

Smallholders' Agricultural Cooperatives in Colombia: ¿Vehicles for Rural Development?

Cooperativas de pequeños productores agrícolas en Colombia: ¿vehículos para el desarrollo rural?

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Abstract

This article focuses on assessing whether the main conditions required for smallholders' agricultural cooperatives to successfully develop are currently met in Colombia. The main objective is to formulate policy implications on how the State may contribute to facilitate that these organizations constitute vehicles for rural development. The article argues that the conditions that facilitate the development of agricultural cooperatives are not adequately achieved in Colombia. Furthermore, it suggests that the State and other external agents may have an important role to play in advancing these conditions. In short, it proposes the formulation of policies that allow the State to exert a facilitating role that aims to "midwife" the formation and development of self-reliant grassroots organizations. This "facilitatory" role would represent a third-way between two previous approaches that have failed in Colombia in the past: the "top-down" interventions on farmer enterprises devised by the State in the

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1960s and 1970s and the "hands-off" approach that was indifferent toward the development of smallholder organizations in the 1990s and 2000s.

Key words: Colombia, rural development, agriculture, peasant economy, agricultural cooperatives, public policies.

JEL classification: Q13, Q18, Q01, O13, Q12, Q15, N56.

Resumen

El artículo se centra en evaluar si las principales condiciones requeridas para que las cooperativas agrícolas de pequeños productores se desarrollen de manera exitosa se cumplen actualmente en Colombia. El objetivo es formular implicaciones de políticas públicas sobre cómo el Estado puede contribuir para que estas organizaciones se constituyan en vehículos de desarrollo rural. El artículo argumenta que las condiciones que facilitan el desarrollo de las cooperativas agrícolas no son alcanzadas adecuadamente en Colombia. Además, sugiere que el Estado y otros agentes externos pueden desempeñar una función importante para alcanzar estas condiciones. En resumen, propone que la formulación de políticas públicas que le permitan al Estado ejercer un papel facilitador para la formación y desarrollo de asociaciones de pequeños productores agrícolas que sean autosostenibles. Este papel "facilitador" representaría una tercera vía entre dos aproximaciones que han fallado en Colombia en el pasado: las intervenciones "de arriba para abajo" de empresas campesinas que realizó el Estado en las décadas de 1960 y 1970, y la aproximación de "no intervención" que fue indiferente al desarrollo de organizaciones de pequeños productores en las décadas de 1990 y 2000.

Palabras clave: Colombia, desarrollo rural, agricultura, economía campesina, cooperativas agrícolas, política pública.

Clasificación JEL: Q13, Q18, Q01, O13, Q12, Q15, N56.

"So cast a hungry eye on a big estate
if you're inclined, but tend a small one."
Virgil, "Georgics",
Book 2, line 411

Introduction

This article focuses on assessing whether the main conditions required for smallholders' agricultural cooperatives to successfully develop are currently met in Colombia. The main objective is to formulate policy implications on how the State may contribute to facilitate that these organizations constitute vehicles for rural development².

Similar questions are by Berdegué (2000) addressed in regard to "associative peasant enterprises" in Chile, and by Camacho, Marlin and Zambrano (2005) concerning these organizations in Ecuador, Peru, Bolivia and Chile. Moreover, literature on the factors that affect the performance of Colombian rural cooperatives (Ariza and Lobo, 2002; Bucheli, 2002; Coque, Dávila and Mataix, 2000; Dávila, 2002a, 2004; Medina, 2002) focuses on the managerial features of successful organizations. This article attempts to go beyond these organizational conditions. Therefore, it also takes into account other conditions such as the degree of access to production factors —mainly to land and capital—, access to markets for products and services, and the accumulation of human and social capital³ that facilitates collective action.

The article argues that the conditions that facilitate the development of agricultural cooperatives are not adequately achieved in Colombia. Furthermore, it suggests that the State and other external agents may have an important role to play in advancing these conditions. In short, it proposes the formulation of policies that allow the State to exert a facilitating role that aims to "midwife" the formation of self-reliant grassroots organizations. This "facilitatory" role would represent a third-way between two previous approaches that

2 I follow the definition of Todaro (2000, pp. 363–408) and Singh (2009, pp. 1–13) on "rural development", understood as a strategy that aims at improving progressively and sustainably the living conditions in rural areas.

3 I follow the definition of Putnam et al. (1993) that defined "social capital" as "the features of social organization, such as trust, norms and networks, that can improve the efficiency of society by facilitating co-ordinated actions" (cited in McNeill, 2010, p. 273).

have failed in Colombia in the past: the "top-down" interventions on farmer enterprises devised by the State in the 1960s and 1970s and the "hands-off" approach that was indifferent toward the development of smallholder organizations in the 1990s and 2000s.

The main hypothesis that underlies the selection of agricultural cooperatives as instruments of smallholders' rural development is that under certain conditions, these organizations allow individual farmers to overcome constraints that prevent them from raising living standards. In theory, agricultural cooperatives represent the opportunity for smallholder producers to become part of an organization that renders economic advantages from horizontal integration (e.g. economies of scale derived from joint production) and/or from vertical integration (e.g. increased profit by joint marketing). Furthermore, agricultural cooperatives might also deliver other intangible benefits for its members, such as increasing their skills for collective action (e.g. trust) or strengthening their political capacities. What is more, cooperatives may produce spill over benefits to nonmembers (Tendler, 1983). In this sense the cooperatives contribute to build social capital within their communities (Arango, Cárdenas, Marulanda and Paredes, 2005, Orozco, Forero and Wills, 2013).

However, as already mentioned, Colombia has been the scene of failed State and non-State initiatives to promote agricultural cooperatives among smallholders during the 20th century. These efforts took place mainly in the 1960s (Fals Borda, 1971; Findji, 1970; Fonnseca and Barreto, 1970; Ochoa and Rojas, 1970; Sudarsky, 1977), the 1970s (Dávila, 2004; Machado, 1981; Zamosc, 1986) and the 1980s (Dávila, 2002a, 2004). In particular, the disappointing results of State promotion of cooperatives during the agrarian reform point out that the "theoretical advantages of the cooperative model were not enough, by themselves, to achieve success." (Zamosc, 1986, p. 156).

These attempts often generated the opposite to the desired results: aid-dependent units that crumbled when external intervention was detached, that only improved the socio-economic conditions of few members of the cooperative that were co-opted by the Government or other interest groups, or that simply failed to subsist in the market (Fals Borda, 1971; Findji, 1970; Ochoa and Rojas, 1970; Sudarsky, 1977). Therefore, the literature shows that neither the feasibility of agricultural cooperatives as rural development instruments, nor the success of external agents in their promotion may be taken for granted.

Indeed, as explained below, creating and operating a cooperative may entail additional costs that may not be present in other types of organisations, such as investor-owned firms. This gives relevance to this inquiry on the conditions that facilitate the development of smallholders' agricultural cooperatives and on the best means for their promotion by the State.

This article is divided in four sections including this introduction. The research question is addressed through a qualitative analysis of different sources. These include case studies, reports, public data, and semi-structured interviews. Section I contains the theoretical framework based upon a literature review on two topics: a) the benefits that agricultural cooperatives may render to smallholders and the challenges associated with their creation and operation and b) the main socio-economic conditions that facilitate successful agricultural cooperatives. The first section is based on texts from diverse regions of the World, but considers especially those that focus on Latin American experiences. The second section relies especially on the case studies on Colombian cooperatives by Sudarsky (1977), Dávila (1996, 2002, 2004), Forero and Dávila (1997), Coque et al. (2000) and Huertas (2005), and on Andean cooperatives and other peasant enterprises by Carroll (1971), Büchler (1975), McClintock (1981), Hirschman (1984), Berdegué (2000) and Camacho et al. (2005).

Section II reviews the current conditions of smallholders and cooperatives in Colombia. This section is based on case studies on Colombian agricultural cooperatives, specifically Dávila (1996, 2002, 2004), Coque et al. (2000), Ariza and Lobo (2002), Bucheli (2002) and Medina (2002). Furthermore, it analyses recent literature (FAO and CAF 2007; Kalmanovitz and López, 2006), empirical studies (Cárdenas, 2009; Orozco et al., 2013), reports (Confecoop, 2006, 2007, 2008, 2008a, 2010, 2011, 2013; DANE, 2009; Econometría, 2011; PNUD, 2011, 2012) and public data (MADR, 2010; Supersolidaria, 2011) on rural cooperatives and smallholder farming in Colombia.

The literature and data mentioned above do not cover associative endeavours of ethnic groups that inhabit rural municipalities⁴. Hence, this text does not depict the whole picture of smallholding associative agricultural production in

4 According to PNUD (2011, pp. 148-149) Colombia has an indigenous population of 1.4 million (3.36% of the total population) and an afrocolombian population of 4.3 million (10.2% of the total population). Most of the indigenous people inhabit rural areas: 78.4%.

Colombia. Very interesting case studies have been recently published in this field, such the ethnographic exercise about the development of a dairy cooperative by the Pasto indigenous peoples (Serje and Pineda, 2011). Despite of the fact that the ethnic groups' endeavours are not analysed in this document, it must be noted that their experience is be very rich. First, these ethnic groups have specific spiritual, cultural and ecological relation with their land (Cárdenas, 2009; PNUD, 2011). Secondly, their property rights originate in the ownership of collective tenements that necessarily require collective arrangements for production⁵. As consequence of these specific features, differentiated policies are required to address the different needs of ethnic groups and traditional peasants (PNUD, 2011).

Finally, Section III highlights the most important findings of the research and formulates recommendations for Government-led positive incentivizing of smallholder agricultural cooperatives as rural development tools in Colombia.

I. Theoretical framework

This section assesses the selection of agricultural cooperatives as a tool for development of small farmers. It answers three specific questions: What benefits do smallholders gain from agricultural cooperatives? What challenges do agricultural cooperatives entail for smallholders? What are the main socio-economic conditions that facilitate the accomplishment of a cooperative's objectives?

