (CUK, 2016). The United Nations’ Food and
536 Agriculture Organization (FAO) reports: ‘in autumn, cooperative members sell potatoes for 10
537 som roughly USD 0.15) per kilogram, and resellers sell them in Bishkek for 25 som (roughly USD
538 0.37). [...] They hope that resellers will be excluded from the chain, prices will stabilise, and sales
539 will be guaranteed’ (FAO, 2018). Some cooperatives have made this transition and are accessing
540 markets directly but they remain few (CUK, 2018).

541

542 *Support services:* State Programme 2002 underlines the importance of support services.
543 Consequently, the government established the Rural Advisory Service (RAS), supported by the
544 World Bank Agribusiness and Marketing Project and other donors (World Bank, 2009). These
545 international donors justified their help by arguing that private agri-food firms tend to fill gaps and
546 support farmer groups in the absence of adequate public funding for agricultural research and
547 extension (World Bank, 2018). The RAS is set up as an independent body to assist the development
548 of agriculture, educate and equip farmers with current production technologies, and advise farmers
549 on marketing, sales, technical and legal aspects. Concept 2017 further focuses on providing
550 advisory services as one of its priorities: ‘It will also be important to create an information and
551 consultation centre for supporting cooperatives, which will inform the population about various
552 aspects of running a cooperative business’. However, the FAO (2009) notes that this role could
553 also be fulfilled by cooperatives as member education is one of the traditional tasks of farmer

554 cooperatives in all market economies supplementing the government action of the agricultural
555 extension systems in transitional countries.

556

557 *Access to finance:* One of the key issues faced by cooperatives is access to finance (CUK,
558 2012). This is partly explained by high interest rates and collateral requirements (CUK, 2017). To
559 address this problem, the government sees credit unions as a tool that can stimulate the
560 development of a modern agricultural cooperation system, which in turn will create mutual funds
561 for cooperatives, which will provide them with credit resources (State Programme, 2002).
562 Consequently, credit unions were supported in the government's 2007 project 'Rural Financial
563 Institutions'. In 2007, there were 317 credit unions, which brought together more than 28,000
564 members (Country Strategy, 2007). The Financial Company for Credit Unions (FCCU),
565 established in 1997 to support its 200 credit union members (World Bank, 2009), accounted for
566 6% of credit to the agricultural sector in 2011 (OECD, 2014). However, credit unions fail to attract
567 deposits and face challenges to their survival due to the high level of the percentage of non-
568 performing loans (OECD, 2014). Hence, the CUK advocated for the establishment of a cooperative
569 bank on the basis of existing credit unions (CUK, 2013).

570 Another potential solution to restricted access to finance lies in government-subsidised loans
571 mainly channelled through the Ayl Bank (Rural Bank). Established in 1997 with the financial
572 support of the World Bank, it manages 60 to 70% of Kyrgyzstan's agricultural credit through 18
573 branches, 50 divisions in regions, and 33 offices at the village level (World Bank, 2009). In 2017,
574 the government planned to allocate subsidised loans through the project 'Financing of Agriculture'
575 to agricultural cooperatives in the amount of at least ten percent of the total amount allocated from
576 the state budget, providing commodity loans and the lease of agricultural machinery (Concept,
577 2017). Government subsidised loans are often backed by international organisations such as the
578 World Bank, Raiffeisen banks, or other cooperative support programs (World Bank, 2009).

579

580 Our analysis reveals that a favourable market environment for the development of
581 cooperatives requires the existence of support services that are important in the context of changing
582 production patterns that require new knowledge. In post-socialist countries, where the
583 development of the agricultural cooperatives of new type depends also on the rehabilitation and
584 reanimation of the agricultural extension systems (Lerman & Sedik, 2009), but cooperatives still

