Modern Agriculture, Sustainable Innovation and Cooperative Banks: The Development of Almería (1963-2010)

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Summary:
The province of Almería, in southern Spain, is known within Europe as an example of smallholding rapid development due to the expansion of intensive agriculture (mainly greenhouses). In 1955 in terms of provincial GDP per capita it ranked last within Spain; its drought-ridden landscape devoid of infrastructure and its undernourished population holding little promise for economic growth. Today however, it is ranked within the top third of provinces, with wealth creation widely spread throughout its population. The average land holding, still, of an agricultural enterprise is 1.5 hectares, most being families or SMEs who join agricultural cooperatives. Currently, the Almería model is “exported” to various Latin American countries, such as Mexico, Perú and Colombia and is the focus of study in China, serving as an example of cluster support for a successful sustainable, non-industrial development model. The development of what is locally referred to as the “miracle” of Almería and the resulting “Almería model” cannot be explained or understood without investigating the active implication of both the local cooperative bank and the cooperative movement of the farmers. Financial needs of intensive agriculture of the 1960s and the current modern sustainable agriculture sector were/are up to 10 times higher than that of traditional agriculture. In light of this, the need for a specific institution to service such financial requirements arose. Thus, as the nascent rural development took root in Almería, a new bank was created under the umbrella of the Spanish financial cooperative law to focus on rural needs: Caja Rural de Almería (today, Cajamar). It fulfilled a broad and central role, not only in terms of economic development but also in the creation of a “civil society” in a population decimated by the policies of the Franco regime that otherwise had no access to capital. As the sector has modernized and matured into a Local Production System, the cooperative bank continues to finance social programs and agricultural innovation in terms of bio-control, food safety, sustainable environmental practices, etc. through its own technical research centre and socio-economic studies institute. Management and technical training courses are focused on transforming the “peasant” farmer into an agricultural entrepreneur.

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As well, innovative strategic decisions on the part of the cooperative bank have occurred in order to continue its local role, both within and outside of the agricultural sector, as well as maintaining its strength and pursuing growth (in keeping with the significance of local context for innovative action in increasingly globalised economic integration). Cajamar is Spain’s largest cooperative bank and is among the top 20 Spanish Banks. The Almería example represents a variant of the industrial district, albeit agricultural, characterized by both its active community members and the population of enterprises within Almeria’s geographical and historical boundaries. (We recognize, and discuss, that there is some argument as to whether it is a “district” or “cluster”). The role of Cajamar, while central to such model, has also proved key in addressing certain problems which have been identified as the limitations of the model. Our case study focuses specifically on the cooperation established and interaction between the agricultural sector and the financial cooperative sector in the process of Almeria’s development. The cooperative bank went far beyond a relationship-based model, instead performing a key role in the transformation of a underdeveloped farming area into an agricultural sector which produces and exports agricultural knowledge and technology. We also describe growth strategies.

Keywords: social financial innovation - cooperative banks - civil society - agricultural cooperatives - local development - sustainable innovation - industrial districts - clusters - nonindustrial development model - financing agricultural innovation - sustainable agriculture - cooperative bank growth

Structure of Paper:
1. Introduction and Theoretical Framework
2. Background/History on Almería economy and CajaMar
3. Mapping “co-evolution” of cooperative bank and agricultural sector and role of Cajamar
4. Growth and Expansion Strategy
5. Conclusions

1. Introduction and Theoretical Framework
The province of Almería, in Southern Spain, is home to Cajamar (formerly Caja Rural de Almería, officially founded in 1966, it activities commencing in 1963), the largest Spanish cooperative bank and the 17th largest Spanish bank.² The province is known within Europe as an example of agricultural smallholding rapid development due to the expansion of intensive agriculture. The average landholding, sufficient to support a family, is a mere 1.5 hectares, most held by farmers or small SMEs who are members of agricultural cooperatives. The benefits of such development are widely distributed (Downward and Taylor, 2007). Currently, the Almería model is “exported” to various Latin American countries, such as Mexico, Perú and Colombia and is the focus of study in China, serving as an example of cluster support for a successful sustainable, non-industrial development model.

² It has assets of over 26,400 million Euros and a managed business volume worth over 41,400 million Euros. Currently more than 570,000 individuals and 39,000 businesses and companies are partners.
In the 1950s and 1960s Almería was known for its abject poverty and arid landscapes, the subject of exposés such as Juan Goytisolo’s *Campo de Nijar* (1954) and *La Chanca* (1962) or Gerald Brenan’s *South From Granada: Seven Years in an Andalusian Village* (1957), all chronicling the dire circumstances of its inhabitants and the harshness of its habitat. In terms of GDP per capita in 1955, Almería ranked last (less than 50% of the Spanish average) in an already poor Spain suffering from the autarky imposed by the Franco dictatorship. Today it is ranked among the top third of Spanish provinces in GDP per capita thanks in large part to the development of intensive agriculture.

In this paper our primary claim is that the development of what is locally referred to as the “miracle of Almería” cannot be explained or understood without investigating the active implication of both the local cooperative bank, Caja Rural de Almería (now Cajamar) and the cooperative movement of the farmers (which creation was also in part due to Cajamar). We argue that such sustainable development was a result, in large part, of the innovative practices of Cajamar and its proactive involvement in the local economy. In addition, as the sector has matured into a Local Production System (described hereinafter) Cajamar’s role has evolved as it focuses on diversification of activities and sectors.

Case studies have their potential shortcomings. One risks the academic equivalent of taking a visitor on a stroll through some foreign town, gesturing with local pride at people and places, recalling events that although important for the locals, hold little importance for the visitor. Depending on the skill of one’s guide, perhaps the visitor will take away an historical factual oddity or at least walk away with the sense that somehow, with the march of time, “progress” has done its work and another small corner of the world is better off now (or not) than it was some time ago.

We have higher ambitions for the case study we present here, intending to use it as a juncture for the many inter-related themes inherent in the areas of financial cooperatives, local development, civil society, sustainability and innovation. To support our primary claim we focus on the cooperation established and interaction between the local cooperatives and the cooperative bank in the process of development and sustainable innovation.

However, our historical “walkabout” is not simply to prove that a now economically developed particular province in Spain owes much to its homegrown cooperative bank. We also intend to do some prodding about the way in which the role of finance is framed, particularly that of cooperative banks. While it has been noted by many that the “Modigliani-Miller theorem” (i.e. how a firm is financed is irrelevant to investment decisions) can be “disproved” such theorem has been “superseded” by the ever persistent and new found religion of agency theory and the economics of asymmetric or incomplete information. As a result, the success and role of cooperative finance is still too often framed as mainly issues of trust or information. (See for example, Dei Ottati, G. (1994) and Padoa-Schioppa (1997)).

Arguments are thus made in favour of cooperative bank finance based on information and transaction costs efficiencies—i.e. that monitoring is easier,

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knowledge being more implicit or community/trust based and thus, that the risk of “incompleteness” of both information and contract is reduced. (ibid.).

We argue that this is only one part of the analysis if we wish to explore the role of cooperative finance in local development, particularly in situations where sustainable innovation is key. It is taken as a given that “in a given territory, the supply of credit, and the financial system supporting it, constitute only one local factor in development” (Goglio, 2007). To believe otherwise would be to create a binary cause-effect scenario that would be difficult to recreate outside the most simplistic of laboratory experiments. What we intend to do here is to build a persuasive case of the local cooperative bank’s role, over time, in the development of the province of Almería, such development being largely based on agriculture. The cooperative bank’s role included, but went far beyond, the relationship-based supply of credit; rather it was a constant source of and impetus for sustainable innovation, both social and technical.