Before answering these questions, it is important to define "agricultural cooperatives" and identify their most salient features. Since this text focuses on agricultural cooperatives as an organizational economic unit, rather than a social or cultural association, the definition proposed by M. Tugan-Baranovskii is useful:

"A co-operative is an economic enterprise made up of several voluntarily associated individuals whose aim is not to obtain the maximum

5 According to Cárdenas (2009, p. 4), since the mid-1960s and until 2007, indigenous groups received 31 million hectares in collective titles and afrocolombian communities received 4.7 million hectares in collective titles.

profit from the capital outlay but to increase the income derived from the work of its members, or reduce the latter's expenditure, by means of common economic management". (Chayanov, 1991, p. 14).

The literature identifies four main characteristics of agricultural cooperatives, that distinguish them from other types of economic enterprises: a) collective and democratic management of the organization –voting rights in the member's general assembly allocated on a basis of one man, one vote; b) double condition of members as owners and patrons of the cooperatives; c) provision of agricultural activities and directly connected services to mainly benefit its members; and, iv) distribution of cooperative's benefits among members allocated according to each member's usage of the cooperative's services (Arango et al., 2005; Barton 1989; Chayanov, 1991; Dávila, 2002a, 2004; Fernández y Fernández, 1973; Schiller, 1969; Sudarsky, 1977).

Primary agricultural cooperatives may be classified according to the type of activities they execute: production, intermediation, consumption, services (e.g. transport, technical assistance), or a combination of these activities in multi-purpose organizations (Arango et al., 2005; Barton, 1989; Chayanov, 1991; Fernández y Fernández, 1973; Schiller, 1969). This article will focus in smallholders' primary cooperatives that engage in agricultural production and that may also participate in directly related downstream activities and/or upstream activities.

The scope of this text does not include associate workers cooperatives and credit cooperatives that execute their activities in the rural sector. Not every type of cooperative that operates in the rural setting is studied in this article; the text focuses on primary agricultural cooperatives that engage in the production of agricultural goods or in directly related activities (e.g. retailing). Still, it is important to mention associate workers cooperatives and credit cooperatives because of their expansion in the last decade⁶ and due to the controversies they generate.

On one hand, the associate workers cooperatives that engage in agricultural activities have been marked as vehicles used by large estates and agroindustry

6 According to Confecoop (2013, p. 81) more than seventy per cent of the cooperatives that operate in agricultural activities correspond to associate workers cooperatives.

to by-pass labour rights. However, these organizations have also been recognized as alternative sources of employment and income for rural inhabitants (PNUD, 2011, p. 332). Furthermore, the promotion of associate workers cooperatives by owners of large estates appears to be a response to the increased security risks and the necessity to hedge against armed groups (Orozco et al., 2013).

On the other hand, the bankruptcy of several credit cooperatives was related with Colombia's financial crisis by the end of 1990s. In this sense, the perception of the decline of the cooperative sector in the 1990s was accentuated after the crisis of the financial cooperatives between 1997 and 1999, which jeopardized the savings almost a million persons (Arango et al., 2005, p. 57; Dávila, 2002, p. 31, 2004, pp. 14-15). However, rural cooperatives of credit have also been identified as key factors to enable access of resources to smallholders (Arango et al., 2005; Dávila, 1996; Forero and Dávila, 1997).

A. The Benefits of Agricultural Cooperatives for Smallholders

1. Economic Benefits

Smallholders may benefit from the establishment of a production cooperative that integrates –partially or totally– their farming activities. This horizontal integration consists of a farmers' union that jointly plans and executes the biological and mechanical processes required for agricultural production under the coordination of a common governance body. Cooperatives may increase productivity through the attainment of economies of scale (as fixed production costs spread over higher output volume), the collective acquisition of technology (leading to increases in labor productivity) and the use of common productive assets (e.g. machinery and irrigation structure) (Arango et al., 2005; Barton, 1989; Fernández y Fernández, 1973; Orozco et al., 2013; Schrader, 1989; Sudarsky, 1977; Tendler, 1983).

Furthermore, larger scale production may reduce transaction costs, particularly in the access to information. For example, joint production may enhance the exchange of information and knowledge among the members and reduce the costs for experimenting new agricultural techniques (Arango et al., 2005). Joint productive activities may also solve problems of negative externalities by internalizing the costs of externalities (Fernández y Fernández, 1973; Schiller, 1969).

Additionally, the integration of several small agents into one collective gives them superior bargaining power relative to agents that are "downstream" of the supply chain (e.g. wholesale retailers, handlers, packers, supermarkets etc.) and "upstream" (e.g. producers of seeds and fertilizers). The union of small-holding producers may counterbalance firms that have market power and, therefore, mitigate the market's failure (Barton, 1989; Fernández y Fernández, 1973). As a result they may be able to sell their goods at higher prices and reduce their costs by contracting goods and services at lower prices (Sexton and Iskow, 1988). Finally, through integration cooperative members may reduce the individual uncertainty that is inherent to their economic activity by pooling their risks⁷ (Barton, 1989; Büchler, 1975; Schrader, 1989; Sexton and Iskow, 1988, pp. 13-15).

Smallholders may also benefit from the establishment of a cooperative that provides upstream services (inputs provision) or downstream services (transport, distribution, bargain, retailing or processing) within the agricultural value chain. This vertical integration consists of a farmers' union that creates an economic agent and provides services that are directly related to their agricultural activities. First, farmers may increase their income by avoiding "middle men" and by achieving economic synergies⁸ (e.g. reduction of transportation costs through aggregation of output) (Arango et al., 2005; Barton, 1989; Büchler, 1975; Chayanov, 1991; Whyte, 1985). Additionally, the vertical integration has a bigger impact when it allows the circumvention of a "downstream" or "upstream" agent that has market power (Arango et al., 2005; Schrader, 1989; Sexton and Iskow, 1988).

Second, through vertical integration farmers may access markets that may not be reached individually or may access services that are not presently provided by third parties (Sexton and Iskow, 1988, pp. 15-18). Third, retailing cooperatives, unlike third-party retailers, may have the incentives and the capacity to sell the products at the most profitable moment (Whyte, 1985). Finally, guaranteeing a fair valuation of the peasants' commodities may give

7 Arango et al. (2005, p. 80) suggest that the association of small producers in Colombia lowers the perception of risk that the formal financial sector has of the agricultural activities of smallholders.

8 Once again, coffee is a good example since scale economies may be found in downstream activities such as processing, storing, transport, retailing, quality control, branding and publicity (Thorp, 2001, p. 102).

cooperatives a "moral advantage" over third-party retailers (Chayanov, 1991; Tendler, 1983).

2. Intangible Benefits

Besides the economic benefits of horizontal and/or vertical integration, the agricultural cooperatives may render intangible benefits. Three intangible benefits identified by literature are explained below. First, cooperatives stimulate stronger social bonds, solidarity, and partnership and trust among the members (McClintock, 1981). This enhances their capacity for other collective action, which may transcend the cooperative to benefit the whole rural community (Arango et al., 2005; Hirschman, 1984; Sudarsky, 1977).

Second, several authors (Ariza and Lobo, 2002; Dávila, 2002a, 2004; Hirschman, 1984; Sudarsky 1977, 1988) find that the members' "collective action" skills are enhanced through their learning process in management and interaction within the cooperative. For example, a new "collective action" skill may consist of developing the ability to resolve conflicts and reconciling individual interests through democratic procedures. In this sense, Sudarsky (1988, p. 20) depicts cooperatives as "schools of democracy".

The third intangible benefit comprises of increases in the peasants' awareness and capacity to defend their political and economic interests⁹ (McClintock, 1981; Sudarsky, 1977; Tendler, 1983). Cooperatives may enhance participation in public affairs, involvement in public advocacy and community development (Hirschman, 1984; Sudarsky, 1977).

All the economic and intangible benefits described above are contingent on the adequate endowment of the cooperative and capable management. The benefits obtained from economic integration of smallholders into a cooperative depend on the organization's ability to solve new challenges posed by collective endeavor. The next section discusses the main socio-economic

9 However, Sudarsky (1977) concludes that under the logic of neo-patrimonial relations, the peasants tend to become clients of powerful patrons (central government, local government or local vested interests) that promote initiatives from above and co-opt the management of the organization for their own benefit. Similar conclusions are drawn by Fals Borda (1971) and UNRISD (1975).

conditions that facilitate the success of cooperatives in terms of rendering the benefits described above.

3. Cooperatives' Challenges

The theoretical benefits that properly endowed agricultural cooperatives may render are contingent to the member's capacity to overcome challenges that arise in this kind of organizations.

First, groups that pool common resources, like cooperatives, tend to present problems of free-riding, shirking, conflict of interests and opportunistic behavior (Ostrom, 1990; Sexton and Iskow, 1988; Tandler, 1983). Deterring or mitigating these problems may entail very high costs of transaction¹⁰, specifically in the creation of rules and enforcement of such rules. To illustrate this point, let's consider the problem of "underinvestment" in cooperatives. McCormick (1981, p. 257) explains that poorly endowed cooperatives have difficulties breaking the vicious circle of poor economic performance, low profits and wages, skepticism over the cooperative's future and little "collective work achievement". This problem is partly caused by free riding. As explained by Sexton and Iskow (1988, p. 25), this problem arises "because capital investments earn little or nothing per se, members may try to limit their own contributions and 'free ride' on others' investments if they can do so and still retain the patronage privileges."

Another example consists of opportunistic behavior from cooperative members that have greater control over management and that may shatter trust and solidarity among the cooperative's members. As a consequence, the economic benefits may decrease if the members refrain from collaborating (e.g. selling their production through the market) (Bhuyan, 2007). A type of "bad practice" related to the latter takes place when the managers of the cooperative accumulate excessive power and information excluding and isolating other members of the cooperative (Dávila, 2002b), which facilitates and incentives opportunistic behaviors.

10 If the transaction costs are perceived as higher than the economic benefits that the cooperative may render, then it will probably not "takeoff". Indeed, when cost for an individual in participating in a cooperative is higher than the benefit he may derive from it, he will not take part of the economic activity (Hirschman, 1982).

Furthermore, the benefits from horizontal or vertical concentration cannot be taken for granted. In the case of the former, there are limitations in achieving economies of scale due to the specific production conditions for each agricultural product¹¹ and the characteristics of the landscape (Chayanov, 1991; Schiller, 1969; World Bank, 2010). First, Chayanov (1991) argues that the biological processes required in production (e.g. ploughing) present fewer advantages in large-scale production in comparison to small-scale production. Second, although the costs of mechanical processes used in agricultural activities (e.g. threshing, processing) may be lower as production grows in scale, this advantage may be offset by the costs of transport (Schiller, 1969, p. 17; World Bank, 2010, p. 20).