585 fail at integrating such systems within their organisation. Cooperatives have limited resources to
586 engage with support services and remain dependent on donor resources for accessing these
587 services. Access to finance is one of the main barriers to the development of agricultural
588 cooperatives in Kyrgyzstan and is felt most concretely for members in the context of high-interest
589 rates. Existing credit unions mostly focus on consumer credit and cannot address the needs of
590 agricultural cooperatives, while credit programmes run by the state have limited resources and do
591 not prioritise cooperatives. Establishing a cooperative bank, as advocated by the CUK, would
592 require a consolidated cooperative community, member capital and a supporting environment that
593 currently seems lacking. Poor physical and institutional infrastructure further prevents access to
594 both domestic and export markets and reduces farmer incentives to commercialise their products.
595 As it appears today, there is no differentiated approach to cooperatives for supporting
596 cooperatives' export potential, while the world experiences demonstrate the capacity of
597 agricultural cooperation to pool and market their products, collaborating with organic, fair trade
598 and other certification systems.

599

600 **5.4. Culture**

601

602 By 'culture' we refer to stories and social norms, and cultural attitudes to entrepreneurship
603 (Spigel, 2017; Isenberg & Onyemah, 2016). The EE approach to Kyrgyz agricultural cooperatives
604 reveals issues related to the histories of cooperation related to the communist past of the country,
605 awareness about the cooperative values and principles and existence of the supportive culture
606 towards agricultural cooperatives.

607

608 *Histories of cooperation:* Although collective farms existed during the socialist period and
609 could to some extent be assimilated to informal cooperatives, the first formal cooperatives that
610 were legally identified as such, appeared in Kyrgyzstan in 1991 following the Law on Land
611 Reform that reorganised state and collective farms into peasant farms, agricultural cooperatives,
612 and associations of peasant farms (World Bank, 1998). Cooperatives' development in Kyrgyzstan
613 thus corresponds to 'the concluding stage of land and agrarian reform' after the post-Soviet
614 distribution of land and property shares to rural residents and the individualisation of farming
615 (JICA, 2012). The current form of cooperatives as well as their regulatory framework was

616 established with the support of Germany through the GTZ project ‘Development of Commodity
617 and Service Cooperatives’ (CUK, 2020). The project also supported the creation of a national
618 association of cooperatives (FAO, 2009).

619

620 *Cooperative principles and values:* This EE element is vaguely understood by the
621 cooperatives’ members and other stakeholders (JICA, 2012). State Programme 2002 recognised
622 the ‘voluntary membership in the agricultural cooperative and free exit from it in the manner
623 prescribed by the Charter cooperative’; ‘management of the cooperative on a democratic basis’;
624 and ‘preservation of economic and economic independence of members of agricultural
625 cooperatives’ as key principles. These principles also appear in the 2004 law in which cooperatives
626 are recognised as ‘a voluntary association of physical and legal persons through membership
627 [formed] in order to satisfy their economic and other needs’. However, in the government policy
628 of 2017, less emphasis is put on cooperatives principles and values, focusing instead on the socio-
629 economic efficiency of agricultural cooperatives and how this is achieved by maximizing the
630 personal interests of members of the agricultural cooperative. Because of this blurriness, the CUK
631 advocates for understanding the term ‘cooperative’ as distinct, independent and member-owned
632 enterprises working according to the ICA’s co-operative principles and values (CUK, 2018).

633

634 *Supportive culture:* The image of cooperatives is changing but their development is still
635 often challenged by the perceptions of them as collective farms as there are still many production
636 cooperatives: ‘serious conceptual confusion about the nature of agricultural cooperatives in a
637 market economy. Not only farmers, but also many politicians, automatically mean ‘production
638 cooperative’ when they say ‘cooperative’ (FAO, 2013). In 2009, 88% of registered cooperatives
639 were classified as production cooperatives and only 12% were service and processing
640 cooperatives. Furthermore, ideas about cooperatives based on Soviet experience and assumptions
641 prevent Kyrgyz farmers from trusting this form of collaboration (FAO, 2018). In 2009 though,
642 FAO wrote that ‘Kyrgyzstan seems to have overcome the generally suspicious attitude toward the
643 concept of cooperative that prevails in CIS. There appears to be considerable interest in
644 cooperatives and cooperation at all levels of administration and society. Cooperatives are indeed
645 viewed as a possible cure to the problems of smallness created by land privatisation’ (FAO, 2009).

