

ECONOMIC RESTRUCTURING
AND VALUE CHAINS

The search for regional competitiveness
in Colombia

CD-ROM (Case Studies)

Alexander Blandón López

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**ECONOMIC RESTRUCTURING
AND VALUE CHAINS**
The Search for Regional Competitiveness
in Colombia

**ECONOMISCHE HERSTRUCTURERING
EN WAARDEKETENS**
Op zoek naar regionaal concurrentievermogen
in Colombia

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by

Alexander Blandón López
born in Ibagué, Colombia



Doctoral Committee

Promotor

Prof.dr. A.H.J. Helmsing

Other members

Prof.dr. E.B. Zoomers, Utrecht University

Prof.dr. R. Ruben, Radboud University Nijmegen

Prof.dr. P. Knorringa

Co-promotor

Dr. A.C.M. van Westen, Utrecht University

*In loving memory of the late Gilberto Blandon D., my father,
To John Alexander Blandon Castaño,
my beloved son who encouraged me all the way to the end,
And to God who gave me the strength to finish my dissertation.*



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Acronyms

ASICHOC	Association of Chocolate and Coffee Industrialists (Asociación de Industriales del Chocolate y del Café)
ASOHOFRUCOL	Horticultural Association of Colombia (Asociación Hortofrutícola de Colombia)
BANCOLDEX	National Bank of Foreign Trade (Banco Nacional de Comercio Exterior)
CA	Agreement on Competitiveness (Acuerdo de Competitividad)
CADIAC	Chains and Dialogue for Action (Cadenas y Dialogo para la Accion)
CAF	Andean Promotion Corporation (Corporación Andina de Fomento)
CAN	Andean Community (Comunidad Andina de Naciones)
CARCE	Regional Advisory Committee of Foreign Trade (Comité Asesor Regional De Comercio Exterior)
CCI	Corporación Colombia Internacional
CIF	Forestry Incentive Certificate (Certificado de Incentivo Forestal)
CNC S.A	National Chocolates Company

	(Compañía Nacional de Chocolates)
CNCC	Cotton National Council for Competitiveness (Consejo Nacional de Competitividad)
COLANTA	Antioquia Dairy Cooperative (Cooperativa Lechera de Antioquia)
CONALGODON	Colombian Cotton Confederation (Confederación Colombiana del Algodón)
CONPES	National Council of Social and Economic Policy (Consejo Nacional de Política Económica y Social)
CORANTIOQUIA	Corporación Autónoma Regional del Centro de Antioquia
CORNARE	Autonomous Regional Corporation Rionegro-Nare (Corporación Autónoma Regional Rionegro-Nare)
CORPOICA	Colombian Corporation for Agricultural Research (Corporación Colombiana de Investigación Agropecuaria)
CORPOURABA	Corporation for the Sustainable Development of Uraba (Corporación para el Desarrollo Sostenible del Uraba)
CPT	Regional Productivity Centre of Tolima (Centro de Productividad del Tolima)
CTGRCC	Cotton-Textile-Garments Regional Council for Competitiveness (Consejo Regional de Competitividad de la Cadena Algodón-Textil-Confecciones)
DESMOTOLIMA S.A	Desmotadora del Norte del Tolima S.A
DIAGONAL	National Cotton Distribution Company (Distribuidora Nacional de Algodón)

DNP	National Planning Department (Departamento Nacional de Planeación)
DPC	Direction of Productivity and Competitiveness
DPNCC	National Council for Competitiveness of the 'Dairy Products' Value Chain
DRI	Integrated Rural Development Fund (Fondo de Desarrollo Rural Integrado)
ECLAC	Economic Commission for Latin America and the Caribbean (Comisión Económica Para América Latina y el Caribe)
ECOPETROL	Colombian Petroleum Company (Empresa Colombiana de Petróleos)
FEDEARROZ	National Federation of Rice Growers (Federación Nacional de Arroceros)
FEDECACAO	National Federation of Cocoa Growers (Federación Nacional de Cacaoteros)
FEDECOLECHE	National Federation of Milk Producers' Cooperatives (Federación Colombiana de Productores de Leche)
FEDEGAN	National Federation of Cattle Growers (Federación Nacional de Ganaderos)
FINAGRO	Fund for the Funding of the Agricultural and Livestock Sector (Fondo para el Financiamiento del Sector Agropecuario)
GATT	General Agreement on Tariffs and Trade (Acuerdo General sobre Aranceles Aduaneros y Comercio)
GCC	Global Commodity Chain (Cadena Global de Mercancías)

GREMIO	Producer Organization, Business Interest Associations (Organización de Productores)
GVC	Global Value Chain (Cadena Global de Valor)
HIMAT	Colombian Institute of Hydrology, Meteorology and Land Development (Instituto Colombiano de Hidrología, Meteorología y Adecuación de Tierras)
ICA	Colombian Agricultural Institute (Instituto Colombiano Agropecuario)
ICR	Rural Capitalization Incentive (Incentivo de Capitalización Rural)
IDEMA	Institute for Agricultural and Livestock Marketing (Instituto para el Mercadeo Agropecuario)
IICA	Inter-American Institute for Agricultural Cooperation (Instituto Interamericano de Cooperación para la Agricultura)
INCORA	Colombian Institute of Agrarian Reform (Instituto Colombiano de la Reforma Agraria)
INDUARROZ	National Federation of Rice Industrialists (Federación Nacional de Industriales del Arroz)
ISI	Import Substitution Industrialization (Industrialización por sustitución de importaciones)
MADR	Ministry of Agriculture and Rural Development (Ministerio de Agricultura y Desarrollo Rural)
MCIT	Ministry of Trade, Industry and Tourism (Ministerio de Comercio Industria Y Turismo)
MINCOMEX	Ministry of Foreign Trade (Ministerio de Comercio Exterior/Colombia)
NGO	Non-Governmental Organization

	(OrganizacionNo Gubernamental, ONG)
OBM	Original Brand Manufacturing (Fabricacion de Marca Original)
OEM	Original Equipment Manufacturing
PROAGRO	Program of Agro and Livestock Supply (Programa de Oferta Agropecuaria) Colombia
PROEXPORT	Tourism, Foreign Investment and Exports Promotion (Promocion de Turismo, Comercio y Exportaciones)
SENA	National Service Learning (Servicio Nacional de Aprendizaje)
SVCG	Saligna Value Chain Group
UMATAS	Municipal Units for Agriculture and Livestock Technical Management (Unidades de Manejo Técnico Agropecuario Municipal)
VC	Value Chain (Cadena de Valor)
WTO	World Trade Organization (Organización Mundial del Comercio)

9

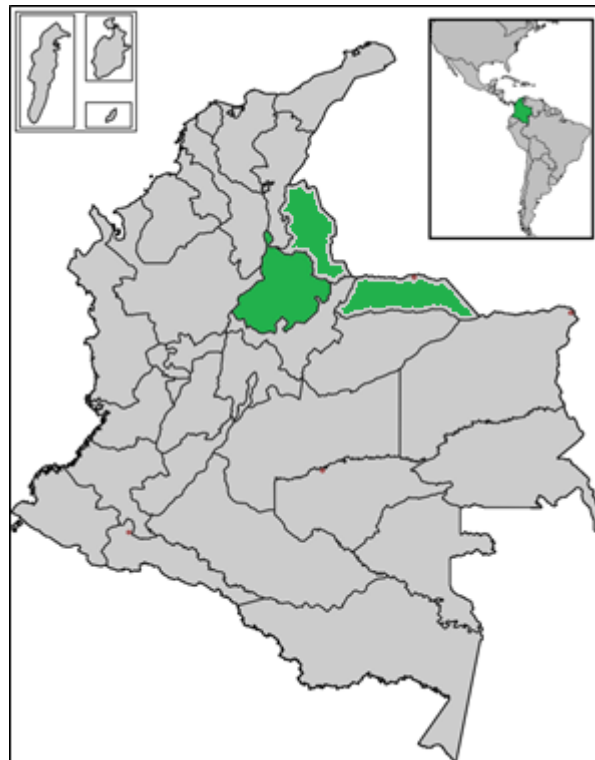
Case Study 1: The VC Cocoa-Chocolate Northeastern Region (Santander)

9.1 Structure of the Cocoa-Chocolate VC (2002)¹

Cocoa is an agro-commodity, 'a tropical crop traded in a bulk form on a global basis' (Gibbon 2001: 60). At the international level, the largest cocoa producers (Ivory Coast, Ghana and Indonesia) account for around three-quarters of total exports (Kaplinsky 2004: 20). In Colombia, the northeastern region alone generates about 62 per cent of total crop production in the country, which is exported with low regional value added. It does not target the international markets; instead, it is largely allocated in the national market given the supply deficit of the grain in Colombia. At the international level, the governance structure of the GCC is characterized by participation of few large multinational corporations, which exert high control in the grinding and/or the manufacturing of chocolate. The four largest cocoa grinders (Archer Daniels Midland, Cargill Inc., Barry Callebaut and Nestle) in 2000 controlled around 40 per cent of the market (Kaplinsky 2004: 20-2). The high degree of concentration in the GCC becomes evident when we figure that three large multinational corporations (Nestle, Mars Inc. and Cadbury Schweppes) concentrate about 60 per cent of the global production of chocolates and purchase about 50 per cent of the cocoa commercialized worldwide (Agrocadenas 2005). Meanwhile, two larger chocolate companies with factories in other areas of the country are the lead firms in the VC cocoa-chocolate in the northeastern region. They are the main cocoa buyers, have purchasing points in the region and are the most important table chocolate manufacturers in Colombia. Like the international chain governors, they are positioned in two or more links of the VC. The table chocolate is produced to cater to the domestic market. However, CNC S.A. and Casa Luker S.A. have the capability to participate in the interna-

tional market with exports of semi-elaborated products such as cocoa butter. The presence of the two larger companies in the manufacturing of chocolate products such as confectionery for export is gradually increasing due to their strategic alliances with foreign companies and their large investments in technology, though it is very small in relation to the largest global corporations. Finally, the opportunities for functional upgrading of the regional cocoa producers are minimal since they are supplying the national market, which is controlled by an oligopsony that purchases about 90 per cent of the crop, and do not have enough contact with the international markets.

Map 9.1
Geographical location of northeastern region (Colombia)



Source: This research based on IGAC, 2011.

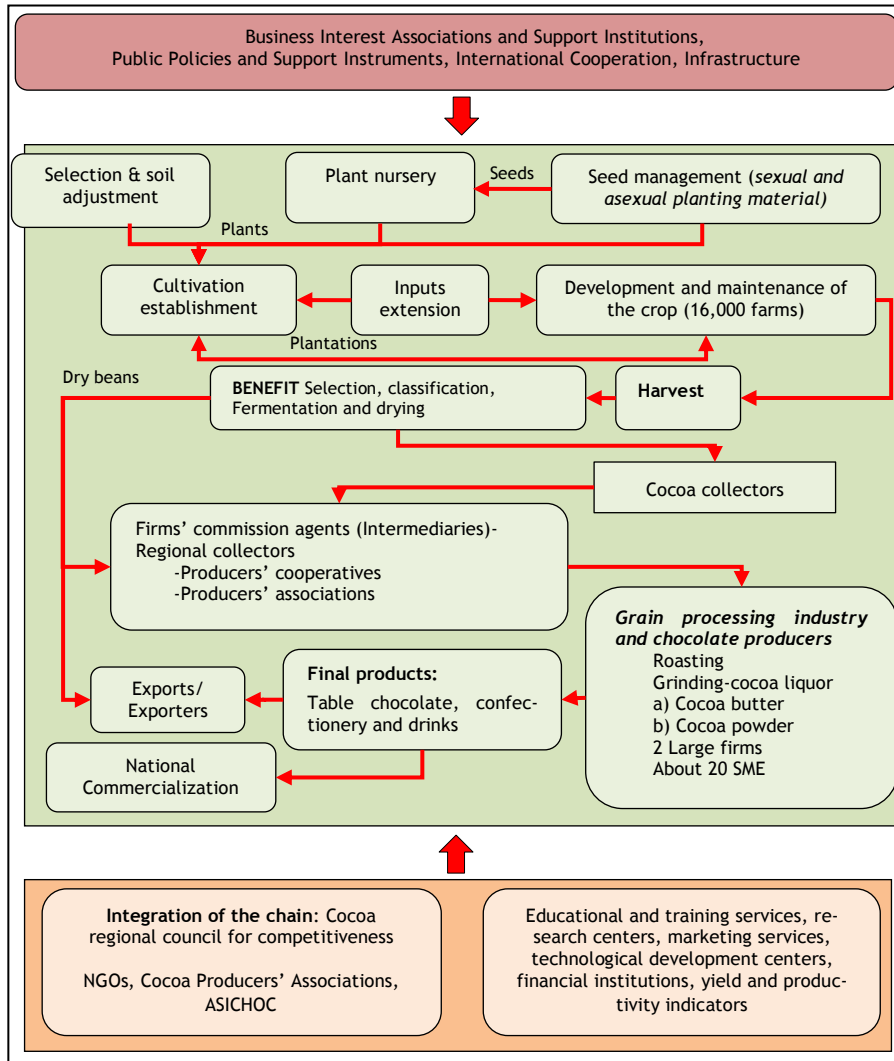
The production and preliminary processing were carried out in largest cocoa producing region of the country. The 'farming and harvesting of cocoa pods and extraction, fermentation and drying of cocoa beans necessarily occurs on or very near the farm and have few scale economies' (Kaplinsky 2004: 19). Apart from that, most of the activities down the chain were concentrated in the two larger chocolate companies located in different regions of the country: Compañía Nacional de Chocolates (CNC S.A.) in Antioquia and Bogotá and Casa Luker S.A. in Caldas and Bogotá. In fact, these companies concentrated the commercialization of the grain with purchasing points in the regions and a solid network of agents (intermediaries). Meanwhile, about 20 small regional table chocolate producers processed the crop mainly for the regional market.

The two largest companies generally bought the cocoa beans and then processed them in their factories located in other regions of the country. In this sense, these firms concentrated most of the roasting, grinding, table chocolate manufacturing and production of confectionary and drinks. Likewise they had significant participation in the commercialization link, based on their well and long-established branding and outstanding marketing capacity, including a countrywide distribution network for their products. Likewise, these companies had been gradually increasing their export of chocolate products.

The chain had the following links in the northwestern region: agricultural production (cocoa), industrial processing (chocolate and other spin-offs) and retailing. There were very active support institutions in the chain such as SENA, Corpoica, ICA and Fedecacao, some NGOs and some universities, although they lacked coordination. These organizations provided services of education, research, training and technological transfer mainly to cocoa producers. About 14 farms had the main collection of cocoa's genetic materials nationwide and were administered by Fedecacao, Casa Luker S.A., CNC S.A., Corpoica and SENA. Some of them had infrastructure for the reproduction of seeds and seedlings as well as laboratories (MADR et al. 2002: 12). Also, many plant nurseries were located in the region. However, the distribution of seeds and seedlings was neither well organized nor officially regulated.

The VC integration in the region was weak because most of the value added was generated in other regions where the main agro-industries were located. The performance of the main links of the VC is presented in the next section.

Figure 9.1
Agro-entrepreneurial regional nuclei:
VC Cocoa-Chocolate Northeastern Region



Source: Own elaboration based on MADR-IICA 2002.

Agro-production: This link encompasses cocoa production and *primary processing* of the grain (selection, classification, fermentation and drying), done mainly on the farm. The northeastern region of Colombia is the major producer of cocoa in the country. In 2002, the northeastern region had 56,700 hectares, which was 57.3 per cent of the total cocoa area planted in the country and produced 61.7 per cent of the total cocoa grain.² The regional council estimated that cocoa was cultivated in about 14,500 farms in the region with a predominance of small-scale units (MADR et al. 2002). For example, about 78 per cent of the farms that produced cocoa in Santander were between 1 and 20 hectares (Agrocadenas 2002: 15).

Agro-industry: This link encompasses everything from the processing of the grain (roasting, grinding and cocoa liquor) to the achievement of the different final products (chocolate manufacturing, confectionaries and drinks). The chocolate industry located in the region is composed of small firms and micro-enterprises (around 20 firms) and concentrates in the production of table chocolate. In 2002 the year of the signing of the CA, the chocolate industry in the northeastern region was located mostly in Santander where the following firms could be distinguished (see table 9.1) These companies produced so-called table chocolates. There were also small firms that worked in candies such as Chocoarte and el Festin. In the Department of Arauca, there was a small table chocolate factory, Procesadora de Cacao del Llano Limitada (MADR et al 2002: 17).

The regional industry had little capacity for the absorption of cocoa although there was a surplus installed capacity in the aggregate of the local industries.³ The small firms that characterized the industrial link in the region had limited capacity for expansion because of their productive and technological features (lack of capital for investment, low external market experience, precarious network of distribution and absence of subcontracting schemes with the larger companies), which hampered improvements in their competitiveness at the national level (MADR-IICA 2001: 26). The region had some infrastructure for production of liquor and cocoa butter but there was neither a homogeneous product nor the necessary volumes to export with standardized processes and products. The regional chocolate firms combined their activity with the coffee business and raw cocoa commercialization. Some of these firms bought raw cocoa from the farmers and then sold it to the largest companies. The majority of the small regional chocolate industries are lo-

cated in Bucaramanga (Santander) with both national and regional capital.

Table 9.1
SME chocolate firms in the northeastern region

SME Chocolate firms	SME Chocolate firms
<ul style="list-style-type: none"> • Chocolate Girónes S.A. • Industria de Alimentos La Fragancia • Oriental de Chocolates • Industria de Chocolates INDUCHOCOLATES • Diamante • Chocolate Ecológico • Fábrica de Chocolates Purísimo • Café y Chocolate Regional • Chocolate Selecto • Chocolate y Café La Sagrada Familia 	<ul style="list-style-type: none"> • Tostadora Café y Chocolate Flor • Colonial • Chocolate Chucureño • Agrario • Guanenta • Chocolate Cubano and Tostadora Colosal • Chocoarte • El Festin • Procesadora de Cacao del Llano Limitada (Arauca)

Source: MADR et al. 2002

Although the main industries (CNC S.A. and Casa Luker S.A.) did not have factories in the region, they did have an important presence there. It is important to point out that at the national level there are actors in the chocolate industry such as Nestle-la Rosa and Cadbury Adams that manage a global market, however these multinational corporations are not directly involved in the region.

Commercialization: The sourcing of raw cocoa by the industry came through associations of producers, commission agents and exporters (MADR-IICA 2005). The largest companies had purchasing points in at least one of the following municipalities: Bucaramanga, San Vicente del Chucuri and Rio Negro. In most of the other municipalities of mainly North Santander and Arauca, there were intermediaries and cooperatives that bought the grain from the producers.⁴

The presence of exporters in the commercialization of the grain was minimal and took place whenever there were surpluses for export, given

that the production was allocated to cater to domestic demand. In some junctures, the crop was smuggled to Venezuela to take advantage of the price differentials.

The chocolate market is segmented: the larger companies not only compete in the market of table chocolate with the regional industries, but also concentrate the production and commercialization of confectionery and other chocolate derivatives. The largest enterprises, which bought the grain and produced table chocolate, confectionery cocoa beverages and other cocoa derivatives carried out the commercialization of chocolate products. Then distributed them through their comprehensive distribution network from their factories to the different sale points at the national level and exported a share of their production to the international markets (MADR et al. 2002: 17).

9.2 VC's Competitive Challenges and Scope for VC Level Action

The diagnosis of the VC cocoa-chocolate carried out by the Cocoa Regional Council of Competitiveness (CRCC) focused on areas of possible improvement in the production sphere not the transaction sphere. The key areas of the VC with potential for improvement identified in the diagnosis fell within the following categories: level of technological development, production costs of the agricultural and industrial links, productive infrastructure, human resources, investment and financing, research, commercialization, upgrading of the agro-industrial sector, reduction of crop diseases, traceability, information, post-harvest management, and labor availability for the agro sector (see table 9.2).

The regional industry faced obstacles in the case of export orientation of its production because it was specialized in the manufacturing of table chocolate to meet domestic demand, while exports needed to maintain international quality and traceability standards.

Before the signing of the CA, cocoa had become a low profit crop and given that many cultivated areas were in armed conflict zones, which meant a tendency to replace cocoa fields with illicit crops, it ran the risk of decreasing further.⁵ In addition, there was a high incidence of *monilia* and other cocoa diseases, which inflicted high losses on crop yields (MADR-IICA 2002).

It is in the agricultural production link that the different stakeholders of the chain (Fedecacao, MADR, CNC S.A., Casa Luker S.A., Corpoica, ICA, NGOs) were willing to cooperate given the supply deficit of the crop, which affected the largest companies and the fact that government and development organizations considered cocoa an alternative crop to illicit cultivations. It is important to point out that the cocoa producers of the region fulfilled a key role in the CA. Most of the members of the CRCC were cocoa producers; Fedecacao on behalf of the agro-producers of Santander, Norte de Santander and Arauca and some cocoa producers' associations (Asoproplan, Aprocar) participated actively in the discussion and signing of the CA. All of these facts give the CA an agro-productive nature (table 9.4).

Table 9.2
Main VC problems and scope for VC level action 2002 (Agriculture)

Link	Main problems of the chain (2002)	Scope for chain level action
Agriculture	<ul style="list-style-type: none"> • Old plantations cultivated with hybrids and low sowing densities. • Farms with low technological developments • Heterogeneity in the planting material • Absence of good agricultural practices in the planting, maintenance of the crop and benefit of cocoa • High incidence of cocoa diseases and plagues • Small-scale production and lack of entrepreneurial vision • Lack of experience in the external market • Armed conflict (presence of guerrilla and paramilitary groups) • Competition from illicit crops for the cultivation areas • Precarious distribution networks • Lack of training and technical assistance • Low access to credit 	<p>There is a large scope for chain level action among regional chocolate producers, the larger companies, government agencies, NGOs, universities and research centers for:</p> <ul style="list-style-type: none"> • Development of the supply of training and technical assistance • Improvements in the quality and supply of vegetable sowing material. Development of genetic materials for the crops • Quality certification • Increases in cocoa production through new cultivations and renewal of old plantations • Research, technological development and transfer • Contract agriculture schemes • Control of cocoa plagues and diseases • Information sharing (i.e. market information) in cocoa

Source: This research, based on MADR-IICA, 2002.

Table 9.3
Main VC problems and scope for VC level action 2002
(Industry and Commercialization)

Link	Main problems of the chain (2002)	Scope for chain level action
Industry	<ul style="list-style-type: none"> • Low technological development in the regional industry (obsolete equipment, presence of craft systems) • Technological heterogeneity among the regional firms • Low technological transfer • Concentration in the supply of a single product (table chocolate) • Problems of commercialization • Lack of producer organization • High costs of raw materials 	<ul style="list-style-type: none"> • Little room for cooperation with the larger chocolate firms. • Chain level action among regional firms with cooperation of Universities, NGOs and public agencies in terms of: training, best manufacturing practices, purchases of inputs, organization of producers.
Commercialization	<ul style="list-style-type: none"> • In cocoa: Low experience in the external market, oligopsony, lack of producers' associations and cooperatives, lack of payment incentives by quality. 	<ul style="list-style-type: none"> • Scope of VC level action among regional producers and in certain instances with the cooperation of the larger companies
	<ul style="list-style-type: none"> • In chocolate: Oligopoly in the market. • Reduced market for SME. 	<ul style="list-style-type: none"> • Scope of VC level action among regional producers with no participation from the larger companies.