The integration of farmers into a cooperative may entail management problems that are more complex than those present in individual exploitation or in profit-oriented firms. The greater difficulty to govern cooperatives in comparison to profit-oriented firms may be linked to the fact that there are more actors in the former and that these actors play different roles (Huertas, 2005). In this sense one of the "bad practices" identified by Dávila (2002b) takes place when the cooperative's associates do not differentiate between their role of owner, patron, employee or supplier of the organization. This may lead to conflicts of interest in which the member aims to achieve personal goals that are not aligned with the cooperative's goals.

In sum, if transaction costs are too high, if free-riding and opportunistic behaviors are not curtailed, or if management is simply deficient, benefits such as the economies of scale or the synergies from vertical integration may not be materialized.

B. Main Conditions that Facilitate Successful Agricultural Cooperatives

This section revises the main conditions that facilitate the accomplishment of cooperatives' objectives according to literature specialized in Latin America. A "successful" agricultural cooperative is one capable of fulfilling its objectives

11 A typical example, very pertinent for Colombia, is coffee. This product is best produced in "pronounced slopes" where machines cannot be used and where machinery is inferior to manual collection due to biological reasons (Thorp, 2001, p. 102).

(Sargent, 1982) and, simultaneously, being self-sustainable in the context of a market economy. This section describes five types of conditions that facilitate agricultural cooperatives to succeed. This article does not claim that the five categories of conditions described below are the only factors that affect cooperative development. Certainly, there may be other socio-political factors that may affect cooperative development, such as the prevalence of patron-client social relations (Fals Borda, 1971; Sudarsky, 1977, 1988; UNRISD, 1975) or peasants' lack of access to political power (interview Casasbuenas, 2011). However, this type of assessment requires a sociological or a political economy approach that goes beyond the scope of this article.

Furthermore, the identification of the main conditions that facilitate the success of these organizations is not made in order to elucidate a "recipe for success" or to grade the importance of each factor. Each factor's degree of importance in a given case may depend on the type of agricultural activity pursued by the cooperative and the regional context where it operates.

Moreover, the absence of one or more of the identified factors does not necessarily lead to the failure of collective projects. Hirschman (1984) makes this case as he reports "inverted sequences" where development through collective action took place before some of the supposed "pre-requisites" for success were present. He reviews cases in Latin America where the lack of well-defined entitlements over land and the lack of literacy led to the organization of collective action strategies that steered the cooperatives. Similar results were found by empirical studies carried out by Orozco et al. (2013) that included surveys on 742 agricultural productive units located in 25 municipalities of Colombia. According to Orozco et al. (2013) there was a positive correlation between peasants' perception of insecurity and the degree of association among smallholders. The explanation of such relation is that rural inhabitants associate, through productive and retail coops, to reduce their vulnerability to security risks, to achieve higher defence capacity against violence. Additionally, Orozco et al. (2013) found a positive correlation between the lack of access to basic needs and the tendency to associate in diverse collective endeavours. In this sense, the lack of security and the lack of basic needs seem to be sources of social capital rather than deterrents of collective action.

Having said the above caveats, this section will review the importance of five key conditions for successful smallholder agricultural cooperatives. The first

four conditions are the access to land, credit, technology and technical assistance, and markets. These conditions are not exclusive of agricultural cooperatives, but affect smallholder farming in general (FAO, 2008, 2009; World Bank, 2010). These "exogenous"¹² conditions are greatly affected by external agents (e.g. State regulation or provision of public goods) and by external economic conditions (e.g. efficiency of land market and macroeconomics). The fifth type of condition consists of the managerial and collective action capabilities of members. This type of condition is "endogenous" since it depends mainly on the members' attributes and the internal organization of the cooperative. In contrast with "exogenous" conditions, it is exclusive of self-organized and democratically governed smallholder enterprises like agricultural cooperatives.

The first factor of success is access to land, the main asset that farmers and production cooperatives require to carry out their agricultural activities. Both quantity and quality are important. Land extension has impact on the possibilities to expand production and to improve productivity. A suboptimal size of a plot within the peasant economy may impede the full employment of a peasant family and the adoption of new technologies (Figueroa, 1993). Furthermore, the quality of the soil, the level of rain and the proximity of the plot to basic infrastructure (irrigation, roads, storage facilities etc.) greatly influence its productivity (Camacho et al., 2005; Perry, 2010). The nature of the land tenancy is also important. For example, having well-defined property rights gives the peasant and the cooperative more security to engage in long-term investments (Interview Uribe, 2011). Furthermore, since land is the ideal collateral that may be offered to banks as a guarantee to repay a loan, well-defined property rights are key for accessing other assets and inputs through credit (Deininger, 2001). A lack of a collateral keeps farmers "in 'poverty traps', unable to undertake highly profitable indivisible investments" (Deininger, 2001, p. 316).

Thus, the issue of access to land leads us to the second condition, access to external finance. Access to land improves access to credit market services (Deininger, 2001; PNUD, 2011). The cost of borrowing in the credit market for agricultural producers is proportional to the amount of formally owned land (World Bank, 2010). Consequently, problems in the land market may affect

12 This article adopts the dichotomy proposed by Dávila (2004) that distinguishes between "exogenous" and "endogenous" factors of success for agricultural cooperatives.

the credit market and vice versa. The World Bank (2010) and the Food and Agriculture Organization (2008) have concluded that smallholders have difficulties accessing credit and that this leads to a limitation in the acquisition of capital and inputs. Financial services are not adequately provided by commercial banks to farmers, which may end up in the hands of informal local moneylenders. Deficient access to credit for small-scale producers has negative consequences on productivity, since access to new agricultural technologies is "credit-intense" (Figueroa, 1993). Similarly, cooperatives are negatively affected by insufficient access to external finance since transport, storage, handling, retailing and processing infrastructure are also "credit-intense" (Camacho et al., 2005).

In the same vein, one of most important factors for cooperative's success identified both by McClintock (1981), Camacho et al. (2005) and Carlberg, Ward and Holcomb (2006) consists of having an appropriate start-up capital. Sufficient capital may not be raised due to the organizational nature of cooperatives, where benefits from the cooperative are derived from its services and not from the revenue linked to the invested capital (as in investor-owned firms). In a study of over 30 peasant enterprises, Camacho et al. (2005, p. 39) found that all of them required external funding in their initial stage. Furthermore, successful enterprises had a better capacity of raising funds from donors whom offered help over a limited timeframe and that gradually diminished (Camacho et al., 2005, p. 40).

The issue of credit leads us to the third condition, access to technology and technical assistance services. As explained above, credit is key for accessing such resources, which in turn may affect the productivity of the cooperative. The availability of technology affects the profitability of smallholder agricultural endeavours (World Bank, 2010). Both physical and human capital are linked with the individual farmer's capability of apprehending technical innovation (Figueroa, 1993). And yet, innovation is not only restrained by capital shortage. According to FAO (2008), the volatility of prices that increases the risk for smallholder production in developing world also restricts innovative practices¹³. As smallholders lack access to risk-reducing mechanisms, they tend

13 The results of the empirical tests carried out by Orozco et al. (2013) in 25 Colombian municipalities indicate that there is a positive correlation between the peasants' perception of instability of prices and the degree of creation of associations for retailing agricultural products.

to adopt risk-averse strategies that limit innovation, the adoption of technology and higher productivity (Figueroa, 1993; Popkin, 1979; Scott, 1976; Whyte, 1985). This risk-aversion strategy of smallholders may affect the agricultural cooperative's projects for the substitution of low-yield techniques for higher-yield techniques. Therefore, the cooperative's success depends also on its capacity to smooth the smallholder's income.

The fourth condition involves the capacity of smallholder agricultural cooperatives to market the goods produced by its members (Camacho et al., 2005). Access to markets depends on different factors such as adequate infrastructure, market information, attaining certain quality and standards in production and handling, and achieving cost-efficient marketing (FAO, 2008). The accomplishment of this condition may determine the costs and income of the cooperative and its individual members. The cooperative's capacity to access local, regional, national and/or international markets ultimately determines the price paid for their members' produce at a given time; thus, access to markets may affect the level and the stability of their income. In this sense, their capacity to choose goods where smallholding production has "comparative advantages" and where "niche" markets (e.g. organic coffee) may offer better profitability may also contribute to their success (Camacho et al., 2005).

Finally, the endogenous conditions for cooperative success entail two broad factors: a) organizational capabilities and b) collective-action capacities. First, Prevóst (1996) and Dávila (2002b) identify the following factors that determine effective organization capabilities in a cooperative: a) a management that constantly assess its results and learns from its mistakes; b) strong leaders, particularly in the early stages of the cooperative; c) an entrepreneurial spirit, willing to take risks d) long-term commitment to the endeavour; e) a strategy oriented both towards small and big achievements¹⁴; and f) a sense of identity and compromise with the organization. The logic of leadership and teamwork as "success" factors are explained below in more detail.

According to the case studies of Prevóst (1996), Dávila (2002b, 2004) and Carberg et al. (2006), a "critical factor" for success in the early stages of setting

14 It is important that the cooperative is able to satisfy its members' demands from the beginning of its operation (Chayanov, 1991; Coque et al., 2000; Dávila, 2002a, 2004). In this sense, it must not be forgotten that one of the main incentives for being part of cooperative is personal gain (Büchler, 1975).

up agricultural cooperatives is the strength of its organizers, namely "local leadership" and "steering committees". This includes the early and active participation of future associates in the preparation stage of the cooperative.

Furthermore, leadership and participation levels are linked to the initial design of coherent and transparent rules on cooperative governance (McClintock, 1981, 2005). According to Berdegué's (2000, p. 63) findings, successful peasant enterprises create clear systems of norms that "rule the relation between associates, the organization and the outside world". These rules regulate profit allocation among the cooperative's members; pricing policies for members and non-members; conditions for becoming a member (open vs. close membership); transfer of membership rights; gradual penalties for infringements; conflict resolution mechanisms with low transaction rules; and profit retention for investment (Berdegué, 2000; Dávila, 2002a, 2004; McClintock, 1981; 2005; Sexton and Iskow, 1988).

