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Abstract: Coffee and cocoa represent the main sources of income for small farmers in the Northern Amazon Region of Ecuador. The provinces of Orellana and Sucumbios, as border areas, have benefited from investments made by many public and private institutions. Many of the projects carried out in the area have been aimed at energising the production of coffee and cocoa, strengthening the producers' associations and providing commercialisation infrastructure. Improving the quality of life of this population threatened by poverty and high migration flows mainly from Colombia is a significant challenge. This paper presents research highlighting the importance of associative commercialisation to raising income from coffee and cocoa. The research draws on primary information obtained during field work, and from official information from the Ministry of Agriculture. The study presents an overview of current organisational structures, initiatives of associative commercialisation, stockpiling of infrastructure and ownership regimes, as well as estimates for both 'robusta' coffee and national cocoa production and income. The analysis of the main constraints presents different alternatives for the implementation of public land policies. These policies are aimed at mitigating the problems associated with the organisational structure of the producers, with processes of commercialisation and with environmental aspects, among others.

Key words: Coffee and cocoa production; associative commercialisation; public policies; international cooperation; Ecuador good living

Códigos JEL: D63, D71, O19, P13, P17

1. Introduction

The cultivation of coffee and cocoa in the Northern Amazon Region of Ecuador began with the arrival and settlement of newcomers from around the country following the 'Law of Agrarian Reform and Colonisation', issued on July 11, 1964 through Decree 1480 of the Military Junta (Viteri, 2007). The acute droughts in the south of the country

and the beginning of oil exploitation in the 1970s also contributed to this migration phenomenon (Gondard and Hubert, 2001).

'Robusta' coffee (*Coffea canephora*) and national cocoa[1] (*Theobroma cacao*) are mostly cultivated in the Northern Amazon Region of the country. Coffee and cocoa are important sources of foreign trade, representing 6.0% of non-oil exports from Ecuador in 2007 (BCE, 2008). These crops have also been an important source of employment and trade in Ecuador for decades. Traditionally, production was concentrated in the province of Manabi, but at present it is distributed throughout the country. According to the latest National Agricultural Census (2002), there were 320,664 hectares of Arabic and 'Robusta' coffee plants in both single and associated cultivations,[2] which corresponds to approximately 105,000 Units of Farming Production (UPAs)[3] at the national level; this also suggests that an equal number of families were directly linked to this activity, while trader numbers consisted of only approximately 500 (SICA, 2002). In the provinces of Orellana and Sucumbios, there were 13,858 UPAs, approximately 97% of which had coffee crops, whereas fewer UPAs cultivated cocoa (MAG, 2002). The number of UPAs increased by the year 2009, when, according to the National Institute of Farmer Training (INCCA), the production of coffee and cocoa in the Northern Amazon Region of the country exceeded 21,000 UPAs (INCCA, 2009).

The national variety of cocoa is considered to have a fine aroma and is used in high quality chocolates and blends. At present, this cultivation is being threatened by the introduction and expansion of the improved cocoa clone CCN51[4], which is more productive and grows in monoculture systems. The improved variety does not have the same demand in international markets as does the national variety, and therefore its price is lower than that of the national variety. (Bio Trade Facilitation Progamme - Ecuador, 2005).

In the case of coffee, quality is measured by aroma, acidity, body and taste. 'Robusta' coffee, when compared to Arabic, is considered to have greater body and higher caffeine content but lower value in the market. Although robusta coffee is considered lower quality, it is frequently mixed with other varieties of higher quality coffee to improve the body, and therefore occupies a certain niche in the market (COFENAC, 2005).

Small producers of coffee and cocoa (less than five hectares of cultivation) derive their incomes from the production of these crops. The main problems they face include commercialisation and the influence of intermediaries who impose significantly lower prices on their production. Actual income, therefore, is often much lower than potential value. Many supporting organisations carrying out projects in the Northern Amazon region have focused their efforts on reactivating production and strengthening producer associations. Many new associations of producers and collection centres have emerged to carry out adequate post-harvest management. Nevertheless, at present there are few organisations involved in processes of sustainable commercialisation, and there are no large organisations in sight. There are, however, projects that aim to increase production either through greater use of chemical inputs or increases in the crop surface.

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[1] Ecuador grows a unique cocoa bean known as '*national*'. This cocoa is characterized by a very short period of fermentation during the post-harvest, giving rise to a soft chocolate of good taste and aroma. Internationally, it is classified as '*Cacao Fino de Aroma*' (Quingaísa and Riveros, 2007)

[2] Associated cultivation corresponds to the widespread practice of multi-crop planting of two or more products on a shared surface (MAG, 2002)

[3] UPA, '*…is a tract of land of 500 m^2 or more, dedicated totally or partially to agricultural production, regarded as an economic unit, which operates under a direction or unique management, regardless of its form of tenure and its geographic location*…' (MAG, 2002)

[4] In 1965, the Ecuadorian researcher Homero Castro developed a clone of cocoa from the double hybridization of Trinitario and Forastero of Amazonian origin. This new clone was called CCN51 (Castro collection Naranjal 51) and has features such as resistance to fungus diseases and a high yield (International Plant Nutrition Institute, 2011).