646

647 Cooperative culture plays an important role in transition countries where former *kolkhoz*
648 and *sovkhos* still impact the farm organisation, which can help explain the dominance of
649 production cooperatives. In these cooperatives, members are expected to work collectively, while
650 service cooperatives remain nascent. In transition countries, EEs have their particularities
651 (Chepurenko & Sauka, 2017) related to sociocultural acceptance of entrepreneurship provided that
652 positive perception can increase the proportion of individuals who are willing to become
653 entrepreneurs (Rebernik & Hojnik, 2017). The bad image of the ‘cooperative’, along with some
654 lack of familiarity with the cooperative model, is one of the reasons for the reticence of donors to
655 differentiate cooperatives from other types of organisations, or even to favour the formation of
656 associations instead of cooperatives (O’Connell & Kiparisov, 2018). Lack of trust and agency
657 problems also undermine production cooperatives’ methods due to low know-how and the absence
658 of vision. The EE approach can be instrumental for understanding how cultural factors impact
659 cooperatives’ development. For Kyrgyzstan, it shows that building trust for the functioning of
660 cooperatives at the grassroots level requires clear rules of functioning and a shared understanding
661 of the goals and objectives of the cooperatives, which implies investment in knowledge and
662 information as well as skill development. In the context of failing institutions and legislative
663 uncertainty typical of developing countries, cooperatives generally face greater challenges
664 compared to private enterprises and thus require greater support from the international donor
665 community. Cooperative values and principles still need to be translated into local realities and
666 connect with the on-going practices of cooperation.

667

668 **5.5. Networks and Partnerships**

669

670 Networks and partnerships connect entrepreneurs through business associations and
671 professional networking organisations, advisors, investors, and workers and that allow the free
672 flow of knowledge and skills (Spigel, 2017; Mason & Brown, 2014). These networks of Kyrgyz
673 agricultural cooperatives are represented by their coop-to-coop networks, donor organisations,
674 while other partnerships include policy and advocacy interaction with the government institutions,
675 trade and service relations with the private sector.

676

677 *Cooperative unions and networks:* The Cooperative Union of Kyrgyzstan (CUK) connects
678 cooperatives with local stakeholders as well as with the international cooperative movement and
679 business partners. In 2018, the CUK became member of the International Cooperative Alliance.
680 At the local level, the CUK has been organising since 2012 annual cooperative forums on issues
681 raised by members such as access to finance in 2013; the social and economic role of cooperatives
682 in 2014; policy support for cooperatives in 2015; and the contributions of cooperatives to the SDGs
683 (2016). In 2017 and 2018 these forums were co-organised with the ICA Asia-Pacific on the
684 development of cooperatives in Central Asia and hosted over twenty international participants
685 from cooperative movements from different regions (CUK, 2020). Adhesion to the international
686 network of the ICA allowed the CUK to benefit from the international legal expertise on
687 cooperatives, coop-to-coop exchange, learning opportunities and participation at regional and
688 global platforms of exchange in Japan, Thailand, Vietnam and other countries and participate in
689 the ICA-led global projects, such as the EU-funded Coop4Dev project that allowed to host forums
690 on Central Asian cooperatives in Kyrgyzstan. CUK forums allowed to learn about the cooperative
691 experiences from representatives from, among others, the European Association of Cooperative
692 Banks (EACB), Desjardins International (Canada), Norinchukin Bank (Japan), and IFFCO (India).
693 These forums were often co-organised by governmental ministries and so became a platform for
694 exchange among members of the Parliament, international organisations, and civil society and
695 media representatives. CUK is also involved in project partnerships aimed at research and training
696 funded by the European Union, GIZ, the World Bank and others (CUK, 2020): ‘We also participate
697 in trainings and other organisations, go on study trips. (...) In addition, we have received HACCP
698 certificates and are studying the requirements of different countries for imported products’”
699 (interview with the Issyk-Organic Cooperative representative, in CUK, 2018). At the international
700 level, in 2012, the JICA reported that the CUK was working on strengthening its ties to the ICA
701 in order to promote cooperative principles, share experiences and exchange solutions for existing
702 challenges. The CUK also facilitated the participation of CUK members and staff in the training
703 organised by (JICA) in Sapporo, Japan (CUK, 2018).