In regards to "teamwork" within cooperatives, a feature of successful management of agricultural cooperative identified by Dávila (1996), Forero and Dávila (1997) and Dávila (2002b) is the existence of "working teams" or "basic nucleus", responsible for the executive decisions of the cooperative. These teams are composed by 15 to 40 members of the cooperative and are subject to periodic rotation according to the by-laws. This governance structure contrasts with that of a single manager or a few directives that perpetuate in the management of the cooperative. This "working teams" resemble "management schools": when a new inexperienced member is elected, he or she learns management skills from the experienced members of the group (Dávila, 1996; Forero and Dávila, 1997).

Second, the collective action capacities of the cooperative's members, and more broadly within the community where the cooperative operates, are determined by several factors. Perhaps, social capital is one of the most important determinants for any agricultural enterprise (Johnson et al., 2002). Moreover, the empirical studies carried on by Orozco et al. (2013) in 25 rural Colombian municipalities show that it is more likely to find agricultural associative organizations in societies with high social capital.

Social capital performs different functions for agricultural cooperatives. First, the members' and community's accumulated social capital may determine

the degree and quality of the initial participation in the cooperative. Several authors (Berdegué, 2000; Büchler, 1975; Carroll, 1971; Dávila, 2004; Edelman, 1967; Hirschman, 1984; Sudarsky, 1977) coincide in identifying that previous communal work or collective projects are a common feature of future cooperative success. Even if the previous experience does not achieve the expected results, it facilitates the accumulation of collective action skills (e.g. taking part in village assemblies, conducting meetings and keeping records) that may be transferred to the operation of the cooperative (Berdegué, 2000; Carroll 1971; Hirschman 1984). Moreover, the empirical research carried out by Johnson et al. (2002, p. 31) in different regions of Colombia concluded that social capital had three specific functions for small and medium sized agricultural enterprises: "providing access to information, reducing monitoring risks via trust, and supporting collective action".

Another factor may also affect the cooperative's capacity to cooperate and resolve the kind of problems that arise by pooling common resources is the heterogeneity of the group of people that compose in terms of income. However, the literature on collective action presents opposing interpretations on the effect of inequality within a group in regards to its capacity to resolve a social dilemma: some consider that inequality fosters cooperation due to the provision of public goods by the richest, while others underscore that inequality reduces communication, trust and reciprocity which are the foundations for cooperation (Cárdenas, 2009). In spite of the fact that literature on inequality and collective action is not conclusive, it is a factor that should be borne in mind given the high degree of inequality of Colombia's rural areas.

Finally, the relations among cooperative members and the relation between management and members also affect the cooperative's capacity to engage in collective action. First, "positive interaction" among the members and good communication between the management and the members may reduce transaction costs and enhance revenues (Bhuyan, 2007; Camacho et al. 2005). As the organization grows, participation problems are accumulated (Coque et al., 2000); thus, more effort is required in communication with and between members (Büchler, 1975). Second, the attitude of the members towards the management may affect the cooperative's performance. For example, when members are not satisfied with management (e.g. dissatisfaction with prices) the former may be inclined to be disloyal (e.g. not selling their produce through the cooperative) or to abandon the organization (Bhuyan, 2007). For that purpose

a transparent and democratic operation is vital for maintaining good governance (Camacho et al., 2005), as well as an effective monitoring and enforcement of members' duties (Orozco et al., 2013).

II. Assessment of the Current Conditions for Effective Development of Agricultural Cooperatives in Colombia

This section identifies and reviews different indicators to determine whether the main conditions for effective development of agricultural cooperatives are currently met in Colombia.

A. Exogenous Conditions

1. On Land

The high degree of landownership concentration, in terms of extension and quality, impedes adequate access to land for smallholders and cooperatives. Moreover, Orozco et al. (2013, p. 95) claim that a higher concentration in the property of land makes less probable the creation of agricultural associations. In Colombia, the national Gini coefficient measurements of landownership concentration –by different studies– fluctuate between 0.78 and 0.92 and concentration has increased in the last three decades (FAO and CAF, 2007, p. 8; Kalmanovitz and López, 2006, pp. 321-333; PNUD, 2011, p. 197).

In addition, there is a significant quality gap in land tenure: while the largest estates have the best quality land, smallholdings work in land that has poor soil and located in sloping grounds (Dávila, 1995; Deininger, 2001; FAO and CAF, 2007; Kalmanovitz and López, 2006; Perry 2010). Moreover, the uneven quality of land tenure is not only a product of different natural characteristics of the land, but also due to the disparity in the availability of infrastructure that provides water for agricultural activities. For example, only fifteen per cent of the total area suitable for drainage or irrigation has access to such infrastructure (DNP, 2010, p. 171).

Finally, there are other inequality issues regarding the socio-economic composition of cooperatives. According to Arango et al. (2005, p. 71) "membership in rural cooperatives is concentrated in the highest economic strata".

Different factors hold back the efforts to overcome this "bipolar" agrarian structure inherited from the past. Among them, incomplete agrarian reform and the fact that the land market does not work properly (Brizzi, Gomez and McMahon 2002; Deininger, 2001; Kalmanovitz and López, 2006; PNUD, 2011). As a consequence, in some regions prices of land are above the potential farming profitability making smallholding activities not viable (Mondragon, 2006).

2. On Credit

Access to formal credit for smallholders is marginal (Kalmanovitz and López, 2006, PNUD, 2012). Furthermore, the share of "formal agricultural credit" received by smallholders declined between 1996 and the beginning of the 2000s by 60 percent (Brizzi et al., 2002, p. 494). In 2008 the deepening of the financial market in agriculture (measured in terms of the proportion between credit and sector's GDP) was 10.2 per cent, three times lower than the financial depth of the economy (DNP, 2010:173). Moreover, high interest rates have been historically too expensive for farmers that do not receive subsidized credit (Deininger, 2001, p. 320; Kalmanovitz and López, 2006, p. 354-355).

In sum, there are strong market failures in the financial services for the rural sector that generate problems of access to saving, credit and transfer services (Arango et al., 2005). The penetration of private institutions in the rural sector is low, partially due to the high administrative and transaction costs that entail the service to scattered smallholders (Brizzi et al., 2002; Kalmanovitz and López, 2006). Furthermore, smallholders' deficient access to formal credit from private financial institutions is related to the lack of appropriate collateral that guarantees the repayment of loans (Kalmanovitz and López, 2006, p. 169). The lack of appropriate collateral is partially due to the fact that more than 40 per cent of landholders do not have well-defined property rights (Machado, 2011, p. 4; PNUD, 2011). It is pertinent to bear in mind that according to the findings of Orozco et al. (2013, p. 94), the lack of defined property rights makes less probable that individual agricultural producers associate. The majority of plots that have this kind of problem are under the tenancy of smallholders (Brizzi et al., 2002, p. 493; PNUD, 2011, p. 280). Moreover public credit has been insufficient and skewed in favour of the biggest producers (Brizzi et al., 2002; *Econometría*, 2011; Kalmanovitz and López, 2006; PNUD, 2011).

However, it is pertinent to mention that Confecoop (2006, 2007, 2008, 2008a, 2010, 2011, 2013) claims that agricultural cooperatives have levels of indebtedness and financial leverage that are "adequate" with those expected in its economic sector. This is consistent with the fact that rural credit cooperatives expanded access to formal rural credit in Colombia. In 2001, this type of cooperative was the only private/formal provider of credit in 107 rural municipalities, that is, ten per cent of total municipalities in Colombia (Arango et al., 2005, p. 50). Nevertheless, currently smallholders still rely heavily on informal lenders (Kalmanovitz and López, 2006).

In sum, the credit and land markets do not operate efficiently for Colombian agriculture and this situation generates a vicious cycle against smallholders (Kalmanovitz and López, 2006, p. 155). Although agricultural cooperatives may increase the capacities of individual smallholders to reach the financial market, the deficiencies of this market in the rural sector restrict the access to credit for smallholder cooperatives too.

3. On Technology

Access to technology and technical services for smallholders and cooperatives is restrained due to several factors. First, research and development is mainly undertaken and financed by the private sector (Kalmanovitz and López, 2006). The contribution of the Colombian State to the generation, transfer and implementation of technology in the countryside is low (FAO and CAF, 2007, p. 34). Indeed, after the structural reforms of the 1990s, public investment in research has lagged and became significantly lower than private-funded research (Kalmanovitz and López, 2006; PNUD, 2011). As a consequence most its benefits are not widespread for the whole agricultural sector and even less for smallholders.

The use of technical assistance services presents a similar panorama, where the private sector provides and finances most of these services. A national survey reports low results: only 18.28 per cent of the surveyed plots had received any sort of technical assistance¹⁵ (DANE, 2009, p. 27). In the same vein, different studies in the late 2000s show that the majority of smallholders did not have

15 In spite of the fact that, in the same survey, half of producers were identified as in need of technical assistance for agricultural production (DANE, 2009, p. 28).

access to technical services (PNUD, 2011, p. 126, 2012, pp. 73-74). Additionally, the Ministry of Agriculture's efforts to implement a national agricultural science and technology system "fell short in ensuring the relevance of the extension system to the small-farm sector" (Brizzi et al., 2002, p. 492). Moreover, smallholders have been reluctant to obtain technical services from the State, as they consider them backward and ineffective (Econometría, 2011).

Since the mid-1990s until today, the National Government has fostered "associations for production" by coordinating the creation of "strategic alliances" between the smallholders and the agro-businesses¹⁶. The Government assumed that further integration of the agricultural commodities' value chains through the "productive alliances" would peg the smallholder associations' development to agro-business. To a certain extent, this rural development policy privatized the State's function of providing technical assistance, technology and credit to smallholders and their organizations. It also subordinated small peasants to large farmers (Mondragon, 2006).

Additionally, a common obstacle in the implementation of new technologies and techniques in the countryside is the low level of human capital. In spite of the fact that the coverage of education in rural areas has significantly improved since the 1970s (Kalmanovitz and López, 2006), particularly in regard to primary and secondary education, the figures are still unimpressive: "20.6 per cent of the working-age population has completed primary education and only 9 per cent has completed secondary education" (DNP, 2010, p. 172). On average rural inhabitants only manage to finish primary school (five years) and 14.5 percent of adults in rural areas cannot to read or write (DNP, 2010, p. 261). In this context, low levels of education are linked with lower productivity of the worker (PNUD, p. 2011).