Source: This research, based on MADR-IICA, 2002.

In the case of the VC cocoa-chocolate in Santander, oligopolistic competition prevents core business cooperation between the oligopoly and regional firms. In the commercialization and industrial links, cooperation of the larger firms with other firms (in terms of their core business) is minimal given the fact that they have an oligopsonistic and oligopolistic market situation. Thus, they are interested in maintaining the status quo in their relationship with small chocolate firms. Therefore, collective action in the link is carried out mostly among regional entrepreneurs as a way to counteract the strong competitive pressures that they receive from the larger conglomerates. The industry link is segmented: the upper segment has no interest in such cooperation, but the lower segment has a collective interest to withstand competition from the two largest companies and to improve their access to raw material. In short, there is little room for cooperation in the industrial link especially

between the oligopoly and the regional small firms. Evidence of this derives from the few commitments for the industrial sector to be developed in the CA (see appendix 1). Meanwhile, at the individual level, the larger industries had plans to expand their markets at the international level through alliances and aggressive investments in research and development.

Table 9.4
Main national and regional actors and their roles in the making of the CA

National	Regional	Motives to participate in the CA
Fedecacao (Producers organization-manages a Parafiscal fund)	Fedecacao	Increase the bargaining capacity of cocoa producers; promote the creation of producers' associations, increase the income of farmers, boost the cocoa production, technological transfers and generation of export surpluses. Contribute to the development of cocoa producing areas.
MADR		Increase the scope and efficiency of the agricultural sectoral policies in the context of the national policy for productivity and competitiveness. Increase the cocoa national supply and improve export surpluses
ICA	ICA	Improve the pertinence, scope and quality of the agricultural research on cocoa and technological transfer. To improve the quality of sowing material and to regulate the production of it, to improve the control of cocoa diseases such as monilia and witches broom.
Corpoica	Corpoica	Improve the pertinence, scope and quality of the agricultural research on cocoa in the region. Generation and transfer of scientific and technological knowledge in the cocoa crop
ANDI National Association of Industrialists (Chamber of Food)		Strive for the interests of the chocolate manufacturers (sanitary policy, tax issues)
Ministry of Commerce, Industry and Tourism		Increase the scope and efficiency of the national policy for productivity and competitiveness, mainly in its export component.

Source: This research

9.3 Competitiveness Agreement (CA)

This section presents a synthesis of the main aspects related to the process of configuration and signing of the regional CA for the VC cocoa-chocolate in the northeastern region.

Table 9.5
Main national and regional actors and their roles in the making of the CA (Private Firms)

National	Regional	Motives to participate in the CA
CNC S.A.	CNC S.A.	Increase the cocoa national supply and improve its quality. To maintain bargaining power and keep prices steady. To position their chocolate products and confectionery at the national and international level.
CASA LUKER S.A.	CASA LUKER S.A.	Increase the cocoa national supply and improve its quality. To maintain bargaining power and keep prices steady. To position their chocolate products and confectionery at the national and international level.
Chocolate Girones S.A.	Chocolate Girones S.A.	Increase the cocoa national/regional supply and improve its quality. To maintain bargaining power and keep prices steady to gain markets for table chocolate. Regulate informal chocolate producers.

Source: This research

9.3.1 Main characteristics of the CA

In general, the regional CA is an agro-production oriented development intervention whose main goal is to increase production through increases in productivity and in the cocoa producing area in the region.

The VC faced the challenge of increasing productivity from 437 kilos/hectare to 1200 kilos/hectare, and the renovation of about 33,000 hectares and planting of 37,900 new hectares in the region in a 15-year period.⁶ Thus, the VC had the goal of increasing production to fulfill the deficit of domestic supply and generate surpluses for exports. One of the main goals of the CA and particularly of the main firms was to develop

the domestic crop further because the country was importing cocoa. The smuggling of cocoa to Venezuela is a recurrent problem especially in periods of supply shortages in the international market. According to AGROCADENAS⁷ in 2002 with a production of 34,000 tons, Colombia imported 7,122 tons of cocoa grain and exported 1700 tons. In 2005 with a production of 37,000 tons, Colombia imported 7460 tons and exported 2767 tons.

Table 9.6
Main national and regional actors and their roles in the making of the CA (Regional Organizations)

Regional	Motives to participate in the CA
Society of Agriculturalists of Santander (SAS)	Improve conditions of cocoa producers in the region.
Regional Secretariat of Agriculture (regional government)	Improve pertinence, coverage (scope) of the regional agriculture programs and projects.
NGOs: Foundation Catatumbo, Program for Peace and Development of the Medium Magdalena; FUPAD (Pan-American Foundation for Development)	Exchange information, to get funding for development projects with cocoa producers, to strengthen institutional cooperation. To improve the living conditions of the cocoa producers in the region.
ASICHOC (Association of Small Chocolate Producers)	Improve the bargaining position of the small producers in relation to the two larger chocolate companies, to benefit from official development programs for small and medium enterprises.
National Apprenticeship Service (Regional Santander)	Improve the training service including producers in the development of the whole process of training (demand lead service).
Producer associations	Increase bargaining power in relation to chocolate producers (to get better prices for the cocoa harvest) to access credits and other sectoral incentives from the national government. To eliminate the presence of intermediaries in the commercialization of cocoa and to carry out contracts of crop absorption with the industry
Universidad Santo Tomas	Link the academic program of agro-industrial management to the direct study of real problems faced by the sector in the region. The program has a cloning cocoa garden.

Source: This research

In short, the CA embodies a positive sum game for the members of the chain. The large firms expected to gain access to raw material; assure quality and quantity with stable prices. The agro-producers expected to raise productivity and hence profitability. Finally, the government expected greater macro-sectoral policy coherence and a meaningful reduction of cultivation of illicit crops and of the armed conflict.

9.3.2 Regional Council for Competitiveness (RCC) and coordination of the CA

As a background to the regional CA, it is important to point out that in June 2000, the national government (MADR, MCIT, DNP), the larger chocolate companies (CNC S.A. and Casa Luker S.A.), public institutions and programs (ICA, Corpoica, SENA, Finagro, Banco Agrario, others), Fedecacao and ANDI signed a declaration of wills for the study, formulation and concerted elaboration of a proposal of sectoral CA for the national chain cocoa-chocolate.⁸ Finally, in 2001 the national (sectoral CA) for the cocoa-chocolate VC was signed. The Cocoa-Chocolate National Council for Competitiveness (CNCC) included the previous organizations and *Chocolate Girones*, a SME industrial firm of the region.

Meanwhile, the work in the northeastern region began in August 2000 when the regional council was created and a local NGO was appointed as the technical secretariat. The CA was signed in the second semester of 2002. This region had competitive advantages for the production of cocoa, and in this sense with the support of PROAGRO, the nucleus for productive development of the VC cocoa-chocolate northeastern region was established. It had some logistical support and a certain degree of coordination with the CNCC. A new technical secretariat was appointed in 2002. This function was taken over by a respected professional who was very knowledgeable on the different technical and economic aspects of the chain. In 2005, the regional competitiveness council (CRCC) was active and functioned with good participation of its members. The CRCC and the technical secretariat have had continuity since the signing of the CA. In practice, most of its work is done in Santander (Bucaramanga) where the office of the regional council is located. The CRCC has faced some logistic difficulties in working with members of the other departments in the central office of the council or in their places with adequate frequency.

The CA for the cocoa-chocolate VC in the northeastern region does not state explicitly in the matrix of commitments the specific sum of money that accounts for the contribution of the actors involved in the signing and development of the CA (see appendix 1). Each year the cocoa-chocolate regional council (CRCC) sets targets, which are based on projections according to the different projects that 'integrators' such as NGOs, producers' associations and others, report to the regional council on competitiveness. The responsible actors participate according to their resources and scope of action; some provide technical assistance while others provide credit, technological transfer and technical education. Still others provide seeds, participate as integrators of production projects or invest directly in productive projects. The CRCC coordinates the actions of the different support institutions and directs actors that take part in the CA, facilitates exchanges of information among them and provides space for dialogue and concerted action. In short, the CA increases coherence of action by coordination. It does not impose on its members.

The institutional backing supplied to the VC has its expression in, for example, the technological packages developed by Corpoica, CNC S.A., Casa Luker S.A. and Fedecacao. Likewise, the Cocoa National Fund offers technical assistance to the producer including the supply of seeds. Another important point in favor of the functioning of the VC is that the larger companies provide technical assistance, technological transfer, discount seed supply and assure the total purchase of the crop (MADR-IICA 2001: 34).

According to a report by Fedecacao (2006), it managed meaningful investments in the cocoa link through productive projects that involved national and international cooperation during the period 2002-2005. In 2004, Fedecacao invested about US\$ 1,227,000 in the region; 80.1 per cent financed by the Cocoa National Fund and the rest through the mechanism of agreements and alliances. In fact, Fedecacao mobilized at the national level resources 3.6 times larger than the share of the parafiscal fund during this period.

The government through PROAGRO and resources from different public agencies and incentives such as the incentive of rural capitalization (ICR) managed by Finagro and the Agricultural and Livestock Fund of Guarantees (FAG) and the parafiscal funds supported the financing of the CA. The regional and local administrations participated in some pro-

ductive projects and campaigns on behalf of the cocoa agro-producers although such participation was not systematic and meaningful.

The national government has made available incentives to substitute illicit crops for cocoa and to provide alternative income for people involved in the armed conflict. Resources from the Plan Colombia's program for alternative development, the 'Peace Investment Fund', and other sums financed with public and international resources allocated to promote peace in conflict zones and operated mainly by NGOs, are important contributions to the development of the CA, particularly achievement of the goals of new planting and renovation of cultivations. There is a commitment on the part of the largest chocolate companies to buy all the production of cocoa generated in the new hectares that replace the illicit crops and that have been financed with resources of Plan Colombia (MADR-IICA 2005: 148).

The budget of the technical secretariat of the National Council for Competitiveness of the cocoa-chocolate VC was funded by Fedecacao, MADR, Corpoica and private chocolate firms (CNC S.A., Casa Luker S.A. and Chocolate Girones). This council is a policy advisory organization to the national government. Meanwhile, MADR and the Society of Agriculturalists of Santander (SAS) funded the technical secretariat of the CRCC. The regional council is a regional committee of the national council for competitiveness.

The next sections analyse the main connections between key characteristics of the VC and the formulation of the CA and, between the regional factors and the developmental outcomes of the CA.

9.4 Implementation and Developmental Outcomes of the CA

9.4.1 Main activities carried out in the development of the CA

The development of the CA for the VC cocoa-chocolate in the northeastern region included several activities executed during the period of study (2002-2005) through public-private sector partnerships. It is important to highlight that the commitments reached by the different stakeholders from the private, public and academic sectors were condensed in a matrix of commitments regarding the CA and then signed (see appendix 1).

Table 9.7
Main activities carried out in development of the CA (2002-2005)
Agricultural link

Agricultural Link
<p>In the production sphere</p> <p><i>Planting of cocoa: New sowings, renovation of old plantations</i></p> <ul style="list-style-type: none"> • Introduction of new planting material with high quality clones, and substitution of hybrids of low productivity and resistance to diseases; certification by ICA of all cloning gardens and institutional nursery plants; organization of production of vegetable material. Policy of producing only with clones certified by ICA; distribution of planting material mainly by large NGOs, business associations (Fedecacao) and the promotion of the cultivation of organic cocoa. • Demonstration farm with irrigation; development of technology for the integrated management of plagues and diseases; promotion of changes in cultivation methods (e.g. in blocks that differentiate per types of cocoa instead of mixes of different varieties of cocoa); undertaking of a monilia campaign; introduction of new technological packages for cultivation; promotion of entrepreneurial farming. <p><i>Education and training</i></p> <ul style="list-style-type: none"> • Constitution of the ‘mesa sectorial’ (sectorial board) and elaboration of labor competencies for the cocoa link of the VC. The latter can be used for a unified training program not only at the regional level but also throughout the whole country. <p><i>Support services</i></p> <ul style="list-style-type: none"> • Credit: Introduction of schemes to access credit via contracts with buyers; promotion of producers’ awareness about financial options and incentives for the development of cocoa production; elaboration of production projects co-funded by the government through FINAGRO. Undertaking of associational credit schemes with ICR (Incentive for Rural Capitalization); participation in the ‘Productive Alliance’ scheme to apply for special funding to substitute illicit crops with resources from plan Colombia (USAID) and the Colombian government.

Source: This research.

The main activities carried out in the implementation stage of the CA were directed to the agricultural link and the promotion of increase and renewal of the cultivated areas. Although the initiatives of the small-scale chocolate entrepreneurs were promoted and supported by the CRCC,

their work took on its own dynamics with the creation of their association (ASICHOOC). The activities related to the transaction sphere targeted the creation of cooperatives and cocoa producer associations with the aim of reducing the presence of intermediaries in the commercialization of cocoa, and the promotion of exports amongst others.

It is important to highlight the meaningful role played by agencies such as ICA, Corpoica, Fedecacao,⁹ the regional Agricultural Secretariat and CNC S.A. and Casa Luker S.A. in the development of the CA. In fact, each one contributed to it while developing its own corporate functions, articulated in the context of the goals and activities agreed upon in the CRCC.

Table 9.8
Main activities carried out in development of the CA (2002-2005)
Industrial link and Commercialization

Industrial Link
<p>In the production sphere</p> <ul style="list-style-type: none"> • Implementation of BMP (Best Manufacturing Practices) for the regional chocolate SME, Standardization of processes, Elaboration and implementation of business plans. • Creation of ASICHOOC (Association of Small Regional Chocolate Industrialists) • Training for employees (staff and clerks) of the cacao for the regional chocolate industry
Commercialization
<p>In the transaction sphere</p> <ul style="list-style-type: none"> • Introduction of contract agriculture schemes; market diversification; promotion of export culture; creation of CI cacao S.A. Constitution of cocoa producers associations and cooperatives in the producing regions

Source: This research

9.4.2 Main developmental outcomes of the CA¹⁰

The main developmental outcomes of the CA are divided in four groups: gains in productivity, production and employment; VC integration; collective learning; and upgrading (process, product and functional).

Productivity, production and employment

According to estimates of the Observatorio Agrocadenas, cocoa productivity increased in the regions (Santander, Norte de Santander and Arauca) an average 3.5 per cent, varying from 338.8 kg/hectare in 2000 to 350.6 kg/hectare in 2005. The cocoa sowing triggered in the region since the certified planting material has increased and become more available because of the competitive environment being generated in the crop; the production increased 7.5 per cent in the region from 21,495 tons in 2000 to 23,101 tons in 2005. In addition, the accumulated sowings for the period 2003-2005 are equivalent to 6400 average minimum wage jobs.¹¹

Value chain integration

During implementation of the CA and in particular in 2005, an important improvement in the integration of the VC was attained. The coordination of VC activities had increased based on adequate functioning of the technical secretariat and the development of different projects, including some coordinated from the National Competitiveness Council of the VC. For example, the work of the public agencies in charge of agricultural research had become more relevant since the need for research and different campaigns for agricultural extension were designed taking into account the opinion and demands of the main actors of the VC in the region. In addition, disease control campaigns (e.g. monilia campaign) had taken place with economic and technical contributions by stakeholders from different links of the VC. The financial and technical resources of the different support institutions were rationalized and optimized through inter-institutional agreements, which included public-private partnerships. For example, Fedecacao (Federation of Cocoa Growers) had signed agreements with SENA, UMATAS (Municipal Units of technical assistance to the agro sector), ASOMUCARI, Corpoica and the 'monilia campaign', which included CNC S.A., Casa Luker S.A. and Girones S.A. Improvement in the VC integration was also perceived in the sound coordination among public agencies servicing cocoa

production. There was a better focus of public agency tasks defined by VC priorities such as in the cases of the cocoa's sectoral committee (SENA) and the monilia campaign.

Collective learning

The cocoa-chocolate VC also provides important examples of collective learning. The Cocoa National Council for Competitiveness initiated development of the technology for integrated management of plagues and diseases in the cocoa plantations; including the undertaking of a monilia campaign in a first stage in Santander. In addition, a manual of labor competencies for cocoa production was elaborated by a public-private partnership led by the regional competitiveness council and SENA in Santander. The latter is likely to be used for a unified training program not only at the regional level but also throughout the whole country. A common future in the last two projects is that they were developed with the participation and funding of public agencies, the local and regional governments, the cocoa producers, Fedecacao and the largest chocolate producers. In addition, the monilia campaign included the cocoa producers for its implementation and was oriented toward changing cultivation practices in order to reduce the incidence of crop plagues. There was information exchanges and sharing among the largest chocolate firms that have their own specialized research centers, Fedecacao, the technical secretariat and other actors of the VC.

Process and product upgrading

Modernization in the cocoa production process is taking place mainly in the new crops and in the primary processing of cocoa (fermentation and drying). In 2005, some of the SME regional chocolate producers were in the process of quality certification. The programs of *best manufacturing practices* took place in a context in which some of the small-scale industries had expansion plans and were restructuring their business. In regards to the product upgrading, it is important to recall that the cultivations of cocoa in the region are gradually shifting from the use of common seeds to the use of hybrid material and the introduction of seeds from high return clones. In 2005, according to estimates of Fedecacao, the region had about 10 per cent of its estimated cocoa area (53,454 hectares) planted with clones, the other 90 per cent was planted with traditional genetic material. As result of the CA, the plant nurseries

were being certified by ICA and therefore the availability of certified genetic material had increased. The activity became more attractive and the CA was promoting it. Consequently, the region was gradually attaining a more homogeneous cocoa for the industry, the production of selected material had become more organized and permanent, boosted by the supply increase and wider use of certified seeds for the sowing process.

9.5 Value Chain Factors and the CA

This section analyses the influence of VC factors on the developmental outcomes of the CA of the cocoa-chocolate VC in the northeastern region of Colombia. Three factors are considered: input output structure, governance and systemic efficiency.

9.5.1 Economic structure of the VC and the developmental outcomes of the CA

In the context of the GCC (Gereffi 1994), the economic structure of the VC is related mostly to the input output structure of it. Two aspects are considered in the analysis of the incidence of the economic structure on the developmental outcomes of the CAs; the product's characteristics of the agro-link and the market structure.

The characteristics of the agricultural product influenced positively the developmental outcomes of the CA given the outstanding interest of the largest firms to assure high quality domestic supply of cocoa. As the emphasis on quality in a VC increases, the scope for chain level action increases.

The oligopsonistic structure of the cocoa market facilitated the development and outcomes of the CA in a selective way. Lead companies were key agents of change and defined the drivers of change (better quality and greater quantity of cocoa). The fact that the largest companies have difficulty importing cocoa inexpensively, because a better quality product is available domestically at better prices, supports the above situation. Cocoa is in short supply for imports; hence to a certain extent, the companies rely on domestic sourcing and this is an important driver for them to support the CA.

The oligopolistic market structure of the largest companies prevented them from cooperating with the regional firms in most aspects, hampering the outcome of further integration of the VC.

In cases where there is a systematic drop in prices followed by a similar response of other firms in the oligopoly, the small firms are likely to be the most affected by the adverse outcomes of a price war. During the period 2002-2003, the cocoa market was unsteady. The industry endured high international cocoa prices in 2002 because of the meager harvest in Africa (a result of the political problems in Ivory Coast, the main producer of cocoa worldwide), and the subsequent reduction of stocks of grain, which had an impact in the domestic prices of the grain. In 2002, the cost of cocoa increased about 62 per cent; meanwhile CNC S.A. increased the average price of its products about 17 per cent (CNC S.A. 2003). The industry had some relief through the second semester of 2003 given that cocoa prices experienced outstanding decreases from US\$ 2,049/ton in January to US\$ 1,367/ton in October.¹² A gradual drop in the price of table chocolate accompanied this situation from the main companies in the second half of 2003, which generated tough price competition in which there were also promotions for consumers. Therefore, smaller companies did not have enough opportunity to recover from the last period of high cocoa prices and faced strong price competition during the recovery period.

Finally, the interest shown in and continued participation in the CA of the VC cocoa-chocolate by the two largest companies can be explained in terms of their market structure since they comprise a 'differentiated oligopoly'. Thus, if one company is involved in the CA based on its business strategy, the other follows suit because of the stringent interdependence of their actions, which in this type of market structure generally lead to intense rivalry. As Thompson (1977: 398) points out, 'the interdependence among oligopolists extends to all facets of competition: price, output, promotional strategies, innovation, customer service policies, acquisitions and mergers, or whatever?'

The CA did not create meaningful outcomes for SME chocolate firms in the region. Based on their market structure, the cooperation offered by the main companies is essentially circumscribed to the agricultural link to increase the production and the quality of the cocoa produced in the region, thus collective efforts target mainly the production of cocoa and only to a lesser extent are they willing to cooperate with smaller chocolate firms. In the industrial link, the largest companies take a more individual approach. They also prefer a national scope for collective action, although they understand the importance of the regions in

the discussion and implementation of collective actions in the benefit of the interests of the VC. They are not cooperating in their core business, although might be willing to 'pool resources together in research and development which could be a very expensive activity'.¹³ This approach mainly favors alliances among the largest chocolate industrialists.

9.5.2 Governance configurations of the VC and the developmental outcomes of the CA

The governance factor addresses questions of power relations among the different stakeholders of the VC established in the process of coordination of production. To analyse the CA, two factors are examined sources of power (positioning in key segments of the VC and market power) and forms of coordination.

The largest companies are positioned in the key activities of the VC (research and development, processing and marketing) and have a dominant position in the cocoa market. The main activities of the CA were directed toward the agro link, as well as the main outcomes, because all were in the core interest of the VC governors. There is a directed network type of governance between CNC S.A. and Casa Luker S.A. and cocoa producers, principally those registered in the purchasing files of the companies (e.g. cooperatives, associations, intermediaries and producers). In some instances, the companies, in dealing with non-registered or associated farmers, adopt a type of arm's length market relationship. This is usually the case with exchanges between smaller chocolate companies and cocoa producers since they have less interaction between them.

Since there has not been a cooperative relationship among the larger companies and the regional companies, opportunities for upgrading the regional chocolate firms have been minimal. In the case of the agro link, the cooperation experiences in the CRCC have been more fluid although the price setting remains a divisive issue. There has been a good working relationship between the VC's technical secretariat, most of the CRCC's members and the larger companies. It has aided positively most of the developmental outcomes of the CA.