This research describes the present situation of associative commercialisation in the provinces of Orellana and Sucumbíos[5]. It also identifies the main problems faced by the farmers and their organisations and proposes public policies for facing these problems. The main problem encountered was the lack of access to existing information. There are several consultancies managed by public and private entities, but most of their information has not been made public and is zealously guarded. Moreover, during field work, little willingness was found among people to share information, presumably due to concerns that the information would be used for taxation purposes.

Over the last decade, various development projects linked to the production of coffee and/or cocoa have been carried out in this area, promoted by both private and public organisations, including the following: Ministry of Agriculture, Cattle, Aquaculture and Fisheries (MAGAP), Institute for Eco-Development of the Ecuadorian Amazon (ECORAE), Provincial Government of Sucumbios, Provincial Government of Orellana, Ecuadorian Corporation of Coffee Producers (CORECAF), Coffee National Council (COFENAC), Ecuadorian Cooperation Fund for Development (FECD), German Agency for Technical Cooperation (GTZ), Ecuadorian Fund for Populorum Progressio (FEPP), local governments, municipalities and many others.

The MAGAP is the entity that has managed to obtain the greatest participation in these provinces through the implementation of the Emergency Program of Agricultural Reactivation of the Provinces of Orellana and Sucumbios (PROERA). This program started in 2003 and is at present in its settlement phase; it is managed by the National Institute of Farmer Training (INCCA), an institution attached to the Ministry (MAGAP, 2007). PROERA benefits nearly 21,000 coffee- and cocoa-producing households, covering approximately 80% of the farmers of Orellana and Sucumbios (INCCA, 2007).

Production and commercialisation represent different segments of the agricultural food chain[6]. It is important to link these segments together in a way that includes the participation of farmers, providing them with an important role in the chain (SAG-IICA, 2002). To achieve this link, a set of regional policies aimed at providing specialisation options and integration of production with the environment are needed. Until 2003, few indigenous or settler organisations of the Ecuadorian Amazon region had been involved in the associative processes of commercialisation (Ortega, 2003). Since 2010, activities that include the participation of producers have been implemented; however, it is important to fully include commercialisation as part of a sustainable reactivation of production.

The objectives of this study are as follows: i) to describe the present situation of coffee and cocoa in terms of associative commercialisation; ii) to identify the main problems faced by the farmers and their organisations; and iii) to propose public policies for addressing the problems in the sector.

The rest of the paper is structured as follows: Section 2 analyses the phenomena of the association and commercialisation in the field of production by farmers; Section 3 presents the field of study, the information used and the methodology; Section 4 presents the current organisational situation of the farmers of the area; Section 5 analyses the main problems found by these associations; and Section 6 presents conclusions and recommendations for public policies for the improvement of coffee and cocoa commercialisation in the Northern Amazon region of Ecuador.

[5] Sucumbíos County is not included because it is located in the northern part of the province of the same name and therefore the climate does not favor the cultivation of coffee and cocoa.

[6] Agri-food Chains involves the process of an agricultural, livestock, forestry or fisheries products through the activities of extraction/production, transformation and exchange until reaching the consumer. In addition, inputs include supplies (financial, machinery, seeds, fertilisers, etc.) and relevant equipment as well as services that influence these activities: research, training, technical assistance, among others. (SAGARPA, 2008)

Association and commercialisation

If we examine the evolution of farmer associations over time, we notice a transition from household economies to market economies and a progression from agriculture to the agrifood industry. Cooperatives place producers in more favourable conditions, allowing them to develop enterprises that previously seemed inaccessible to them. A cooperative is composed of producers who share the aim of obtaining common profits for all of its members. Some cooperatives focus on agricultural services for their members, while others undertake a joint exploitation of land; the latter type appears with less frequency and with greater presence in former communist countries and in the kibbutzim[7]. Service-oriented cooperatives are the most common worldwide. The cooperative doctrine is based on three overarching concepts: equality, freedom and solidarity (ACI, 2007). In fact, the fundamental nature of these organisations (associations, cooperatives) is represented by a common natural or rational will and is conceived as units; in other words, a specific group of interests describes the associative phenomena (Tonnies, 2009).

The empowerment of the community provides a 'bottom up' institutional development in which the role of the government is to create the appropriate conditions for the social and community enterprises to prosper; this can be achieved through the improvement of a regulatory legal framework, openness to the hiring processes of the local governments, continuous assessment, enterprise training and access to credit. In the context of community participation, there are multiple factors that influence effective participation, including geographical physical aspects, environment, complexity of the support programs, cooperation, the nature of social and human working capital, the predisposition of the community to be involved, infrastructure and political and social conflicts (Clark *et al.* 2007). When different groups that seldom share the same norms and values are involved, there is an uneven distribution of power, which frequently leads to conflicts on the use and management of resources and a weakening of sustainable development. Rural development acts as an interface in which the different forms of knowledge join together under historically marked social and political conditions, requiring reflective participation and deliberative dialogue between the parties involved (Rist *et al.* 2007).