Following along this line, we illustrate how the cooperative bank contributed to sustainable innovation precisely because of their broader active role in local development. In contrast to a “control” or “information” based model (however much it has been modified to “fit” the cooperative bank situation), where the financial entity gathers as much information as possible through screening and monitoring to limit potential investment risk, juggling debt ratios and capital, all the while providing “banking services” such as affordable credit, a system of payment and perhaps insurance and pension fund services, we put forth, based on our case study observations, the role of the cooperative bank as a pro-active co-creator of development and an active participant in innovation.

When we speak of the economy of Almería specifically, it is of some interest that its economy may be included in the numerous examples of “industrial districts”, albeit an agricultural one, (see Ferraro-García and Aznar-Sánchez, 2008 illustrating such characterisation) and that within such agricultural district, the “territorially embedded” cooperative bank Cajamar plays such an important role, a role that we detail below. As noted, the little attention that has been paid to the function of local finance has often been concentrated on industrial districts (Goglio, 2007, p.2).

While this case study in not necessarily characterized as being within, or limited to, the context of industrial districts, it is certainly useful to take note of this form of development and the related area of study for the issues which have been highlighted in the last few decades. In the 1980s a rather overly optimistic exuberance could be found in academic literature with respect to industrial districts, particularly with respect to Italian incidences. In 1984 The Second Industrial Divide (Piore and Sabel, 1984) lauded the possibilities of the production model where SMEs embedded in local territories could compete in global markets. Becattini’s work on the “Marshallian Industrial District” (1979, 1987) provided a framework. The term “industrial district” was outlined by Becattini (1990, p.38) as a “social-territorial entity....characterised by the active presence of both a community of people and a population of firms in one naturally and historically bounded area”.

Porter’s work (1998) perhaps made the term more generic, being “agnostic as to territorial scale” (Whitford and Potter, 2007, p. 4), and more broadly defined “clusters” as being “geographically proximate groups of interconnected companies and associated institutions in a particular field, linked by commonalities and
complementaries” (summarized by Belussi, 2005, cited by Whitford and Potter, 2007, p. 4). While the latter definition draws the criticism that it has stretched the concept to any scale and reduced it to a “world-wide fad, a sort of academic and policy fashion item” (Martin and Sunley, 2003, p. 6), the insistence on a more orthodox Marshallian industrial district, although offering “theoretical coherence and heuristic value” (Zeitlin, 2007, p. 4) is somewhat limited by its insistence on being deeply rooted in the particular experience of relatively culturally cohesive regions (as in Italy) (Whitford and Potter, 2007, p. 5).

In this paper we are not so concerned about arguing for one specific definition or another⁴ and we are content to follow the middle of the road or a relatively unified perspective of analysis (see McDonald and Belussi, 2002, cited by Whitford and Potter, 2007, p. 5). What interests us more, is leaving the conceptual door open, as suggested by Zeitlin (1992, 2007, p.5) to a model “that is capable of accommodating a variety of empirically observable forms”. In doing so, we can observe that while certain districts are said to be in decline (Goglio, 2007; Bellandi and Caloffi, 2006), others are not, although they display the “same structural features (such as geographical localization and an extended inter-firm division of labour) as their more vibrant counterparts” (Zeitlin, 2007, p.5). Simply put, we can treat Marshall’s or Becattini’s versions as ideal types (one that is not static) and look to other elements which contribute to success and innovation, which in our case, is the activities of a cooperative bank.

In any event, we wish to be careful here and not fall into the trap of treating the district, and thus the financing within it, as some sort of static unit of analysis, complete with its formal characteristics. Instead, we prefer viewing it as a “unit of initiative” (Brusco, 1992, p. 196). Industrial districts “when they are successful, are creative, display originality, are often able to discover new markets, continuously introduce incremental innovations, some of which may prove important, and enhance social mobility and worker participation” (ibid).

In the Italian industrial district literature, cooperative credit banks are seen as “intermediate institutions” providing cheaper access to credit, thus lowering default rates, through the close ties that the banks had with the local community, (extensive knowledge of clients and trust) (Brusco and Righi, 1989; Capecchi and Alaimo, 1992; Ferri, 1997; Padoa and Schioppa, 1997). While we don´t dispute the local cooperative bank`s role in doing the above, we also argue that, in the case of Cajamar, it played a more important and creative role in the innovation and sustainable development of the local economy.

This distinction is important, particularly in light of the suggestion of the “decline” of industrial district success. We show that not only did Cajamar contribute to the developmental success of the province of Almería through both traditional and innovative methods, but that it was part of the solution when problems began to emerge, such problems arguably having their origins in classic industrial district indicators. Bellandi and Caloffi, succinctly characterize such problems as “the structural deficits of an economy heavily dependent on small firms and a sectoral specialization weighted towards relatively mature products that are particularly

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⁴ This is not to say that the honing of definitions is not worthwhile. However as it is an ancillary point in our paper, a more general definition will suffice.
exposed to low-wage competition” (2006, p. 466).\(^5\) Brusco (1992, p.196) points out that industrial districts are “slow to adopt new technologies, lack expertise in financial management, have little knowledge required for basic research, and are unable to produce epoch-making innovation”. Local banks as found in industrial districts are seen to be undermined by consolidation in the financial system, afflicted by weak organization and difficulties in competing with rivals (Ferri, 1997, Padoa-Schioppa, 1997).

We illustrate that the above traditional failings were avoided in the case of the development of Almeria’s “agricultural district” in large part due to the strategic and active participation of its local cooperative bank. In addition, the role of Cajamar avoided the tendency of mature industries (which intensive agricultural later became) to maintain the status quo rather than “retooling to capture emergent opportunities elsewhere” (Whitford and Potter, 2007, p. 6). Because Cajamar assumed the role of developing and encouraging innovation, indeed assisting in the incorporation of the same, and because it had a direct interest in both the short term success of any particular member and the long term success of the whole sector, it was not content with “maintaining a rentier status” (ibid.).\(^6\)

In addition, if we accept that the success or resilience of industrial districts was very much due to being both embedded in a local areas and at the same time a participant in international (later global) marketplaces, with their networks of knowledge (Brusco, 1994) then we can see Cajamar’s role in participating in both. Furthermore, “the need to continuously adjust and recombine the production process required that many of the relevant productive players jointly be embedded in a localized “network within networks” (Dicken and Malmberg, 2001) was a task largely assumed by Cajamar from its initial push for cooperative commercialization channels to setting up of experimental farms and its research institute (as described below).

It should be noted that Cajamar was neither the first nor only source of financing operating in the province of Almeria, as we detail herein. However, it ended up being the most successful and the financial entity most closely associated with the local economy. Nor was it the only institution which took on the role of “developing” the area at such time. The Franco regime implemented “colonization” projects through the National Institute for Colonization (“NIC”) and the involvement of the Department of Agriculture, which brought certain technological advancements (the drilling of wells and the bringing of electricity).

However, as we will point out below, these projects were not sustainable and only focused on available technology, not taking into account other financial, technical and social innovation which was necessary to develop the area in a meaningful way. Almería was not the only province to benefit from the colonization projects, but it was the only area which experienced sustainable success. Stories abound of the ineptitude and bumbling behavior of the Franco Regime policies and actions,

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\(^5\) Although as Whitford and Cotter note, notwithstanding a study by the Bank of Italy pointing to some difficulties, (e.g. Prato), "the overall economic performance of provinces dominated by industrial districts was superior to that of the rest of the country, whether measured in terms of employment growth, productivity growth or share of national exports". (See also Rinaldi, 2005; Signorini and Omiccioli, 2005; Becattini and Dei Ottati, 2006).

\(^6\) See Glassmann and Voelzkow (2004); Meyer-Stamer (2004) and Whitford and Enrietti (2005) for such examples.
which often worsened rather than benefited the area (Provençal and Molina, 1987, and 1990, p.43).