Finally, there are several factors that may induce peasants to choose low risk and low yields decisions in regards to their production process and implementation of technology. First, the informality of property rights affects Colombian peasants' economic decisions, leading them to undertake low risk and low performance investments (PNUD, 2011, p. 280). The uncertainty over the

16 For an official description of the Governments' "strategic alliance" policies see DNP (2010, pp. 176-77) and Lizarralde (2013). On "value chain agreements" see also Mondragon (2006) and FAO and CAF (2007).

tenancy of the land deters them from making investments (sunk costs) that may not be recovered if they are dispossessed from the land.

Second, violence affects the technology and methods of production of agricultural units as the smallholders adapt to violent contexts in order to reduce their vulnerability (Arias and Ibáñez, 2012; Orozco et al., 2013). It is pertinent to be in mind that rural inhabitants have been the principal victims of the prolonged armed that has generated huge economic, social and environmental costs in rural areas¹⁷ (Garfield and Arboleda, 2002; Orozco et al., 2013; PNUD, 2011, 2012). The empirical studies of Arias and Ibáñez (2012) show that in the territories where attacks from armed groups take place, the households: a) use less land for permanent crops; b) tend to use more land for perennial crops and grass; and c) the investment in the land is lower. "Hence, armed violence and the consequent victimization of the civil population oblige the households to concentrate in crops of low profitability and in cattle raising." (Arias and Ibáñez, 2012, p. 35) Furthermore, in the territories where there is prolonged presence of armed groups, households tend to use more land to cultivate perennial crops and grass (Arias and Ibáñez, 2012). "The risk and uncertainty product of the armed conflict seem to push small producers to concentrate their production in low profit crops, but that yield fast returns, and increase the percentage of unexploited land." (Arias and Ibáñez, 2012, p. 35) In this sense, besides being deprived from their land in case of forced displacement, the reduction of peasants' productivity is another significant impact of violence they suffer (Orozco et al., 2013).

And third, subsistence-oriented peasants may have a higher degree of risk aversion. Based on empirical studies in South East Asia, Scott (1976) and Popkin (1979) argue that peasants that live at the margin of subsistence will tend to take production decisions (e.g. selection of products, seeds varieties and technology) that aim at guaranteeing a minimum and stable yield, while discarding other alternatives that may offer higher expected income but have less certain results. Whyte (1985) and Figueroa (1993) reach similar conclusions in regards to smallholders in Latin America. In Colombia, at least one third of the Colombian rural inhabitants live in the margin of subsistence, but studies

17 In the decade of 2000s, approximately 20 per cent of the land usurped by armed groups, that displaced rural inhabitants, was previously used for agricultural activities by smallholders (PNUD, 2012, p. 66).

such as the ones carried out by Scott (1976) and Popkin (1979) are not available in order to prove the high-risk aversion hypothesis.

In sum, due to the abovementioned conditions, technological change in Colombia's agricultural activities has excluded smallholders and rendered benefits mainly for large-scale commercial agriculture (PNUD, 2011, 2012).

4. On Markets

Access to local, regional, national and international markets is very precarious for Colombian smallholders (Machado, 1994). In the last 50 years, the participation of "peasant crops" in the total agricultural production has significantly dropped due, among others, to the lack of an adequate retailing network (PNUD, 2011, 2012). As a consequence of the retailing structure of the agricultural sector, the farmers recover a low amount of the added value of their production (Machado, 1994, p. 211). The inadequacy of access to markets is linked with the high costs of transport and logistics faced by smallholders. The excessive costs are generated by the poor infrastructure, particularly of roads and facilities for storage and retailing (DNP, 2010; FAO and CAF, 2007; Perry, 2010, PNUD, 2011, 2012). In addition, small farmers are not adequately articulated with downstream markets due to the lack of standardization and quality control that drives them to sell their produce to informal retailers at lower prices (Machado, 1994; Perry, 2010). Finally, smallholders have "little capacity to diversify" and specialize in crops that showed "stagnant production" in the 1990s (Brizzi et al., 2002, p. 497)

In conclusion, the indicators reviewed above suggest that the four exogenous conditions for the success of smallholder cooperatives –access to land, credit, technology and technical services and markets– are not sufficiently met in Colombia.

B. Endogenous conditions

The evaluation of the "endogenous" conditions is divided in two sections. The first part reflects upon the capabilities to manage cooperatives and the second part on the accumulated social capital in the countryside that may facilitate collective action endeavours.

1. Management capabilities

Several authors (Ariza and Lobo, 2002; Bucheli, 2002; Dávila, 1996, 2004; Medina, 2002) present very compelling studies on good management practices in several rural cooperatives located in the Oriental Andes of Colombia. On average, their activities have been successfully carried out for more than 30 years. Although external promoters have played an important role in their development they are self-managed grassroots organizations.

However, these positive experiences may not be reflected by other cooperatives or by future organizations. Hence, it is important to bear in mind not only the cases of success but also failure in the past. For example, when land reform program was halted by the mid-1970s the aid for peasant enterprises dried up and the State-led cooperatives systematically failed to be self-sustaining (Kalmanovitz and López, 2006; Machado, 1981; Zamosc, 1986). Few of the cooperatives promoted by the Government under the agrarian reform survive today (Dávila, 2004). In addition, the erratic and non-cumulative advance of the cooperatives in terms of productivity was probably due to their lack of physical, educational and organizational infrastructure (Fals Borda, 1971). The failure of the State was not simply a matter of low effective support to cooperatives; the strategy implemented for that purpose appeared to be flawed. The State's strategy was very centralized, lacked regional coordination and was based upon poor quality studies rather than the needs and experience of local farmers (Findji, 1970).

Moreover, several authors (Findji, 1970; Fonnseca and Barreto, 1970; Londoño et al., 1975; Ochoa and Rojas, 1970; Ortiz, 1966; Suárez and Sánchez, 1972) claim that agricultural cooperatives –promoted by State and non-State organizations– were prone to failure due to under-capitalization, education limitations, management problems, scarce information on the markets in which they competed, and low participation of the members in the cooperative's direction. The case studies of Findji (1970) and Ochoa and Rojas (1970) conclude that peasant participation and self-management were not achieved and that peasants became more dependent on the external promoter.

Bearing in mind all the above, this section reviews five variables that may indicate adequate conditions for management: a) accumulation of human capital in rural areas, b) the farmers' perception of the level of "costs" derived

from participating in associations; c) compliance with basic legal duties by cooperatives, d) member participation in the cooperative's management, and e) the group's capacity to cooperate.

First, human capital may determine the degree of capacities for creating and directing agricultural cooperatives. The levels of human capital in the Colombian countryside have improved since the 1970s but may still be inadequate (Kalmanovitz and López, 2006). This explication is consistent with the findings of Sudarsky (2000), according to whom the members of Colombian rural cooperatives tend to come from the middle and upper classes (in Arango et al., 2005, p. 70). More recent studies of Orozco et al. (2013, p. 106) show a positive correlation between the individual's income and its participation in collective endeavours of its community.

Second, and in line with the latter, the results of recent case studies show that smallholders perceive that being part of associations is "costly"¹⁸ and a real option just for the richest (Econometría, 2011). Econometría's interviews with smallholders suggest that they avoid association because of their perception that this "formalizes" them; thus, it entails the payment of taxes.

Third, these findings may be further supported by the significant degree of "informality" within agricultural cooperatives. This is manifested in the apparent failure of a substantial percentage of cooperatives to comply with basic legal obligations such as reporting information to the public entity in charge of auditing cooperatives¹⁹.

Fourth, good management of a cooperative relies in the degree of participation of its members²⁰. Participation ensures face-to-face communication

18 The interviews conducted by Econometría (2011, p. 138) are quite revealing. "One farmer responded: "Unions? Not even in bed." Another said: "the big ones associate due to an entrepreneurial vision, the small ones because they are hungry."

19 On average 33 percent of the agricultural cooperatives reported by Confecoop between 2002-2008 seem to have infringed on the obligation to submit their financial statements before the competent authority. This figure is inferred from crossing the information of Coopcentral (several years) on the active rural cooperatives with the data of SuperSolidaria (2011) on the cooperatives that annually report their financial statements.

20 Case studies on Colombian rural cooperatives by Coque et al. (2000) reveal that financial and organizational problems are exacerbated when members "abandon or inadequately exercise governance".

among the cooperatives' members, an element that facilitates collective action (Cárdenas 2009). As explained by Sudarsky (1977), the learning process depends on the possibility for members to effectively engage in the role of directing their project, taking their own decisions and learning from their own mistakes²¹. The case studies on Colombian rural cooperatives by Coque et al. (2000) and Huertas (2005) reveal a high level of attendance to general assembly meetings, but a low level of active participation and possibly a weak understanding of the information provided in the meetings. Sudarsky's (2000) measures on cooperatives show a higher level (58 per cent) of member participation (cited by Arango et al., 2005, p. 68). In contrast, Thorp (2001) concludes that in coffee cooperatives promoted by the *Federación Nacional de Cafeteros* (Fedecafé), the degree of influence of small holders in the governing bodies is restrained²².

Formal attendance to meetings together with a lower degree of effective participation may be explained by the fact that members give more importance exercising their "patron" role (receive a service) rather than on their "owner" role, which entails participating in governance and control of the organization (Coque et al., 2000; Dávila, 2002a). Members seem to prefer to "vote" with their "feet" (e.g. not selling their produce through the cooperative) rather than actively participating in the cooperatives direction. In other words, rather than investing time in the collective management, some members choose to free ride the management and control of the organization by other members.

Fifth, effective management in cooperatives involves the capacity to resolve the dilemmas that arise in the pooling of common resources. As explained above, the level of participation, communication and trust built by the cooperative's members determines such capacity. One of the factors that may affect these conditions is the heterogeneity of the group, particularly regarding income. Although, as explained before, the literature on collective action is not conclusive on the effect of inequality, this feature is very pronounced in in Colombia's rural areas. Cárdenas' (2009) claims that the result of his research and

21 The main "learning spaces" within cooperatives are the general assembly meetings (e.g. allows them to take democratic decisions on budgets, request accountability from administrators and elect representatives) and the daily operation of the organization (Ariza and Lobo, 2002).