There are different forms of partnership. For example, partnership by contract functions as a way to guide commercial agricultural production through an agreement between farmers and processing or commercialisation enterprises; prices are frequently determined in advance, as in the case of Gatazo Zambrano[8]. Other partnerships include Maquila, which subcontracts part of the productive process (i.e., vegetable packing). Shared risk is a more modern type of association that aims to pool the different resources of various organisations towards the organisation of a common business (raw materials, capital, technology, knowledge, distribution channels, etc.). There are also Productive Alliances, Enterprise Networks, Associations and Collective Actions (IICA *et al.* 2006). Generally, producers appropriate only a tiny share of the total market value of the product, especially when they are not associated or lack bargaining power. According to Guivant (2003), in some cases producers receive 14% of the total product value, while 31% goes to the intermediaries and 55% to the supermarkets or final distributors. Partnership is not only important to increase income but also to generate collective solutions through an exchange of knowledge among members, researchers, technicians and consumers, which generates an endogenous social change in the rural environment based on members' own competencies and in their collective creativity (Cuellar and Calle, 2011).

[7] From the Hebrew meaning grouping of Israeli farming communities, the kibbutzim were essential for the creation of the State of Israel and one of the most important communal movements in history. They were founded at a time when independent farming was not practical. The kibbutzim have survived for several generations as a community utopia (Kibbutzim, 2010)

[8] Small village located in the province of Chimborazo, Ecuador, where, according to the Marketing Project Report, IICA Ecuador 2003, organised producers claimed that their incomes had improved by 43% since they signed an agriculture contract with two broccoli processing companies.

The organisations should climb the ladder of added value, for instance by achieving organic certifications and fair trade designation. This would allow them to be more competitive and to respond to the requirements of the market. Since its beginnings, organic certification has consisted of norms developed under the interests of first-world consumers, imposed in a 'top down' manner by the certifying organisations with limited participation of the local farmers. The demand for organic production has increased due to the increasing concern of consumers on matters related to their health and to values such as environment, sustainability, preservation of rural areas, development and cultural aspects. On the other hand, it is clear that organic production is framed as an attempt on the part of small producers to reach first-world consumers in a direct way, increasing the added value and hence counteracting the effect of globalisation of the agricultural food system in which the final value the producers receive from the sale of their products is always lower. In all of these processes, the participation of non-governmental organisations (NGOs) has played a key role in advising producers (Gonzalez and Nigh, 2005). The preference for organic products is also a consequence of the debate generated by food scandals and biotechnological manipulation in the form of genetically modified organisms; these debates have reached all social spheres and reflect the desire of consumers to know the origin and quality of their food. The brand of fair trade also constitutes a 'win-win' strategy whereby producers obtain a higher price than that offered by the market, a concept known to economists as a 'differential income'. Through these practices, products improve their quality not only in terms of their physical and organoleptic characteristics but also in terms of their cultural and ethical qualities (Renard, 2005). Nevertheless, caution must be taken so that these production practices, made attractive by their success and appeal to consumers, do not end up being taken over by the dominant actors of the food system (Renard, 2003).

Raising producers' income through the integration of processes of commercialisation is an achievable possibility. For this, it is important to visualise the Global Chains of Commodities (GCC) that are constituted by international networks of producers, traders and service providers, which are related through the incorporation of value processes (Pelupessy nad Jiménez, 2009). The organisation of commercialisation in favour of small producers does not require direct intervention by the state through purchases or sales of certain products or the patronage of public or private development agencies. On the contrary, it depends mostly on the achievements of organisation producers and microenterprises. These initiatives are called upon to take the lead in opening spaces in domestic commercialisation channels, in the agrifood industry at large and in becoming involved in export activities. Commercialisation with small producers should involve the organisation of these producers, with the aim of assuring their participation and self-management, such that the association is rooted in the community; it also should involve the continuous support by a public or private institution for a certain period of "take-off" time. The overarching goal is for the organisation of producers to work efficiently and achieve outcomes that will be more useful than heavy investments in infrastructure or formal training (Mendoza, 2007).

The establishment of organisations allows small producers to have a better capacity to respond to the demands of the market, commercialise a greater volume, and therefore obtain better competitive advantages. A good organisation can generate greater access to infrastructure, logistics, market information, technical assistance and funding options for the production and commercialisation processes. The success of the association will be relative, and each case will be different because it responds to particular situations; however, there are important components that must be considered for all associations: i) being part of a commercialisation network in which there are alliances with others involved in the chain, allowing them to access greater information; ii) relying on an entrepreneurial attitude, with community leaders and empowered members participating in decision making; and iii) establishing alliances or coalitions at

the local level with public or private institutions, with the aim of improving the quality of the product (RIMISP, 2010).

There are various cases of successful associative commercialisations, many still on their way to strengthening themselves, in which the links between agricultural businesses and small producers with private enterprises are important. According to a case study carried out by the CIAT[9] in 2007, there are factors that inhibit the long-term survival of the commercialisation organisations and make economic development difficult, including the following : a) current economic development models; b) dual structures, with the coexistence between a sector of rural producers with the support and resources of the state and another sector of rural producers with limited resources and little or no government support; c) migration, with the consequent abandonment of land, in search of higher income; d) centralism, where the resource allocation policies prevent resources from arriving in the country; e) poverty and underdevelopment of the rural society, with deficient infrastructure and services, which adds to an uneven distribution of land; f) the resulting 'farmer rationality', which is focused on subsistence and commercialisation of small surpluses, making it difficult to shift towards market-oriented production and cooperativism; and g) open markets and globalisation, which favour economies of scale with concentration in land property, vertical integration, greater demands for quality and traceability[10], often resulting in exclusion of great segments of small rural producers from the market.