704

705 *Donor support:* The JICA's survey in 2012 found that ‘all cooperatives except for several
706 units have been established with the support of projects of international organisations or donor
707 countries’ and many cooperatives shared that the ‘initial impetus for the creation of a cooperative

708 was financial and informational support from donor organisations such as the GTZ, Helvetas,
709 JICA, ACTED and others' (JICA, 2012). Support can take the form of training, project funding,
710 technical assistance, policy guidance, technical advice on organisation and function, and advice
711 on the re-drafting of legal frameworks (FAO, 2009, 2013). In addition, government policies for
712 cooperatives count on international donor organisations (Concept 2017) and rely on their technical
713 support as well as the potential financial funds they might invest in subsequent technical pilot
714 projects (State Programme 2002).

715 Cooperatives do not have a privileged position in donor-supported programmes as various
716 forms of cooperation are supported: *zhaamats (local communities)*, water users associations, one
717 village with one product, pasture associations, self-help groups, groups of rural women, etc. (CUK,
718 2016). Moreover, donor support to cooperatives generally targets their agricultural activities. For
719 example, the World Bank's Farmer Cooperative Support Program is a 'matching grant program
720 [that] will enhance the project's development outcomes by providing benefits to farmer
721 cooperatives [...]; by improving the efficiency of farmer cooperatives as value chain participants'
722 (World Bank, 2009). The European Union supports cooperatives with the goal to increase farmers'
723 incomes and reduce intermediaries by providing farmers with agro-technical advice to increase
724 yields, new methods of proper drying, food safety rules, etc. The EU further trains farmers in the
725 organisation and management of cooperatives since such structures are necessary to sell
726 competitively (CUK, 2017). Another example is the walnut project supported by the GIZ in 2015:
727 'The first step was the creation of a walnut collectors' cooperative. It is the first cooperative of
728 walnut collectors that was registered in Kyrgyzstan.' (GIZ, 2015). Aiming to expand the economic
729 opportunities for women in rural areas, this cooperative received Fairtrade and HACCP standard
730 certifications and resulted in 1,700 women joining mutual assistance groups (CUK, 2016).

731
732 *Other partnerships:* Cooperatives in Kyrgyzstan also engage in other partnerships beyond
733 the above-mentioned collaborations with the government, financial institutions, and support
734 services. Cooperatives also have partnerships with the private sector: training centres, traders, and
735 agro-business companies for accessing knowledge and information on agribusiness (FAO, 2009).
736 They work closely with service providers for organic farming techniques, international organic
737 certification, and quality management processes (ILO, 2018). In contrast, 'linkages among
738 education, research, extension systems and between them and the farmers are weak' (FAO, 2009)

739 although the CUK has some connections with the local universities that provide training services
740 to cooperatives' members (CUK, 2020).

741 In Kyrgyzstan, cooperatives are organised in a two-tier system: local cooperatives and the
742 Cooperatives' Union of Kyrgyzstan (CUK). The recent adhesion of the CUK to the network of the
743 International Cooperative Alliance and implementation of the joint initiatives and projects is an
744 important step forward towards learning and implementing the cooperative business model in the
745 context where cooperators have access mostly to the Russian-language information on
746 cooperatives which does not include international practices of agricultural cooperation. While
747 government provides mostly with policy framework without sufficient financial provision, support
748 from international organisations has played a crucial role in the development of agricultural
749 cooperatives, although donors do not put special emphasis on supporting cooperatives.
750 Partnerships with the international organisations have however significantly contributed to the
751 development of cooperatives. Other partners include private intermediaries and buyers that would
752 prefer cooperatives confined to their production role while evolving into service cooperatives
753 would create competitive tensions. The partnerships and networks appear to be one key element
754 of the EE for cooperatives' development as this is the main channel through which cooperatives
755 accede information, knowledge and technical assistance. Moreover, the COVID-19 crisis that had
756 led to a profound economic crisis in Kyrgyzstan and had severe consequences on poverty, food
757 security, price level (WFP, 2021), shows the high degree of reliance on international donor support
758 of the economy.