22 In coffee zone there is a low ratio of civil society participation in voluntary organizations. This led Sudarsky (in Arango et al., 2005) to suggest that promotion of coffee cooperatives by Fedecafé was a top-down intervention that had not favoured the accumulation of social capital among coffee growers.

experiments in different regions of the Colombian countryside, shows that the effectiveness of communication is reduced in heterogeneous groups, which may be caused due to a lesser degree of trust. However, Cárdenas (2009, p. 158) qualifies his conclusion, noting that these results are not conclusive in the sense that inequality will always have a negative effect on cooperation, but rather that due to difficulties in communication the capacity to solve the dilemmas of usage of common resources is limited.

In conclusion, the indicators on managerial capabilities seem to present mixed results, but it does not suggest that the level of such capabilities is a "bottle-neck" in the formation and success of agricultural cooperatives in Colombia. However, they appear to preclude the participation of the poorest peasants in them.

2. Social Capital

The second part of the evaluation of the "endogenous" condition for successful cooperatives refers to the accumulated social capital. The accumulation of these types of capitals within a community may explain the motivations, level and quality of actual participation within the collective-action enterprise. There are several case studies (Bucheli, 2002; Edel, 1967; Hirschman, 1984) that account for specific situations where previous collective endeavours, even the failed ones, may enhance new processes in the countryside. Two types of examples are worth mentioning. First, Edel (1967) suggests that there is a "close sequential relationship" between the development of local community action groups (*Juntas de Acción Comunal*) and the creation of agricultural cooperatives. One of the lessons that may be drawn is that the skills from the community work ("learning by doing") were transferred to new and more complex collective action endeavours (Carroll, 1971; Edel, 1967). Currently, there are around 45,000 *Juntas de Acción Comunal* in Colombia and more than 70 percent of them are located in the countryside (MIJ, 2011).

Second, Hirschman (1984) claims that collective action may be provoked by common, usually negative, experience. He uses an example of landless peasants' in Colombia that after years of struggling to obtain land and repression by the State, they acquired the capabilities to engage in a more complex joint

endeavour, the organization of a cooperative. The Peace Community of *San José de Apartadó* and the Peasant Association of the *Valle del río de Cimitarra*, constitute more current examples of resilience of communities affected by violence and the emergence of agricultural collective endeavours.

Currently, there are over 100 national associations of internally displaced persons that currently strive to obtain the restitution of their land, which is an example of this type of organization (Ferris, 2009, p. 9). Hence, both the *Juntas de Acción Comunal* and associations of internally displaced persons may be examples of scenarios where collective action skills are currently being acquired. These skills may have to potential of being transferred to joint projects such as agricultural cooperatives.

Finally, recent surveys show that the level of participation of rural inhabitants to voluntary organizations (religious, social, cultural, sports etc.) is higher than the level of participation in urban areas. In rural areas, 26,2 per cent of the interviewed persons report to be a member of such organizations, while in the cities the percentage amounts to 14,3 (Cárdenas, 2011). However, Cárdenas (2011) warns that the level of participation in rural areas is still low and that another indicator of such situation is the fact that only 85 out of 8300 surveyed persons responded that they "had dedicated some time to help other households for free or had been involved in activities of social or community service."

In sum, several indicators seem to show that "endogenous" conditions are partially present. The accumulation of human and social capital may favour the consolidation and creation of new cooperatives, but this accumulation may have been concentrated in the highest socio-economic sectors.

In conclusion, the organization and consolidation of agricultural cooperatives still face many of the obstacles that impeded their development over the last five decades. There have been some advances in terms of the coverage of financial services in rural areas and in the accumulation of human, and social capital. However, in overall terms, the conditions that facilitate the development of cooperatives are not sufficiently met in Colombia.

The next section argues that the State has a responsibility to support agricultural cooperatives but that future policies should be shifted and take into account the lessons of the past.

III. Conclusions and Policy Implications

A. The Case for State Promotion of Smallholders' Agricultural Cooperatives and the "How To" Question

This section formulates policy implications for the promotion of smallholders' agricultural cooperatives. The main argument is that if the Colombian State aims at promoting smallholder farming and, in particular, the association of smallholders into self-reliant organizations, it should play a "facilitatory" role. This "midwife" role of the State contrasts with the two preceding and opposed approaches that have failed in the past ("top-down" intervention and "hands-off" approach). Before explaining the policy recommendations derived from such "facilitation" approach, it is useful to briefly consider why an external agent and, in particular, the State should promote the formation and consolidation of agricultural cooperatives. Indeed, due to the very nature (self-management) and mission (self-help) of cooperatives it is very difficult for external agents to help them. However, case studies show that the "spark" needed for their creation – within a setting of dispersed and unorganized farmers – involves the participation of an *outsider* (Camacho et al., 2005; Sudarsky, 1977). Furthermore, Orozco et al. (2013) found that the presence of external promoters, State and non-State, had a positive effect in the creation of different kinds of agricultural associations, including cooperatives.

Thus, should the State help ignite the "spark" and facilitate its self-sustainability? To solve this puzzle, this section makes a case for State promotion of agricultural cooperatives by posing and responding to three linked questions. First: why should the Colombian State have a responsibility in the development of smallholding agriculture? A legal reason is that the Colombian Constitution demands such responsibility. Article 64 establishes that the State has the duty to promote "the gradual access of agricultural workers to landed property" and to promote access to services such as credit, marketing of products, and technical and management assistance "to improve the peasants' living conditions". More importantly, nowadays 31,6 per cent of the Colombian population lives

in rural municipalities (PNUD, 2011, p. 56) and the improvement of the current backward conditions that affect millions of people in these areas requires active intervention of the State. Indeed, sixty-four out of every 100 rural inhabitants are poor and twenty-nine are indigent (DNP, 2010, p. 174) and a third of its inhabitants live in conditions of extreme poverty (PNUD, 2011, p. 61). Although the percentage of poor people living in rural areas has dropped in the last decade, the reduction has not been significant (Brizzi et al., 2002; DNP, 2010; PNUD, 2011, 2012). Moreover, socio-economic inequality is far reaching and peasants face structural restraints for their development (Brizzi et al., 2002; DNP, 2010, p. 174; FAO and CAF, 2007; Kalmanovitz and López, 2006; Machado, 2011; Perry, 2010; PNUD, 2011, 2012). Market "forces" do not solve the bottlenecks that restrain smallholders' development and smallholders' organizations cannot solve them on their own.

If the State has a responsibility in the development of smallholders, the next question is: why are agricultural cooperatives pertinent for the development of smallholders? As Section 2 explains, under certain conditions these associations may be an effective mechanism for smallholders' to raise their living standards in a sustainable way. In other words, through association, smallholders may obtain yields beyond what they could accomplish individually.

Finally, bearing in mind the answers to the first two questions: why should the State promote smallholder agricultural cooperatives? Legally, the Constitution mandates such support: article 58 obliges the State to "protect and support associational and collective forms of property". Second, there are economic obstacles that these organizations may not overcome on their own. In particular, many improvements to the "exogenous" conditions depend on the intervention of the State in certain markets and on the implementation of redistributive policies (e.g. land redistribution). Finally, it is more costly for the State to provide goods and services to individual peasants than to farmers' cooperatives (Sudarsky, 1977).

In sum, if the State has a responsibility in the promotion of agricultural cooperatives, it is important to assess the "how to" question. Indeed, the promotion of agriculture's development is not simply a matter of more State intervention or increases in public or private spending. Moreover, not any kind of intervention from an external agent enhances the cooperative's development; on the contrary, some types of interference may be counterproductive.

This section answers the "how to" question posed above. For this purpose, the section presents specific recommendations that address the "exogenous" and the "endogenous" conditions that facilitate agricultural cooperatives' development.

However, before discussing the specific recommendations, it is necessary to point out that there are two transversal components for promoting smallholders' agricultural endeavors: a) public institutional development and b) significant improvement of security conditions of rural inhabitants.

First, as may be inferred from what has been explained above, the Colombian State is absent or very weak in rural areas. In this sense, the current public institutions' capacity to formulate, implement and monitor public policies in rural is "precarious" (PNUD, 2011). Hence, the policies that will be suggested in the next pages require that the State strengthens its technical capabilities, actively promotes community participation and articulates the national and regional programs devised for the rural sector (PNUD, 2011). Moreover, the effectiveness of public policies relies on the confidence of peasants in public servants. The studies of Orozco et al. (2013) in 25 Colombian municipalities indicate that the level of trust of peasants towards government officials had a positive effect in the creation of agricultural associations.

Second, the termination of the armed conflict and rural development are intertwined objectives (PNUD, 2011). The armed groups' actions against rural inhabitants, particularly peasant leaders, shatter social capital by "eroding the links of confidence and their collective action capacity" (PNUD, 2011, p. 287). Up to date, associative organizations, such as agricultural cooperatives, have played a critical role of reducing smallholders' risks in conflict zones. As explained before, these organisations allow individual producers to reduce their vulnerability and maintain possibility to be economically self-reliant (Orozco et al., 2013). Nevertheless, it is imperative that the Colombian State is able to terminate the armed conflict and to focus on implementing policies based on the concept of "human security", that "is not limited to the absence of violent conflicts, but includes other features such as guaranteeing the conditions for individuals to build their potentialities and personal aspirations" (Orozco et al., 2013, p. 56-57)

B. Policies Addressing the "Exogenous" Conditions

The State has an important role to play in improving the four "exogenous" conditions that facilitate the development of smallholders' agricultural cooperatives. The level of achievement of these "exogenous" conditions depends greatly on State intervention in agriculture and on the efficiency of certain markets for goods and services. Such an approach requires a shift in the model implemented towards agriculture over the last two decades. The model implemented in the last two decades has focused on the promotion of an agrarian sector dominated by capital-intensive large estates where smallholders are marginalized and employment generation is insufficient (Brizzi et al., 2002; Kalmanovitz and López, 2006; Mondragón, 2006; PNUD, 2011, 2012). Under this model the State's public resources have been historically skewed in favour of large landowners that face fewer restraints in terms of access to credit, capital and markets.

Therefore, the promotion of smallholders' agricultural cooperatives by improving their access to the four exogenous conditions requires the State to embrace a new approach. In this new model smallholders would have an opportunity to develop in markets where they are as efficient or more efficient than large agribusiness. What follows reflects upon the policy implications of such shift.