Given that there is a large network of commercialization on the side of the companies as well as a long-established tradition of cocoa commercialization between the larger companies and the agro producers of the region, the transaction costs played a positive role in the outcomes in

terms of production and commercialization. For example, the companies were key players in the process that ended in the adoption of an ICONTEC norm for the purchase of cocoa according to qualities, which improved the bargaining costs and conditions in the cocoa market. It was possible given the well-established position of the larger companies in the commercialization of the regional crop.¹⁴ The larger firms' need to improve the monitoring process and to share the monitoring costs in the agricultural link influenced positively the developmental outcomes of a CA. The leading firms regarded the setting and monitoring of compliance for the cocoa standards including the planting material as very important. They deemed the CA as highly instrumental since it associates organizations such as Fedecacao, ICA, Corpoica and universities that can support producers to improve their quality standards. In this sense, the CA generates synergies, which are important in the promotion of production of high quality cocoa. For example, 'CNC S.A. found the CA positive since crop promotion was helped by other members of the CA in a coordinated fashion. In this way the company would have greater coverage than what it could accomplish directly given its low availability of own technical personnel, six engineers in the whole country'.¹⁵ The technicians of Fedecacao assist in the issue of awareness promotions about agronomic crops and good agricultural practices. The work done in this regard by Casa Luker S.A. is also very important given that 'Granja Luker' has been working in the same vein, accumulating a great deal of experience in the activities of research, training, transfer and production of high quality planting material. It is important to point out that in the case of the certification of the seeds, the CA facilitated and extended the control by the lead firms over the VC.

Determination of standards of performance for participation in the chain¹⁶

The standards set by the leading companies at the national level have supported the achievement of outcomes of the CA, such as better integration of the VC and increases in product quality. For example, there are conditions from the demand side in which the largest chocolate firms are pursuing higher processes of industrialization with the aim of increasing their exports of confectionery and chocolates taking into account the quality demanded by the external markets. Nelson Cruz, president of the Engineer's Society of Santander explains this issue.

The oligopoly is embarked in processes of higher industrialization (confectionery toward the world). If the chocolate firms are interested in better qualities to face the international market, they have to promote improvements in the quality of production and give price incentives to that. To do so in the context of the CA and with a great deal of participation of the larger chocolate companies, a legal set of norms was established (ICONTEC norm) for the purchasing of the crop, which included price differentials to reward the best qualities in the market with a premium and encourage best production practices in the cocoa cultivation (25 April 2006, Bucaramanga).

The technical norm ICONTEC 1252 of 2003, which states the quality requirements for cocoa purchases counted during its study with participation of major players in the chocolate industry such as CNC S.A., Casa Luker S.A., Nestle de Colombia and other stakeholders such as the Cocoa National Council for Competitiveness, Ministry of Agriculture and Fedecacao. Those standards were set taking into account both technical qualities and public health considerations.

Cocoa buyers are maintaining quality standards for cocoa beans according to the technical norm ICONTEC 1252, primarily for the largest companies. In this situation, everything plays to the side of the main companies since, the laboratory/facilities to carry out the different tests to appraise the quality of cocoa are controlled by the leading companies and payment for differentials depends on the results of those analyses instead of a neutral referee. This situation has not allowed the widespread use of quality primes in line with the objective of technical norm 1252, which is 'to establish the classification and requirements that the cocoa bean has to keep for the purpose of industrialization and human consumption'. According to the norm, the cocoa beans are classified as cocoa premium, current and 'pasilla'. The cocoa beans that do not have the specific requirements of the norm are not classified and after the different sample tests, the lot can be rejected.

The standards set by external actors, affect export outcomes of the CA negatively in the short term. By and large, these regulations have influenced attempts by cocoa producers to export to other countries negatively, since they are costly and time consuming. In this sense, the lack of adequate regional institution to support producers in this endeavor have adversely affected the developmental outcomes of the CA such as the

opening of new markets at the international level as well as reduction in the costs of commercialization.

9.5.3 Systemic efficiency

There is a paramount point that CNC S.A. and Casa Luker S.A. have in common: *the need to secure a steady supply of cocoa*. They had been trying to overcome this issue by embarking on several activities at the individual level. However, the CA for the cocoa-chocolate chain presented a powerful device for these companies to pursue this goal more systematically with the cooperation of several members of the public, private and academic sectors. Under these new circumstances, the two largest chocolate industries did not only compete but also cooperated in certain areas opened by the CA. All of these activities (e.g. cocoa disease campaigns, use of certified seeds, increase in planting and renovation of cocoa plantations) illustrate the high interest and commitment of the industrial leading firms with the quantitative and qualitative improvement of the production of cocoa in the country.

9.6 Regional Characteristics and the Developmental Outcomes of the CA¹⁷

This section elaborates on the incidence of the regional context on the outcomes of the CA. The factors integrated in this analysis are historical regional development trajectories, natural resources, the dynamics of regional leadership and the role of typical Colombian variables, such as armed conflict and illicit crops. It is important to recall that a detailed regional analysis of the historical trajectory of Santander was carried out in Chapter 7 as well as a sectoral analysis of the VC cocoa-chocolate in Colombia.

9.6.1 Regional development trajectories (regional business system)

The contribution of the regional business systems to the policy process effectiveness of the CAs in Santander is intermediate. The trajectory of the region is toward a bifurcated economy: fast growing oil related industry and family based SMEs in farming and manufacturing. The regional trajectory shows Santander as a diversified economy whose main feature

is oil production and petrochemical industry. At the same time, great regional biodiversity and availability of land have consolidated solid regional agro and livestock sectors. The permanent crops have an important place in the agricultural and livestock structure; many of them have been historically cultivated in smallholdings and in mountainous areas. Most of these crops have followed a long trajectory since the colonial period playing a key function in the regional economy and consolidating Santander as the main producer of such commodities at the national level. In the analysis of the regional trajectories, several aspects of the regional business system are included such as the characteristics of firms and the nature of their interaction with others in the VC and particularly in the competitiveness agreements (see chapter 6). In general, the contribution of the regional business systems to the CA can be considered as intermediate. The region, and in particular Santander, presents an important articulation between the local-regional governments and the firms in Bucaramanga, the capital of Santander. It is based on strong public revenues from oil activity's royalties in the region. There are public support mechanisms for regional competitiveness in the areas of research, technological development, science and technology. There was partial direct support to the CA, though the regional and local administrations supported the economic activity of the different links of the VC through other cooperation schemes.

In this context, the nature of the firm and inter-firm relations in the region is characterized by small and medium-scale manufacturers with high rivalry among firms and average degree of cooperation amongst firms. CNC S.A. and Casa Luker S.A. whose headquarters are located in other regions perform the leading role of the VC. The degree of commitment of CNC S.A., one of the leading firms of the chain, to the region is rather weak, thus the 'potential for value creation, enhancement and capture' (Henderson et al. 2002: 453) in regards to the chocolate industry is small. The company has a partial degree of *territorial embeddedness*. The northeastern region is seen as an enclave for sourcing of raw cocoa for CNC S.A., which does not have a factory there. It has commercializing offices where it purchases cocoa from the producers and then sends the input to its factories in Antioquia and Bogotá, aided by the improved national roads, which reduced transportation costs and make the commodity ubiquitous. In addition, CNC S.A. has a comprehensive chocolate distribution network encompassing most of the country. The density

and intensity of local/regional connections of the firm with other firms and organizations is low and focused on sourcing raw material for its factories. First mover advantages of CNC S.A. as a cocoa trade company have given it space to position itself as a leading buyer with a solid and sustainable purchasing scheme in the region. While Santander is positioned as the leading cocoa producer in the country, the regional chocolate industry has not undergone key developments and maintains its small-scale structure without meaningful cooperation schemes with the larger industries.

9.6.2 Natural resources

Recently, the supply of land for the crop has increased because of the upgrading of livestock producers into agriculturalists. Then, in this sense, it influences positively the results of the CA because it helps to reach the projected increase in the cultivated areas with the required quality for the new crops. Since the Magdalena River crosses the region, Santander is preparing the infrastructure necessary to export cocoa by river and even by train.

The northeastern region is very rich in natural resources. There is enough appropriate land for the crop, enough water from rivers and the region even has important ports on the Magdalena River such as Puerto Wilches and Barrancabermeja. The latter has an industrial complex with the largest oil refinery in Colombia also in addition to petrochemical production. Arauca is also an important oil producer in Colombia. According to Hernan Hernandez,¹⁸ director of Procaucho-Asohesan who had a cultivation project for exports in the Valley of the Carare River.

Historically, most of the cocoa crops are located in foothill zones, many of them areas of conflict and violence. Cultivation has taken place in the eastern range of mountains (Cordillera Oriental) against the Valley of the Magdalena River. At present, a new frontier is being open toward the valleys; the new areas of the valley are moving from extensive livestock production at the end of the 1990s to cocoa plantations. These areas are gradually changing vocation because of an increase in security and other factors. It is expected that this trend will lead to increases in employment and use of labor in productive units larger than 500 hectares.

9.6.3 Regional leadership enabling state

The presence and participation of public sector agencies such as ICA and SENA in the region have supported the CA to accomplish its developmental outcomes, though the regional government has only been partially involved in the CA.

The dynamics followed by the CA has captured the attention of regional and municipal governments in the development of the chain. The regional government has participated in some activities such as the second phase of the monilia campaign to which it has allocated resources. Likewise, it allocated resources to the development of alliances with members of the chain to carry out projects in the cocoa link. However, it has not been fully committed to the CA, and has not participated actively in the regional council for competitiveness. Municipal governments of the main producing areas have provided support to UMATAS (municipal units that provide technical assistance to agriculturalists) to aid productive projects, and even incorporated in their agenda the value chain policy with a more certain perspective.

9.6.4 Violence (armed conflict and illicit crops)

These two phenomena have struck the region for several decades and this situation is a distinctive feature of the institutional environment in which the regional entrepreneurial nucleus of the VC cocoa-chocolate has developed its CA. By and large, these specific regional conditions influence the outcome of the CA and are an example of a highly localized factor in the territory.

During the last decades of the previous century violence had become an unmanageable problem for a large group of cocoa producers as well as for chocolate industrialists. During the period of the CA that coincided with the Presidency of Alvaro Uribe Velez, the general perception of the chain stakeholders is that the situation has improved and the producers are working in a more secure environment.

In general, paramilitary groups and guerrillas still constitute a risk factor for the investment in the region. The largest cultivations of cocoa take place around the area of Magdalena (Magdalena River zone). Historically, these areas had been exploited mainly with extensive cattle production, but could become medium or larger exploitations of cocoa. There are no big extensions (more than 500 hectares) because of fear or

uncertainty of the entrepreneurs while the reverse is true in other regions of the country such as in Valle del Cauca. In this sense, it could be argued that the presence of the conflict has prevented large-scale cocoa cultivation (Hernan Hernandez, Bucaramanga 25 April 2006).

The armed conflict has caught the attention of international donors as well as that of the national government to invest in the region promoting alternative crops such as cocoa. In this sense, the government has undertaken programs such as PLANTE, Alliances for Peace; the Programme of Alternative Development (PDA) and the Peace Investment Fund (FIP) of Plan Colombia to develop the above policy. For example, during the period of the CA a cocoa project of around 1000 hectares took place in Tibu (Norte de Santander) (MADR-IICA 2005: 353). A project of 900 hectares was developed in the municipalities of San Vicente de Chucuri, Landazuri and Carmen de Chucuri in Santander by the consortium Ecocacao-Corporacion Desarrollo y Paz Magdalena Medio. The investment was US\$ 1.7 million and benefited 450 families. NGOs such as Fundescat, Asocacao and FUPAD, in this context have played an important role as operators of large-scale national and international resources in several cocoa projects in the region. Fedecacao has also been an important operator of resources in the region. CNC S.A. and Casa Luker S.A. committed to buy the cocoa yielded in the 6,900 hectares cultivated in the country with incentives from 'Plan Colombia' to replace illicit crops (MADR-IICA 2006: 148).

Violence has decreased lately; meanwhile support for cultivation is mounting. Consequently, there has been an increase in land prices as well as an increase in the number of cultivated hectares. Therefore, the reduction of violence has influenced positively the production outcomes of the CA and the economic recovery in the region in general. Finally, the results of the CA have been better in a more secure environment. In such a case, the entrepreneurs will be willing to invest more and the financial institutions would be willing to allocate more resources in the region.

9.7 Quality of the CA

The competitiveness agreement of the VC cocoa-chocolate in the northeastern region (Santander) is both highly effective and relevant and can be considered an outstanding CA (see table 9.9).

9.7.1 Policy process effectiveness of the CA¹⁹

The selected criteria to analyse the policy process effectiveness of VC agreements on competitiveness were: 1. formulation and development of the CA; 2. composition and dynamics of the regional council for competitiveness; and 3. trajectory of the CA. Appendices 2-4 describe the indicators developed for each criterion and the description of the scores. Based on the analysis of the CA through these criteria, the CA of the VC cocoa-chocolate in Santander was classified as highly effective (see appendix 5).

- 1. Formulation and development of the CA.** The CA contains a formulation of a mixture of well-structured commitments with other incomplete commitments in terms of financial and administrative responsibilities by the members of the CA. It presents an average score on this indicator. The CA had a good degree of achievement, which means, during the timeframe of the CA, more than 60 per cent of commitments were at least partly developed (see appendix 2).
- 2. Composition and dynamics of the regional council for competitiveness.** The CA of the VC cocoa-chocolate in Santander had a dynamic and operative regional council for competitiveness. It met three criteria. First, during the period of the CA, it had an active technical secretariat (a person or an organization) with technical and administrative experience in VC related issues; adequate funding with private and/or public contributions; and recognition by most of the VC stakeholders. Second, the regional council comprised most of the links of the VC, had active public and private sector participation, including the leading firm(s) of the VC. It also included, NGOs, small, medium and large agro and industrial producers, business interest associations, producer associations, universities and centers of productivity. Moreover, council members had decision-making power. Third, the regional council presented high dynamism. The RCC met regularly and had supporting technical committees; solid information flows and high degree of commitment of VC members (see section 9.3 and appendix 3).
- 3. Life cycle of the CA.** The CA of the VC cocoa-chocolate in Santander had the highest score in this indicator. The CA followed a trajectory from the signing to fulfillment of more than 60 per cent of the CA's goals and the renewal and permanence of the CA, the technical

secretariat and regional council for competitiveness (see section 9.3 and appendices 4 and 5).

9.7.2 Relevance of the CA

The selected criteria to analyse the relevance of VC agreements on competitiveness were 1. characteristics of developmental outcomes; 2. contribution to corporate goals; and 3. improvements in VC coordination. Based on the analysis of the CA through these criteria the CA of Santander was classified as highly relevant for the development of the chain and the region (see appendix 9).

- 1. Characteristics of developmental outcomes.** The VC cocoa-chocolate in Santander received a high score on this indicator, which means that most of the outcomes of the activities carried out relate clearly with the goals of the CA (see section 9.4.2). One possible explanation is that since there is a raw cocoa supply deficit in the country, most of the goals of the CA deal with the qualitative and quantitative improvement of the cultivation in the country. This general objective is in the interest of agricultural producers and chocolate industrialists as was evidenced by the activities carried out in development of the CA and its outcomes (see appendix 6).
- 2. Contribution to corporate goals.** The VC cocoa-chocolate in Santander and Antioquia received a high score on this indicator, which means that the activities conducted during the CA fully supported the achievement of corporate goals of agricultural and industrial producers (see sections 9.4.1 and 9.4.2 and appendix 7).
- 3. Improvements in value chain coordination.** Significant coordination takes place when the regional council is highly dynamic and there are several events of coordination (program, projects and campaigns) amongst different links of the VC such as in the case of the cocoa-chocolate in Santander (see sections 9.4.1 and 9.4.2 and appendix 8).

Table 9.9
Summary: Quality of the CA

Evaluation criteria Relevance	Policy Process Effectiveness		
	High	Intermediate	Low
High	Cocoa-chocolate Santander Outstanding	Average	
Intermediate	Good	Less than average	Poor
Low			

Source: This research

9.8 Concluding Remarks

The CA offered excellent opportunities for the cocoa producers and industrialists given the national chocolate industry's unsatisfied demand for cocoa. High demand of cocoa accompanied by a domestic supply short-fall stimulated the CA. The supply constraints in the international markets (crisis in Ivory Coast) and the high quality of cocoa produced in Colombia made it optimal for the industry to buy in the domestic market assuring continued demand for domestic production. It generated a special condition for the signing of the CA since the main chocolate factories were willing to cooperate with the agriculturalist to increase the supply and quality of cocoa in the market. It is important to highlight the fact that private resources from the companies, NGOs and Fedecacao, and funds from the national, regional and local governments as well as from international organizations were available to promote the production of cocoa in the region. There was resource availability with special non-sector specific consideration (Plan Colombia). The national government had identified the crop as an alternative to illicit cultivations such as coca and poppy as well as an income and employment alternative for demobilized members of guerrilla and paramilitary groups and refugees in the context of peace agreements.

It is important to point out that the cocoa crisis in 2002 (prices increases and low bean supply) promoted support for the CA by the companies as a strategy to cope with this juncture, which was the same year the regional CA was signed.

CNC S.A. and Casa Luker S.A. have been embedded in the region for a long time while enjoying the advantages of first movers based on a solid network of buying points and appointed buyers. In contrast, the regional industry lacks key developments and maintains its small-scale structure without meaningful cooperation schemes with the larger industries.

During (2002-2005) some positive results on the farms and firms performance have been achieved. For example, the improvements in cocoa cultivation with certified material, a sound technological package and the increased adoption of entrepreneurial practices in the cocoa farms, including the integral management of monilia among others. The small chocolate producers have been gradually developing competitive capacities, introducing best manufacturing practices and in general modernizing products and processes. The larger companies have been securing a more steady supply of cocoa for their chocolate production and primary processing from the growing homogenization of cocoa production because of the new sowings and the cocoa renewal projects undertaken under the favorable CA. Likewise, they have used the CA as a marketing advantage at an international level where they portray their production as part of an integrated production based on a VC approach that involves several actors from different links of the chain and social and government sectors at the national and regional levels. The work of public or semi-public support agencies have also been strengthened and boosted in the chain because of the CA such as SENA, ICA and Corpoica and business interest associations (Fedecacao).

The socioeconomic and institutional development of Santander and its increasing outward-oriented economy provides opportunities for the upgrading of small-scale industrialists (table chocolate) and regional cocoa producers. The former might become key players in the production and exports of cocoa liqueur diversifying their activity from their traditional role as table chocolate producers, mostly for the regional and, to a lesser extent, national markets. Given the low profit margins in the table chocolate market, dominated by the oligopoly, they have gained experience as raw cocoa traders to complement their core business. In this sense, another possible scenario is downgrading to become raw cocoa exporters and or a combination of the last two options. The interviews conducted in the fieldwork support this hypothesis, since there is a growing consensus amongst regional stakeholders and international do-

nors about the need to promote an associational culture and the generation of a greater regional value added to the cocoa activity in the context of the VC cocoa-chocolate.

Notes

¹ This section is based on the diagnosis of the VC carried out by the Cocoa Regional Council for Competitiveness during the elaboration of the document for the signing of the CA of the northeastern region (CRCC 2002). For the purpose of the CA, the northeastern region is integrated by the Departments of Santander, Norte de Santander and Arauca. The fieldwork took place mainly in Santander under following considerations: 50 per cent of the total cocoa of the country is produced in Santander, the CRCC as well as most of its active members are in Bucaramanga, most of the regional factories with the exception of one are located in Santander and most of the programs of the CA are also conducted there. The fieldwork and this research in general dealt with two links; the agricultural and the industry analysing in detail the linkages among them and the way they interact in the context of the chain. The other links are included in the study albeit to a lesser degree of detail. The main sources used were the reports and records of the meetings and other documents of the Cocoa National Council for Competitiveness (CNCC) and the Cocoa Regional Council for Competitiveness (CRCC) as well as their respective committees. To complement the above information, semi-structured questionnaires were used to conduct a series of interviews with cocoa producers and chocolate industrialists. Likewise, interviews were conducted with members of the national and regional councils for competitiveness, which are composed of producers, the chain's experts, support institutions, government officials etc.

² Source: MADR, Observatorio Agrocadenas Colombia. 'cacao: área, producción, rendimientos' 01 December 2005.

³ Hernan Hernandez, Presidente SAS (Personal Interview) 23 April 2006, Bucaramanga.

⁴ The commission agents are generally registered in the supplier lists of the companies and are authorized by them to purchase cocoa in the urban areas of the producing areas at a slightly lower price than the one paid by the companies in their official purchasing points. Their activity requires them to cover costs of infrastructure, warehousing, employees and purchases amongst others. They sell to Casa Luker S.A., CNC S.A. and small industrialists members of ASICHOC.

⁵ Personal interview with Octavio Ardila, Bucaramanga, 28 April 2006.

⁶ MADR-PROAGRO et al. (2002) Acuerdo regional de competitividad Cadena de cacao-chocolate Región nororiental (Santander, Norte de Santander y Arauca).

⁷ Observatorio de Competitividad AGROCADENAS
<http://www.agrocadenas.gov.co> 'cacao estadísticas de la cadena'.

⁸ MADR-IICA 2001: 1.

⁹ The National Federation of Cocoa Growers (Fedecacao) is a private organization that has been very active in the promotion of the interest of the national cocoa producers since its creation, in 1962. Likewise, it has been a key stakeholder in both the national and regional CA of the cocoa-chocolate chain. Fedecacao administers by Law the Cocoa National Fund (*Parafiscal fund*) and offers to its members the services of research, technology transfer, commercialization support, training and strengthening of the local producer organization (Fedecacao 2006). It has an executive President and a Board of Directors at the national level. In 2006, it had 5 regional committees and 11 of municipal character. About 11,841 (45%) of the families involved in cocoa cultivation in the country are affiliated with Fedecacao and 52 per cent of those affiliated are from the northeastern region. Whether or not a producer is affiliated with Fedecacao, he or she is entitled to benefit from the services provided by the organization (Fedecacao January 2008).

¹⁰ This section analyses the main developmental outcomes of the CA. It takes into account the perception of members of the CRCC and of cocoa and chocolate producers of the region. It is important to point out that three years is not enough time to make concluding comments, since in certain issues time is essential. An example of this is the cocoa plant yields, which take approximately 3 years to enter gradually into their productive phase.

¹¹ MADR (2006) 'Anuario estadístico del sector agropecuario y pesquero 2005'. Bogotá: MADR- Dirección de política sectorial.

¹² Inversiones Nacional de Chocolates S.A. informe anual, 2003.

¹³ Personal communication Medellín 2006 F. Valenzuela, CNC S.A.

¹⁴ Luis Enrique Alarcón, Technical Secretariat of the VC (Bucaramanga, 04 May 2006).

¹⁵ Personal communication, N. Ardila, CNC S.A., (29 April 2006 Bucaramanga).

¹⁶ There are national and international standards (quality standards ISO 9000, environmental standards, ISO 14000, labor standards S.A. 8000 and HACCP) that apply to the food industry (Kaplinsky 2004: 4) that challenge the competitiveness of the chain where it faces the international / global markets and put in evidence the strengths, weaknesses, opportunities and threats of the VC. There

are standards determined directly by the firms as in the case of traceability standards.

¹⁷ In this section, the regional business system and the notion of embeddedness are considered to analyse the influence of the regional context in the developmental outcomes of the CA.

¹⁸ Personal communication, 25 April 2006, Bucaramanga.

¹⁹ This section evaluates the policy process effectiveness of the CA through a set of three criteria and six indicators, the same indicators are used for the study of the other value chains included in the sample. Each value chain was scored for each indicator using the following score levels: 1 (poor), 2 (average) and 3 (good); these scores have a comprehensive description for all indicators. See volume I of the Report 'Increasing the sustainability of EU and Dutch commodity trade through more effective policies' on a study carried out by AIDEnvironment and profundo and supported by VROM, 2007.