759
760 EEs in the agricultural sector, in Kyrgyzstan as in many other developing and developed
761 countries, are characterised by difficult access to resources and lack of appropriate infrastructure
762 and markets, in which networking and community leaders play a critical role (Galvão et al., 2020;
763 Miles & Morrison, 2020). EEs can involve various groups of actors ranging from government to
764 citizens (Isenberg & Onyemah, 2016; Beugre, 2016), however, in the case of Kyrgyz agricultural
765 cooperatives, the three main categories of actors appear to be cooperatives, the government, and
766 international organisations.

767

768 **6. DISCUSSION AND CONCLUSION**

769

770 The objective of this paper was to discuss factors that support cooperatives in
771 developing countries by adapting the EE framework to cooperatives. Thereby, this research
772 provides the first attempt to design an ecosystem approach to the development of cooperatives in
773 the context where the cooperatives institutions are less known and do not benefit from an enabling
774 environment.

775 Our findings point at five main attributes of an EE that affect cooperatives, resulting in an
776 extension of existing EE frameworks: (i) policy and regulatory framework; (ii) knowledge, skills
777 and education; (iii) market environment; (iv) culture; and (v) networks and partnerships. Although
778 the overall structure of cooperatives' EE can be comparable to conventional enterprises, its sub-
779 elements significantly differ as cooperatives' business and governance model is based on a set of
780 characteristics that require specific legislation, policy and institutional support, and investment in
781 education and skills development for cooperative enterprises. Furthermore, their market
782 environment is different due to their organisational structure and the profile of members, while in
783 the absence of specific tools of promotion, finance, and support services, they fail at competing
784 with private companies and market intermediaries, which is consistent with the arguments on the
785 necessity of public policy and adequate legislation made by previous research (Adeler, 2014;
786 Henry, 2017; Rowe et al., 2018). This study also reveals the importance of the cultural factors that
787 still hold to images of a collectivist past that were also discussed in the literature (Lerman, 2013;
788 ILO, 2001). Cooperatives' development in Kyrgyzstan promotes agricultural development
789 priorities, which on the one hand, explains cooperatives' importance in government policies, but
790 on the other hand, reduces their potential due to a lack of understanding of cooperative
791 specificities. Our findings imply that a holistic approach to cooperatives' development that would
792 encompass all EE segments, would allow unlocking the potential of cooperative entrepreneurship.

793 We also discussed the fact that their development challenges are not solely due to the lack
794 of funding or the collectivist past, as it is often discussed, but to a whole spectrum of inter-
795 connected issues that are common to developing countries: insufficiency of basic business support,
796 policy instability, lack of capacity, inhibiting culture, and other issues that the EE framework
797 allows to structure. We found that while the overall structure of cooperatives' EE can have a
798 general structure, its sub-elements must be specific to cooperative enterprises. Approaching
799 cooperatives through the lens of the entrepreneurial ecosystem (EE) is a way to address the lack

800 of a comprehensive framework in order to grasp cooperative complexity and foster cooperatives
801 development in a developing post-socialist economy.