Central to our analysis is the assertion that Cajamar filled a civil society vacuum, thus contributing to its success. The importance of the role of cooperative banks as “catalysts for economic and social cohesion” was noted in a 2007 EACB study (a general survey) and more recently within the 2009 ILO Sustainable Enterprise Programme. In a global context, this issue is particularly relevant given limited resources by governments to deal with pressing social issues. It is noteworthy that Almería’s agricultural sector was never the recipient of large subsidies or state aid, neither in relation to the rest of Andalucía or Spain, nor the European Union. It has also always been steadfastly non-political (to the chagrin of local politicians).

This cooperative bank began during a dictatorship, a regime which had decimated a large proportion of its citizens through inept economic policies and cruel political repression. We set out particular historical social and economic institutional deficiencies, which resulted from the Regime, and suggest that Cajamar acted as a catalyst in the rebuilding of Almeria’s social economy. Almería was a wasteland, people had migrated out, there was little sense of civic or cultural community and a profound distrust of basic institutions such as the state and the Church (which was aligned with the Regime). The family (particularly amongst the lower classes) was the only trustworthy unit, in spite of being stretched to the limit at times, with members forced to emigrate to the North of Spain, Europe, the Americas, etc.

In addition to its civil society role, we focus on the local cooperative bank’s contribution to improved innovation and quality, encouraging entrepreneurship, creating and sustaining social and cooperative networks, addressing emerging external challenges, introduction of technology, knowledge production and information dissemination, “constant reflection (learning by monitoring)” (Meyer-Stamer, 2004, p. 343-344) and facilitating “localized learning” (Malmberg and Maskell, 2006).

As stated before, our focus is not to limit ourselves to an industrial district perspective. The above approach to a non-static view of clusters/industrial districts or embedded local development ties into other characterizations, such as the cooperative movement or other “collective entrepreneurship” initiatives of which the industrial district and cooperative are only a few amongst many forms. (See Burress and Cook, 2009 for a very useful and comprehensive overview of “collective entrepreneurship”). In keeping with the suggestion of Brown, et al, “cooperatives

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7 IMF Working paper “Co-operative Banks in Europe: Policy Issues”, July 2007 states that only 1% of existing economic research in Europe is being devoted to cooperative banks.

8 As a percentage of agricultural subsidies over agricultural income, for 2005: Almería 1.4% as compared to Andalucía, 16.2 %; Spain, 18.2%; and the EU 17.1%. In millions of Euros, as compared to other Andalusia cities for 2005: Almería, 4.4%; Huelva, 5.2%; Malaga, 7.8%; Cadiz, 8.1%; Granada, 12.6%; Cordoba, 35.1%; Jaen,35.5%; and Seville, 40.2%. (Eurostat and Consejería de Agricultura de la Junta de Andalucía)

9 As Cook and Burress (2009, p.8) point out "The concept of entrepreneurship as collective is often attributed to Schumpeter's work on the development of an entrepreneurial function and his writings on innovation (Schumpeter, 1928, 1949). Thus, authors use Schumpeter's work as the basis for research on the collective entrepreneurial function (Bottomore, 1992; Hagedoorn, 1996; Sarachek, 1980[as cited therein]). Schumpeter, in attempting to define the entrepreneurial function, asserts that each society may fulfill this function in a distinct manner. While Schumpeter does not use the term collective entrepreneurship explicitly, he suggests the entrepreneurial function is often fulfilled cooperatively. In addition, Schumpeter argues innovation often necessitates collective action to achieve adaptation, using as his example the U.S. Department of Agriculture and the agency's role in the introduction of technology. We may note that in light of the absence of any capable government functioning at the time of the Regime, Cajamar stepped in to fulfill such state role."
must not forget that they are, first and foremost, “self-help organizations” (1995, p.290).

A significant result that flows from conceiving of the cooperative bank as more than just a local source of capital avoids several problems inherent in both territorial and the economics of information approaches; That is, if the limited control-based territorial model, premised as it is on the economics of information and transaction costs efficiencies based on proximity, is adopted, any advantage that cooperative banks may be seen to have disappears as soon as the cooperative bank experiences significant growth or goes beyond its territory (even though growth may actually be key to capturing more funds to finance the original territory´s financing needs).

By approaching the role of Cajamar as a co-generator of development and as an important contributor to civil society in the development of Almería, it leads us to re-examine our notion of “territory” and “local development”. For example, if we look to how “territories” or “communities” may be constructed in the case of “ethical banks” we can see that they rely on a community that shares values but not necessarily physical proximity. Perhaps we can redefine the societal role of finance using “active” cooperative banks as an example. Their unique, inherent characteristics allow them to fulfill certain social/developmental goals, where the “territory” is one of community (which they help to construct) of values rather than one necessarily based on a pre-existing relationship with a geographic area. Indeed, given the migration patterns of those involved in the “miracle” of Almería’s development, the sense of “community” is something that arguably had to be created. First there was vast emigration out of the territory, followed by immigration of farmers who were re-located from other areas. The sense of community perhaps was more about economic activity, at least at the beginning, than it was about any particular “embeddedness” in the pre-existing social fabric. Hence, cooperative finance played role in defining/building community, and not the other way around. (See Aznar-Sánchez, 2005 for migratory patterns of Almería).

Summarising our arguments and observations above, we set out to illustrate the following in our case study (keeping in mind that the case study is a manner in which to contribute to formulating a successful strategy for cooperative finance in general, both theoretically and in practice):

- Sustainable development was a result, in large part, of the innovative practices of Cajamar and its proactive involvement in the local economy. The cooperative bank´s role included, but went far beyond, a relationship based supply of credit; rather it was a constant source of and impetus for sustainable innovation (technological, social and economic).
- Cajamar filled a civil society vacuum, thus contributing to its success. We suggest that cooperative finance can act as a catalyst in the creation of community, particularly those which are suffering from an absence of civil society institutions.
- Our case study can be seen as an example of an industrial district portrayed as a “unit of initiative” (as described above).
• Cajamar was part of the solution when problems, having their origins in classical industrial district indicators, began to arise. Growth strategy is included in such solutions.

• We illustrate the potential role of cooperative banks in the incorporation of new technologies, management training and the creating of innovative knowledge/technological based society. We show the necessity for flexibility, assumption of risk and commitment to supporting local economies and production activities.

Put simply, in using our case study as an example, we suggest that in exploring cooperative banks’ role in local development through sustainable innovation, we should shift the focus not only away from “whether a supply of credit exists” to “what kind of credit institution exists” but also to an investigation of the extent to which the credit cooperative is implicated in both the local and broader economy.10 What active roles did it play? What “self help” initiatives did it perform?

2. Background/History on Spanish and Almería economy before and shortly after the start of Cajamar

In 1957 the UK Prime Minister Harold Macmillan claimed that Britons “had never had it so good”. “Britons were enjoying freedom and prosperity and that prosperity was being distributed more fairly than ever before….a product of the post-war “social pact”: the cooperation between capital, labour and government which implied not only moderating labour demands but also sharing the benefits of the economic boom” (Cazorla-Sánchez, 2010, p.2).

With respect to Spain no such social pact existed, its dictatorship having relentlessly insisted on economic autarky. While the Franco years may be known for the harsh political repression11, what is until recently less well documented is the economic “terror” or suffering caused by failed policies which resulted in mass starvation and dire poverty. In the post war years 1939 to 1945, 200,000 Spaniards died of starvation. From 1935 to 1945 real incomes had dropped by 66 percent. In 1950 Spanish disposable income was 40 percent lower than Italy, which had yet to experience its own “economic miracle”. Economic reforms in 1952 and the 487.8 million of American economic assistance (conditioned on allowing a U.S. military base) did little to ease the economic disaster. (Cazorla-Sánchez,2010, p. 12). Within this already poor Spain, the province of Almería was last, with a level of income 50% lower than the national average (Sánchez-Picón, 2005, p. 76). The Province of Almeria, in the southeast corner of Andalucía, was a rural, formerly anarchist and/or republican stronghold, isolated in terms of infrastructure and abandoned by even its own.12

After twenty years of economic failure, Franco finally relented and allowed Opus Dei technocrats (over the protests of the Fascist party Falange) to implement the 1959 Stabilization Plan which essentially meant opening up the market to capitalistic practices but leaving the dictatorship untouched (Cazorla-Sánchez,2010 p.12). Spain`s economy as a whole began to improve for several reasons: the country had eased up its economic isolation and foreign investment began to flow in: $40

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10 However, “local” may be defined, we suggest that it is not necessarily a pre-existing community tied to a particular territory.