Case Study 2: The VC Cotton-Textile-Clothing in Tolima

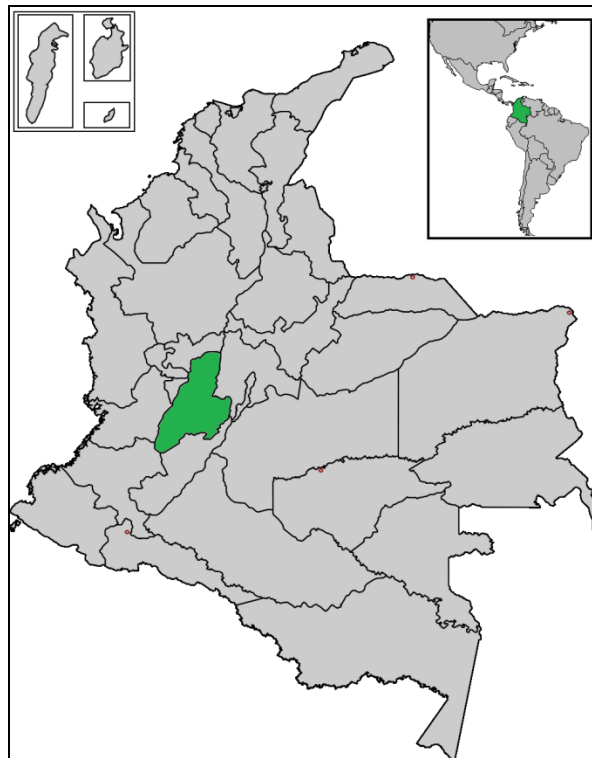
The VC cotton-textile-clothing in Tolima is a very special case that merits a discussion on its own. The CA for the VC was developed in a region that was severely affected by the destruction of a city located in the northern part of Tolima (Armero) by the eruption of a volcano in November 1985 in which more than 30,000 people died. The national government reacted by giving tax exemptions and guaranteeing free import duties to new enterprises that settled in the region during the first decade after the disaster. The case analyses the different economic and power relations within the VC in the context of the CA as far as Fibratolima (a regional firm created in the aftermath of the natural disaster) sought to break the long standing monopsony of Diagonal (controlled by Medellin larger textile firms), by seeking regional VC integration through a directed network type of governance. In this sense, the CA is an instrument for competitive struggles between lead firms. This is a case where the chain is locally constructed by a new emerging lead firm, which eventually collapsed under the impact of its efforts.

10.1 Structure of the VC Cotton-Textile-Clothing¹

In the 1950s, Tolima became the main cotton producer in Colombia, producing around 70 per cent of the total domestic output. Cotton production rose from the 1950s from expansion of the agricultural frontier with the introduction of commercial mechanized cultivation of transitory crops reaching a peak of around 70,000 hectares sown with cotton, in the 1970s. Then, the cultivated area began to decrease, with the most notorious decline happening during the 1990s. Until the first half of the 1980s, the regional industry was underdeveloped especially in the case of clothing and textiles. However, as Campos (2004) points out, the cloth-

ing's sector had achieved an important expansion in Ibagué, were there were about 200 clothing workshops, 45 per cent of them small and medium firms and the others micro and family enterprises that produced mainly for the regional market. In addition, there was a spinning company called Textiles Del Espinal S.A. (Texpinal), which was created in 1973 with capital from Fabricato, IFI and the Financial Corporation of Tolima S.A. There was regional investment in Fabricato, although not enough to control the company.

Map 10.1
Geographical location of Tolima (Colombia)



Source: This research based on IGAC, 2011.

In November 1985, the region was severely damaged by a natural disaster, the eruption of the volcano 'Nevado Del Ruiz', which destroyed Armero a city located in the northern part of Tolima and devastated its surroundings. The death toll of the tragedy was estimated at about 30,000 people. The different branches of the Colombian government reacted in a coordinated way to promote an organized socioeconomic recovery, reactivation and reconstruction of the areas affected by this disaster. Decree 3830 of December 1985, Law 44 of 1987 and Decree 78 of 1988 were issued. In addition the city council of Ibagué issued the agreement 044 of 1988.² These were enacted to establish tax exemptions and guarantee free import duties to new enterprises to facilitate the economic recovery of the region, including Ibagué in the second instance. The tragedy triggered the regional industry and started what Campos (2004) calls a period of induced industrialization. These active policies allowed an important increase in the economic activity of Tolima, especially in Ibagué where the most investment was targeted. According to the Bureau of Tax Administration, 834 enterprises took advantage of these exemptions generating 3,186 direct jobs and 476 indirect jobs.³

The industrial sector began to play an important role in the regional economic structure and its traditional agricultural base was complemented by a growing presence of the industrial and service sectors. As a result of these incentives, large textile industries were created in Tolima: Fibratolima (textiles), Fatextol (stockinet-tela de punto), CP Company (clothing), T-Shirt and T-shirt (clothing) amongst others. About 156 SME in clothing and textiles were registered in the Chamber of Commerce of Ibagué during the period 1986-1989 (Bayens 1991). During the period 1990-1995, a peak in the industrial production was reached because of the entrance into the production stage of new firms (Campos 2004). Only 25 out of the 132 industrial firms initially constituted remained active in the city after the whole array of incentives ended. Afterwards, real competitive problems emerged; some of the factories closed in Ibagué and moved to other areas such as Cauca, Huila and Quindío where the impacts of severe natural disasters were ameliorated by the national government with similar incentive policies to the ones applied in Tolima.⁴

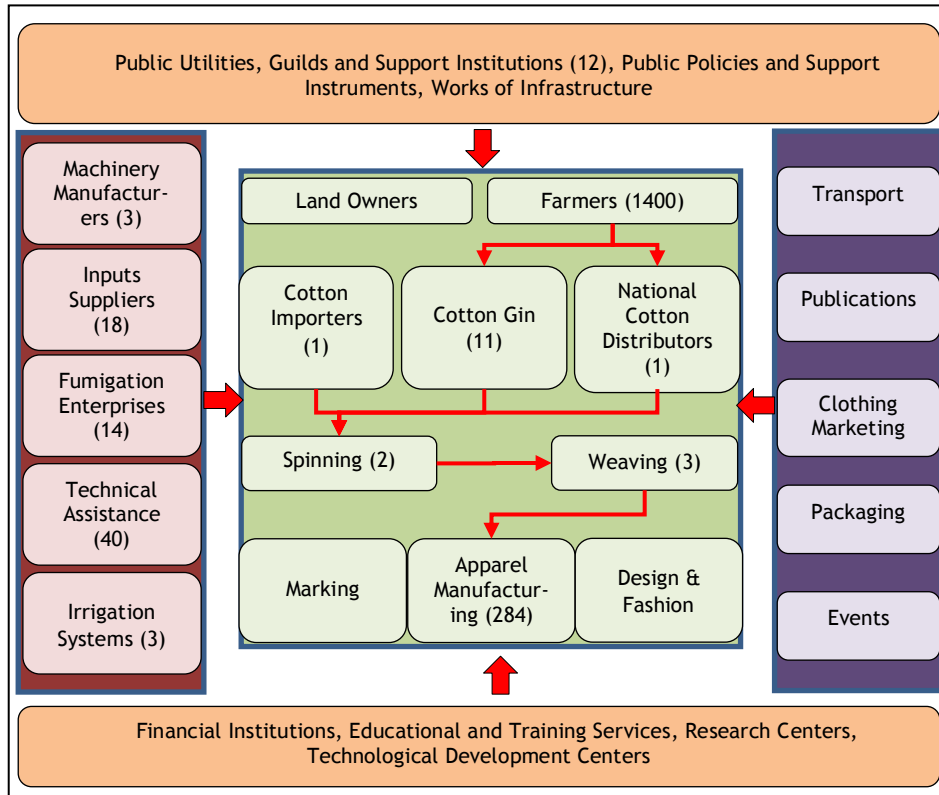
Before signing of the CA in 1999, the cotton-textile-clothing VC had the following links in Tolima: agricultural production of cottonseed and cotton farming; transformation-processing (cotton gin, spinning, weav-

ing; dyeing and finishing, and apparel manufacture) and retailing. Although some exchanges and relations between the links were present, there were underlying tensions among them. The region counted with support institutions that were very active in the chain such as SENA, Corpoica, ICA CPT, ANDI, ACOPI, some NGOs, Coruniversitaria, Universidad Del Tolima and Gobernacion Del Tolima. These organizations provided services such as education, research, training and technological transference, mainly to members of the chain. The efforts of dialogue and concerted action among the actors of the VC hint that there was potential for a better integration of the chain especially when an estimated 43 per cent of the total value added by the chain was generated regionally (CPT 2003).

Historically, Tolima has been one of the biggest producers of cotton in Colombia. In 2000, cotton production was concentrated in three departments: Cordoba with 46.8 per cent of the total national production, Tolima (19.7%) and Valle del Cauca (9.5%). In 1999, there were about 1200 cotton producers and 5453 hectares cultivated. Cotton production took place mostly in smallholdings. The producers were affiliated with 11 associations (*agremiaciones*) (MADR-IICA 2001: 16). There were 10 cotton gin firms located in cotton production zones, including Agrinsa, Desmotolima and Remolinos. They belonged to the associations of producers and most of them were affiliated with Conalgodon (MADR-IICA 2001: 19).

The most important regional firms at the signing of the CA were Fibratolima, Texpinal, Fatextol and Carolina. Texpinal was mainly a spinning firm created in the 1970s and located in Espinal, the core of the cotton production area. Fabricato, a leading textile firm from Medellin was one of its main shareholders. The industry organized its purchases through Diagonal, a firm that was the only cotton buyer on behalf of the largest textile factories; hence, the market presented a monopsonistic structure. Most of the cotton produced in Tolima was bought by the regional industry. However, the industry imported a great deal of cotton, given that it was generally cheaper than the regional one.

Figure 10.1
VC cotton-textile-clothing in Tolima



Source: Own elaboration, based on MADR-IICA 2001.

In the year of the CA, Tolima had about 400 clothing firms of different sizes and highly concentrated in Ibagué (75%) (MADR-IICA 2001: 22). These firms were largely specialized in maquila processes. Their own brand production accounted for less than 10 per cent of total local production (Ibid). Some textile firms were also involved in the clothing production, directly or through association with clothing enterprises. Other links such as dyeing and finishing of products have some enterprises in the region but have low presence and are not strong (see figure 10.1). As can be deduced from the above situation, before the CA, and at the start of it, there was not an integrated regional value chain. All elements were

present in the region but without adequate linkages between them. There were isolated cases of cooperation between clothing firms or between clothing and textile firms in specific situations such as assembling imported input contracts. However, at the same time, they had mainly external rather than internal linkages. That is to say, they had links with the outside world but not locally. Fibratolima rapidly became the leading firm of the regional VC and its innovative development intervention affected, in one way or another, the VC at the national level.

10.2 VC's Competitive Challenges and Scope for VC Level Action

In the background of the CA, the cotton, textile and clothing sectors were seriously affected by the opening up of the economy and adverse international market conditions during the great economic crisis. First, since 1993 Colombia became a cotton importer for several reasons: low international prices of the fiber associated with the soaring subsidies in the most important cotton producing countries, differences in productivity, the reduction of import tariffs for this commodity in the country and the decline of institutional support for cotton growers. There was a steady decline in the cotton prices for about a decade from 1993-2002, which reduced drastically the profitability of the crop; hence, there was a redistribution of investments from cotton to other, more profitable, crops. Cotton production dropped to the lowest level of the decade from 55,000 hectares cultivated in 1991 to 5,437 hectares in 1999 (MADR-IICA 2001). Meanwhile, the textiles and clothing links had to cope with low demand for their products, imports, smuggling and currency appreciation. It was reflected backwards in the whole VC. Fibratolima, a leading regional textile firm, was hit hard by the economic crisis of the second half of the 1990s. Other national textile industries such as Fabricato, Coltejer and Tejicondor also confronted the economic downturn. The economic opening of 1991 hurt the textile and clothing industry. From 1996-1999, textile production fell considerably affected by the drop in sales, imports and smuggling (MADR-IICA 2006a: 341). Also, the economic crisis of the country amidst the economic restructuring shaped the context in which the CA was formulated and performed. Thus, some of these variables affected development of the CA and conditioned participation of its actors.

Finally, it is important to point out two major challenges that the VC faced because of changes in the international political and institutional environment, which had strong economic impact at national and regional levels. The first challenge was the imminence of the entrance of China to the WTO in 2001 and its potential participation in the reduction of export quotas since the mid-1990s because of the end of the multifiber arrangement (MFA) and signing of the agreement on textile and clothing. The final rounds of restrictions imposed by the latter were to expire in January 2005. The second challenge was the negotiation of a free trade agreement with the USA, which imposed on the whole VC the need to improve its competitiveness considerably.

Table 10.1
Main VC problems and scope of chain level action (Agriculture)

Link	Main problems of the chain	Scope of chain level action
Agriculture (cotton)	<ul style="list-style-type: none"> • Competition from other crops for the use of soil • Agro-producers that resisted change • Little information culture • Small-scale production • Agriculturalists under financial stress • Difficulties accessing institutional credit • High land costs • Shortcomings in plague controls • Shortcomings in the evaluation of genetic material and in the supply of improved seeds • Obsolete machinery • Monopsony: Diagonal was only buyer. Logistics problems with crop sales and long delays in payment for harvest. • Fiber contamination from inadequate collecting practices 	<ul style="list-style-type: none"> • Increase in links within the regional value chain • Research and development • Training (human resource development) • Quality certification • Technology development & technical assistance • Information sharing (i.e. market information) • Associational processes • Production costs • Integral management of crop plagues

Source: This research, based on MADR-IICA 2001.

Table 10.2
Main VC problems and scope of chain level action (Industry)

Link	Main problems of the chain	Scope of chain level action
Industry	COTTON GIN <ul style="list-style-type: none"> • Mix of varieties and qualities of cotton • Outdated classification processes • Low level qualification of technical personnel • Idle production capacity and little scale of individual production 	<ul style="list-style-type: none"> • Technology development & technical assistance • Research and development • Training (human resource development) • Quality certification • Increasing design capacities • Undertaking certification processes • Associational processes • Cooperation with clients
	TEXTILES <ul style="list-style-type: none"> • Deficiencies in the provision of training programs and specialization of human capital. • Inadequate supply of communication technologies • Insufficient management of inventories • Lack of certification of two firms of the regional industry • Technological backwardness in weaving speed • Difficult access to credit conditions • Cotton supply deficit 	
	CLOTHING <ul style="list-style-type: none"> • Deficiencies in provision of training programs and specialization of human capital. • Small production scale • Use of outdated machinery by small workshops • Inadequate capacity for undertaking of maquila processes • Few firms had quality management programs and ISO certification 	

Source: This research, based on MADR-IICA 2001.

The diagnosis of the VC carried by the Cotton-Textile-Clothing Regional Council for Competitiveness (CTRCC) focused mainly on potential improvements in agro-industrial production. However, they also considered exports in the transaction sphere (see tables 10.1, 10.2 and 10.3).

The main areas of the chain with potential for improvement identified in the diagnosis fell within the following categories: product quality, human resources (skills, entrepreneurship capacities), health and safety, labor conditions, environmental control, technology, cost of production, time delivery, linkages (cooperation among the actors, relationships with suppliers), bargaining costs, information costs, monitoring costs, export capacities.

Table 10.3
Main VC problems and scope of chain level action (Commercialization)

Link	Main problems of the chain	Scope of chain level action
Commercialization	<ul style="list-style-type: none"> • Open and technical smuggling in textiles and clothing • Small commercialization scale for the clothing industry • Dumping in international markets • High tariffs, access quotas, American Textile Visa, WTO textiles agreement 	<ul style="list-style-type: none"> • Marketing and commercialization schemes (export capacities) • Information sharing (i.e. market information) • Joint ventures in the creation of export surpluses • Organization/participation in national and international fairs

Source: This research, based on MADR-IICA 2001.

10.3 Competitiveness Agreement (CA)

10.3.1 Main characteristics of the CA

The CA for the VC cotton-textile-clothing in Tolima was signed at the end of 1999 and was included in the initial phase of the national agro and livestock supply program (PROAGRO) designed by MADR-DNP in 2000. The CA of this VC was introduced by IICA and MADR as a pilot to test the methodology for the promotion of agro-business regional nuclei and regional CA in November 1998 when the regional council for competitiveness of the cotton-textiles-clothing (CTCRCC) was created (MADR-IICA 1999). The background to the regional CA can be found in the sectoral (national) CA for the VC textile-clothing (1996). In addition, there was a ‘national export competitiveness agreement’ for the chain promoted by MICT and signed in 2000.

When the CA was signed, the textile and clothing sectors were enduring a great economic crisis. There was low demand for their products, imports, smuggling and revaluation. In addition cotton production had dropped to its lowest level of the decade. In cotton production, the CA was expected to increase output to fulfill the internal supply deficit and generate surpluses for exports. Cotton growers faced the challenge of becoming sustainable and competitive while overcoming their low degree of integration to the regional VC. However, determination of the national cotton price would be a strong condition for development of the CA and fulfillment of its goals.

The specific strategies of the CA were human talent development, technical and technological development, productive development, market development and development of a competitive environment. The CA included goals for the period 2000-2005. However, since the technical secretariats ended its work in 2003 and the CTCRCC lost its dynamism, the CA is analysed for the period in which those administrative bodies were active (2000-2003).

The main goals of the CA were: to increase cotton cultivated area to 70,000 hectares; doubling cotton consumption to 40,000 tons, obtaining productivity per hectare equivalent to 2.2 tons. This generated around 166,000 direct and indirect jobs in the Department of Tolima distributed as follows: 125,000 in cotton production, 15,000 in the textile industry and 26,000 in the clothing industry (MADR-IICA 2001).

At the beginning of the process, there was a boom in the regional chain promoted by the different dynamics during the process of discussion, signing and beginning of the CA. According to most interviewees, the publicity that was done helped to improve the chain's image in the country and positioned the region arguably as the third largest textile producer in Colombia. The scheme had great vitality during the first part, characterization of the chain, discussions, conformation of teamwork, definition of lines of action and strategies and the signing of the CA. The work was well coordinated during the first two years, and then the development process of the CA lost this dynamism very quickly. According to the late Hernan Prada, Regional Director of ICA and member of the CTCRCC:

Too many projects were formulated in the context of the CA, but they were not consolidated, they continued being just documents. Today nobody talks about the chain At the beginning the group functioned because

it was led by Fibratolima, afterwards when this textile firm went bankrupt, all it fell down, and the Regional Productivity Centre (Technical Secretariat) was left working by itself (Personal Interview Ibagué 2 March 2006).

The CA did not state in the matrix of commitments, the exact sum of money that accounts for the contribution of the actors involved in the signing and development of the CA. The CA stated that members of the CA needed to seek funding for the projects in agencies mainly of national origin.⁵

10.3.2 RCC and coordination of the CA

The work in the regional chain officially began in November 1998 when the regional council for competitiveness was created with technical cooperation from IICA. It was called the chain's competitiveness committee and was initially integrated by members of the government (MADR, regional government); cotton producers (Conalgodon, SAC, Desmotolima); textile industrialists (Fibratolima); clothing producers (Grupo Concalidad); and institutions (IICA, regional productivity center of Tolima). Support committees were created for the CA such as the clothing committee and the technical committee. At first, the Regional Productivity Center of Tolima, the regional government and IICA performed the role of the technical secretariat.

The operation of the Technical Secretariat of the National Council for Competitiveness of the VC was supported by MADR, Conalgodon, Fibratolima and Fatextol. At the regional level, it was funded by MADR.

The technical secretariat ended its work in 2003 and the CTCRCC lost its dynamism. According to Maria Cristina Lara, Regional Director of ANDI, 'the technical secretariat functioned at the beginning but when the support for it lessened and its financing was reduced, it disappeared and with it the whole dynamics that the CA had' (personal interview, 30 March 2003). The Technical Secretariat of the VC was performed by the Productivity Center of Tolima and operated with resources from the Ministry of Agriculture and Rural Development (MADR) until December 2003.

Table 10.4
Main national and regional actors and their roles in the making of the CA

National	Regional	Interest in participation in the CA
Conalgodon		Conalgodon is an NGO created in 1980, which represents the main interests of the Colombian cotton producers and their regional organizations. The key interests of Conalgodon in the CA were to achieve competitiveness in cotton production, sustainable conditions for production, national and international commercialization of cotton fiber and seeds, and increases in profitability of the crop. ⁶
Diagonal		Diagonal did not sign the regional CA although the organization participated in some of the preparatory meetings. It was interested in maintaining the status quo in the cotton market. It purchased the cotton crop on behalf of the largest textile companies of the country.
MADR Ministry of Agriculture and Rural Development		To increase the scope and efficiency of the agricultural sectoral policies in the context of the national policy for productivity and competitiveness. Increase the national cotton supply and crop absorption by the industry, and improve export surpluses
ICA	ICA	To improve relevance, scope and quality of agricultural research on cotton and technological transfer. Also, to improve the control of cotton diseases such as <i>picudo</i> amongst others.
Corpoica	Corpoica	To improve relevance, scope and quality of agricultural research on cotton in the region. Generation and transfer of scientific and technological knowledge in the cotton crop
SENA	National apprenticeship Service (SENA)	Improve training service, by means of involving cotton producers, textile and clothing workers in the development of the whole process of training (demand lead service)
	Regional Secretariat of Agriculture (regional government)	Improve coverage (scope) and effectiveness of regional agriculture programs and projects

Source: This research

Table 10.5
Main regional actors and their roles in the making of the CA
(Private firms and universities)

Regional firms, producer associations and academic sector and the making of the CA	
Regional	Interest in participation in the CA
DESMOTOLIMA	To improve the conditions for the debarment and commercialization of the cotton crop seeking alternatives to the monopsony.
Cotton producers	The development of technological and export capacities. To access credit and other institutional resources. Development of forward contract schemes with premium by quality differentials and overall reduction of their transaction costs.
TEXPINAL	Development of the chain as a whole, the qualitative and quantitative increase in cotton production, the dynamics of the textile and clothing links (owned 49% of Fatextol).
Fibratolima and Fatextol	To increase the cotton regional supply and improve its quality. To find alternatives to Diagonal in cotton supply. To position their textile products at the national and international level. To promote a regional VC and improvements in the availability of qualified labor. To increase coordination with clothing firms and to achieve more institutional support from the government to the VC.
SME, clothing producers: Grupo Concalidad, CP Company, Camisas Monarca, Caribbean S.A.	Increase technological capabilities, access to training and institutional programs for development of the chain; expand national and international markets.
Cotton associations (Agremiaciones)	Increase cotton production
Producer associations	Increase their bargaining power in relation to textile producers to get better prices for the cotton harvest and to access credits and other sectoral incentives from the national government. To carry out crop absorption contracts with the industry
Universidad del Tolima CORUNIVERSITARIA	Link academic programs of agronomic engineering, agro industrial engineering, business management and economics to the direct study of real problems faced by the sector in the region.

Source: This research

The next sections discuss the influence of the VC and regional characteristics on the developmental outcomes of the CA.