The associative commercialisation organisations that have made progress are those that are linked to agro-businesses with leadership, government organisations, private, international cooperation and direct relationships established with the producers (Santacoloma *et al.* 2005). These links can be reinforced by the following:

> a) technical improvement of processes and techniques, whether products are handcrafted, industrial or mixed; b) organisational developments of a combined nature which allow the incorporation of practical experiences of the producers[11]; c) better levels of education and qualification, which have a direct effect on management and negotiation skills; and d) explicit policies of public and private cooperation.

However, there are also some aspects that limit these links and therefore the probability of success, for example, the absence of a direct relationship between the associative organisations and the sources of technological, organisational and institutional innovation. In addition, the low levels of education and qualification of the rural population, which is a consequence of the poverty and misery of the greater part of the rural population which does not allow for savings or investment, may prevent the success of organisations. These factors weaken the efforts of the organisations that are involved in filling the gaps in areas of health, housing, nutrition and infrastructure. Other issues limiting the links between producers and the market include the following: i) the absence of synergies between the public and private sector in the aid of small producers; ii) the prevailing informality which benefits many of the private agents to the detriment of the organisations; iii) the vulnerability caused by the depression of

[9] The International Centre of Tropical Agriculture (CIAT) is an international organism that has as its mission the reduction of hunger and poverty and the improvement of human health in the tropics through research that increases the efficiency of agriculture. This organism carried out a study on the Mechanisms of Articulation from Small Rural Producers to Private Enterprises in Colombia in 2007.

[10] Traceability is the identification of the food product from the producer to the consumer (FAO, 2010). According to the Food Safety Committee 'traceability is understood to be those pre established and self sufficient procedures that allow us to know the history, location and trajectory of a product or a share of products through the chain of supplies in a given moment, through determined tools' (AECOC, 2005)

[11] That is, scenarios in which rationalism and empiricism are combined. Participatory management is important for empowerment of the members. As Jürgen Habermas mentions, '*As the philosophy of science and the history of science shows, the formal explanation of the conditions of rationality and the empirical analysis of materialization and historical evolution of the structures of rationality, are linked among themselves in a peculiar way*' (Habermas, 1992).

international markets; and iv) the macro-economic context and high unemployment rates.

In many cases, international cooperation can be useful, especially because it plays a predominant role in the stages involving establishment and consolidation of the organisations. During the 1980s and 1990s and even at the beginning of the 2000s, the public policies of support of the agricultural sector implied a low level of involvement of the state, with the aim of promoting a greater participation among private individuals in activities which, for a long time, had been the responsibility of the public sector. In this way, activities of basic research, technical assistance, training, commercialisation and subsidised credit were affected (Santacoloma *et al.* 2005). In contrast, the public policies for Ecuadorian agriculture for 2007 – 2020 seek to tighten the collaboration of the state and the producers. The aim is to establish regional policies that will strengthen the institutions of both the public and private sector through the development of the agricultural industry, markets and systems of domestic and foreign commercialisation. The main thrust of this policy is the integral development of indigenous nationalities, mountain villages, afro-Ecuadorians and farmers, as well as the promotion of associations. Such policies also promote financing, investment and a generalised use of insurance for the agricultural production areas. Research and technology transfer has been resumed, having been put aside for a few years. The same is true of active management, conservation of natural resources, titles, and regulation of property, which all received little attention in the past. Finally, international cooperation has strengthened the sector through its support of key producers.

Case study, data and methodology

The study was developed in the Northern Amazon region of Ecuador in the provinces of Orellana and Sucumbios, which are young provinces (less than 30 years since their establishment) with a total combined area of 39,059 km^2. Sucumbíos contains seven counties and Orrellana four. According to projections of the National Institute of Statistics and Census for 2009, the population consisted of approximately 300,000 inhabitants, 58.45% of whom lived in rural areas (INEC, 2006). The predominant climate is tropical humid with temperatures that oscillate between 21 and 32 degrees Celsius, with an annual precipitation of 2,600 mm (INAMHI, 2009). These provinces have ample hydrographic basins of inflowing rivers of the Amazon and different types of soil, from volcanic to alluvial (transported by rivers) with different textures and depth. Cocoa requires good to medium soils, whereas coffee can adapt to poor soils (COFENAC, 2005). The main agricultural industry in the area is the farming of oil or African palm trees (*Elaeis guineensis*). In the 1980s, large enterprises obtained land concessions in the Amazon from the government, displacing indigenous people and settlers and implanting great extensions of monoculture farming (Granda, 2006).

The data shown in table 1 are the official figures published in the III National Agricultural Census. Subsequently, the PROERA, a program geared towards major reactivation of agriculture in the Northern Amazon region of Ecuador, was implemented; it has since reported having planted more than 22,000 hectares of coffee and cocoa during 2003-2009.