11 50,000 people were executed for political reasons in Spain after the civil war ended in 1939.

12 350,000 people migrated from Almería between 1900 and 1981, a figure which represented 95% of its population in 1900 (Aznar-Sánchez, 2005).
million in 1960 to $697 million in 1970. Tourism went from 6 million visitors in 1960 to 30 million in 1975, leaving $3 billion in their wake. 2.6 million Spaniards also emigrated to work in other European countries, sending their money back home and injecting much needed capital in a still weak economy. In addition, 6 million relocated within Spain, leaving rural areas sparsely populated (Cazorla-Sánchez, 2010, p.12-13).

During such relative economic improvement however, income disparity increased: In 1974, the year before Franco´s death, half of the population received 20 percent of disposable national income while the other half enjoyed 80%. Within the latter group, 10% took 40% of such income. Geographically, the benefits of economic and social development were also unevenly distributed and at the end of the line were the rural areas of Andalucía (which includes Almería), Extremadura and La Mancha. (Cazorla-Sánchez, 2010, p.14) These latter regions also had “suffered a demographic hemorrhage during the dictatorship and the south in particular was left with many areas where abject poverty and illiteracy were rampant and social services scarce” (Cazorla-Sánchez, 2010, p. 14). In contrast, industrial areas of the Basque region, home to the internationally known Mondragon cooperative, along with Catalonia and Asturias, ranked first among the wealthier regions.

As Spain´s economy grew and became more industrialized and urban, a second so-called “achievement” (the first, being the adoption of capitalism) of Franco played an important role: affordable labour. As Cazorla-Sánchez observed (2010, p.15) “Francoism created an affordable, disciplined workforce which was achieved by the killing of union leaders, by the destruction of genuine, representative organizations and by instilling fear and pessimism in the general population. The combination of these factors made possible the optimum exploitation of employees by both the state and capital interests. The state guaranteed employers a “business friendly” environment with a docile and cheap workforce”.

Spanish capital, both local and international, “never had it so good” (Cazorla-Sánchez, 2010, p. 15) with low taxes, inexperienced labour and a captive undemanding consumer market. (Cebrián Villar,2001, p. 277-300). In 1965, public expenditure was 15% of GDP (OECD average was 31%). In 1970 it was barely 20.1% of GDP, compared with France-51%, Italy-43.3%, UK-53.2% and Germany-36.8%(Carreras and Tafunell, 2005, p.877).

This state of affairs, both with regard to the absence of labour leaders and desperate but docile workers and the lack of public expenditure and investment are important in understanding the influential role that Cajamar would later play and explains in part the active “self help” example it would set for the community and its filling in of the “civil society” and institutional vacuum that was the result of the dictatorship and its policies, not just economic but social as well.

3. Mapping “co-evolution” of cooperative bank and agricultural sector

Phases in the development of agriculture in the province of Almería

Almería has experienced a huge transformation in the last 40-50 years. Between 1970 and 2000 alone, the rate of population increase of the province was 90% more than that of Spain as a whole, 84% more in production and 130% growth in employment than the rest of the country. During this period it also grew 20% in
GDP. While it was not the only province to develop economically, it was unique in that both grew in terms of population and in wealth (Molina-Herrera, 2005, p.15).

Presently, 20% of such production and employment is in the agricultural sector (in contrast to 2% in the EU-15 and less than 5% in Spain). A majority of the agricultural sector is comprised of cooperatives, family farms and SMEs.

Today, as one looks at the hectares and hectares of Almería greenhouses (visible from satellites\textsuperscript{13}), so vast that their reflective force has actually reduced global warming effects, several questions come to mind: How did such agriculture begin where it had been almost inexistent previously?; How did such initiative endure for such a long period?; and finally, How is it possible that such a process of accelerated growth could come from a primary sector? (Molina-Herrera, 2005).

We divide the agricultural sector activity of Almería in 4 stages: Initial activity (pre1960-1975); The “Take-off” period (1975-1990); Maturity (1990-2000); and Spillover (2000—onwards). We describe each stage briefly and identify the financial needs of each stage. We go into more detail on the role played by the various financial entities, predominantly that of the cooperative bank, Cajamar.

Below in Figure 1 a graph gives a thumbnail sketch of the development of Almeria’s agricultural sector, divided into the aforementioned stages.

\textbf{Figure 1. Development Stages of Almeria Agriculture} (source Foundation Cajamar)

\textsuperscript{13} See Google Earth-Campo de Dalías, El Ejido, Almería.
Initial Stage (pre-1960-1975)

The province of Almería in the 1960s as mentioned before was a poor region in Spain. Its lands were arid, with the exception of a few “vegas” or valley areas, with an important percentage of its population having emigrated due to lack of opportunities and the remaining rural population living an almost subsistence life. Although the sunniest region of Europe, the annual rainfall is scarce, falling between 300 and 400 mm. Geographically, it is isolated and the lack of infrastructure at such time made it more so.

Before the beginnings of the cooperative bank, Caja Rural de Almería (activities commenced in 1963, now Cajamar.), there were other sources of finance operating in the region: regular commercial banks (for example Banco Bilbao, its head office in the wealthy Basque region), foreign capital, private banks, savings banks related to the Church, as well as some public finance in the form of development programs. While the savings bank was involved in social programs, such as schools, residences, social housing, seniors clubs, etc. (Titos Martínez, 2005, p.578) it did not lend to poor farmers, although it began to offer some lines of credit to the established and profitable inland grape and citrus rural agricultural sector in cooperation with the National Agricultural Credit Service (Servicio Nacional del Crédito Agrícola) in 1956. (Cazorla-Sánchez, 1999, p. 262 and Titos Martínez,2005, p.578).

In the 40s the Campos de Dalías, (a large expanse of land, 30,000 hectares, that is now covered with greenhouses) within the province of Almería, had already been declared a Zone of National Interest in order to introduce methods to utilize the water reserves beneath the arid land. The Regime was interested in increased agricultural production. A program was implemented by the National Institute for Colonization (NIC) to provide wells and pumps resulting in a few hundred hectares being able to be supplied with water by virtue of small gasoline pumps, the low amount and irregularity of electricity precluding much more. (Sánchez Picón, 2005, p.82) In 1956 corn and tomatoes were planted with abysmal results, although the latter less so. (Cazorla-Sánchez, 1999, p. 229)

The subterranean waters were quite saline and not particularly suited for cultivation. However, a solution was found by farmers who had come from the interior part of the province and resettled. The “technological innovation” of the time consisted of putting down a layer of fertilizer, then covering this with by a layer of sand, in order to keep the roots moist. More importantly, the sand acted as a filter for the salty water. Farmers from the mountain regions and inland had also been accustomed to grape production using trellises, so in keeping with the same,

14 From 1941-1950, 46,846 people left the countryside and 13,016 left Almería capital, from 1951-1960 57,560 and 6,596, respectively. (Cózar Valero, María Enriqueeta, 1984, La emigración exterior de Almería at p.110, cited in Cazorla-Sánchez, 1999).
15 D. Juan del Águila, the founder of Cajamar, remembers Paco el Piloto (Paco the Pilot) as being the first to use this method in Almeria. Other versions claim that it was the National Institute for Colonization (NIC) in 1957 which introduced such techniques (Fernández Lavandera, O., Pizarro Checa, A. (1981) n. 115 pp. 31-69.) However, given that NIC’s first plan was to plant cotton, potatoes and corn (the latter in 1956 with disastrous results) and that as well it introduced in Níjar the even more disastrous wide-spread planting of “datula medel” (a plant with trumpet shaped flowers with hallucinogenic and perhaps medicinal properties) in an agreement with a German laboratory, perhaps it is more believable that the displaced farmers had brought their survival techniques with them and that such techniques were finally adopted by the government agency. See Provençal, D. and Molina, P. (1990, p. 43 and in general), in relation to the National Institute for Colonization's attempts to impose certain crops on farmers with devastating economic results.
they built structures with wooden posts and galvanized wire and covered them with cane to reduce the vicious effects of the strong winds which sweep over the region. With the arrival of plastic sheeting, a clear plastic sheet was put overhead. These structures served as the first rudimentary greenhouses.