10.4 Implementation and Developmental Outcomes of the CA

10.4.1 Main activities carried out in the development of the CA

This section focuses on the important role played by Fibratolima, the leading firm of the regional VC, in the development of the CA. The development of the CA included several activities executed during the period of study (2000-2003) through public-private sector partnerships.⁷

According to a member of the staff of Fibratolima, the company led the chain not only for convenience but also by philosophy.⁸ The firm had too ambitious plans as the leading firm and its scheme contemplated both backwards linkages with cotton growers and forward linkages: 'integral maquilaje' (assembling of imported inputs) with clothing producers. Fibratolima assumed the role of VC coordinator of the cotton-textile-clothing regional CA in Tolima and enthusiastically and innovatively participated in the processes that led to the signing of the CA and its implementation. The Executive President of Fibratolima, Gustavo Bernal Villegas, was the main change actor in the VC and exhibited great leadership along the process.⁹ During this time, other firms and organizations joined the scheme, which started even before the CA was signed. These included Corpoica, MADR, the regional government and the Regional Productivity Center.

The coordinating role of Fibratolima encompassed three very innovative schemes. First, cotton purchases outside the monopsony (Diagonal); second, textile sales outside the scope of the largest commercial textile firms in the country; and third, functional upgrading in the VC and integral assembly of imported inputs with clothing producers. These schemes involved development of partnerships with different regional stakeholders (regional and local governments, decentralized sector institutions, universities, the productivity center, and cotton and clothing producers).

Box 10.1
Rise and fall of Fibratolima

Fibratolima was founded in 1988 by members of the family Abadi Ruben who were the main shareholders of the entrepreneurial group HILACOL (Hilaturas Colombia S.A.) a traditional firm from Bogotá with more than half a century of history. The investors took advantage of the incentives of Law 44/1987 allocated to new industries willing to relocate in a region impacted by the eruption of volcano Nevado Del Ruiz including Ibagué. A regional development agency, ADT promoted and accompanied the process that led to the constitution of Fibratolima and other textile and clothing industries in the region such as Fatextol, CP Company (clothing), T-Shirt and T-shirt, and Bocaccio. It had mode spinning and weaving plants. The construction and assembly of the plant lasted until 1991, the year in which it started production. It became one of the most updated modern textile plants in Latin America. It shifted its production toward high value-added finished cloths. Fibratolima in 1991 employed about 800 workers and in 1995, one of the best years of the firm, it generated about 2200 jobs.

Though most of the shares of Fibratolima belonged to investors from other regions, the human capital that worked in the firm was mostly from Tolima. In 1992, the company participated in the stock market with the sale of shares. It was the first time that a firm located in the region was directly selling shares in public auction in the Stock Market of Bogotá. Ultimately less than 10 per cent of the total capital belonged to regional entrepreneurs from Tolima.

During the period 1992-1995, Fibratolima consolidated its leading position in the segment of trouser fabric, made of 100 per cent cotton. It specialized in cotton drill fabric. Its production peak was in the period 1995-1996. In 2001, the company was amidst a financial crisis and entered law 550 of 1999 in order to ameliorate its bad economic situation. The main reasons for the downfall of the company were the lack of working capital, high financial indebtedness and disloyal competition. Additionally, the economic opening of the country brought legal and illegal competition.

In 2004 the company began its liquidation (Fabricato, a traditional textile firm from Medellín with a leading role in the textile industry in Colombia, rented the machinery and the plant). Then in 2005, Fabricato purchased the assets of the liquidation instead of buying the firm. It bought part of the premises and all the machinery. Finally, Fibratolima was liquidated in 2006 and became a Fabricato production plant, managed from Medellín. Therefore, it neither buys cotton nor sells and products directly (the marketing vice president is in charge from Medellín).

Source: This research.

In the first approach, Fibratolima broke the monopsony of Diagonal in the cotton market. The cotton market was traditionally operated be-

tween two larger organizations, which were amongst the main institutional actors of the VC. The agriculturalist centralized the supply of cotton through the cotton grower federation FEDERALGODON (1953) and Conalgodon (Cotton Colombian Confederation) starting in 1980. The cotton growers were registered in the regional 'agremiaciones' associated with Conalgodon.

However, the stronger organization in the market was Diagonal (National cotton distributor). Diagonal is a corporation created in 1950 by a pool of textile firms largely from Medellin. It is an intermediary between the cotton fiber national producers and the cotton buyers. From 1995, the year in which IDEMA (an agricultural marketing board in charge of acquiring and storing the national production of cotton fiber) was liquidated; Diagonal undertook the task on behalf of spinning and textile firms of directly buying and distributing the cotton fiber amongst its affiliates. Likewise, Diagonal carried out cotton imports on behalf of the textile industry. The owners of Diagonal were then the main textile and spinning producers. It was the purchasing unit of the textile industry. The firm had the capacity to buy in bulk for the entire textile sector. Before the signing of the CA, cotton costs accounted for around half of the total costs of the textile firms and ran the risk of being manipulated by Diagonal given its strong market position. The textile firms were owners of a firm capable of manipulating the prices of their main input. In addition, Diagonal did not offer a clear commercialization scheme to the cotton growers to help them to defend against the market problems associated with price instability, lack of credit and technological transfer as well as the reduction in government subsidies. Diagonal did not sign the regional CA although it went to some preparatory meetings.

In the traditional market scheme, the textile and spinning industry bought cotton fiber directly from Diagonal. However, Fibratolima withdrew from the scheme in 1999 and began buying directly from cotton producers though in that year and 2000, it directly bought part from cotton growers and part from Diagonal. Then, from the end of 2000 until 2004, it, in practice, withdrew from Diagonal. In 2003, Fibratolima bought about four per cent of the total harvest (interior)¹⁰ directly from cotton producers.

Table 10.6
Distribution of cotton demand by firm in Colombia (2004)

Harvest (Costa-Ilanos)	%	Harvest (interior)	%
Diagonal	77.1	Diagonal	54.8
Algodonera Andina	14.5	Hilandería Universal	8.2
Consorcio Abuchaibe	2.3	Hilos de Mosquera	6.4
Lindalana	1.6	Hilandería Fontibon	6.2
Hilos de Mosquera	1.1	COMERTEX	6.1
Supertex Medical S.A.	1.0	Algodonera Andina	5.0
Other buyers	2.4	Other buyers	13.3
Total	100.0	Total	100.0

Source: MADR-IICA Observatorio Agrocadenas (2006: 334).

Fibratolima broke the monopsony in the period 1999-2000 and about two years later other industrial firms, including some spinning firms from Bogotá, joined the former and started purchasing cotton directly from producer associations represented by Conalgodon (MADR-IICA 2006: 334). According to Victor Ardila, Financial Director of Fibratolima,¹¹ while Diagonal had the financial muscle and purchasing logistics, the company had to create the entire commercialization infrastructure to do that and since Fibratolima went alone, this process caused the firm too many problems. Meanwhile, most of the textile companies were waiting to see the developments of the new scheme introduced by Fibratolima, to decide whether to break with Diagonal or not. In practice, Fibratolima had to quit its participation in Diagonal board of directors or any of its administrative bodies because it was at odds with Diagonal policies.

The new scheme had a financial advantage for the regional VC. Under this scheme, agro-producers received funding for their cultivation projects based on a statute that guaranteed the harvest purchase by Fibratolima. The scheme was endorsed by the agro and livestock national stock market (BNA), consolidating by this means a solid system of contract agriculture through forward contracts. Before this format, cotton was bought in cash by Diagonal, and now the industry had achieved a discrete time limit to carry out its sourcing of raw materials while the cotton growers were assured funding for their production projects. In general, negotiating directly with cotton producers allowed better logis-

tics of cotton flows and facilitated the coordination of harvest exits with spinning requirements.

The innovative scheme developed by Fibratolima aimed at working directly with cotton producers to avoid problems related to mishandling of fibers at the farm level, for example, cotton contamination by other materials damages large quantities of textiles each year. To develop the new scheme Fibratolima worked in association with PAJONALES and a small group of cotton associations. The firm undertook a leading position beginning with the definition of quality standards for the crop.¹²

Fibratolima attempted as a regional leading firm to confront Diagonal through quality competition by means of sourcing directly from cotton growers. The forward contracts were a clear way of improving the quality of Tolima's cotton growers and a way to break Diagonal's monopoly. Fibratolima established a direct connection with cotton producers and their associations. Also, price differentials by quality were established and concerted actions were directed to achieve productivity improvement in the crop. Then, accountability clauses were included in the contracts for quality. Likewise, punishment and reward tables were included for accountability of the cotton producers. If the cotton overcame the resistance tests, maturity and length then price differences were established. Thus, forward contracts for the crop were established between Fibratolima and the cotton producers with the support of the Agro and Livestock national stock market (Victor Hugo Ardila, 5 April 2006).

Conversely, in the preexistent model there were no direct contacts between Diagonal and the cotton growers. Instead, Diagonal dealt with the cotton ginning firms, which generally belonged to the associations of cotton producers. The agriculturalists harvested the fiber and subsequently took it to their association to carry out an industrial process called *desmote* (cotton ginning). These associations usually lend resources to the agriculturalists to cover production costs such as seeds and other inputs. 'It is normal that the association establishes a tariff per ton of cotton seed that enters the cotton gin process, and takes care of the commercialization of the fiber for which it also charges a fee to the agriculturalist' (MADR-IICA 2006: 333). In such a scheme there was no innovation, there were seasonal price variations, storage logistic problems and long delays before payment.

The pioneer approach developed by Fibratolima was followed by other textile and spinning productive units and at present several firms

are outside the purchasing unit of Diagonal except Fabricato, Coltejer and some enterprises, which are larger cotton consumers in the country and main shareholders of Diagonal.

The second part of Fibratolima's strategy targeted the linkage between *textile and commercialization*. Fibratolima created its own distribution network to protect itself from the prevailing distribution systems of national textiles and the oligopsonic practices of the commercializing firms. In other words, it attempted to carry out textile sales outside the scope of the largest commercial textile firms in the country.

Historically, a few family groups different from the larger textile firms controlled the distribution of textiles in Colombia, among them John Uribe, grupo CORBETA from Medellin and Adolfo Botero from Santander. These three groups were in charge of the commercialization of most of the textile firms in Colombia controlling more than 40 per cent of the total commercialization of textiles. In this sense, they constituted an oligopsony in the textile market analogous to Diagonal in the case of the cotton fiber market. Under these conditions, commercializing firms were prone to manipulate the market, fix prices and established discount conditions for punctual payment.

One strategy to break this situation was to become closer to the clothing producer (close up) and to bypass (or displace) the distributors who according to a member of Fibratolima did not add value to the product: 'They added margin but not value'. Alternatively, Fibratolima established its own distribution system, which accounted for about 40 per cent of its sales. Half of it supplied a contract with the armed forces and the other half targeted the largest firms mainly dedicated to assemble imported inputs. Another 40 per cent of its sales came through four national distributors, and 20 per cent accounted for exports.¹³ In short, Fibratolima decided to get closer to the clothing producers taking into account, first, that the market tendencies led toward a substitution of textiles for clothing purchases, and second, to solve in part, the national distribution problem. All of these factors increased the company's participation in international full package schemes.

The third part of Fibratolima's competitiveness strategy targeted the clothing link. Fibratolima overstretched itself because it not only wanted to lead backward linkages, but also sought functional upgrading in the VC and integral maquila (assembling of imported inputs) with clothing producers.

This strategy was conceived through recognition by the firm that the global VC was pulled from the clothing commercialization link and not from the textile link. Colombian participation in the global VC came mainly through the production of textiles sold to Brazil, which added value through clothing manufacturing and then production went to retailers in the USA. The textile supply of *tejido plano*¹⁴ with products such as cotton drill fabric, shirts, sheets and curtains was largely concentrated in Coletejer and Fabricato. Fibratolima was located on this production segment.

There were changes in this scheme according to new market requirements. The tendency showed the preponderance in the market of clothing purchases instead of textile sales. During the period 1991-97 Fibratolima was a traditional supplier and exporter of textiles like Coletejer and Fabricato. Because of the market changes, Fibratolima shifted its traditional scheme.

The company had a type of functional upgrading in the VC by deciding to enhance its participation in the full package approach implemented since 1998. To put this scheme into operation, Fibratolima had two options buy machinery or subcontract. It took the second option. Since the firm made this decision, it linked with a group of clothing manufacturers, mainly PIPELINE and Caribbean, and five independent workshops, production line and quality firms. Fibratolima performed these imported assembly import schemes in Ibagué and outside the region (Bogotá, Pereira and Medellín). The company provided its suppliers with cloth, designs and patronage and, the clothing firms assembled the product. The leading firm attempted to organize a regional common front from Tolima to supply the armed forces with uniforms and to carry out contracts with the police and Air Force (FAC) (2000-2001). In this sense, Fibratolima made alliances with the clothing producers and worked with full package schemes. Since Fibratolima had the client, it billed the client. The firm negotiated the full package of contracts with the armed forces and retailers and branded manufacturers at the international level. In another scheme, the local clothing producers had the client, and then associated with Fibratolima. The latter supplied textiles and the clothing firm presented themselves in alliance as a block to deal with the client. In this approach, the clothing producers billed the client. It was a type of barter with Fibratolima providing textiles and the clothing firms producing the clothing and then they sold the whole package

abroad. These assembling of imported input schemes favored the outstanding growth of the regional clothing firms to the point that Ibagué became the third largest clothing center in Colombia. Some of their main clients were Ralph Lauren Polo, Liz Claiborne and Nautica. Fibratolima allocated its production to the national and international markets with exports to Germany, United States, Venezuela, Portugal and England.

The scheme followed by Fibratolima faced several adverse factors in the beginning including a severe currency appreciation. Second, the firm endured a drastic contraction of the domestic and international demand for the final products of the chain. In this sense, investment and efforts accompanied by low demand produced huge income losses. Third, Fibratolima had to create the entire commercialization infrastructure while Diagonal had financial muscle and purchasing logistics. As related by Santiago Galvez, a member of the CTCRCC in representation of the regional government:

Fibratolima began buying cotton by fixing a minimum price with the help of the government who covered the differences with the international one. However, the internal price fell too much. FIBRA lost several million. The government gave some money to it but the firm understood that it could not continue with this scheme because it was going into bankruptcy.... FIBRA also faced too much pressure from Diagonal that finally ended in suffocating the firm. As a result FIBRA had to import fiber with other specifications. The calibration of such cotton happened to be very expensive too. (16 February 2006, Ibagué)

The oligopolistic market structure affected the growing path of Fibratolima. The company entered into liquidation process on 20 April 2004. It sold all its assets to Fabricato in December 2004. Today, Fabricato operates the factory as a production factory. Therefore, it neither buys cotton nor sells end-products (the marketing vice president is in Medellín). Fabricato has more factories in Medellín and some outside such as Fibratolima. Afterwards, three spinning firms from Bogotá continued with Fibratolima's scheme—Hilandería Fontibón, Hilandería Universal and Hilos de Mosquera. Meanwhile the regional textile firms (Fatextol and Texpinal) were leaning toward liquidation.

10.4.2 Main developmental outcomes of the CA

The main developmental outcomes of the CA are divided into four groups: gains in productivity, production and employment; chain integration; collective learning; process upgrading and product upgrading.

Productivity, production and employment

There was a positive increase in productivity from 2,055 ton/hectare in 1999, the year in which the CA was signed, to 2,457 ton/hectare in 2003 (MADR 2006). Cotton cultivation increased 68.8 per cent between 1999 (5,437 hectares) and 2003 (9,175 hectares). This increase was far from the projections of the CA (40,000 hectares in 2003). The total cotton production of the region doubled from 11,174 tons in 1999 to 22,539 tons in 2003. The productivity increases play an important role in this change (MADR 2006). The employment in the cotton link increased 67.7 per cent during the period 2000-2003 from 9,062 workers in 1999 to 15,292 in 2003.¹⁵ However, the employment generation in the agricultural sector was far from the initial projections of the CA (66,000 in 2003). The CA did not have enough strength to generate a sustained employment, and it even dropped in clothing and textiles. The low international prices and the delays in the definition of the base price for the cotton crop affected this commitment.

Chain integration

During the period of the CA (2000-2003), a great deal of integration among the main stakeholders of the different links of the chain took place. Later the CTCRCC and the technical secretariats were dismantled and the scheme of the CA was abandoned.

The CA facilitated, although only temporarily, the direct commercial relationship between the textile firms and the cotton producers. Before, this relationship took place only with Diagonal. Forward contract schemes were developed between Fibratolima and direct cotton producers. There was a shift from individual to collective credit; institutional credit to individual cotton producers practically disappeared and was replaced by associational credit.

In addition, coordination among support institutions increased and became more fluid. SENA increased its investments in training of professionals and technicians and updated software for crop management.

Finally, Fibratolima made alliances with the clothing producers and worked with full package schemes.

Collective learning

All the interviewees asserted that the CA provided a good opportunity to know each other's strengths and weaknesses and to learn about the functioning of the whole chain. At the beginning of the CA, there was not enough technical labor in the agro-industrial aspect, and the industry lacked qualified operators. Something positive with the CA was that in the exchange of information, the need for certain skills became evident, and the chain stakeholders started working on it. The network Tolima ATPDEA was conceived in the context of the CA and facilitated the formation of new skilled workers demanded by the clothing and textile industry.¹⁶

Actors from the different links came to know most of the problems that their clients or customers were experiencing. As Maria Cristina Lara, regional director of ANDI and member of the technical secretariat pointed out, 'the CA achieved dialogue among producers and industrialists. A culture of negotiation and dialogue was created. It facilitated knowledge of the problems of others in the same link as well as in other links and vice-versa, and the sharing of the chain's structural needs and the research requirements'.¹⁷

Process and product upgrading

The CA contributed to the generation of an adequate environment for the incorporation of transgenic seeds. New technology for integral management of the crop was introduced. Management practices of the crop improved, especially the treatment of costs and incomes. According to Conalgodon, before the CA the farmers did not keep records, nor manage the activity adequately. Also, precision sowing machinery was introduced, which accounted for lower pesticide use. New cotton gin factories were created in Espinal, Chicoral, Guamo and imported modern machineries were introduced in the agricultural sector as well as in the cotton gin cooperatives.

In the industrial sector, new skilled workers demanded by the clothing and textile industry were trained. Modernization of the production process followed different certification programs and textile/ clothing companies developed intense training schemes. In the context of the CA,

several firms were certified. However, as the Regional Director of ANDI pointed out, 'the certification is not necessarily a result of the CA, most of the textile producers and clothing producers are certified' (Maria Cristina Lara, March 2006). Finally, Fibratolima had a type of functional upgrading in the VC by means of deciding to enhance its participation in the full package approach, which it had implemented since 1998.

10.5 Value Chain Factors and the CA

10.5.1 Input output structure

Some of the characteristics of the cotton, principally its price instability at the international level affected negatively the developmental outcomes of the CA in issues such as production and employment. At the end, the fluctuation of international prices in the market of agro and livestock commodities is a structural problem that is difficult to tackle from a CA especially when there are large price differentials with the regional crop. According to a member of the CTCRCC,

Every year when the sowing time arrives, there is an exceptional bargaining process between the government and the agro-producers to define in advance the price for the harvest. When January 2002 came, nobody knew how many hectares should be sown because the government did not announce the prices for the crop. This uncertainty around the minimum price introduced a delay in the sowing decisions with the implication that the goals of the CA were not accomplished in this regard. The pressure of Diagonal to keep prices lower could be one explanation of such a situation.¹⁸

The monopsonic structure (in the cotton market) in the regional VC cotton-textile-clothing in Tolima provides an exception in which the regional VC governors do not appropriate monopoly rents. Fibratolima, the largest textile company in Tolima did not have monopoly rents in the cotton market since they were a privilege of Diagonal. Thus this factor affected the regional VC negatively in regards to distributional issues since rents from entry barriers in the cotton markets were concentrated in a purchasing unit located in another region and which reacted aggressively to the attempt of a domestic industrial firm to challenge their monopoly rents by means of purchasing directly from the regional producers.

In view of some members of Fibratolima, there was disloyal competition on the largest firms, which took advantage of their market position to manage prices and put their competitors, mainly Fibratolima, on the verge of bankruptcy. At the end of the 1990s, indigo (jeans) dye became fashionable; however, the largest firms increased their production of indigo and maintained their production of cotton drill fabric, though the latter had an outstanding reduction of prices. Since Fibratolima was originally created to produce mainly cotton drill fabric, the drop in the prices was lethal for the company, which continued accumulating losses. Fibratolima had a production peak in the period 1995-1996. In 2001, the company was in a financial crisis.

10.5.2 Governance

Although Diagonal went to some of the meetings during the discussion of the CA, it did not sign it because apparently it faced a conflict of interest since it represented the main cotton buyers in the country. This posture was also made evident when Diagonal opposed the scheme developed by Fibratolima in the regional CA.

The directed network lead by Fibratolima favored the achievement of some of the developmental outcomes of the CA in terms of industrial exports and cotton production until the company was liquidated. At the regional level, Fibratolima worked with full package schemes and embodied a directed network type of coordination since it was willing to purchase cotton directly from the agro-producers and to subcontract with local clothing firms.

The *currency appreciation* and other factors made it unviable for the leading firm of the CA to function and put severe stress on several regional clothing firms entrenched in the subcontracting schemes developed by Fibratolima such as Calvin Klein. As illustrated by Humberto Angel, manager of Body Gear Petrolero, a clothing firm from the region:

The chain was a dream but became a nightmare.... Fibratolima boosted successful alliances such as maquila (Calvin Klein). FIBRA negotiated full package and then subcontracted clothing firms from Ibagué. Unfortunately all of this was over a drastic currency appreciation.... You deal today in dollars based in one price and when they pay the currency is appreciated, then you lose money (25 February 2006 Ibagué).

Finally, the determination of standards of performance for participating in the VC was set by Fibratolima based on its clients' quality demands. They supported the achievement of outcomes in terms of cotton production increases, absorbed by regional demand.

Compliance with standards set by international clothing customers supported the achievement of developmental outcomes of the CA for example better integration of the chain and increases in product quality). The main textile and clothing firms certified their factories according to ISO standards and others demanded by their customers. It made increased exports in the clothing link possible. As Carolina Prada, Quality Manager of Fatextol explains,

The international client seldom comes to Ibagué. However, they send supervisors to certify the factories and verify that everything works well according to their standards. For instance, foreign buyers demand quality raw materials (mature cotton). Likewise, the social part is taken into account in the evaluation. To measure social accountability, they evaluate how personnel are treated, punctual payment of wages, payments to social security etc. (Personal interview, 31 March 2006)

10.5.3 Systemic efficiency

The systemic efficiency issue is illustrated by the case, cotton-textile-clothing in Tolima. The efforts by Fibratolima to introduce systemic efficiency in the VC are related to its goals for undertaking the CA including functional upgrading and reduction of intermediaries in the commercialization of textiles and cotton. The systemic efficiency approach of Fibratolima is better described by a member of the regional council for competitiveness. 'A high point of the CA was achieved when the Manager of Fibratolima brought to a meeting with cotton producers a bag of dirty cotton, a ball of spun cotton with thread impurities in the texture (spinning), poor quality textiles and clothing that had been returned due to poor quality.¹⁹ The effects on productivity after a bad harvest and postharvest crop management for the whole VC were explained to the VC members.

10.6 Regional Factors and the CA

10.6.1 Regional development trajectories (regional business system)

In general the regional business system of Tolima has low contribution to the development and outcomes of the CA of the VC (see table 10.7).