Table 1 Land use and economically important crops

Provinces	ha / %	Permanentmain Crops				Transitory crops: rice, corn, cassava, peanuts, etc.	Rest and fallow land	Natural cultivated pastures	Forest	Total
		Coffee	Cocoa	Banana	Oil palm					
Orellana	ha.	19,978	3,565	4,577	8,172	5,951	23,145	36,702	145,872	247,962
	% / total UPAs surface	8.1	1.4	1.8	3.3	2.4	9.3	14.8	58.8	100
	% / total cultivated surface	19.6	1.6	1.0	1.7	1.3	5.1	8.5	142.9	
Sucumbíos	ha.	29,411	4,186	4,086	5,743	5,489	25,831	59,419	217,61	351,775
	% / total UPAs surface	8.4	1.2	1.2	1.6	1.6	7.3	16.9	61.9	100
	% / total cultivated surface	21.9	1.3	0.6	0.9	0.8	3.9	9.4	162.2	
Total	ha.	49,389	7,751	8,662	13,915	11,44	48,976	96,122	363,482	599,737
	%	8.2	1.3	1.4	2.3	1.9	8.2	16.0	60.6	100

Source: Author's calculations from data MAG, 2002

Figure 1. Main areas of robusta coffee production in Ecuador
Source: COFENAC, 2005

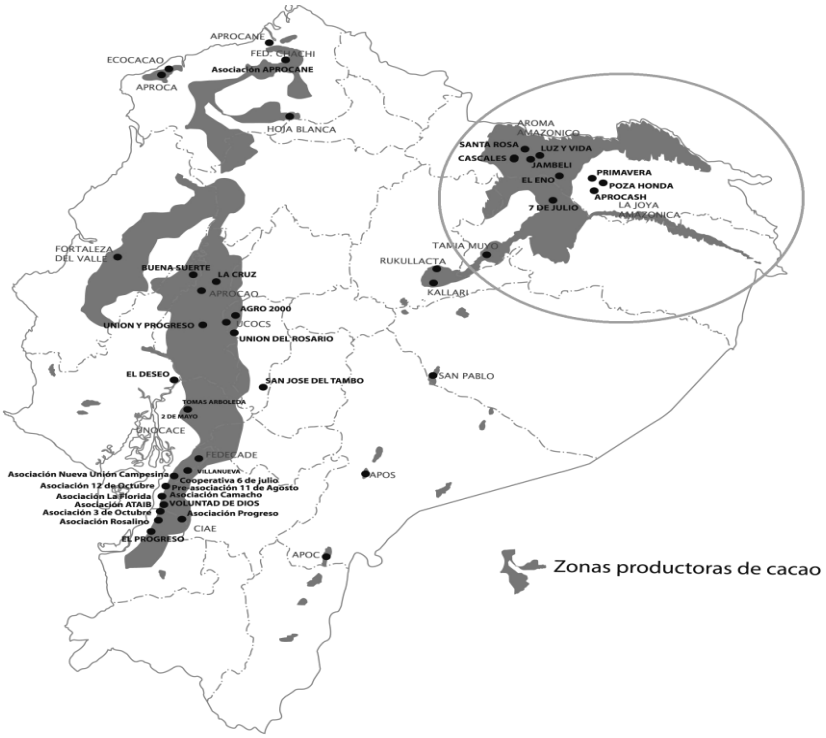

Figure 2. Main areas of cocoa production in Ecuador
Source: Plan Ecuador; AMAZNOR, 2009

For this study, information from primary and secondary sources was used, including the following: official documents of commitment between state ministries and representatives of the producers, and the extraction of amounts, dates, coverage and reach of this Program; Ministry Agreements, determining involved institutions and their responsibilities; interviews with authorities and technicians involved in agriculture in the Amazon region both before and during the PROERA program, providing an opinion on strengths, weaknesses, opportunities and threats faced by the rural area; and the database from the III National Agricultural Census of 2002. The System of Geographical and Agricultural Information of the MAGAP was accessed and various digital files were obtained with detailed information stratified by counties, including reports from technicians from the MAGAP and ECORAE on analyses of the rural sector. Furthermore, the five years of professional experience implementing the PROERA of the corresponding author was very helpful. An important source of data was the information taken first hand from 47 Facilitators[12] spread throughout the two provinces, as part of the execution of the program Participative Technological Innovation System (SITPA) and the Schools of Agricultural Revolution (ERA), which the MAGAP leads forward at a national level. In this last aspect, authorisation to take part in the Follow up and Evaluation team was received, providing access to the relevant information.

Characterisation of farmer organisations at present

Our research allowed us to represent the predominant social organisation in the provinces of Orellana and Sucumbios in a global manner, as well as to identify the existing collection of infrastructure and the volume of production of coffee and cocoa,

[12] A facilitator is an agricultural professional who, based on a pre-established methodology, accompanies and brings technical assessment to the producers, members of an organisation whose achievement is monitored by the MAGAP. The role of a facilitator is to encourage the conformation of three schools with the participation of a farmer organisation, framed in participative innovation, ancestral knowledge rescue, and the creation of management capacities in producers. (Ministerio de Agricultura, Ganadería, Acuacultura y Pesca, 2010)

with data stratified by county. This information comes, in great part, from primary sources, which can be considered tools for decision-making in the implementation of development programs and the application of public policies by the state.

Characterisation of farmer organisations

In 2002, the Ministry of Agriculture and Cattle, through the National Direction of Farmer Development, registered a total of 5,749 farmer organisations at the national level. For 2008, this Ministry registered in its database the existence of 5,011 farmer organisations. In 2009, the National Institute of Farmer Training (INNCA), based on the information registered by the MAGAP, carried out a field validation through the execution of workshops in each province, with the participation of representatives from different sectors or public and private organisations. This task shrunk the number to merely 936 active organisations in the whole country. This meant that only 21% maintained some type of activity. For the provinces of Orellana and Sucumbios, 48 and 41 organisations, respectively, were identified. In 2010, the MAGAP implemented the SITPA and its component ERA, verifying the existence of 80 active organisations for the zone under study.