In 1961 NIC introduced an electrification plan, allowing more efficient water pumps, and thus a model of development based on using subterranean waters (we should note, a limited resource) was put into motion. More importantly, such agricultural activity served as a lure for people from other areas (such as the mountains or the interior), many with nothing else in their future. Pursuant to the Colonization program (the Regime´s odd term for agrarian reform), the barren land which was considered otherwise useless was offered for sale for this type of cultivation. Presented with the choice of emigrating to far off places (as many had done before who had had no choice) or moving a shorter distance and with the possibility to start a farm and own a small parcel (maximum 3.5 hectares), labour, predominantly in the family form, chose to stay. In order to finance their purchases they either had to sell off their land in the interior (if they had any) or rely on the savings of family (if there were any). It should be emphasized that without irrigation and at least rudimentary greenhouse technology, it would have been difficult to support a family on such small pieces of land. The Colonization program was not necessarily intended to improve the lives of such farmers, but rather to exploit existing resources (cheap labour and underground water), fully expecting that they would be part-time farmers for themselves and cheap labour for others.

Agriculture as a sector was organized along the lines of the family unit, allowing “no cost labour” of all family members (it was calculated that the labour of 4-5 fulltime people were needed per hectare, thus a large family working hard, could manage) (Cazorla-Sánchez, 1999, p.255). With increased production underway by use of irrigation and basic greenhouses, it was obvious that families needed to sell their production. However, there were few organized marketing efforts and farmers would attempt to sell their goods, often completely unaware of what others were selling for. Buyers with large trucks would go through the countryside and close individual deals with farmers who had little idea of current prices. Checks often bounced for insufficient funds. Problems faced by the farmers in commercialization, controlled as it was by large, sometimes foreign multinational, groups, were significant and difficult to overcome without independent financing and organizational strength (things which Cajamar would help to provide later).

Local Almería firms solicited to be included in the Official Register of Exporters. This was denied by the Regime’s Administration, which reasoned that they didn’t meet minimum conditions (citing lack of an official quota and poor railway service, two

16 The Agricultural Census indicates that in 1962, 6,195 hectares were irrigated and devoted to the cultivation of vegetables, although these levels could easily have been inflated.
17 Not everyone was eligible, even if they did possess the resources. A selection process declaring the prospective purchaser “fit to work” was required, such selection process serving as a political screening. Anyone condemned of previous political activity or who were considered subversives were excluded. “The ideal new farmers were deemed to be apolitical and supportive of the regime.” (Cazorla-Sánchez, 2010, p.107)
18 The reasons given by the Administration to exclude Almería firms from exportation of tomatoes were suspect: it was claimed that the rapid increase in production occurred too quickly and thus there wasn’t sufficient preparation nor available trucks (although in reality, such trucks did exist from the prior commercialization of grapes). In addition, it cited poor rail communication, although the railway was state owned and by design of the state, closed for part of the year. Finally, it claimed that Almería didn’t have an official quota for the exportation of tomatoes, although it was the main producer. (AHPS, Memorias del Sindicato de Frutos, 1951-1976 G198-201) Take note that the latter two of these “deficiencies” were caused by the Regime, which had the power to rectify them.
things within the Regime’s control) and that they were not in operation long enough (AHPS, Memorias del Sindicatos de Frutos, 1951-1976 G198-201). Commercialisation was thus controlled by larger companies from Murcia, Alicante and Valencia (all having a better relation with the Regime), who would buy Almería product and re-export it under false labels (Cazorla-Sánchez, 1999, p. 232).

Various auction houses on the initiative of entrepreneurial middlemen, backed by foreign and local capital eventually did begin to operate and some even implemented a type of “financing” in that they would front the costs of seeds and supplies and subtract it from revenues upon harvest. Although the auction houses would serve a purpose as a general meeting place and as a positive social force, as they went on to become more complex, providing an organization for export, credit fertilizers, insecticides and other farm materials, there was also the risk of exploitation. Lack of transparency in prices and price fixing between large auction houses occurred. Lines of credit and provision of seed and materials left farmers in dire circumstances if they had a bad harvest and they lost their land to the auction houses. Auction houses would then resell or rent the land to young farmers with an exclusive contract to sell their goods, thus allowing the auction house to fill up their warehouses with product and combat the efforts of farmer cooperatives (Cazorla-Sánchez, 1999, p.234) A cooperative auction house (founded in the 40s) did exist, but it lacked sufficient capital until funded by Cajamar.

Economists describing these times often offer the following observations: that in general, financing needs were low and there was very little linkage between financial and agricultural sectors. Production depended on natural factors (availability of some water, cheap land and a sunny climate), abundance of cheap and young labour, and low capital requirements given basic technology and the absence of a marketing structure. The agricultural activity is described as being squarely within the primary sector and value added based on sheer labour effort. What little financial intermediation existed was noted to be largely through the auction house (e.g. Molina-Herrera, 2005; Cortés-García, 2003/2004).

What this analysis does not tell us is that there was a crucial need (however low) for financing by the farmers. Those that had no capital needed a way to turn the only thing they did have, labour, into capital. As well, they also needed capital and an organization to create a system of commercialization. While technology was basic, it was still significantly more expensive than non-irrigated farming. Without access to capital by these poor farmers living on otherwise worthless land, further development would have been difficult if not impossible. At best, they would have been part-time farmers, working as “cheap and docile” wage labour for the Almería urban class.

The development model as set up by the Regime was unsustainable, relying as it did on the over-exploitive and unwise use of water (flooding irrigation), under-investment in further technology, infrastructure and commercial avenues and no investment in the people actually working the land. Farmers endured atrocious living conditions, without proper housing or sanitation. Children had to work

19 In an interview with a then farmer D. Antonio Vargas Fernández, he noted that the auction houses were arbitrary, with no set policy on why certain produce was labeled first or second category. The auction houses were perceived to be working together, and as well, they had special deals with large land owners.
20 When a loan was made to set up a permanent warehouse and offices, the cooperative (Cooperativa Agrícola de San Isidro –CAS) prominently displayed on its sign, beneath its own name, that Caja Rural de Almería was its financial backer.
alongside parents, often missing school entirely (Cazorla-Sánchez, 2010, p.107). Peasants they would have likely remained until the last drops of fresh water had been squeezed out of the aquifers below.\textsuperscript{21}

It was against this backdrop that Cajamar was born.

It is useful to give a bit of background on cooperative bank legislation under the Regime: In 1942 through its Law of Cooperatives, the Regime recognized the importance of having “a” cooperative movement which was structured to be consistent with the Regime (which should not be confused with recognizing the importance of “the” cooperative movement).\textsuperscript{22} This eventually lead to the creation in 1957 of a National Caja Rural (rural cooperative credit bank) which took under its wing the already existing cooperative rural banks operating in Spain. 1962 saw a new law for the regulation of the finance sector in general in Spain and in 1964 the National Caja Rural was reorganized and strengthened and put under the supervision of the Minister of Finance. Important benefits were available to those credit cooperatives that fulfilled certain requirements (5 years of operation, prohibition on being a second level cooperative and maintenance of assets superior to 100 million pesetas.) This created a big impetus for rural cajas as they had thus the opportunity to access official agricultural credits and to restructure with a more solid base (Tito Martínez, 2005).