Table 10.7
Regional Business System and the CA

Region/ VC	Trajectory	Nature of the firm and inter- firm relations	Articulation state-firms	Contribution of the RBS to the CA
Tolima Cotton- textile- clothing	Toward an agro- industrial region	Small and medium size firms; economic structure with preeminence of small and microenterprise units Low entrepreneu- rial culture Rivalry and frag- mentation with few events of cooperation	Weak public finances Limited institutional endowment targets mainly commercial agriculture Support industries for commercial agriculture Low public-private partnership tradition Medium support to the CAs	Low

Source: Own elaboration.

10.6.2 Natural resources

The availability of natural resources has a positive contribution to the developmental outcomes of a regional agro-industrial CA. Historically, Tolima has been the larger cotton producers in Colombia and it counts on large land extensions for the cultivation of the crop. In this sense, it favored the achievement of production targets. However, the production costs are high and are influenced by factors associated with the natural resources' availability and costs for the use of them. In the end, these facts might halt the dynamics of the CA in terms of the meeting of cultivation targets.

Although there is land availability for cotton cultivation, water has been an obstacle because not all sown areas have irrigation. Land rents are expensive. Historically, cotton production areas have been neglected, lack of crop rotation, and depletion of natural resources has taken place. This is why agriculturalists depend so much on both weather and inputs.²⁰

10.6.3 Regional leadership enabling state

This factor is mainly analysed in terms of the presence of public sector and support institutions to the CA.

The share of this factor to the developmental outcomes of the CA is not representative because of several shortcomings of the regional public sector and de-concentrated agencies as well as the role of the support institutions. This situation can be explained according to the observations of some members of the regional chain.

1. There is too much institutional presence in the CTCRCC and little participation of agro-producers and industrialists on it. As William Amezquita, senior researcher from Corpoica pointed out,

This is troublesome because there is no decision-making power at the regional level. Things have to go through the Ministry of Agriculture and Rural Development... Just one representative of the Ministry of Agriculture in the Regional Council can replace: the Regional Agriculture Secretariat and the regional directors of ICA and Corpoica, etc. In other words, the actors, located at the regional level, that belong to national agencies (institutions) or firms do not have enough decision-making power in the CTCRCC. In practice, they limit themselves to listen, comment and then ask for directions to the national offices (personal interview, 22 March 2006).

2. A positive share to the CA by the institutions can be found in the case of the Mayor of Natagaima who created a municipal fund to support crop cultivation.
3. The regional support services to the VC are limited and lack specialization.
4. The regional and municipal governments present an institutional weakness for the formulation and monitoring of public policies. Likewise, they have to overcome their financial crisis and lack of autonomous resources.²¹

5. The lack of organization of cotton producers besides the traditional scheme of cotton gin firms (associations) was an obstacle for the regional government to transfer resources to the cotton agriculturalists directly and legally. They were not represented by an organization that includes all of them.²²
6. According to a cotton producer, 'the agriculturalists can be concentrated, not dispersed, even in the same agro-industrial corridor...but any collective project will not prosper despite the array of governmental policies for the sector and the competitiveness agreement.... We, the agriculturalists lack: an associational culture, network construction, cooperation, integration, communication, coordination, share of our strengths, teamwork, alliances.... We don't get united even to buy inputs, rent more hectares etc.'²³

10.6.4 Violence (armed conflict, illicit crops)

Despite the fact that Tolima is the key producer of poppy in the country there is no clear evidence about the influence of violence and illicit crops in the developmental outcomes of the CA. Cotton cultivation is a commercial crop cultivated in flat areas while poppy is cultivated in the mountains so cotton is not the most adequate crop to substitute illicit crops.

10.7 Quality of the CA

The CA of the VC cotton-textile-clothing in Tolima had intermediate policy process effectiveness and intermediate relevance and can be considered as 'less than average' CA (see table 10.8).

10.7.1 Policy Process Effectiveness of the CA

Based on the selected criteria, the CA of the VC cotton-textile-clothing in Tolima was of intermediate policy process effectiveness (see appendix 14).

1. The formulation and development of the CA was average and the CA had an average degree of achievement (see appendix 11).
2. Composition and dynamics of the regional council for competitiveness. The CA of the VC cotton-textile-clothing in Tolima had an average technical secretariat, which means a technical secretariat with in-

intermittent funding problems that threatens its continuity and hinders its normal operation. Second, it had an average regional council. The council included different links and was composed of members of NGOs, universities, public agencies and business interest associations. However, it had low participation of local and regional governments and key agro and industrial sector producers were absent. In other words, most of the participants did not have decision-making power. Finally, the council of competitiveness had an average dynamism characterized by intermittent periodicity in the meetings, appointment of technical committees, average information flows, insufficient awareness about the CA, and asymmetrical degree of commitment among the members of the regional council. It worked mainly during the first part of the CA when Fibratolima was the leading firm of the chain (see section 10.3 and appendix 12).

3. Life cycle of the CA: The CA of the VC cotton-textile-clothing had an average trajectory. The CA followed a trajectory that included signing commitments-partial fulfillment of the CA's goals (between 31 and 60%), dissolution of technical secretariat and a loss of functionality of the RCC (see appendices 12 and 13 and section 10.3).

10.7.2 Relevance of the CA

Based on analysis of the CA through the selected criteria, the chain's CA was classified as intermediate for the development of the chain and the region (see appendix 18).

1. Characteristics of outcomes. The VC cotton-textile-clothing received an average score on this indicator, which means that the outcomes of the activities carried out were partially related to the goals of the CA (see section 10.4.2). Although, the increase in cotton production in the region was shared by most of the actors of the VC, the price issue was very controversial since the market structure was imperfect with a high degree of market control by Diagonal (see appendix 15).
2. Contribution to corporate goals. The VC cotton-textile-clothing received an average score on this indicator, which means that the activities conducted during the CA partially contributed to the achievement of corporate goals of agricultural and industrial producers (see sections 10.4.1 and 10.4.2 and appendix 16).
3. Improvements in VC coordination. The regional council was highly dynamic and there were several events of coordination amongst dif-

ferent links of the VC (program, projects and campaigns) amongst different links of the VC (see sections 10.4.1 and 10.4.2 and appendix 17).

Table 10.8
Summary: Quality of the Competitiveness Agreement

Evaluation criteria Relevance	Policy Process Effectiveness		
	High	Intermediate	Low
High	Outstanding	Average	
Intermediate	Good	Cotton-textile-clothing Tolima Less than average	Poor
Low			

Source: Own elaboration

10.8 Concluding Remarks

First, the emphasis of the CA for the VC cotton-textiles-clothing in Tolima was *on production and employment*. From the cotton-textile-clothing VC experience can be drawn the following conclusions.

The economic cycle can motivate the decision of a VC stakeholder for the signing of a CA. For instance, the cotton textile-clothing CA was signed considering the need of the agro sector to recover from a recession as well as the needs of the industrial sector to cope with its opening to international competition with a simultaneous currency appreciation process.

The institutional framework that a CA offers to a VC becomes a necessary step for many actors—producers, industrialist, and support institutions—to get wider recognition and be part of: a) government incentives, b) access to credit, c) positioning the chain at the national and international levels, and d) benefit from the synergy generated in some areas and take advantage of access to information, research, education and training programs.

The governance structure of the VC cotton-textile-clothing (Tolima) adversely affected the developmental outcomes of the CA. This posture was made evident when Diagonal opposed the scheme developed by Fibratolima in the regional CA, which was the core of the CA. The CA left to the VC a tested financing scheme to the agriculturalists, alternative negotiation schemes and high sensitivity of the national government toward cotton producers.

Notes

¹ This section is based on the diagnosis of the VC carried out by the regional council for competitiveness of the VC cotton-textile-clothing (CTCRCC 2000) during the elaboration of the document for the signing of the CA of Tolima. The fieldwork and this research in general deals with two links; the agricultural and the industry (cotton gin, spinning, textiles and clothing) analysing in detail the linkages among them and the way they interact in the context of the chain. Commercialization is included in the study albeit to a lesser degree of detail. The main sources that have been used in the evaluation of the CA are the reports and records of the meetings and other documents of the Cotton-Textile-Clothing National Council for Competitiveness (CTNCC) and the Cotton-Textile-Clothing Regional Council for Competitiveness (CTCRCC) and their respective committees. To complement the above information, semi-structured questionnaires were used to conduct a series of interviews with cotton producers and industrialists. Likewise, interviews were conducted with members of the national and regional councils for competitiveness.

² It included local tax exemptions (industry, commerce and predial) for ten years for existing and new enterprises in the industrial and tourist sectors that expanded their production and employment generation.

³ Problemas y oportunidades del algodón en el Tolima. Gobernación del Tolima. Centro de Productividad del Tolima, Ibagué, 1998.

⁴ Law 218 of November 1995, the 'Law Paez' (Cauca and Huila) issued to face the damages caused by a landslide and several flows in those regions. Law 'Quimbaya' in Quindío (1995) was enacted to cope with the aftermath of a devastating earthquake in the region.

⁵ Resources from the following institutions were considered: National Fund for Competitiveness and Productivity; SENA's programs for innovation, competitiveness and productive development, FINAGRO program for funding of cotton commercialization, IFI, Colciencias, MADR, international technical cooperation, private and public resources (IICA 2001).

⁶ Conalgodon administers the FFA (Cotton Promotion Fund), a parafiscal fund that was created by Law 219 of 1995, and the Fund for Cotton Price Stabilization (FEPA). It imports and distributes nationwide material for the control of Picudo, a cotton plague.

⁷ It is important to highlight that the commitments reached by the different stakeholders from the private, public and academic sectors were condensed in a matrix of commitments regarding the CA and then were signed (appendix 1).

⁸ The case of Fibratolima was built based on important firsthand knowledge of the company shared by V.H. Ardila (personal interview 2006), Financial Director of Fibratolima.

⁹ He knew the historical functioning of the VC since he had been involved in the VC as general manager of Coltefinanciera and financial vice-president of Coltejer.

¹⁰ Colombia has two harvests of cotton yearly: Costa-Llanos Harvest and Interior Harvest.

¹¹ Interviews, Ibagué 05 April 2005 and 20 September 2008.

¹² Fibratolima invited to the factory a group of agriculturalists from the area of Natagaima and let them know the results of producing with imperfect fiber while recommending the type of fiber that the firm was willing to purchase directly. Fibratolima invested in Natagaima, bought the crop directly from the farmers and took the risk of getting in conflict with Diagonal. The mayor of Natagaima who created a credit fund for cotton producers complemented the efforts undertaken by Fibratolima at the local level attracting more national resources.

¹³ Interview Víctor Ardila, Financial Director Fibratolima, 6 April 2006.

¹⁴ The plain cloth is produced to be cut and molded to fabricate clothing such as shirts, pants and other clothing. The cotton drill fabric is a type of plain cloth. It is used mainly to produce drill woven jeans.

¹⁵ The employment estimates were calculated base on a formula designed by the CTCRCC.

¹⁶ Source: Personal interview with Luis Fernando Ciales, President Chamber of Commerce of Ibagué, 23 March 2006.

¹⁷ Source: Personal interview with Maria Cristina Lara, Regional Director of ANDI (National Association of Industrialists) Ibagué, 30 March 2006.

¹⁸ Source: Personal interview with William Amezcuita, Senior Researcher CORPOICA -Nataima, 22 March 2006.

¹⁹ Source: Personal interview with V. Kairuz, Director of the Productivity Center of Tolima, 26 April 2006.

²⁰ Source: Personal interview with an agriculturalist from Espinal, 10 February 2006.

²¹ Source: Personal interview with Luis Fernando Criales, Executive President Chamber of Commerce of Ibagué, 26 March 2006.

²² Source: Personal interview with Santiago Galvez, Gobernacion Del Tolima, 16 February 2006.

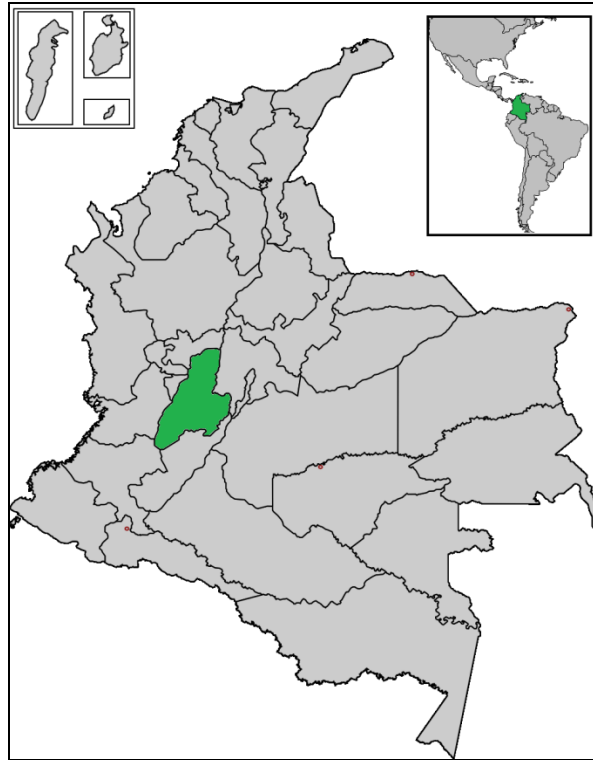
²³ Source: Interview with Luis Enrique Mora, agriculturalist from Espinal, 23 March 2006.

Case Study 3: The VC Rice-Rice Threshing in Tolima

The CA in the rice-rice threshing VC in Tolima deals with a commodity that is very highly subsidized globally. Rice is a crop produced with high productivity that cannot compete against other countries given the price distortions originated in subsidies and other protection measures. Rice is a crop with domestic real price reductions during the decade of the 1990s. The VC's main links are highly protected by the government by means of tariffs and nontariff barriers. Moreover, the agricultural production and the white rice produced by the industry target mainly the domestic market and only under special circumstances are opened to imports (mostly to cover internal supply deficits) and exports. This value chain is constantly threatened by smuggling. All of these facts put the price issue as a central point in the agenda of the relationship between rice producers, the threshing industry and the government as a third party (referee) with or without a CA. Government policies decide the profitability of the sector domestically and abroad. For instance, the price band fixed by the government and a prior approval of imports protected rice. However, the tendency by the industry to import the grain introduces several tensions among the rice producers and rice-threshing industrialists.

This case in general deals with two links; the agricultural (rice) and the industry (rice threshing) analysing in detail the linkages between them and the way they interact in the context of the VC. Commercialization is included in the study albeit to a lesser degree.¹

Map 11.1
Geographical location of Tolima (Colombia)



Source: This research based on IGAC, 2011.

11.1 Structure of the Regional VC Rice-Rice Threshing²

The main links of the VC were present in the region before the CA. Although there were exchanges and relations between the links, fundamental tensions between rice producers and the industry related particularly to the price determination and the bargaining conditions in the negotiation of the crop between agro producers and the threshing mills. The following links of the VC rice-rice threshing were located in Tolima: agricultural production of rice (green paddy); industrial processing; threshing (white rice) and commercialization. There are not many intermediaries and VC depth is limited.

The VC counted on support institutions related to rice production such as SENA (CAISAT), Corpoica, ICA, CPT, ANDI, Acopi, some NGOs, key regional universities and the regional government. These organizations provided education, research, training and technological transfer services, mainly on an individual basis instead of in a coordinated fashion. There was high diversity of entrepreneurial and technological development in both rice production and rice threshing (MADR-IICA 2001: 73).

Historically, Tolima has been the largest rice producer in Colombia. In 1999, Tolima cultivated 94,847 hectares, about 34.6 per cent of the total rice cropped area in the country (MADR 2006). Rice is one of the crops that generate the most employment in the rural areas of Tolima. Before the CA, production was heterogeneous and took place in about half of the municipalities of Tolima, though; the crop was mechanized and had access to the irrigation district facilities. Above all, the region excelled in the quality of its rice and for being the largest rice producer in the country historically. In 1999, there were about 4,141 rice production units, 95 per cent of them were 50 hectares or smaller, accounting for about 60 per cent of the total cultivated area. The productivity of the rice produced in Tolima is high and in some cases is higher than the crop in the USA (see table 11.1).

Table 11.1
Distribution of Production units of rice by size and cultivated area in Tolima, 1999

Hectares (rank)	Production units	%	Area (Hectares)	%
Less than 10	2,937	70.9	10,443	18.4
10 to 50	1,007	24.3	23,042	40.6
50 to 200	179	4.3	15,253	26.9
More than 200	18	0.5	7,973	14.1
Tolima	4,141	100	56,710	100

Source: MADR-IICA 2001; II Censo Nacional Arrocerero; Fedearroz 2000.

The rice industry (threshing) in Colombia performs different functions within the VC: It funds producers, collects, prepares stores, fi-

nances storage and processes paddy rice. In addition, it conducts marketing activities, development of products and sales. There has been a consolidation of leading brands of the industry nationwide. In many instances, the main industries such as 'Roa' are vertically integrated and participate in crop production (MADR-IICA 2005: 108).

Before the CA, a group of leading nationwide rice-threshing mills in the region applied modern technologies and obtained economies of scale in rice threshing. There was also a group of small enterprises with different levels of technological backwardness. In 1999, Tolima had 27 mills; nine of them had an install threshing capacity of 1620 bundles of 75 kilograms of white rice per hour. The total storage capacity of the rice mills in Tolima was 86,210 tons of paddy rice. The mills located in Tolima-Huila (Central zone) process the rice produced in the same zone (MADR-IICA 2001: 53).

The industry was concentrated on the production of table white rice and subsequently had low innovation to add value to products and sub products, the largest limitation to further industrialize the rice was the high costs of the raw material (2001: 73). Most of the larger mills (Roa, Murra, Florhuila, Diana) are concentrated in Espinal, a traditional rice-growing municipality. They have both positioned brands and their own distribution networks and investments in the agricultural sector. Molino Flor Huila S.A., Molino Roa S.A. and Arroz Diana S.A. have strong participation along the VC; they control the commercialization of paddy rice and have high participation in the white rice market where they commercialize their own brands. In 2003, they controlled half of the sales of white rice in the country. The industry upgraded during the 1990s by means of high investment in technology and processes. This process continued during the CA and the capacity for drying, storage and threshing has been expanded and modernized.

The largest mills allocated 75 per cent of the production to the sale in direct distribution channels and 25 per cent went to industrial packers and semi-industrial packers. It is important to point out that, the industry has very well positioned brands in the national market (MADR-IICA 2000: 67). The paddy rice produced in Tolima was sold mainly to mills in the central zone (Tolima-Huila), and in general, white rice was mostly allocated to the national market.

The mills commercialized white rice directly because they have adequate physical and human resources and the technology required. Their

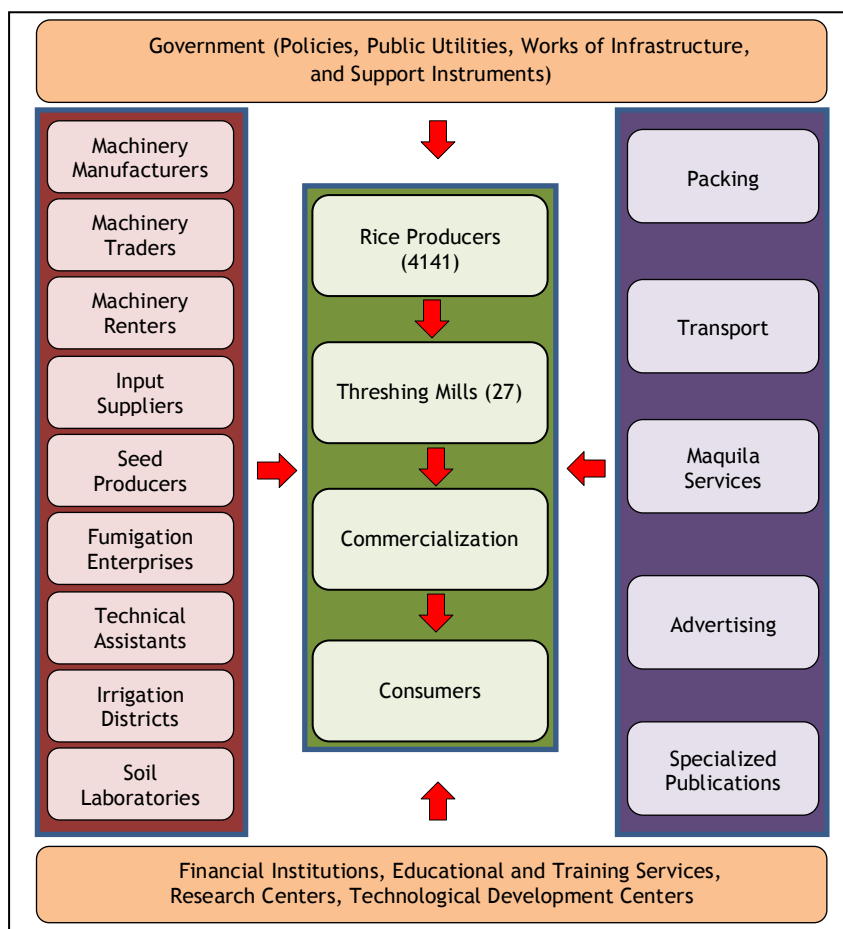
main clients were wholesalers, supermarkets and wholesale transporters (Corpoica: 2000: 44). The country is non-competitive for exports given the need for high subsidies to match prices of major exporting countries in the region such as the USA, Argentina and Uruguay.

There were four irrigation districts; amongst them the irrigation District of the Coello River, which is very important for rice production in Tolima. The District encompassed 72,000 hectares including the municipalities of Espinal, Guamo, Coello and Flandes. The district's users are associated in Usocoello (Corpoica 2000: 28).

There were several private national and regional firms involved in research activities, dedicated to the improvement of seeds and the development of new varieties. In cooperation with ICA, they performed efficiency tests to deliver new varieties to agriculturalists. These firms contributed with the supply of new materials for rice producers. The most important of these firms were Semillas Tropicales, Semillano, Desmotolima, Semillas el Zorro, Cultivos y Semillas el Aceituno and Fedearroz (MADR-IICA 2001: 50).

11.2 VC’s Competitive Challenges and Scope for VC Level Action

Figure 11.1
VC rice threshing in Tolima, 1999



Source: Own elaboration based on MADR-IICA 2001.

11.3 Competitiveness Agreement (CA)

11.3.1 Main characteristics of the CA

The background to the regional CA of the VC rice-rice threshing in Tolima appears in the sectoral (national) CA for the rice VC signed in 1998. It stated that 'on average, the rice VC was not competitive and that such a situation had been worsening during the last six years, as it was shown by the increasing gap between internal and external prices and the imports' upward tendency, which led the country to lose its condition as a net exporter of rice surpluses (IICA-MADR 1998: 6).

However, the dynamics of the two main links at the time of the CA was typical of a growing VC in the process of recovering from the effects of the economic opening during the period 1991-95. This fact, plus the common need to increase productivity and competitiveness to stay in the market within the global economy influenced the CA for the VC. The CA for rice threshing in Tolima was the second regional CA signed in the country on 4 December 2000 in the premises of *Serviarroz*, a cooperative of rice producers, in Ibagué.