1. On Land

Section 2 shows how smallholders lack access to two factors of production, namely, land and capital. Furthermore, since the markets that provides them are interlocked, their failure generates a vicious cycle. Therefore the State's intervention is required to mitigate or solve market failures.

This article proposes policies that aim at creating incentives to improve the functioning of land and credit markets. Additionally, redistributive policies are suggested under the assumption that efficient markets, *per se*, may not provide sufficient access to land and credit for smallholders and cooperatives.

Two specific policies may allow to overcome the restraints that affect the land market's efficiency and correct the price distortions that affect it. The first policy consists on implementing programs to promote the clarification of property rights so that land can be used as collateral and to incentive long-term

investments (Brizzi et al., 2002; Deininger, 2001; PNUD, 2011, 2012; Uribe, 2011). As mentioned before, one of the factors that decrease land market's efficiency is related with the problems of definition of property rights that affects around 40 per cent of landholders (Machado, 2011). The second policy consists of devising a progressive land tax system. Due to low taxation rates over the last few decades investment in land has been used as a mechanism for tax avoidance and of money laundering schemes that have distorted the prices of land in certain regions (Brizzi et al., 2002; Deininger, 2001; Hirschman, 1965; Kalmanovitz and López, 2006; PNUD, 2011). However, the implementation of a progressive tax system is not simply a matter of raising the tax rates for the larger landholdings. It is also necessary to update the national cadastral system²³ because there is significant gap between commercial value and cadastral valuation of land (FAO and CAF, 2007). Furthermore, the current valuation of land is skewed against smallholders that pay proportionally more taxes than bigger estates. Indeed, according to PNUD (2011, p. 195), "smaller properties have a higher valuation per hectare than big and medium properties."

The market-oriented policies described above should be combined with other State interventions that require wealth redistribution efforts. Two redistributive policies are suggested. First, the State should redistribute land to the landless and dispossessed peasants (Mondragon, 2006). The implementation of such policy could combine the use of the eminent domain power of the State (targeted to dispossessed and poorest households) with the co-finance of demand-driven purchases of land by smallholders (Deininger, 2001; Mondragon, 2006; PNUD, 2011, 2012). Second, the State should implement programs to support long-term finance schemes to improve the coverage and improvement of drainage, irrigation and water control infrastructure (FAO, 2011). Bearing mind the results of previous projects fostered by the State, the intervention should be more cost-effective and must be re-designed to create better incentives for proper management of the infrastructure (FAO and CAF, 2007).

Finally, the formulation and effective implementation of the proposed policies require the existence of accurate information about rural property, which the Colombian State currently lacks (PNUD, 2011). The last agricultural census dates

23 The information of almost half of the rural tenements registered in 2009 was not updated and almost 3 per cent presented no cadastral information (PNUD, 2011, p. 194).

back to 1970 (PNUD, 2011). Therefore, structuring an information system on rural property is a specific challenge that the Government should address.

2. On Credit

Regarding access to credit, the State should combine policies to solve/mitigate market failure problems and redistribute wealth by subsidizing credit for smallholders and their cooperatives. Two types of market-oriented policies are proposed. The first type of policy consists on facilitating smallholders and cooperatives to signal to banks a higher probability of recovery in case of default. One way of facilitating "signaling" consists of improving smallholders' access to collaterals that may be used to guarantee repayment. For that purpose, the State may implement programs that aim at financing and facilitating the clarification of property rights in Colombian rural areas. This also requires updating the national rural cadaster mentioned above and improving the coordination among public institutions in charge of managing the registry of property rights (PNUD, 2011, p. 280). Another way of indirectly improving the probability of recover is strengthening the public funds destined by the State to guarantee the partial repayment of loans acquired by smallholders. In particular the State should improve the targeting of these guarantees toward specific productive projects of smallholders and their associations (Econometría, 2010).

A second type of policy that may mitigate the financial market failure problem is supporting local rural credit cooperatives (Carroll, 1971; Figueroa, 1993). This kind of financial institutions are more able to overcome the obstacles of high administrative costs, high transaction costs and moral hazard problems that are posed by serving small and scattered farmers (Arango et al., 2005; Chayanov, 1991).

Besides mitigating the failure of financial markets in rural areas, the State should also improve the provision of subsidies for smallholders and their associations. Two recommendations are proposed. First, an increase in resources invested for subsidizing private lending and an improvement of the targeting of these resources. Since 2007 the resources from Finagro, the State-owned second-tier bank, designed to finance specific agrarian projects were significantly increased (MADR, 2010, p. 167). However, studies show that these funds have not been properly targeted (Econometría, 2011).

Second, the State may help smallholders' agricultural cooperatives to raise funds for the start-up capital. However, direct State transfers to support prospective cooperatives may negatively affect the self-sustainability of these organizations (e.g. incentives external dependence) and may also incentivize the strengthening of patron-client relations between the donor and the leaders. Since these issues are related with the "endogenous" conditions, they are addressed in the corresponding section below.

3. On Technology and Technical Services

Access to land and to low interest credit are necessary conditions but not sufficient for rural development (Kalmanovitz and Lopez, 2006). Thus, the State should also ensure that smallholders have the means to exploit their land and market their goods (Perry, 2010; FAO, 2011).

To enhance the generation and transfer of technology goods and services the Government should consider increasing the public funds for that purpose and encourage its provision both by the private sector and the public-private alliances (World Bank, 2010). Furthermore, to improve the apprehension of new productive techniques and technology the State should facilitate the accumulation of human capital. For this purpose State should increase the coverage of secondary and technical education and improve the quality of public education. Another policy that may encourage the adoption of better productive techniques consists on implementing mechanisms that reduce the risks that smallholders face in their agricultural activities. For example, the State could support smallholders to access risk management instruments (FAO, 2011). Additionally, the State may strengthen conditional cash transfer programs in rural areas, such as *Familias en Acción*, which not only facilitate the accumulation of human capital but also guarantee a minimum income for the poorest peasant households

Finally, the improvement of access to inputs may be strengthened by the co-finance of community-driven projects. For example, cooperatives under technical supervision may be an appropriate setting to produce improved seeds that are locally adapted (FAO, 2011). It is important bear in mind that inputs such as seeds, fertilizers and pesticides represent around forty per cent of the farmers' production costs (DNP, 2010, p. 172).

4. On Markets

Finally, there are different strategies that the Government may consider so as to promote the access of smallholders and cooperatives to local, regional, national and international markets. First, the State could improve its provision of public goods that allow the smallholder cooperatives to reach markets. In this sense, it should invest on increasing the density of road infrastructure within the regions to reduce the costs of transporting the goods (FAO and CAF, 2007, p. 30). Furthermore, the State may co-finance common facilities for storage and marketing (Machado, 1994, p. 217).

A second strategy to be implemented consists on articulating smallholders' production with public and private nutrition programs at a local and regional level (PNUD, 2012). An example of such policy consists in the promotion of periodic small farmers' markets in cities. In Bogotá for example, the local government, Oxfam GB and several peasant organizations have jointly organized more than 200 peasant markets between 2007-2009 (Oxfam GB, 2010). The main benefit received consists in a substantial increase of income: small farmers can increase their returns on produce "by between 40 percent and 60 percent" (Oxfam GB, 2010, p. 11). The support for peasant organizations consists of allowing them to use the public space (e.g. parks, squares) co-finance the setup of the market and the required logistics, and co-finance market studies that allow producers to offer goods that are effectively demanded in the cities (Oxfam GB, 2010)

Finally, the Government could implement programs that facilitate the participation of smallholders' and their associations in higher-value markets that are more capital-intensive and in niche markets such as the international fair trade market (Apffel-Marglin, 2010).

C. Policies Addressing the "Endogenous" Conditions

The State may directly contribute to the improvement of these "endogenous" conditions by facilitating the accumulation of human capital, as explained before, and by ensuring that the (prospective) members have the necessary tools to identify their most important needs (e.g. co-finance feasibility studies). Furthermore, the State may contribute by co-financing access to basic

managerial advice that allows the farmers to avoid mistakes that may compromise the cooperative's future (Büchler, 1975; Sudarsky, 1977).

Another important issue that must be addressed consists of the design and implementation of strategies to promote and incentivize the creation of new organizations. Berdegué (2000) and Dávila (2004) conclude in their case studies that a group that impulses the collective action—a "basic nucleus group"—is very important for the genesis and development of an agricultural cooperative. However, they dissent in regard to the State's role for that purpose. While Berdegué (2000) concludes that State officials may be part or work with this "nucleus group", Dávila (1995, 2004) reminds us of the failure of the Colombian State's "top-down" schemes during the 1970s.

This article agrees with Dávila's conclusion regarding the flaws of the Colombian State's 1970s programs. But instead of concluding that the previous failure of the Colombian State's to promote cooperatives should rule out its future participation, it argues that the Colombian State should play a "facilitatory role". As stated before, the role of the State should aim at facilitating grassroots projects rather than imposing top-down solutions to peasants or embracing a *laissez faire* approach. For this purpose the national and local governments should work closely with the communities particularly with associations that have accumulated social and capital in previous collective-action endeavours. This is the case of the tens of thousands of *Juntas de Acción Comunal* and the over 100 associations of dispossessed peasants that may have sown the skills required for creating collective agricultural enterprises. In this sense the State should take account of the "conditions and opinions of the people from the countryside" (Perry, 2010, p. 11). In the same vein, PNUD (2011, p. 332) notes that recent empirical research shows that the most successful cases of agricultural projects were those in which the State did not have direct intervention or general direction; instead, success cases involved empowered communities and social organizations.

Furthermore, the design and implementation of programs that aim at fostering agricultural cooperatives should be from a "local perspective" (Uribe, 2011). Instead of designing one-size-fits-all policies, the national and local governments should work together in framing policies that take into account the regional diversity of the country (Uribe, 2011).

The State may also contribute indirectly to the acquisition of managerial and collective-action capabilities by devising support schemes that do not create dependency and that incentivize the creation of "self-sustainable" cooperatives. This article argues that these support schemes should take into account three basic principles.

Firstly, the offering of wealth transfers conditioned to mandatory memberships should be generally avoided. This conditional transfer incentivizes the creation of organizations in which individual members are not interested in working collectively but merely seek a benefit from the specific transfer (Carroll, 1971; Sargent, 1982). Indeed, the incapability of reaching autonomous finance and management deteriorates the capacity of cooperatives to generate social capital (Arango et al., 2005).