Table 2 Number of rural legal organisations identified in Orellana and Sucumbios counties

Province	Canton	Year			
		2002	2008	2009	2010
Orellana	Francisco de Orellana	12	58	21	14
	Loreto	0	8	3	4
	La Joya de los Sachas	7	28	23	11
	Aguarico	0	8	1	2
Total province		19	102	48	31
Sucumbíos	Sucumbíos	1	2	0	3
	Gonzalo Pizarro	14	21	17	6
	Cascales	10	8	9	4
	Lago Agrio	17	25	14	11
	Putumayo	0	5	0	3
	Cuyabeno	0	3	1	9
	Shushufindi	3	5	0	13
Total province		45	69	41	49
Total zone		64	171	89	80

In the case of Orellana, it can be noted that there is a greater number of organisations in the counties of Francisco de Orellana and Joya de Los Sachas, possibly attributed to the concentration of oil exploitation and resultant attention from the oil enterprises, the state and NGOs. Another important factor to take into account is that the main road connecting the highlands and the coast until 2007 was the Coca – Lago Agrio – Quito – Santo Domingo – Guayaquil road. However, in the last two years, the presence of organisations in the Loreto county can be noted, which in part could be due to the improvement of the road connecting the highlands (Coca – Loreto – Quito).

In the case of Aguarico, a smaller presence of organisations was observed, which could be because this county is isolated from the province capital and its main access is fluvial.

In the province of Sucumbios, a greater number of organisations was observed in the counties of Shushufindi and Lago Agrio, possibly, as in the case of Orellana, due to the presence of oil digging enterprises, better roads and greater attention from the institutions that support development. Another relevant consideration involves the concentration of the type of soil needed for planting coffee and cocoa in these two counties, which could influence the presence of organisations of producers.

The PROERA achieved its highest level of activity from 2003 to 2008, followed by a decline in activity in 2009 and its disappearance in 2010. This may explain why the number of organisations boomed in some years and shrunk afterwards when the program was finalised.

Associative commercialisation

The presence of various initiatives in associative commercialisation of coffee and cocoa was found in the area, with the most representative being the Association of Producers San Carlos, Kallari and the Enterprise Committee Aroma Amazónico. These three are similar in their general operation procedures: i) amassing local organisations, most of which have a somewhat solid organisational structure; ii) providing at least one collection centre or warehouse to store products; iii) providing technical assistance to their members; and, iv) having their own planting grounds for vegetable production. Another common activity for these three organisations is having undertaken processes of organic certification and working with small producers who own between two and three hectares of coffee and/or cocoa plants and who generate approximately $US 1,250 annual gross extra income.

The Association of Producers San Carlos is the youngest organisation and operates mainly in the county La Joya de Los Sachas in the province of Orellana. It relies on its breeding grounds to produce cocoa of the ‘Super Tree’ variety, a mixture of cocoa CCN51 and the national variety. The Kallari Association operates principally in the province of Napo, adjacent to Orellana; it has recently extended its activity to Orellana, operating mainly in the Loreto county. Its main strength lies in working with members of the Kichwa ethnic group and taking part in processes of value aggregation, including processing cocoa and making chocolate bars which are sold in European and North American markets. On the other hand, the Enterprise Committee Aroma Amazonico is present in almost all counties in the province of Sucumbios and is made up of a strategic alliance of different base organisations, including organisations previously formed by the actions of the Foundation for Integrated Education and Development (FUNEDESIN), which supported the Corporation of Cocoa Producers of the Amazon region with deeds of preservation of the environment and infrastructure to strengthen commercialisation. Aroma Amazonico has almost fifteen organisations of coffee and cocoa producers, each with its own respective collection centre administered by its own organisation.

Collection centres

A review of bibliographic sources and the relevant field verification was carried out, taking information on the existing collection centres in the provinces of Orellana and Sucumbios. The collection infrastructure included warehouses belonging to either private individuals or associations of producers.

Table 3 Storing centres at Orellana and Sucumbios counties

Province	Canton	Storing centre type	
		Particular	Guild
Orellana	Francisco de Orellana	6	1 + 1*
	Loreto	7	2 + 2**
	La Joya de los Sachas	10	4 + 2**
	Aguarico	0	0
Total province		23	12
Sucumbíos	Gonzalo Pizarro	0	0
	Cascales	0	2
	Lago Agrio	5	6 +1*
	Putumayo	0	1
	Cuyabeno	0	1
	Shushufindi	0	6
Total province		5	17
Total zone		28	29

(*) Two of the collection centres encountered are registered for coffee and cocoa by the PROERA. Currently, they have been donated to the respective provincial governments and are not yet functioning. (**) In the province of Orellana, four collection centres were found which belong to associations of producers and are not working.

In the province of Orellana there is a greater presence of collection centres belonging to private individuals (23 out of 35). While the infrastructure of the entire province belongs to 12 associations of producers, they have been used mainly by the three registered organisations of commercialisation Aroma Amazonico, San Carlos and Kallari. On the other hand, in the province of Sucumbios, the opposite happens. A lower number of collection centres belonging to private owners can be seen (only 5 out of 22) concentrated in the Lago Agrio county, while 17 collection centres belong to associations of producers. These have been integrated into the commercialisation process under the leadership of Enterprise Committee Aroma Amazonico.