The diagnosis of the VC carried by the Rice-rice Threshing Regional Council for Competitiveness (RTRCC) focused on areas for improvement in agro-industrial production. However, no meaningful commitments were established in the transaction sphere. Table 11.2 condenses the main areas of the VC with potential for improvement and the scope for VC level action identified in the diagnosis.

Several members of the CA including the regional government deemed the CA as the scenario that facilitated the lobby's ability to influence the nature of the agreements reached by the governments in the discussion and signing of a free trade agreement with the USA.

Since there is a directed network form of coordination of the VC, historically there had been developed systems of formal and informal agreements between producers and rice threshing entrepreneurs on subjects such as payments, rice varieties and quantities. Other forms of coordination such as support strategies for rice producers, supply of packing inputs, financing and technical assistance have also been developed (Corpoica 2000: 54). These practices provided a basic common ground for the discussion and signing of the CA as an instrument of coordination for the VC.

Table 11.2
Main VC problems and scope for VC level action 2000
- Agriculture (Rice)

Link	Main problems of the VC (2000)	Scope for VC level action
Agriculture (rice)	<ul style="list-style-type: none"> • Inadequate tillage systems and soil preparation in some areas of the region • Inadequate water supply and management of it • Low degree of association of rice producers • Problems for adoption and application of new crop practices by the rice producers • Outdated machinery • Insufficient use of certified seeds • Precarious rice storage capacity • High production costs (land and inputs, seeds) • Asymmetrical bargaining power in the cotton market reflected in the crop prices • Lack of integration with the other links • Insufficient research in biological technologies • Low scales of production • Limited investment in knowledge and technology • Lack of specialized workforce (technological and professional) 	<ul style="list-style-type: none"> • Research and development • Training and development of entrepreneurship capacities • Association among rice producers • Technology development & technical assistance • Machinery sharing schemes • Coordination with the irrigation districts to optimize and increase the irrigated lands in the production areas • Clean agricultural practices (environmental control) • Cost of production • Joint purchasing and machinery sharing schemes • Quality assurance (ISO 9000, 14,000)

Source: This research, based on (MADR-IIICA 2001), CA for Rice Threshing in Tolima

Table 11.3
Main VC problems and scope for VC level action 2000
(Industrial link and commercialization)

Link	Main problems of the VC (2000)	Scope for VC level action
Industry (Rice threshing)	<ul style="list-style-type: none"> • Difficulties in the management of the rice husk • Lack of innovation given that most of the rice was allocated for table white rice • High costs of raw materials • Technological backwardness of small mills • The rice came with impurities and sediments to the mills • Green paddy marketing is done mainly in packages rather than bulk which generates overruns • Some threshing mills lacked infrastructure to store rice in bulk, which caused over-costs in the processes of storage, drying and piled • Lack of adequate technical and professional qualified human resources • High production costs • Low associational level among rice processors 	<ul style="list-style-type: none"> • Training (human resource development) • Quality certification • Technology development & technical assistance • Upgrading • Improvement in the process of whitening and polishing of rice especially smaller firms • Price agreements • Clean agricultural practices (environmental control)
Commercial-ization	<ul style="list-style-type: none"> • Lack of exports 	<ul style="list-style-type: none"> • Marketing and commercialization schemes (export capacities)

Source: This research, based on (MADR-IICA 2001).

The monitoring of the rice cultivation is taken as the ex post transaction costs. The transaction costs, especially monitoring influenced the signing of the CA because the threshing mills had an interest in assuring the quality of the rice and reducing monitoring costs. Traditionally, they included control visits to the farms and laboratory analyses, as well as control procedures to the processing plants. These actions guaranteed quality standards for the product and in this respect maintained the

competitive edge in the market for the producers of white rice (the threshing mills). Eventually, the threshing mills offered premiums per quality differentials. If the agro producers did not keep the standards up, they run the risk of price punishments (Corpoica 2000).

In terms of the VC level action, the public sector had to support the infrastructure for the CA in issues of irrigation, training, and research and transfer (ICA, Corpoica, regional government and University of Tolima). Since prices were not the source of cooperation with agriculturalists, cooperation between industrialists and agricultural producers was possible on the issue of quality and production (a steady supply of rice). In this sense, the proximity of the links had the potential for technological transfers to rice producers and other types of cooperation (Corpoica 2000). The commercialization of their own brands by the larger threshing mills offered opportunities for cooperation with rice producers to assure quality and volume and with smaller industrialists from which they also bought the white rice.

11.3.2 Regional council for competitiveness (RCC) and coordination of the CA

The CA did not state explicitly in the matrix of commitments the specific financial contribution of the actors involved in the signing and development of the CA. However, in coordination of the CA, the stakeholders that signed it committed themselves to providing the financial resources necessary for the management of it.

The regional competitiveness committee of the VC rice-rice threshing was created on 13 August 1999 with representation of input distributors, rice producers, threshing industrialists, irrigation districts, institutions (regional government, public agencies, universities and the Productivity Center of Tolima) (see appendix 20). Likewise, the technical secretariat was constituted on 13 August 1999, and was integrated by the Regional Productivity Center, Fedearroz, Gobernación del Tolima, Induarroz, IICA, Serviarroz, Sena, El Aceituno, and Usosaldaña. Fedearroz coordinated another instance of the CA called the 'Rice technical group' with resources from the Rice National Fund since June 2000.

Table 11.4
Main national and regional actors and their roles in the making of the CA
(Agricultural link)

National	Regional	Interest for participation in the CA
Fedearroz (Rice Growers Association)	Leading actor of the CA at the regional level	Fedearroz was interested in the defense and representation of rice agriculturalists in the CA. It promoted the achievement of greater efficiency and higher competitiveness of the rice producers
	Rice producers	The overall reduction of production costs, access to credit and other public sector financial schemes, technological transfer, access to more affordable irrigated land
	SERVIARROZ Cooperative for medium and large farmers that provides services and support for the promotion and development of this guild	Interested in increases in rice production, good crop prices, improving the provision of specialized services and the supply of agricultural inputs to rice producers associated with the cooperative (mostly from the Ibagué plateau)

Source: This research.

Table 11.5
Main national and regional actors and their roles in the making of the CA
(Industrial link)

National	Regional	Interest in participation in the CA
Induarroz (Rice Industrialists Association)		To negotiate adequate rice price levels for the industry To promote the use of certified seeds and the production of good quality rice for the industry.
	Small threshing mills	To get opportunities for technological upgrading and credit access Finding cooperation opportunities with the largest mills in terms of 'maquila'
	Arroz Roa, Diana, Murra, Flor Huila.	To assure good quality supply of raw materials for threshing, upgrade their technology and consolidate as the leading firms of the VC To get protection from imports and smuggling of white rice
National Association of Industrialists, ANDI	ANDI (Tolima)	Strive for the interests of threshing manufacturers

Source: This research.

The technical secretariats ended its work in 2003; it lost dynamism given problems with coordination amongst the members and particularly because funding from MADR ended that year. The lack of direct involvement of the main threshing firms and rice agriculturalists in these coordinating bodies subsequently wore out this mechanism and the regional council for competitiveness of the VC lost its dynamism. The CA is analysed for the period in which those administrative bodies were active (2000-2003).

Table 11.6
Roles of national and regional governments, public agencies and universities in the making of the CA

National	Regional	Interest for participation in the CA
	Regional administration (Gobernación del Tolima)	Generation of alliances to promote development of the agricultural sector Generation of: regional employment, control of environmental degradation, support for national agricultural policies and implementation of the regional one
MADR		Increase rice national supply and crop absorption by the threshing industry. Protect national rice producers from impact of juncture policies from countries that subsidize production and exports.
ICA	ICA	Improvement in agricultural practices Increase utilization and impact of its technological services.
Corpoica	Corpoica	Finding new research opportunities Generation and transfer of scientific and technological knowledge in the rice crop
	National Apprenticeship Service (SENA)	Increase coordination of training activities with rice producers and industrialists.
	Universidad del Tolima CORUNIVERSITARIA	Link the academic programs to direct study of real problems faced by the rice link in the region.

Source: This research.

In addition to the VC stakeholders included in tables 11.4, 11.5 and 11.6, irrigation districts were other important actors in the VC. Their main interests related to adequate management of water and expansion of the districts' coverage and the undertaking of collective action with other actors for technological transfer to their members. Four main irrigation districts were well organized and allocated their resources to rice production. They were involved in certain stages of the CA and expected to improve their service and expand their coverage through infrastructure investments, largely from the national government. Meanwhile, seed distributors were interested in commercial opportunities that might derive from integration of the links as well as to improve their research and development activities.

The CA had Fedearroz (The National Federation of Rice Producers) and Induarroz (Rice Industrialists Association) as the main institutional actors. They are national institutions with a strong presence at the regional level because Tolima is the core rice producer and the larger threshing mills are localized in the region.

Fedearroz is a national business interest association of rice producers created in 1947. It administers the National Rice Fund, which manages resources from the rice promotion quota. The latter is a parafiscal contribution created by law 101 of 1963 and modified by law 67 of 1983. It is used to carry out special development programs in the rice sector including research and technological transfer. Fedearroz performs as a guild association and lobbies on behalf of rice producers to define the minimum price and control rice smuggling. It also undertakes actions to regulate the rice supply and in some instances intervenes in the market by purchasing part of the harvest to avoid further price drops. That is to say, Fedearroz participates in a type of price coordination to shield producers from drastic price reductions. In this sense, it fosters rice storage, bears part of the costs and even offers warehouse use for that purpose. On the other hand, Induarroz strives on behalf of the interests of rice industrialists.

Several members of the VC consider Molino Roa a leading firm. Its central office is located in Bogotá where it has a packing mill. It also has three plants located in Espinal, Neiva and Villavicencio, which are larger rice producers nationwide. The firm also works with subcontracting in Girardot with Solinagro, in Venadillo with Molino Boluga, in Ibagué with Agrocaribe, in Lerida with Molino Pajonales and in Medellín with

Griffith. These firms process and pack rice (*maquila*) with the 'Arroz Roa' brand name and then distribute it through Roa's comprehensive marketing network. The plant manager of Molino Roa stated that,³

The firm is dedicated to the rice industry; it counts on distribution logistics from transportation, marketing and commercialization. Likewise, it has developed a strategy to reach faraway places of the country through *maquilas*. The latter are contracts for the threshing and the packing of the brand with lower costs.... The cooperation with other links of the chain has two approaches. First, the institutional that is done with Fedearroz and Induarroz for the solution of environmental problems and others. The second consists of credits and technical visits to the producers, inputs' supply and assistance for their use. If they ask for a credit to finance the crop, depending on the amount, the harvest is pledged as guarantee.

The government, mainly through the MADR and MCIT, regulates the imports of rice, which are not common and only take place under special conditions; and generally come from the Andean Community of Nations (CAN). 'The paddy and white rice have enjoyed an important protection with high average variable tariffs, the policy of crop absorption that operated until 2003 as a prerequisite for imports, safeguards and other restrictions. However, this protection has not necessarily translated in high prices for the agricultural and industrial producers' (MADR-IICA 2005: 80).⁴ According to Agrocadenas (2005), two main reasons account for this. First, the restriction on paddy prices imposed by threshing firms on agricultural producers from their oligopsonistic position in the market as well as strong competition for maintaining or expanding their market share while avoiding price increases above what is necessary to maintain their margins. Hence, the foreign trade policy guarantees a relatively closed market for rice with a relatively high tariff protection level but that is not transferred to the producer or consumer as a result of the strong competition among rice producers as well as among the industrialists (MADR-IICA 2005: 80).

11.4 Implementation and Developmental Outcomes of the CA

11.4.1 Main activities carried out in the development of the CA

The CA was signed in 2000 and had the following specific strategies: reduction of costs, human resources, water, technology, markets, environment and information. The development of the CA included activities executed during the period of study (2000-2003) through public-private sector partnerships. It is important to highlight that the commitments reached by the different stakeholders from the private, public and academic sectors were condensed in a matrix of commitments and then signed (see appendix 19).

The final report of the Technical Secretariat of the VC rice-rice threshing to MADR-IICA begins by making clear that such report described the current state of projects and activities carried out within the CA framework. The report also stated, 'However, it is important to point out that the actions carried out by the different actors of the VC were not planned as a consensus between the actors, but instead because of punctual activities by initiative of some actors at the interior of each link of the chain.'⁵ This fact shows that several activities related to the CA were carried out during the CA and though some of the activities and developmental outcomes are the result of collective action; there is a predominance of private initiatives along the agricultural and particularly in the industrial link.

A number of activities took place in the threshing mills, some as their own initiative and some promoted by the CA such as quality certification. As described by Luisa Fernanda Zuluaga, plant manager of Molino Roa, 'In 2002, the plant was restructured, the machinery and processes were organized in a logical order: receiving-drying-threshing-peeling-separating-polishing. "Reengineering" of the total process was conducted, and everything was organized according to the process' (31 March 2006, Espinal).

Despite the euphoria at the start, there was little joint, collective or concerted action. According to Gil et al. (2003), the rice technical secretariat had great difficulties developing its action plan. Amongst the most important obstacles are lack of credibility in the process to reach consensus, lack of integration among stakeholders of the different links of the VC particularly amongst the institutions members of the technical secre-

tariat (MADR, regional government, SENA, Productivity Center of Tolima, Fedearroz, Serviarroz and Induarroz) and the low degree of commitment from most actors.

Table 11.7
Main activities carried out in development of the CA (2000-2003)
(Agricultural Link)

Agricultural Link
<p>In the production sphere</p> <ol style="list-style-type: none"> 1. New sowings of rice 2. Realization of agronomical tests for new varieties and planting materials (ICA, Fedearroz, Cultivos y Semillas el Aceituno, Semillas el Zorro) 3. The MADR allocated 3 machinery banks for the agriculturalist of the region. Territorial entities (Departments and municipalities) acquired these machinery banks aimed at serving particularly small and medium scale producers. Although the national government carried out this activity, members of the regional VC undertook identification and communication with MADR. These banks offer lower rates than the market to access machinery and equipment (e.g. tractors, trailers, rakes) that otherwise small producers could not buy or lease at commercial rates given their high costs. 4. Development of a special module for the management of information for the rice VC in the context of the project "Information system for the competitiveness of Tolima" 5. Coordination activities among the VC actors to foster the expansion of the Irrigation districts 6. Environmental control through gradual introduction to the applications of biological products 7. Training in the production of organic fertilizers for rice cultivation: implementation of plants of organic fertilizers in some farms 8. Promotion of VC work awareness through organization of conferences, forums, seminars to promote consciousness about the different economic, and technical aspects of the VC 9. Inventory of projects in the context of the CA; from it, it is clear that several research projects were undertaken and technological transfer activities by a number of institutions (Universidad del Tolima, ICA, CORPOICA, Coruniversitaria and CPT) though the work was done mainly on an individual basis (per institution) 10. Technical studies for expansion of the irrigation district USOCOELLO 11. Development of the Agenda for science and technology Tolima: the specific case of the Plateau of Ibagué in the rice topic (CPT, CORUNIVERSITARIA, EAFIT, UT) 12. Promotion of institutional credit (FINAGRO) and its ICR (rural capitalization incentive) 13. Training programs: one specialization, a diploma program and courses for technicians and producers in areas such as integral management of the crop 14. Training in the management of ratoon rice and transfer, developed by irrigation districts (USOSALDAÑA, USOCOELLO)

Source: This research. Productivity Center of Tolima, 2003.

Table 11.8
Main activities carried out in development of the CA (2000-2003)
Industrial and Commercialization Links

Industrial Link
<ol style="list-style-type: none"> 1. Several activities took place in the threshing mills, some as their own initiative and some promoted by the CA in terms of quality certification 2. Development and implementation of productivity indicators in rice threshing mills in Tolima 3. Machinery upgrading in the plateau of Tolima and in the northern part of Tolima and Espinal 4. The threshing industry signed a cleaner production agreement 5. Formulation of environmental management projects: reuse of residual waters and management of the rice husk 6. Bio-fertilization. Industrial terrace of three bio-fertilizers in rice 7. Conclusion of the first phase of three improvement projects of 'yields in drying and rice threshing'; the second phase began in SOLINAGRO. 8. Project, 'Optimization of processes': drying, classification, treatment and storage of rice seeds in Desmotolima 9. Implementation of "processes' management" in AGRINSA 10. Elaboration of a human resource development plan for the VC until 2012. It included rice and rice threshing links and had the purpose to identify collectively the needs of labor by the VC and to provide feedback to the universities and training centers to fulfill these gaps.
Commercialization
<p>No meaningful activity was carried out in this link. In fact, issues of commercialization were not included in the agreement, though this activity has become one of the core activities performed by the biggest threshing</p>

Source: This research and the Productivity Center of Tolima (2003b).

11.4.2 Main developmental outcomes of the CA

The main outcomes of the CA fall into four groups: gains in productivity, production and employment; VC integration; collective learning; and upgrading (process, product and functional).

The CA had limited scope and low participation of threshing mills. In general, there was a lack of awareness by the actors of the two links about the CA for the VC. The most notable outcome show in the productivity increases in the crop cultivation.

Productivity, production and employment: According to MADR (2006) there was a positive increase in productivity from 6,586 kg/hectare in 1999, to 7,294 kg/hectare in 2003 (MADR 2006). In terms of production the cultivation of rice increased 2.14 per cent between 1999 (94,847 hectares) and 2003 (96,872 hectares). Production increased

13.12 per cent between 1999 (624,640 tons) and 2003 (706,612 tons). This result is due to the outstanding productivity increase of the crop during this period. Tolima consolidated as the largest rice producer in the country from 40.3 per cent of the total national production in 1999 to 46 percent in 2003 (MADR 2006). Finally, the employment⁶ in the rice link increased 2.1 per cent during the period 1999-2003 from 13,278 workers in 1999 to 15,292 in 2003. Employment in the threshing mills remained stable during the period of the CA according to the interviews. Table 11.9 shows the changes in the cropped area, production and productivity. It is important to point out that *these changes took place in part influenced by the CA and largely because of private initiatives outside the CA.*

Table 11.9
Mechanized Rice: Planting, Production and Productivity (1999-2003)

Year	Harvested Extension (Hectares)	Production - Green paddy- (Tons)	Production Tolima/Nation (%)	Productivity (Kilograms/hectare)
1999	94,847	624,640	40.3	6,568
2000	99,312	696,915	44.9	7,017
2001	101,080	737,760	45.9	7,299
2002	99,047	711,107	45.8	7,179
2003	96,872	706,612	45.9	7,294

Source: MADR (2005) Anuario estadístico del sector agropecuario y pesquero 2004. Dirección de política sectorial, Bogotá, 2005.

VC integration: During the period of the CA, several meetings were carried out for the elaboration of the diagnosis of the VC, and in general, for the preparation of the CA. Throughout this stage, coordination among support institutions was strengthened and then some projects were developed in the context of the CA (see table 11.7). However, as pointed out in the last report of the technical secretariat to IICA-MADR (2003), it is important to underline the lack of articulation between the links and the lack of will and credibility in the process to achieve consensus.

The VC's technical secretariat was dismantled in 2003 and the RTRCC lost dynamism and continuity. Practically, the dialogue and negotiations returned to business as usual with three parties involved. That is, Induarroz, Fedearroz and the national government, most of the time discussing the contentious and divisive issue of pricing structures.

Collective learning

The CA promoted collective learning since most of its activities involved promotion and creation of awareness of the circumstances of the main links of the VC. In addition, the CA emphasized the need to coordinate the VC and the importance of raising their productivity and competitiveness (see tables 11.7 and 11.8). Though the individual economic units carried out many activities, as stated by the final report of the CA presented by the technical secretariat, the modernization and technification of the industrial and agricultural links during the last decade have been notorious.

Product and process upgrading: In the agricultural link, new seed varieties for rice cultivation were developed. Likewise, commercial exploitations are gradually introducing laser leveling using Colombian technology adapted from imports. In addition, significant investments in technology and processes have helped upgrade the industry considerably. Increasing and upgrading capacity for drying, storing and threshing.

During the period of the CA, the production processes in agriculture as well as in the threshing industry were modernized. Some of the threshing mills acquired a quality seal by ICONTEC and others followed certification schemes (i.e. Arroz Diana S.A.). Machinery upgrading also took place in the agricultural sector with the introduction of precision planting machines, though it is not a widespread practice. In addition, there has been a gradual introduction of crop collection in bulk, though it is not the case of most of the production units. Otto Perez, an agriculturalist from Espinal, illustrates the case in which this innovation has taken place. 'Now, it is a fashion to recollect in bulk instead of bundles. The threshing mills pay 0.25 dollars premium per "carga" [load weighing 100 kg] if we deliver the rice in bulk. In this case we do not have to spend on packing' (22 March 2006, Espinal). This practice increases pressure on agriculturalists to modernize their processes, and in such cases, the pools of machinery are instrumental to meet the new requirements in terms of transport and equipment. The collection in bulk is lim-

ited by the average size of the parcels; about 70 per cent of the production units have less than 10 hectares; and in terms of optimization of resources, it needs an extension larger than 200 hectares. In this sense, the government has a policy of strengthening producer associations. Likewise, collection in bulk leads to a reduction in the employment generated by the crop since capital-intensive processes replaced labor-intensive activities.

11.5 Value Chain Factors and the CA

11.5.1 Input output structure

There is an oligopsony in the rice market. In 1996, eight threshing mills purchased more than half of the national rice production (PBEST 1998, quoted by MADR-IICA 2005). The market for green rice and paddy rice presents an oligopsonistic structure with about 2500 producers of raw rice and 27 rice-threshing mills. The mills set their own prices. Therefore, only the largest rice producers can bargain since they have the option to offer the crop to different mills taking into account the prices offered by them (IICA 2001).

The price is not only a point of conflict between rice producers and industrialists but also among larger and smaller threshing mills. Profit margins in the threshing industry are low, thus, the larger mills have an advantage in terms of capital availability and technological development. According to a small threshing industrialist,⁷ 'there is no cooperation; there is too much competition instead. There are amazing price wars to make the other exit from the market. The larger mills finance the crop for the agriculturalist to assure the crop supply. The smaller do not have enough working capital to do that. Likewise, the larger mills buy the paddy rice and pay within a short period of time'. The input output structure of the VC hinders adequate development of a CA and only facilitates the development of activities in the interests of the largest rice threshing mills, which have a commanding position in the paddy rice and white rice markets.

The small industrialists as well as rice producers complain about low prices offered by the threshing mills for the crop. Some agriculturalists prefer to work with smaller mills. According to a rice producer, 'the larger threshing mills at the beginning pay a good price for the paddy rice with the purpose of making the smaller mills go bankrupt and suppress

competition.⁸ Another rice producer who participated in the CA complements this view, ‘the largest mills overwhelm the agriculturalists in that they offer low prices for the crop and want to manage the rice imports arguing lack of inventory. In this case the government regulations are important and the strong stand of Fedearroz on behalf of rice producers is necessary to avoid such a situation.’⁹

11.5.2 Governance

The largest industrial firms of the VC have an oligopsonistic position in the market. This consolidates a captive form of governance or directed network. Overall, the industrial sector represented by the biggest rice threshing mills drive the VC. Their commitment to grain quality is well known and appears in their interactions with producers.