802

803 As any study, some limitations have to be acknowledged, which future research might seek
804 to overcome. The type of data we analysed in this study offered an opportunity to gather and
805 systematize different views and information on cooperatives' development using the EE lens but
806 also constrained our study to the information for which data was available. Specifically, in
807 Kyrgyzstan, cooperatives are rarely targeted as a form of entrepreneurship as such, but mostly as
808 the means to higher-order ends of agricultural production, poverty alleviation, regional
809 development, and lately, the Sustainable Development Goals. Such framing may have caused the
810 overlooking of some data. Also, the single-case design of our study and its focus on agricultural
811 cooperatives prevents broad generalisation. Provided that cooperatives remain important actors of
812 development, further research should thus comparatively investigate and validate the EE elements
813 for cooperative enterprises in developed and developing countries to understand better the
814 contextual factors and actors that impact cooperatives' development. Such research could
815 potentially identify and compare the differences of policy and regulatory contexts, as for example,
816 measuring the impact of pro-cooperative policies; evaluating cooperatives' education and skills
817 level; perceptions of agricultural cooperatives by the younger farmers; evaluating the competitive
818 positioning of cooperatives versus non-cooperative types of producer organisations in terms of
819 product diversification, access to global markets; looking at cooperatives in other economic sectors
820 than agriculture; comparing successful cooperatives that have access to international markets
821 ecosystems to the ones that fail at organising their production; contributing to climate and
822 environmental issues etc.

823

824 This research has important policy implications as it provides cooperative movement supporting
825 organisations with an analytical tool to help defining their development strategies. The adapted EE
826 can help governments as well in developing a comprehensive policy framework regarding
827 cooperatives, which could for instance come particularly useful in defining their economic strategy
828 to reach the SDGs. Finally, such a comprehensive framework gives a rationale for international
829 development organisations to design projects and programmes that would include cooperatives as
830 a distinct business model. The development of agricultural cooperatives becomes today not only a

831 more efficient way of farm restructuring and a response to smallholder economy, but also a way
832 of supporting sustainable development through collective action by enabling rural producers to
833 engage in environment-friendly and climate-smart production and trade practices.

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1097 **Tables**

1098

1099 **Table 1: Data sources**

1100

1101

Data sources	Data types	Number of documents
Government of the Kyrgyz Republic	Laws, national strategies, policies on cooperatives publicly available from government websites	14
Cooperatives' Union of Kyrgyzstan (CUK)	Data retrieved from the CUK website: news, media, forum summaries, project information, interviews and other publications	16 ¹
Reports published by international organisations	Reports, studies, case studies, project documents and other published by the World Bank, FAO, OECD, ADB, JICA, ILO	21

1102

¹ The documents included the "News" sections, organized by year (one document per year).

1103 **Table 2: Coding tree for EE segments for cooperatives and matching EE dimensions in the extant literature**

1104

Matching existing EE frameworks dimensions	Clusters of coded data (Structural Coding)	EE elements adapted for cooperatives (Elaborative Coding)	EE segments (Categories)
<p>Policy: leadership, government (Isenberg, 2010);</p> <p>Government and Regulatory Framework (World Economic Forum, 2014);</p> <p>Framework conditions: formal institutions (Stam, 2015);</p> <p>Material attributes: policies (Spigel, 2017);</p>	<p>Legal basis for cooperatives, definitions, categories of cooperatives, taxation of cooperatives, state support, support policies for cooperatives, institutions of support to cooperatives</p>	<p>Cooperatives require specific laws, policies and institutions: a legal framework that clearly defines their underlying concepts and goals (Henry, 2017); policy support to cooperatives that addresses their specific needs: recognition of cooperatives, financing, sectoral financing, preferential taxation, supportive infrastructure, and preferential procurement (Rowe et al., 2018); unlike traditional enterprises, cooperatives can find themselves out of the institutional mandates, but they must be treated with equality throughout the government system (ILO, 2001).</p>	<p>Policy and Regulatory Framework</p>
<p>Human capital: labour, education (Isenberg, 2010);</p> <p>Major universities, Human capital and work, Support systems and mentors, Education and training (WEF, 2014);</p> <p>Systemic conditions: leadership, talent, knowledge (Stam, 2015);</p> <p>Material attributes: universities (Spigel, 2017)</p>	<p>Knowledge, education, training, information dissemination, lack of skills in the member community, capacity building programmes</p>	<p>Education and skills development: university programmes on cooperatives; member skills development and training; information and capacity building of policy-makers and other stakeholders. According to (Kalmi, 2007), cooperatives need to be integrated with economics courses for at least three reasons: first, they have an important place in many economies; second, cooperatives pursue social goals that distinguish them from the investor-owned corporations; and third, cooperatives reveal important economic issues. Cooperatives can also organise programmes aimed at developing member skills and capacity (Hoover & Abell, 2016) that also include their capacity to self-organize (European Commission, 2020).</p>	<p>Education, Knowledge and Skills</p>