Secondly, the State should credibly signal that its aid has a clear time limitation and that it will decrease over time (Camacho et al., 2005; Uribe, 2011). On the contrary, if the State signals through its programs that it will indefinitely "cover" the financial and managerial problems, the members may have less incentive to learn from their mistakes and overcome their collective action problems. Furthermore, the State can also give early warnings of the suspension of grant disbursements to discipline cooperatives' use of resources (Tendler, 1983).

Finally, several case studies (Ariza and Lobo, 2002; Bucheli, 2002; Edel, 1967) show that cooperatives have a better prospective of becoming self-managed and self-reliant when they address the specific needs of their members²⁴; in other words, when they are born "out of necessity". Therefore, the State should aim at delivering its aid mainly to beneficiary groups whose members are truly committed to their association and avoid the creation of organizations that only exist "on paper"²⁵. This issue takes us back to the question of how should the State help a prospective agricultural cooperative to build its start-up capital. First, the initial grant may be given in the form of services instead of

24 Uribe (2011) claimed in the interview that a common feature of all the successful peasant enterprises fostered by the development program MIDAS were their origin in "bottom-up" processes, where there was real interest in the members to associate.

25 Interviews conducted by Econometria's (2011, p. 138) showed that smallholders still have the perception that associations existed only "in paper" or while the benefit that is expected in exchange is obtained.

cash, for example technical assistance or market studies or to instruct on the implementation of "best practices" in the productive organisation (Orozco et al. 2013; Sexton and Iskow, 1988). Second, the grant may be given in the form of a short-term and transitory guarantee of minimum return on the produce to recover the investment (Machado, 1994). Hence, the cooperative would only receive the resources once it is operative. Finally, the State should generally split payments with the (prospective) members, rather than completely finance the projects (Econometría, 2011, p. 150; Uribe, 2010).

The Table 1 summarizes the most important findings and contributions of this dissertation. The first column contains the five conditions that facilitate the development of agricultural cooperatives. The second column identifies the positive and negative indicators used to determine whether the five conditions are met in Colombia. The third column proposes the policy recommendations derived from the indicators and from the lessons of previous State promotion of agricultural cooperatives in Colombia.

Table 1. Summary of Findings

Conditions for Success	Positive (+) and Negative (-) Indicators of Conditions	Policy Recommendations
Access to land	(-) Highly concentrated landownership (quantity & quality gap) (-) High land prices in certain regions make farming unfeasible (-) Failure of rural land market in certain regions (-) Low penetration of basic infrastructure (-) Public resources for improvement of land skewed against smallholders (-) High percentage of smallholders' land does not have well-defined property rights	1. Create incentives that improve functioning of land market. For example: * Promote the clarification of property rights. * Devise a more progressive land tax system and improve the national cadastral survey. 2. Devote more resources to the redistribution of wealth and improve targeting. For example: * Transfer land to landless and dispossessed through use of eminent domain power. * Co-finance demand-driven purchases of land by smallholders. * Co-finance basic infrastructure projects for small-landholdings. 3. Implement an information system on rural property and, particularly, carry out a national agricultural census.
Access to credit	(-) Low penetration of financial institutions in rural areas (-) Low access to financial services for smallholders, which heavily rely on informal lenders (-) Smallholders lack adequate collaterals to guarantee loans (-) Public resources have been skewed against smallholders	1. Solve or mitigate financial markets' failure in certain regions. For example: * Improve banks' probability of recovery in case of default (e.g. facilitate access to collaterals and partially guarantee repayment of credits). * Support rural credit cooperatives.

Table 1. Summary of Findings (continued)

Access to credit	(+) Current coop, on average, appears to have adequate levels of indebtedness and financial leverage (+) Rural credit coops expanded formal financial services in rural areas	2. Increase public resources to subsidize targeted credit for smallholders' associative projects and co-finance start-up capital. In both cases, improve targeting.
Access to technology and technical services	(-) Low public investment in R&D (-) Benefits of privately funded R&D do not reach smallholders sufficiently	* Invest more resources in the generation and transference of innovation. * Facilitate the accumulation of human capital by increasing coverage of secondary education and improving quality of public education.
Conditions for Success	Positive (+) and Negative (-) Indicators of Conditions	Policy Recommendations
Access to technology and technical services	(-) Low accumulation of human capital (-) Incentives for poorest smallholders to preserve low-risk techniques (-) Low access of technical assistance services for smallholders (-) Implementation of new technologies and techniques may be restrained by low level of human capital	* Co-finance technical assistance services for coops. * Reduce the risks of smallholders that live near subsistence, for example by facilitating access to risk management schemes and strengthening conditional cash transfer programs in rural areas. * Co-finance community-driven projects to produce local seeds and inputs.
Access to markets	(-) Farmers recover a low amount of the added value of their production (-) Poor basic infrastructure for transport and storage (-) Problems of articulation with downstream markets due to quality and standardization issues (-) Low capacity to diversify to higher-value crops	* Increase investment in the provision of basic public goods for transportation and logistics. * Co-finance facilities for storage and marketing * Jointly organize and support peasant markets in cities with smallholder organizations (includes co-financing logistics and market studies). * Promote access to non-traditional crops and niche markets (e.g. fair trade).
Managerial and collective action capabilities	(+) Successful cases of self-managed organizations in the Oriental Andes (-) Low level of human capital (-) Smallholders perceive that the costs of participating in associations are very high (-) High percentage of coops seem to infringe basic legal obligations (informality) (+) High level of attendance to coop's assembly meetings (-) Low effective participation in coop's governance (-) Poorest farmers are less prone to be members of coops	1. Directly contribute to managerial capabilities: * Facilitate the accumulation of human capital. * Co-finance training on basic managerial skills. * Co-finance feasibility studies. * Devise policies from a "local" perspective and with close interaction with "grass-roots". 2. Indirectly contribute to collective action capabilities by devising schemes that do not create dependency: * Generally avoid the offering of wealth transfers conditioned to mandatory memberships. * Credibly signal that the aid has a limited timeframe and that will gradually be diminished.

Table 1. Summary of Findings (continued)

Managerial and collective action capabilities	(+) Accumulated social and institutional capital due to previous collective endeavours (-) Actions of armed groups against rural inhabitants, particularly leaders of peasant organisations, shatter social capital.	* Devise schemes to support building start-up capital that do not incentivize coop to be dependent of external aid. For example, transfers in services not in cash, promise transitory cash transfers when coop is active, and split payments with coop.
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Source: Own elaboration.

D. Limitations and Further Research

The article's conclusions are meant to apply mainly to smallholders' primary cooperatives that engage in agricultural production and that may also participate in other directly related downstream activities (e.g. retailing, processing) and/or upstream activities (e.g. retail of inputs). Furthermore, most of the conclusions may be extended to other type of smallholders' associations that engage in agricultural activities and are democratically "self-managed".

Additionally, this article focuses on a single country, but its conclusions may be pertinent to other Latin American countries, particularly in the Andean region. The efforts of cooperative promotion in Bolivia, Chile, Ecuador, Peru, and Venezuela have also produced mixed results in terms of bettering the conditions of rural communities²⁶. The promotion of smallholders in this region may face similar challenges as those described for Colombia, as rural communities share similar socioeconomic conditions, institutional settings and a similar agrarian structure.

One of the limitations of the dissertation is that many of the "indicators" identified to assess whether the "exogenous" and "endogenous" conditions are currently met, are derived from the general conditions that smallholders face in Colombia, rather than the ones faced by agricultural cooperatives in particular. This is partially due to the scarcity of recent literature on agricultural cooperatives and due to the shortcomings of the available public data (Arango et al., 2005; Dávila, 1996, 2004).

26 For an account on the shortcomings in the Andean countries see Pugh (1970), Rivera (1970), Fals Borda (1971), UNRISD (1975). For a more positive account on their performance in the Andean Region see Chavez (1962), Carbonell (1974), McClintock (1981), Tendler (1983), Hirschman (1984), Berdegué (2000) and (2005).

Furthermore, in spite of the fact that recent case studies (Ariza and Lobo, 2002; Bucheli, 2002; Coque et al., 2000; Dávila, 2002a, 2002b, 2004; Medina, 2002) allow a closer look at the obstacles that rural cooperatives face, the authors have focused mainly on the managerial practices of these cooperatives leaving aside other important factors that affect their development. This gap opens an opportunity for future research that involves direct fieldwork with pre-cooperatives and with existing agricultural cooperatives.

There are many interesting topics to be developed in regard to the promotion of agricultural cooperatives that would require fieldwork. One example could be the comparison in the development of agricultural cooperatives in different regions, which may allow the State to formulate regionally differentiated policies.

Another topic for future research regards to the role non-State promoters of agricultural cooperatives. This is the case of the Catholic Church, particularly in the region of the Oriental Andes, Fedecafé and NGOs. In contrast to the cooperatives promoted by the State, the cooperatives promoted by the Church, since the 1950s have been more resilient and currently are important economic actors in the Oriental Andes (Ariza y Lobo, 2002; Bucheli, 2002; Coque et al., 2000; Dávila, 1996, 2004; Forero and Dávila, 1997; Medina, 2002). Similarly, cooperatives promoted by other private organizations such as Fedecafé in the coffee sector even have significant market shares in the production, processing and retailing of their agricultural products (Confecoop, 2011). Since the 1960s Fedecafé strongly promoted cooperatives of small coffee growers by providing technical assistance, long-term credit and guaranteed purchase prices (Carbonell, 1974; Chavez, 1962; Confecoop, 2011; Thorp, 2001).

Finally, from a gender perspective, there is an interesting topic to research: the role of the women in the formation and direction of agricultural cooperatives. Indeed, in Colombia females head 21.7 percent of rural households (FAO, 2011a, p. 122). In spite of the fact that women have played a significant role in the management of cooperatives in certain regions of Colombia, there is little research on this topic (Dávila, 1996). Bearing in mind the latter and that women have also had an important political role in the advances of peasants' rights in the last two decades (PNUD, 2011), their role in collective smallholder endeavours must be taken into account. The face of rural Colombia is female and the prospective of self-sustainable agricultural cooperatives may be too.

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