In 1963 “Caja Rural Provincial de Almería” activities commenced on the initiative of a few local people, amongst them a young lawyer named Juan del Águila Molina, a worker in the Union of Irrigated Land Farmers and later in the Union of Plowmen.\textsuperscript{23} Knowledgeable about the necessities of small Almería farmers, aware of cooperative credit organizations in other countries and a member of Acción Católica,\textsuperscript{24} he sought a development model that was between the Fascist Falange party and the outlawed Communist party. With his wife and a small car, he began to visit farmers in small towns and villages, “informing” them of the possibility of cooperatives.\textsuperscript{25} Cooperatives were usually based on municipalities, at first supplying tools and equipment as well as attempting to develop exportation methods. It became apparent that without some form of financing, it would be difficult for the farmers or cooperatives to succeed. Other sources of finance in the Province of Almería would only lend to business and land owners who could provide security or guarantees. Even if the farmers did have land, such land was often not worth enough to secure the loan.\textsuperscript{26}

\textsuperscript{21} As the fresh water was over-exploited, the levels of the underground water dropped below sea level, thus resulting in the invasion of salt water from the Mediterranean. The water pumped up for irrigation became more and more saline, thus creating problems in production and plagues and the further mineralization of the soil.\textsuperscript{22} The cooperative movement under Franco hoped to structure society so that both labour and management held their proper “place” in society—cooperatives were to serve as a method to control and contain labour, giving them small tidbits of choice (e.g. voting within the cooperative).\textsuperscript{23} It should be noted that these unions, “sindicatos” were not really labour unions—rather they were regime sponsored associations used to control and categorise workers.\textsuperscript{24} It should not be assumed though that this was a “white” cooperative movement, as it was decidedly not.\textsuperscript{25} In an interview with D. Juan del Águila for this paper, he was asked how he “convinced” the farmers. He was quick to point out that he did not “convince” them, but “informed” them, this of course being entirely appropriate, particularly for the times, in which poor farmers were overwhelmingly suspicious of any kind of institution or authority.\textsuperscript{26} This brings to mind an observation of Marshall (1932, pp. 173-4) that it wasn’t only lack of capital that created challenges for the marginalized working-man, but the difficulty in convincing those around him that he had the business ability and the personal capital worthy of such credit.
The first innovation (within the context of the finance sector of Almería) of Cajamar occurred—to break the rules of traditional finance and give unsecured loans, based solely on the promise of labour. By doing so, labour could be turned into capital. As a result, it also put Cajamar in a different position than a traditional provider of credit or capital: it had an interest in making sure that whatever activity the farmers engaged in was worth financing. \(^{27}\) This simple, although paradigm changing, observation has informed the strategy of the cooperative bank since such time.

The first activity was the opening of accounts, the deposits of which were held in the Bank of Bilbao. As Cajamar wasn’t officially set up to perform financial transactions, the founder withdrew the funds every morning, circulating amongst the farmers to do their banking. \(^{28}\) At the close of business he would return with the money and deposit it once again. In the meantime, a network of customers was created. Knowledge of the farmers and farms was also gained by the bank. This continued until the credit cooperative was officially set up in 1966.

When Cajamar officially became a credit cooperative, it could only give credits or make loans to agricultural cooperatives. To this end, it followed a strategy of creating cooperatives in many small towns and villages, dedicating resources and people to the task. Deposits from the interior towns, where during the 50s and 60s the exportation of oranges and grapes was still somewhat profitable, were used to finance the emerging needs of the “new” irrigated farming on the coast. \(^{29}\) There was a double objective: to find new clients and to create an agricultural cooperative network throughout the province. (As the legislation was progressively relaxed, the commercial strategy was varied. For example in the 1980s members did not have to be farmers and the percentage of such credit could be up to 50%. Cajamar strove to make the majority of its clients cooperative members, regardless of sector origin.)

Cajamar was the impetus for farmers to organize rather than being “docile” and defeated cheap labour. Although their lives were hard, they were at least able to be cheap labour for themselves. As mentioned above, there was a vacuum of union leaders and political organizers and a distrust of institutions and authority. Even though “cooperatives” were still cooperatives under a dictatorship, the fact that they were small enterprises with the support of independent financing was the start of a new paradigm in the region. It may be that for many of these people, Cajamar was the first institution to earn their trust outside of the family. \(^{30}\)

The first formal official loan on its own account was made in 1967, a loan to an agricultural cooperative to finance the growing season, as were the ones that followed. They were relatively short term loans and thus did not immobilize resources for long. In 1968 Caja Rural became the intermediary for the province of Almería for those agricultural loans given by the official bank, using the official bank

\(^{27}\) Interview with D. Juan del Águila.
\(^{28}\) Interview with D. Juan del Águila.
\(^{29}\) Interview with Juan del Águila by Cazorla-Sánchez, in Cazorla-Sánchez, (1999, p. 261) as footnoted.
\(^{30}\) To this day, it may still be the case. The current president of Cajamar, D. Antonio Pérez-Lao, has commented that at times the branch managers are so integrated into the local areas it is as if they have stepped into the role of the local priest, being asked to offer advice on everything from which car to buy, whether a boy will make a good husband for a daughter or whether a house or piece of land is a good investment. Branch managers in interviews for this paper say it is also not uncommon for a manager in a fishermen neighbourhood to receive gifts of a whole fresh octopus or a bag of shrimp or a box of tomatoes, peppers or eggplant in greenhouse zones. Wedding invitations on the marriage of client’s children are common.
program as a complementary base for its own financial aid to the cooperative farmers. In 1970, Cajamar, conscious of its rural roots and focus, proceeded to rapidly open “branches” in all of the small towns and villages of the province—such branches being modest buildings amongst the greenhouses. It grew along with the agricultural sector. In 1971 vegetable cultivation occupied 9,000 hectares and had become the motor of the Almería economy. In 1972, the cooperative bank opened its own office in Almería city (until then having operated out of the Union Organization building) (Tito Martínez, 2005, p.589-590).

In 1973 Almería experienced an environmental disaster, torrential flooding wiping out a huge portion of the greenhouses and farmland. Cajamar administered more than 860 million of pesetas in official loans to the farmers. Realising its shortcomings in handling such volume, in 1974 it began the process of information development and signed an agreement for the acquisition of its first electronic computer.

In the space of 12-13 years, the cooperative bank had started up (actually only able to “officially” provide financing (as opposed to holding deposits) for 7-8 of those years), helped to develop an agricultural cooperative movement (the production still in the hands of family farms) and established innovations in both information and agricultural technologies. (It is worth noting that its actual “financial” activity was quite straightforward—simple credits and loans in keeping with traditional banking). Its growth was extraordinarily rapid. In 1970 agricultural loans equaled 200 million pesetas. Three years later this amount was 1,268 million pesetas (865 million from its own sources and 603 as part of the Banco de Crédito Agrícola program). (In contrast, the well established savings bank of Almería had only a volume of 862 million in agricultural loans.) In 1975, the amount equaled 2,490 million (1,514 million from its own resources and 976 from the Banco de Crédito Agrícola)\(^{31}\).

While these results are impressive under any circumstances, what is curious is how such a cooperative movement and cooperative credit bank managed to do this during a dictatorship where capital and social structures were tightly controlled by the Regime. Asked for his opinion on this, the founder of Cajamar stated that he thought the Regime just hadn´t paid any attention at first, never imagining that such success could come from the poor farmers. Cajamar operated “under the radar” and when the Regime noticed, it was already well entrenched as an institution in the province of Almería.\(^{32}\)

In 1975 Franco died and Spain began the transition to democracy.