<p>Financial Capital (Isenberg & Onyemah, 2016);</p> <p>Funding and Finance (WEF, 2014);</p> <p>Systemic conditions: finance, support services (Stam, 2015)</p>	<p>Access to finance, credit, funding sources, financial cooperatives</p> <p>Access to markets, Value chains</p>	<p>Market environment: support services, access to finance, access to markets. In these countries, their development depends on a range of factors that include access to finance, and also depends on the rehabilitation and reanimation of the agricultural extension systems (Lerman & Sedik, 2009), while public assistance is important for linking farmers to markets-public sector assistance for collective action (World Bank, 2018).</p>	<p>Market Environment</p>
<p>Markets: Customers, networks (Isenberg & Onyemah, 2016);</p> <p>Supports: NGOs, support professions, infrastructure (Isenberg & Onyemah, 2016);</p> <p>Access to markets: domestic, foreign (WEF, 2014);</p> <p>Framework conditions: infrastructure, demand (Stam, 2015);</p> <p>Material attributes: infrastructure, open markets, support services (Spigel, 2017)</p>	<p>Support services, extension services, support systems, physical infrastructure, advisory services, transport and logistics, irrigation technologies, phytosanitary and veterinary laboratories</p>		
<p>Culture: success stories, societal norms (Isenberg & Onyemah, 2016);</p> <p>Cultural support (WEF, 2014);</p> <p>Cultural attributes: supportive culture, histories of entrepreneurship, innovation (Spigel, 2017);</p>	<p>Culture, social norms, cooperative entrepreneurial traditions, and innovation, cooperative values and principles, trust, cooperative histories and legacies</p>	<p>Culture in EE includes success stories and social norms (Isenberg & Onyemah, 2016) as well as the existence of cultural attitudes supporting and normalizing entrepreneurial activities, risk-taking, and innovation (Spigel, 2017; WEF, 2014). In the post-soviet countries, cooperatives had to reorient their business policy and develop entrepreneurial skills, which proved to be difficult after decades of working for the implementation of state plans (ILO, 2001).</p>	<p>Culture</p>

<p>Systemic conditions: networks (Stam, 2015);</p> <p>Clubs, professional associations, and diaspora associations (Mason & Brown, 2014);</p> <p>Social attributes: networks, mentors and role models, workers talent, investment capital (Spigel, 2017)</p>	<p>Networks, business partners, advisors, investors, professional networking organisations, unions, professional associations, donor organisations, other stakeholders</p>	<p>Networks and partnerships correspond to the presence of social networks that connect entrepreneurs, advisors, investors, and workers and that allow the free flow of knowledge and skills (Spigel, 2017). They can take the form of professional networking organisations, entrepreneurship clubs, professional associations, and diaspora associations and others (Mason & Brown, 2014). Networks can include coop-to-coop cooperation, donor support, partnerships with academia, the private sector and others. The International Cooperative Alliance (ICA) 6th Principle is about cooperation among cooperatives, while partnerships can encompass diverse forms of collaboration within cooperative national, regional, international networks but also with other stakeholders (ICA, 2015b).</p>	<p>Networks and Partnerships</p>
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1106 **Table 3: Dimensions of the entrepreneurial ecosystem for agricultural cooperatives in**
 1107 **Kyrgyzstan**
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Policy and Regulatory Framework	Education, Skills and Knowledge	Market environment	Culture	Networks and Partnerships
Cooperative legislation	University education	Access to markets	Histories of cooperation	Cooperative unions and networks
Supportive policies	Member skills development and training	Support services	Cooperative values and principles	Donor support
Institutions of support	Knowledge and information	Access to finance	Supportive culture	Other partnerships

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