In general, almost half of the ownership and control of the infrastructure for coffee and cocoa collection is by private individuals, while the other half belongs to associations of producers.

Estimate of coffee and cocoa production in the provinces of Orellana and Sucumbíos

Estimating the production of coffee and cocoa in the area is considered relevant because it has direct influence on the proposals which will be put forward later on. At the same time this information is important for program evaluation purposes.

To obtain the estimated volume of production of dry national cocoa in the area, two sources of information were consulted: the study carried out by Plan Ecuador (Plan Ecuador; AMAZNOR, 2009), whose original data comes from the registers of the organic certifiers hired by Aroma Amazonico and Kallari.; and the program PROERA (INCCA, 2010), whose database contains the results of the largest investigation carried out in the area in the last seven years. In the case of robusta coffee, the main source of information was PROERA; therefore, only the production originating from the hectares implemented by the PROERA were taken into account. Robusta coffee is

commercialised mainly in a fresh state, known as “cherry”. A 100-pound[13] sack of dry national cocoa sold for US $ 105 in 2010, whereas a 100-pound sack of robusta cherry coffee sold for only US $ 14.

According to research carried out by the MAGAP (INCCA, 2009) oriented towards encouraging the deployment of collection centres for coffee and cocoa in the Amazon region, the capacity of each facility should be on the order of 12,000 sacks per year. With this coefficient in mind, the estimated production shown in Table 4 calls for 31 collection centres, which should be distributed in the different counties according to their level of production.

Table 4 Estimate of robusta coffee and national cocoa production at Orellana and Sucumbios counties

Province	Canton	Production hectares (in thousands)		Sacks (100 pounds) / Per year (in thousands)		Income usd (in thousands)	
		Coffee	Cocoa	Coffee	Cocoa	Coffee	Cocoa
Orellana	Francisco de Orellana	3.1	6.2	76.5	27.7	1,071.4	2,910.8
	Loreto	1.4	2.2	34.6	9.8	484.8	1,026.5
	La Joya de los Sachas	1.5	4.7	36.9	21.3	517.0	2,238.6
	Aguarico	0.1	0.5	3.1	2.1	43.1	222.2
Total province		6.0	13.5	151.2	60.9	2,116.1	6,398.0
Sucumbíos	Gonzalo Pizarro	0.2	0.9	5.9	4.0	81.9	419.1
	Cascales	0.3	1.4	6.6	6.1	92.8	642.0
	Lago Agrio	1.3	7.1	33.1	31.8	463.8	3,339.5
	Putumayo	0.3	1.0	8.2	4.7	114.8	493.4
	Cuyabeno	0.3	2.0	7.8	8.8	108.5	922.6
	Shushufindi	1.0	3.8	24.3	17.1	339.5	1,793.7
Total province		3.4	16.1	85.9	72.5	1,201.9	7,612.7
Total zone		9.5	29.7	237.0	133.4	3,318.0	14,010.7

According to our estimate, and considering that, as mentioned previously, the area hosts at least 21,000 UPAs, each UPA would produce an average of 1.86 hectares of coffee and/or cocoa and would rely on an average annual income of US $ 825 from the sale of these two products.

Identification of constraints in the commercialisation of coffee and cocoa

From the institutional side, we can see that the associations that are still working are too weak to have a significant impact on farmers’ living conditions. From the analysis of the number of organisations that were established in the last few years, many have likely been formed with the aim of addressing only specific issues. This would explain why many of the organisations later became weak and finally disappeared. The main reason for their failure may have been the lack of strategies for organisational strengthening once the grant that originated them was over, thus rendering them unable to survive.

[13] A sack of 100 pounds is equivalent to 45.3 kilograms.

Regarding basic infrastructure, the area counts a total of 57 collection centres and warehouses. Twenty-eight of them are privately owned, and 29 belong to associations of producers. Each province has different traits. Orellana hosts mainly private collection centres, and thus intermediation is much more important there. In contrast, Sucumbios has a growing model of associative commercialisation with the only drawback being little transformation of the product. Initiatives involving processing coffee and cocoa are still limited, which results in a strong dependence on international prices for coffee and cocoa and increasing volatility in households' income. When the price of cocoa or coffee falls significantly, producers simply abandon their crops until prices go up again. This interrupted handling of fields has a negative impact on farming practices and therefore on yields, resulting in a negative feedback loop.

From a financial point of view, the commercialisation of coffee and cocoa requires the investment of large amounts of capital. This is a major concern for associations of producers that find it difficult to generate enough funds to keep a collection centre in operation. Under the PROERA, two collection centres were built: one in Orellana and one in Sucumbios. Preliminary studies concluded that the fixed operation capital needed was at least US $250,000 for each centre. These projections took into account the heterogeneity of such centres in the region because they must be able to store robusta coffee, national cocoa, CCN51 cocoa and corn in the months in which the production of coffee and cocoa is reduced. Our research shows there is production for at least 30 collection centres, each of which could handle national cocoa and robusta coffee production equivalent to US $ 578,000 annually. This means that the centres could process enough production to be economically viable, but they would stil have to solve the problem of lack of funds for the initial investment.