**“Take-off” Stage (1975-1990)**

Noting the end of the dictatorship, one could be tempted to think that the economy and society would immediately improve. While there was a clear improvement in terms of political freedoms, the economic path upwards proved more complicated. Unemployment was high, there was little culture of investing, Spain was isolated

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\(^{31}\) See the annual accounts from 1973 and 1975.

\(^{32}\) It is difficult to overstate the loyalty and affection that these farmers have for Cajamar as an institution. On oral interviews made by the authors, many tell of the frustration and humiliation of not being able to get loans from other credit institutions to build a basic concrete block house, to buy equipment or a small piece of land, etc. Local offices which provided ready access and service was also something that they had never experienced from an institution. The opening of the first office is local legend.
and there was a muddled vision of the way forward with the loss of the paternalistic state and little sense of external international competitiveness. Not to mention fear of further violence and instability should the delicate process of transition fail.

From the social perspective, growth had a cost. Farming was hard work and in particular the Almeria model depended on the exploitation of the whole family. According to a study, 75% of parents preferred that their children go to university instead of following the path of such a hard life and only .5% wished their children to become farmers (Alarcón Alarcón, F., 1977). The sense of one´s “home place”, always an important part of Spanish life, was disoriented as there had been so much movement, and social and community structures were crumbling. In total the population of the area had grown over 250% (Cazorla-Sánchez, 2010, p.107; Aznar-Sánchez, 2005) There was a deficit of services and alcoholism, delinquency, etc. was on the rise. As farmers entered into more and more debt, suicides became more common when enterprises failed (Cazorla-Sánchez, 1999, p.265).

The growing agricultural model began to show signs of stress, particularly in the most concentrated areas of greenhouses. As land became more in demand, it became scarcer and prices climbed. At the same time, overexploitation of underground water was threatening the levels and the saline content was increasing due to the intrusion of seawater seeping in to fill the gap. Mineralization of the soil increased, pesticides started to accumulate, plagues increased, erosion was a problem as was waste disposal. Production started to decrease and energy prices started to climb (Cazorla-Sánchez, 1999, p. 264). Supply started to overtake demand as other areas of Spain also had increased production (Murcia, Canary Islands, Valencia, etc.). Countries which had a favoured status within the European Common Market and countries which had agreements which gave them preference (Holland, Morocco, Israel) were serious competitors. This weakening position gave more market power to large agri-food companies (Cazorla-Sánchez, 1999, p. 264-5).

The challenges for the cooperative farmers in this stage of development not only were the adjustments to be made in the transition to a market economy and to a democracy, but there was also a need for innovation, on a social, economic and strategic level. In the province of Almería at least, Cajamar was a partner, perhaps the instigator, for the farmers in such process.

A key strategic decision was taken in 1975/6: three experimental farms were initiated and fully financed by Cajamar with the goal of increasing the technical level of the agricultural cooperatives by testing, developing and sharing results with the agricultural cooperatives. Its purpose was to transfer in part, experimental and crop risk (and thus, financial risk) from the farmer to the credit cooperative. Water technologies were an important area of research. The experimental farms gave courses and published both scientific and informative reports, widely disseminated amongst the cooperatives and the farmers. At such time there was no university nor research centers which could have fulfilled a research function. (See Annex 1, in which we set out the areas of research and important discoveries of the experimental farms wholly funded by Cajamar).

In 1975/6, as well, the Technical Agricultural Service, fully financed by Cajamar, was created, where the viability of new technologies was tested in order to provide information on establishing the adequate finance mechanisms that needed to be
put in place for each new technology (basically, a system of risk assessment). (Galdeano, 1994, p. 278). While certain technologies were indeed innovative, whether they were or would be profitable was an entirely different matter.

With the foundations of both finance and technological investigation put in place, the process of growth began in the new agricultural sector ("new" meaning for the most part drip irrigated greenhouses). There was a considerable substitution of labour for capital in the form of technology, the structuring of marketing systems, and the opening of new markets, particularly that of the European Union. With all of this came the need for increased financing and increased coordination. Although labour was still provided by the family structure and cooperation between neighbours during the most intensive periods of harvest and preparation of greenhouses, farmers were now faced with the expenditures of specialty seed, plastic, fertilizers, pesticides, etc. (Cazorla-Sánchez, 1999, p. 264 and 265).

The role of finance in this stage in both production and marketing had a dynamic character, providing for the incorporation of new technology and above all the incorporation of market information in the production process (dates, varieties, ripeness, etc.). Primary agriculture gave way to intensive agriculture by the use of such factors closely connected to consumer markets. \(^\text{33}\)

Cajamar took over the role of credit sections within the cooperatives, making it unnecessary for the cooperatives to expend time and resources to fulfill a credit function. It also could better provide for the increasing requirement for funds that both commercialization and production needed. In addition, because it poured its social funds and benefits back into research and investigation, it was in the position to also be the interpreter of how much funds were necessary for any particular activity. (Institute of Studies, 2004, p. 13).

The main technological projects undertaken by Cajamar’s experimental farms during this stage were the testing of hybrid seeds (1975/6), drip irrigation (1977), thermal plastics (1982), improved drip irrigation (1983) and significant improvements in the structure of greenhouses (1985). Such innovations not only significantly increased production but also allowed Almeria’s product to enter the market two months earlier, something that was key when faced with competition from other countries. (See Institute of Studies, (2004, p. 22) for the relationship between the incorporation of technology and increased production).

The assumption of research expense and experimental risk by the cooperative bank, not only spared farmers such uncertainties, but it also created a sense of community through a shared knowledge base. It was also an example of a financial institution working directly for the benefit of their community and class, something that had been unheard of until then.

The cooperative movement also contributed to changing the mentality of the farmers in that they were now participants in the commercialization process, with a deeper understanding of workings of the market and consumer demand. The tools of pressure that they could now begin to influence as both producer-exporters on the level of the Administration (which was dominated by other producer areas of

\(^{33}\) Production increased from 829,584 tons in 1976 to 2,583,912 in 1999 and Commercial Exports from 102,253 tons to 1,303,570 tons, respectively (Institute of Studies, 2004, p. 14).
Spain) became stronger as the sector grew and they found themselves with a political voice and power not experienced before.

In addition, the research dealt with the pressing environmental issues such as the increasing overuse and salinization of the underground water and general environmental degradation, something that was necessary from a sustainability point of view, but something that the family farmers would not have been able to undertake, financially or technically.

**Maturity (1990-2000)**

Not only was this a period of important economic growth, an important cultural shift occurred. The disappearing agricultural identity was replaced by an agro-industrial model. Family farms begin to contract labour, often immigrants from Morocco, while their children began to attend the new university (University of Almería) to pursue professional careers, some of which were associated with agriculture.

Entrance into the European Union, coupled with the impending globalization after the Marrakech Agreement of 1995 (replacing GATT and liberalizing world trade) brought again new challenges to the Almería agricultural sector. Such conditions required larger infusions of capital than had ever been the case to meet increased demand and to enable the farmers to compete internationally. (See Figures 2 and 3 below).

![Figure 2. Evolution of the finance necessities of the Almería economy](image.png)

(Thousands of millions of Euros-source: Bank of Spain)
Cajamar assisted in meeting these challenges in several ways: it pursued an expansion strategy in a neighbouring province with an intensive agricultural sector, prompted by the failure of such province’s credit cooperative. It also continued to invest in research and technology, such technological advances moving at an even more rapid speed. Full financing was provided to build permanent installations for an International Trade Fair (ExpoAgro) so that such technologies could be presented to the international market, and no longer solely for the use of the local farmers.

Many of the technologies focused on sustainability: precise water efficient irrigation systems, biological rather than chemical pest control, soil substitutes, ecological fertilizers, more resistant plastics (less waste), etc. Other technological advances included computerized greenhouse controls, further structural improvements in greenhouses, long-life hybrids, etc. Environmental solutions were sought for waste collection and recycling. (See Annex A for “Areas of Research and Major Innovations-Experimental Research Center and Farm Las Palmerillas”).

During this period there was a widespread incorporation of production technology, business management applied to farms, and the conversion of the “peasant” into an “agricultural entrepreneur”. Cajamar provided management training courses for the agricultural cooperative boards, technical sessions for field technicians, specialist agricultural courses and assistance with grant applications. Information technology was also introduced into the cooperative sector through the introduction of an email system for all clients and an online banking system (both in 1996-7).

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34 An important advance, although seemingly “lowtech” was the introduction of colonies of bees that could survive in greenhouses. The task of pollination until 1991 was done by hand, flower by flower, row by row, hectare by hectare; an amount of manual labour now almost unimaginable.
An important function of Cajamar was to calculate the economic implications of the adoption of such technologies, a task which would have been beyond the family farm’s capabilities, other than through trial and error. The assumption of experimental risk (assumed in 1975 with the founding of the experimental station), became an even greater contribution.

Cajamar contributed to the creation of new lines of businesses in the cooperatives, supporting business associations related to agriculture not only financially but also utilizing its network of institutional contacts for the development of their projects. Services and infrastructure become similar to that of industrial districts. Support for other institutional entities was also part of the Cajamar strategy, whether through direct funding or indirect support and coordination: the university, associations of exporters, the Chamber of Commerce, etc. The infrastructure for direct commercialization was also put in place. The Institute of Social and Economic Studies was created in 1998 as an attempt to achieve a more profound understanding of both the local and international sector from an economic and social point of view. This was a complement to the technical research and innovation carried out in the experimental farm. The role of Cajamar did not decrease when firm size (in this case sector size) grew and reputation became more established. Its proactive role continued as the productive sector began to develop and mature.

**Spillover-(2000 onwards)**

Since 2000, the development and maturity of the agricultural support and services industry can be seen to have given rise to sectoral diversification and the creation of a Local Production System (see Figure 4 below). Agricultural production has increased, optimizing costs and the implementation of quality control systems have taken on a more significant protagonism. As well there is a consolidation in the commercialization phase.

**Figure 4. Almería Local Production System (LPS)**
Going forward, following the financial crisis and the implosion of the construction sector, it is expected that there will be a new focus on agri-food business. In addition, most likely Almería will have to deal with ever increasing opening of markets and competition from countries where labour is cheaper. Current areas of emphasis are related to food safety, meeting consumer demand (in general, value added), R+D+i, energy production (biofuels) and renewable energy. Above all, there is strategic expertise and a growing concern with distribution and logistics.

The response of Cajamar has been to invest more in research and education and to diversify its areas of activity, without leaving behind the agricultural sector. Sophisticated research into projects such as the cultivation of microalgae (in collaboration with the University of Almería), biological treatments against pests and participation in genome research projects has taken place. Through its Foundation (created in 2007, merging the Institute of Studies and the experimental farm) it is creating a network of university Chairs in agri-food investigation.

4. Growth and Expansion Strategy

Of key importance to the chronological story set out above, is the growth strategy of Cajamar. As mentioned above, Cajamar took over the credit sections of certain cooperatives, resulting in specialization and professionalization of such activity. In 1989, it commenced a strategy to grow outside the province of Almería. To access more sophisticated services and financial products, the rural credit cooperatives in Spain decided to work together as an association (1989/90), however as Cajamar grew, conflict arose between it and such association. A key issue was the prohibition on entering the territory of other rural credit cooperatives. The success of intensive agriculture in the 1990s created the necessity to look for other markets, as the gap between deposits and the demand for credit to finance an ever more sophisticated and growing sector required moving into other territories, forcing its exit from the association. (See Figure 2 and 3 above). Growth was rapid through mergers (after the merger with Caja Rural de Malaga, it became Cajamar). Synergies and complementary territories were sought out. However its merger in 2007 with Caja Rural del Duero, broke the tendency, as it was situated in a very distinct territory with a type of agriculture unlike that of Almería or of the Mediterranean coast: its population was older, less risk adverse and with a higher level of savings and thus with different financial necessities. This merger also provided an injection of much needed capital to feed the expanding Almería sector which was transforming from an agro-industrial sector to a Local Production System.

The growth phase in which Cajamar now finds itself is a result of the policies of the Bank of Spain and the real estate crises. The Bank of Spain, desiring more manageable and less risky credit cooperatives instituted the System of Institutional Protection (Sistema Institucional de Protección or “SIP”) which provides for the grouping of small credit cooperatives, unifying their balance sheets and their systems of risk management, such arrangement to endure for 10 years (after which, one assume, it would be difficult to unwind). Cajamar decided to lead its own SIP converting into a Cooperative Group. Such integration has been very beneficial resulting in increased efficiencies, productivity, capitalization (X4) and better results, amongst other positive effects.
This leads then, to a different notion of the role of a credit cooperative in local development. If we restrict the notion of “local” to a necessary link between a given community and territory, such expansion “breaks” such bonds. However, if we view the activity of financing as being capable of creating communities and being an impetus for sustainable innovation, the emphasis on such territorial restriction is reduced. From a strategic point of view, Cajamar has avoided a common pitfall of territorial and sector concentration (which renders local finance vulnerable to volatility.)

5. Conclusion
We have illustrated through our case study the evolution of the role and activities of a cooperative bank in the development of its community, moving from a primary agricultural system to a local production system. As a pro-active agent of technological, economic and social innovation, such cooperative bank has also fulfilled a central institutional role in the contribution to a civil society in a population left vulnerable by an economically and politically repressive regime. It has done so by carrying out the following strategies:

- committing itself financially and socially to a vulnerable community such that initially the only “security” it had was to make sure that the activity of its members was worthwhile funding, thus implicating itself in a profound way in the economic and social activities of the community;
- encouraging the establishment of a cooperative economic “fabric” through the set up of cooperatives and the coordination of family/SME based enterprise;
- building on but going far beyond relationship-based finance through pro-active production and dissemination of technical, economic and social knowledge and playing an active role in the incorporation of the same;
- shifting and transforming individual economic risk (including technological and experimental risk) to community risk, thus involving not only the cooperative bank, but the community in shared success;
- recognizing the transformation from “peasant” to “agricultural entrepreneur” and providing management and financial training as well as support to other institutional players;
- assuming the role of intermediating international and political changes and EU policy for community members;
- pursuing organic growth strategies in order to sustain innovation and sector growth amongst its members and as well, to diversify its activities beyond local specialization (both sector and territorial) thus protecting against undue potentially volatile concentration; and
- pursuing strategic growth strategies in response to government imposed integration in order to maintain its strength both inside and outside its original territory.

In observing the above strategies, we note that many of the shortcomings of the industrial districts cited herein (Brusco, 1992: Whitford and Potter, 2007; Ferri, 1997; Padoa-Schioppa, 1997; Bellandi and Caloffi, 2006) have been addressed and overcome in large part due to the proactive role of cooperative finance. In addition, we have shown how a cooperative bank, in concert with a cooperative movement has been able to co-construct an economically stable community through sustainable innovation.
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Anex A: Areas of Research and Major Innovations
Experimental Research Center and Farm Las Palmerillas

- Drip Irrigation
- Phytohormones
- Thermal Plastics
- Drip Irrigation/Heating
- Evaluation of Irrigation
- Tests with Rockwool
- Mulch on Melon Crops
- Alternative Structures
- Asymmetric Greenhouse
- Inacral Greenhouse (Patent)
- Comparative Analysis on Long Life Tomatoes
- Recirculation of Nutrient Solution
- First Course on expertise in Greenhouse Horticultural Crops
- Assessment of Tomatoes Varieties Resistance to TYLCV
- Lateral Vents and Ventilations in Greenhouses
- Watergy Greenhouses (Very Low Water Consumption)
- Scenedesmus almeriensis (Microalgal) for the production of lutein
- Studies on Climate Control in Greenhouses
- Integrated Control of Tuta absoluta (pest) in Greenhouses (with Agrobio)