Regarding land tenure, even within the registered associations, the average farmer cultivates only two to three hectares of crops. As a result, for the association to achieve important volumes of produce, it needs to count a large number of members, something that makes governance slightly trickier. This can also be seen from the point of view of the farmer. Many producers do not feel connected to the association and perceive that their voice is not taken into account. The small size of land in production and the lack of property rights on land in most cases make access to credit very difficult. Small producers derive most of their monetary income from coffee and cocoa production. The lack of credit and their small size prevent them from improving yields with the application of synthetic or bio-inputs. As a result, their actual yields are lower than their potential yields. This is further worsened by a high incidence of diseases due to climate. On the other hand, it was observed that many producers consider Associations as something distant and strange to them in an acting way, sensing a lack of empowerment in the small farmers.

From a policy perspective, Orellana and Sucumbios, as border provinces, have received a great amount of support from the government and non-governmental organisations. However, the success of this support has not been evaluated, and in many cases, it has had clear negative impacts, for instance, by increasing pressure to put land in production and therefore extending the agricultural frontier at the expenses of the rain forest. Projects carried out by institutions such as MAGAP – INCCA, ECORAE, PRONORTE, AMAZNOR, MIES, provincial governments, municipal governments, German Cooperation GIZ (previously GTZ), the United States Agency International Development (USAID), the Ecuadorian Cooperation Fund for Development (FECD), and the Italian Ecuadorian Fund FIE, among others, have been registered in the region. In some cases, the lack of coordination has resulted in overlapping activities and duplication of efforts. In other cases, too much support has developed into "paternalistic" practices, getting local people accustomed to getting "almost everything" from cooperation projects. A clear example involves the lack of compliance evaluation efforts from the donor agencies, indicating that the same plot was used by different agencies aid programs without checking the extent of the land covered by the scheme.

It is our opinion that all of the weaknesses mentioned above could be better addressed should the farmers be organised in viable producer associations. In this way, collaboration between producers could guarantee knowledge transfer of good practices and economies of scale when asking for credit, when reducing operation costs, or when setting up associative commercialisation initiatives.

Conclusion and policy recommendations

The research describes a large number of farmer organisations, some of which have taken part in processes of associative commercialisation, although few have climbed the value chain. The first recommendation is to work on strengthening training policies from the state, focusing on guaranteeing the effective participation of producers in the whole value chain. This would be achieved by accompanying them and/or improving their self-management capacities by promoting the organisational development for innovation and, above all, empowering small rural producers so they can be autonomous once the cooperation or accompaniment is finished.

Small farmers are currently exposed to the market power of a few intermediaries who control the collection centres. The result is a low producer price for coffee and cocoa. There is, however, a trend towards associative commercialisation among new organisations that own collection centres. The presence of the state may be relevant in strengthening these producer associations with basic infrastructure (physical, and in terms of management) so that they engage in higher added value activities. These few associations could join to form larger networks, which would make economies of scale possible and allow associations to move forward into particular market niches. For instance, by applying social and environmental criteria in their production, they could get their products certified, labelled, and marketed much more successfully. These joint benefits could extend to management and sharing best practices (in farming, processing and marketing). Eventually, the increased volume of production could allow them to obtain even better market prices.

The number of collection centres in this region is determined by the volume of coffee and cocoa produced in the area. For this reason, building more collection centres would not be justified. However, the existing centres could be expanded. If public policies were aimed at increasing the coordination among different producer associations this may allow them to consolidate the supply of coffee and cocoa nationally and obtain greater negotiating power, which would, in turn, prevent their income from being undermined by price fluctuations, as it is now. This strategy could easily be complemented by product differentiation, through certified organic production and labelling or through valuing the source of these products via ‘denomination of origin’. All of these strategies would result in small producers climbing the value chain and receiving a larger fraction of the surplus.

Having identified access to credit as one of the main constraints for producer associations, public policy could be aimed at filling this gap. This could be done by granting access to flexible credit, accompanied by assistance for the administration of the funds. The main goal of those funds would be the commercialisation phases, largely forgotten in previous support schemes. The interest shown by a producer in applying for a productive credit could be used as evidence for providing him with a land ownership title after fulfilling the necessary requisites, including some norms of responsible management.

Because the area covered by coffee and cocoa production is of high biodiversity, there is huge potential for organic production and labelling. The state should effectively control the new enterprises which distribute agricultural chemical inputs that have noticeably multiplied in the last few years.

Although the current average size of land in production is only two to three hectares (a surface that does not guarantee coverage of annual needs of economic resources), it is important to avoid further expansion of the agricultural frontier. Helping farmers to integrate in associative commercialisation could increase their income without

compromising the protection of forests. Such a policy, led by the state, could be complemented with organic certification, subject to the application of certain agro-forest practices. In this way, the implementation of agricultural and environmental policies could be in accordance with the certification normative.

Finally, it is necessary to promote the exchange of information between the public and private organisations to avoid duplication of efforts and resources. The MAGAP and/or the provincial government should publish information on their own projects and those carried out by other organisations related to rural agricultural development. This transfer of information should also apply to governmental agencies, which should ensure that new projects build upon existing knowledge and information generated in past work.

The primary objective is to improve the income of the rural population of Orellana and Sucumbios without compromising the local environment. The changes to public policies presented here, and the complementary activities of other parties in the value chain, would be the first steps on the road to better productivity, associative commercialisation and the product differentiation required to achieve that goal.

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