Taking into account that government policies continue to protect the rice market, threshing industrialists rely heavily on domestic production, hence, the need for coordination with their regular suppliers. In spite of government protection for the rice sector, there is a tendency by the industry to import rice, which introduces several tensions among rice producers and the industry. Although the latter can find lower prices in the international market, there is no free market for it and the imports take place mainly to cover domestic supply deficits that is, tradeoff between food security and lower food prices. In this situation, the government intervenes for reasons of food security since it does not want rice producers to become marginalized. However, if the threshing industry (oligopsony) determines the price, and the international price of rice is below it, then rice producers can only expect income improvements if productivity/quality improves. According to one agriculturalist, ‘each time the profit margin is lower because of the industrialists’ oligopsony. What allows rice producers to continue in business is that they achieve higher yields in production sphere, because prices are too low.’¹⁰

In normal conditions, national production supplies around 90 per cent of the domestic rice demand. Rice imports are controlled by the government, require prior approval and in this procedure generally there is a dialogue and bargaining process between rice producers and threshing entrepreneurs through their associations. The two links have very powerful national trade associations. In some instances, when there are

many obstacles to reach compromises, rallies and other modalities of collective action are undertaken in the agro-sector.

The threshing firms did not sign the CA and their direct participation in the CA was minimal. They delegated to Induarroz, which continued playing its traditional role on behalf of the industrialists.

The largest threshing mills control their firms and businesses throughout the VC. In general, they cultivate the crop, commercialize inputs, finance cultivations and finally set the purchase price of the crop. They have their own brand positioned in the market, process the crop in their mills and finally distribute the white rice through their own distribution channels. The leading companies have a large degree of vertical integration with linked contracts to rice growers. Taking into account their position as rice producers and their large purchases of rice, they are in a position to fix prices and quality standards. According to a rice producer, 'the rest of the members of the VC have to accommodate to such conditions because they do not have the economic power to change things' (Interview with Alvaro Pinto, rice producer, 18 March 2006). In this line of thought, the governance structure of the VC did not facilitate the development of the CA and the leading mills preferred to keep business as usual and maintain VC control. They manage the VC as part of their daily business but they did not have meaningful participation in the CA.

11.5.3 Systemic efficiency

In practice, the coordination of the VC is through a directed network type of governance. As an agriculturalist from Chicoral (28 March 2006) pointed out:

I sell to Molino Roa because they lend me money for the rent and give me inputs. Then, I sign a contract where the cultivation is pledged. Practically the threshing mill is the crop owner and the agriculturalist is an administrator. They are attentive, conduct visits and supervision to all the lots.

According to a threshing mill manager, the relationship with agriculturalists is heavily influenced by prices. If there is a good price, then there is a good relationship. Conversely, if there is a bad price for the crop, then, the relationship worsens.

It can be inferred that in practice the leading rice threshing firms had tight control of the VC and controlled the backwards linkages. Thus, the

aim to introduce systemic efficiency to the VC had a partial influence in the discussion and implementation of the CA. Although process and product upgrading were goals of the leading firms, the price setting of paddy rice was a contentious issue and rice producers felt that the buyers did not reward their upgrading efforts properly, in terms of price differential payments.

11.6 Regional Factors and the CA

11.6.1 Regional development trajectories (regional business system)

In general, the regional business system of Tolima has low contribution to the development and outcomes of the CA of the VC (see table 11.10).

Table 11.10
Regional Business Systems and the CA

Region/ VC	Trajectory	Nature of the firm and inter- firm relations	Articulation state-firms	Contribution of the RBS to the CA
Tolima Cotton- textile- clothing	Toward an agro- industrial region	Small and medium size firms, eco- nomic structure with preeminence of small and mi- croenterprise units Low entrepreneu- rial culture Rivalry and frag- mentation with few events of cooperation	Weak public finances Limited institutional endowment. Mainly targets commercial agriculture Support industries for commercial agriculture Low public-private partnership tradition Medium support to the CAs	Low

Source: This research.

11.6.2 Natural resources

The threshing mills have locational advantages for the production and processing of rice in Tolima and in practice, the largest rice threshing mills are around the crop areas where the agriculturalists, business services and support agencies are concentrated.

The availability of adequate natural resources for the economic performance of a VC has a positive contribution to the developmental outcomes of a regional agro-industrial CA, for instance in terms of production targets. However, the crop depends on two important natural resources: land and water. Rice requires too much water, which is becoming scarce. In addition, the ownership of appropriate land for the crop is concentrated, which introduces high rents for its use. The high rents originate largely in the ownership concentration of land allocated to different commercial agricultural crops such as sorghum and cotton. However, the source of high rents depends more on ownership concentration than on competing high value crops.

The need to incorporate more land with irrigation to increase rice production was a key issue during the discussion of the CA.

The largest threshing mills are located in the region, possess agricultural lands and cultivate the crop. The soil in Tolima is appropriate for the cultivation of commercial crops especially in the plateau of Ibagué, the northern part of Tolima and Espinal and the southern part of Tolima. This provided natural rents to the threshing mills and supported the attainment of the goals of the CA, such as productivity increases.

11.6.3 Regional leadership enabling state

The more comprehensive and coordinated the existent organizational set up, the greater the chances for obtaining the expected developmental outcomes of a CA. This factor is mainly analysed in terms of the presence of public sector and support institutions in the CA.

There was not enough coordination and commitment among the support institutions. In fact, institutional actors, as can be seen in the membership of the technical secretariat (Productivity Center of Tolima, regional government, ICA, SENA, Usosaldaña, Induarroz, Fedearroz and Universidad del Tolima) carried out most of the meetings and activities. Second, lack of direct participation of agriculturalists and industrial firms who could make the final decisions. Fedearroz and Induarroz, who

were members of both the Regional Council on Competitiveness and Technical Secretariat, did not show enough willingness to compromise on key issues in the CA. Hence, the meager developmental outcomes of the CA were more the result of the institutional actions than the consequence of private-public sector partnerships and collective action in the two main links of the VC.

Finally, it is important to point out that the CA was dependent on national resources; for instance, infrastructure (expansion of irrigation districts), and credit for agro producers with ICR (rural capitalization incentive) to access machinery and so on.

11.6.4 Violence (armed conflict, illicit crops)

Despite the fact that Tolima is a key producer of poppy in the country there is no clear evidence of the influence of violence and illicit crops in the outcomes of the CA. In fact, the illicit crop substitution programs are carried out mainly in the mountainous areas. Violence and illicit crops do not constitute a key factor that influences the CA since most cultivation is mechanized commercial agriculture in the plateau of Ibagué and Espinal. It is a bit more insecure in the northeastern and southern parts of Tolima, given the presence of guerrilla groups.

11.7 Quality of the CA

11.7.1 Policy process effectiveness of the CA

Based on the selected criteria, the CA of the VC rice-rice threshing in Tolima was less effective (see appendix 24) because the formulation and development of the CA was characterized by average quality of commitments and a poor degree of achievement (see appendix 21). The composition and dynamics of the regional council for competitiveness in the CA of the VC rice-rice threshing in Tolima had an average technical secretariat. It had intermittent funding problems, which threatened its continuity and hindered its normal operation. The CA had an average regional council; most of the participants did not have decision-making power. The council of competitiveness had a poor dynamism, in particular during the last part of the CA; there was a lack of awareness about the CA and especially low degree of commitment of the VC actors (see section 11.3 and appendix 22). The life cycle of the CA in the VC rice-rice

threshing had a poor trajectory. The CA followed a trajectory that included signing of CA, partial fulfillment of the CA's goals (less than 30%) and dissolution of the RCC (see appendices 22 and 23 and section 11.3).

11.7.2 Relevance of the CA

Based on analysis of the CA through the selected criteria, the CA of the VC rice-rice threshing in Tolima was classified as intermediate for the development of the VC and the region (see appendix 28).

Characteristics of outcomes. The VC rice-rice threshing received an average score on this indicator, which means that the developmental outcomes of the activities carried out related partly to the goals of the CA (see section 11.4.2 and appendix 25).

Contribution to corporate goals. The VC rice-rice threshing received an average score on this indicator, which means that the activities conducted during the CA partially contributed to the achievement of the corporate goals of agricultural and industrial producers (see sections 11.4.1 and 11.4.2 and appendix 26).

Improvements in VC coordination. The regional council had low dynamism and there were very few events of coordination amongst different links of the VC (programs, projects and campaigns) (see sections 11.4.1 and 11.4.2 and appendix 27).

Table 11.11
Summary: Quality of the Competitiveness Agreement

Evaluation criteria Relevance	Policy Process Effectiveness		
	High	Intermediate	Low
High	Outstanding	Average	
Intermediate		Less than average	Rice-rice threshing (Poor)
Low			

Source: This research

11.7.3 Synthesis

The CA of the VC rice-rice threshing in Tolima was the least effective of the sample and had intermediate relevance, and in the aggregate can be considered a poor CA (see table 11.11).

11.8 Concluding Remarks

From the rice-threshing case study, it can be inferred that CA that rely heavily on institutional stakeholders (i.e. universities, public agencies and business interest associations) to promote and boost the CAs instead of being the result of consensus and concerted action between agricultural producers and industrialists are likely to fail during implementation. This fact could explain the insufficient accomplishments and lack of continuity of the rice threshing CA. Associations of producers like Fedearroz (agriculturalists) and Induarroz (industrialists); given their heterogeneous membership, do not have a unified position on behalf of their associates in the regional council for competitiveness of the VC.¹¹

The participation of the threshing mills was minimal. The rice-threshing entrepreneurs did not sign the CA directly. Instead, Induarroz did it on their behalf. Their direct involvement in the CA was negligible, to the point that many of them, including most of the largest, did not know the terms of the CA and were not committed to it. The CA relied too much on institutional actors, which from the onset became a key weakness of this process. As pointed out by a member of the RTRCC, the CA lacked an associational component as well as lack of commitment.

In general, the scenario of the CA provided a space for dialogue of Fedearroz on behalf of rice producers and Induarroz on behalf of rice industrialists, but did not put forward meaningful activities to promote continuous improvements in the performance of firms and farms and in VC level coordination. However, the price of the crop remained at the center of these two links.

The governance structure of the VC rice-threshing (Tolima) adversely affected the developmental outcomes of the CA. An explanation can be found in the lack of participation by the threshing mills in the CA and the fact that Induarroz was not ready to compromise and commit itself to the CA on behalf of rice threshing entrepreneurs.

Regional factors partially supported the developmental outcomes of the CA. First, the irrigation infrastructure aided the CA although needed more expansion. Second, the influence of natural resources was positive. However, the concentration of land and the large rents that rice producers had to pay for its use hampered the attainment of the goals of the CA.

The VC stakeholders, who in general expressed that the CA did not have a meaningful influence on their firms and farms performance during the period (2000-2003), better, describe the role of the CA of the VC rice-rice threshing in Tolima. They stated that such performance was most a result of their business strategies and the market circumstances during the period.

According to the sales manager of a machinery and equipment distribution firm,¹²

The agreement facilitated the actors to know each other and to provide feedback about their main problems associated with their economic activity. However, it was not effective. It did not have continuity and a failure environment around the subject was created. Our firm (Casa Toro) was interested in generating a support network to induce the use of new technologies to increase competitiveness. Nonetheless, the agreement stayed half way; it has been a long time and there is no talk about the agreement.

A large rice producer in Espinal supports this statement¹³ stating: 'the agreement has not had any influence because it lacked implementation... it has not been possible to reduce costs. The agreement just allowed some important threshing mills to come near around the payment issue to the rice producers.'

In short, a domestic oligopsony of an agricultural raw material protected by the national government reduces the likelihood of success for the expected developmental outcomes of a CA. A domestic market protected from imports introduces as a main contention point between agro-producers and industrialists in a CA the issue of price determination. At the end, the government has to arbitrate. The problem with it in the rice-rice threshing VC was that the main efforts of the key VC stakeholders especially Fedearroz and Induarroz were devoted to the purchasing price of the crop. Hence, as evidenced in the CA, there was no will or interest on the side of the industrialists to commit to the CA.

Notes

¹ The main information sources that have been used are: the reports and records of the meetings and other documents of the Rice-rice Threshing National Council for Competitiveness (RTNCC) and the Rice-rice Threshing Regional Council for Competitiveness (RTRCC) and their respective committees. This information was complemented with a series of interviews with rice producers and industrialists. Likewise, interviews were conducted with members of the national and regional councils for competitiveness.

² This section is based on the diagnosis of the chain carried out by the RTRCC (2000) during elaboration of the document for signing the competitiveness agreement of Tolima.

³ Interview with Luisa Fernanda Zuluaga, plant manager of Molino Roa (31 March 2006, Espinal, Tolima).

⁴ The agreements of crop absorption between agro producers and industrialists were promoted by the national government with the purpose of assuring the purchase of the national harvest as a policy priority to control the effects of crop surpluses on prices, and reduce the impact of imports on the purchase of the national production.

⁵ Productivity Center of Tolima, 'Final report technical secretariat for the value chain rice-threshing'. Contract No 007 2003 derived from the agreement 067/2001-MADR between IICA and the CPT, 15 October 2003.

⁶ The employment coefficient used is 0.14 employees per hectare (Martinez Covaleda, H. Agrocadenas 2006).

⁷ Interview with a small threshing industrialist (16 March 2006)

⁸ Alejandro Trujillo.

⁹ Interview with Jose Raul Osorio (Ibagué, 27 March 2006).

¹⁰ Interview with J.R. Osorio, 27 March 2006, Ibagué.

¹¹ The small rice producers of the central zone including Espinal and Saldana, and those of the northern zone of Tolima do not necessarily share the same interests and experience similar needs to those of the large and medium producers of the plateau of Ibagué. The medium and large rice producers in the plateau of Ibagué are closely related to the cooperative SERVIARROZ and are receptive to Fedearroz. They produce under entrepreneurial agriculture schemes, combine their agricultural activity with intensive livestock production, are very receptive to technologies and at least half of the cultivations are carried out directly by landowners, and are associated with economic and political power. All of these conditions are reflected in their bargaining capacity with the largest rice threshing mills, which is reflected in a tendency of these rice pro-

ducers to take their crop to smaller mills located in the plateau of Ibagué (e.g. Pacande) or in the northern zone, instead of dealing with those of the leading threshing firms. In the central zone and southern part, the production is heterogeneous too; for example, an important part of the rice cultivation in Saldaña is based on small plots (from 1 to 1.5 hectares) and land tenants. They rely on credit, services and inputs supplied by the threshing mills. Thus, their bargaining capabilities are very limited. Espinal is the second municipality of Tolima in importance, is the center of a large irrigation district (USOCOELLO), the cultivation is done largely by tenants and to a lesser degree by the landowners. There are large, medium and small rice production units and it is home to the leading threshing mills. However, the average cultivation in hectares is much less than in the plateau of Ibagué and the northern zone.

¹² Interview with Federico Cortes, sales manager at Casa Toro, Ibagué, 29 March 2006.

¹³ Interview with Orlando Murra, 28 March 2006.

Case Study 4: The VC Cocoa-Chocolate in Antioquia

12.1 Structure of the Regional VC Cocoa-Chocolate

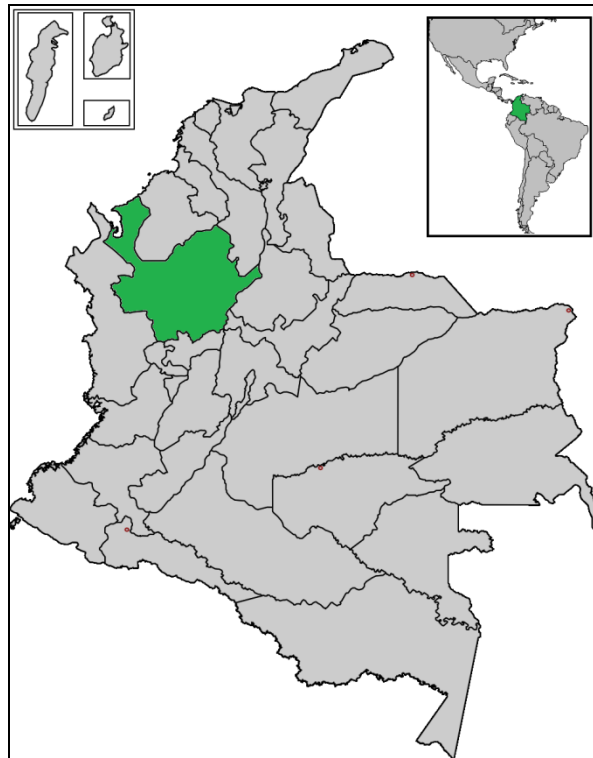
The VC cocoa-chocolate has all the links located in the region. Antioquia is the 6th largest cocoa producer in the country. The region in 2001 had about five per cent of the total cocoa cultivated area nationwide; it produced 1752 tons, which accounted for just nine per cent of the production from Santander, the most important cocoa producer in Colombia (MADR 2006).

According to Agrocadenas (2002), the prototypical cocoa exploitation in the region was a smallholding that is not a cocoa specialized farm, but is embedded in a production system that includes one or more different crops such as coffee, timber and fruit trees. The production is not geographically concentrated. On the contrary, there is substantial dispersion of producers around different areas of the Department of Antioquia. The Uraba region is the most important cocoa producer of Antioquia; it contained around 48 per cent of the cultivated cocoa and 46 per cent of the total production in Antioquia in 2001.

Small production units characterize the structure of cocoa production across the region with about 65 per cent of producers holding less than 10 hectares. Cocoa producers had few resources and low income to invest in their farms and most of the labor is supplied by the family. In 2001, about 1300 families were involved in the cultivation of the crop. There was a lack of organization among producers, however, it is worth mentioning that ASOCACAO, a regional cocoa producers' association operated before the signing of the CA. The educational level of cocoa producers was low; about 90 per cent had primary education or less (Agrocadenas 2002).

Cocoa production in Antioquia as well as in other areas of the country faced a severe crisis during the 1990s due to low prices in the national market, crop diseases, lack of official assistance to producers and resource relocation to other crops, amongst others. There was significant reduction in the cultivated area, from 6209 hectares in 1994 to 4530 hectares in 2000 (MADR 2006). The reductions in cultivated areas, and decreases in production and productivity affected the cocoa activity in the region severely. The competitiveness policies for the agricultural sector and programs such as PROAGRO have promoted the recovery of the crop at both national and regional levels during the last decade.

Map 12.1
Geographical location of Antioquia (Colombia)



Source: This research based on IGAC, 2011.

Before the signing of the CA, most cocoa producers did not carry out primary cocoa processing (fermenting and drying) on their own farms adequately. Average participation in the industrial exports of the chocolate products and confectionery was about 9.9 per cent during the period 1987-2003 (DNP 2007).

Antioquia has become a major player in the country's processed foods production. There is a well-established chocolate industry in the region. The CNC S.A., the largest chocolate firm in the nation is part of the largest economic conglomerate of Colombia; the Sindicato Antioqueno.¹ As part of this organization, the CNC S.A. is a subsidiary of the Chocolates National Group, which was the 8th largest firm in the country in 2005, with assets worth about US\$ 1733 million (Semana 2006).

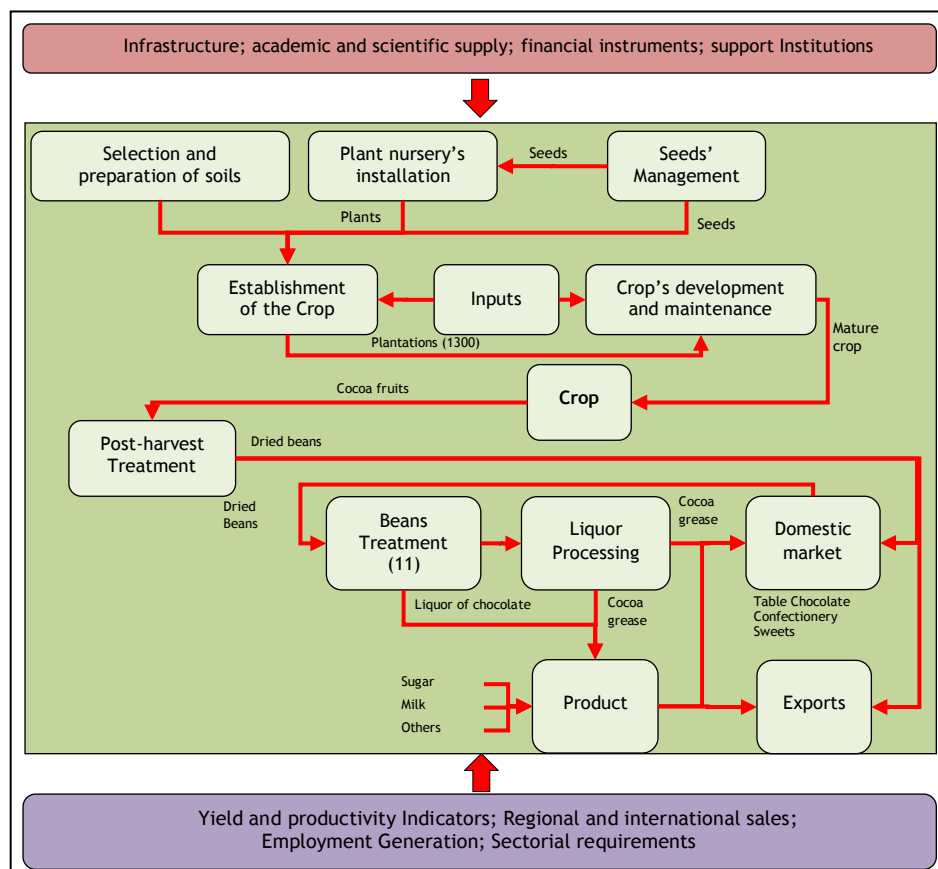
The industry had a strong presence in the region given the location of the headquarters of the CNC S.A. and the participation of Casa Luker S.A. in the regional market. They constituted an oligopsony and concentrated about 90 per cent of the total cocoa purchases in the country. CNC S.A. has a processing plant in Rionegro (Antioquia) and another in Bogotá. The participation of the small chocolate companies in the regional chocolate industry is minimal. Eleven small firms produced mainly table chocolate, had predominantly a craft productive structure and targeted especially the regional market. The largest chocolate firms also concentrate the commercialization of cocoa, chocolate and confectionery. There is no official price control for the commercialization of cocoa. The main companies fix the prices taking into account the international market (Agrocadenas 2002).

12.2 VC's Competitive Challenges and Scope for VC Level Action

The CA for the VC cocoa-chocolate was designed to improve cocoa cultivation and did not have meaningful provisions to develop the small regional chocolate firms, which did not participate in the Cocoa-Chocolate Regional Council for Competitiveness (CCRCC). The CA was mainly concerned with the increase of cocoa production in the region. One strategy was the concentration of cocoa crops in targeted areas where the cultivation had potential for development. Hence, the development interventions (financing, transportation, institutional support,

productive infrastructure, etc.) were focalized or concentrated in the most appropriate areas for cultivation.

Figure 12.1
VC cocoa-chocolate Antioquia



Source: Own elaboration based on MADR-IICA, 2001.

The scope of the CA is largely regional. However, given the presence of the national government in the regional councils for competitiveness and national business interest associations, the scale stretches to the national level in certain issues such as regulations (certification of plant

nurseries), consumption campaigns and crop sanitary campaigns. The regional CA represents the geographical regionalization of the sectoral cocoa-chocolate CA with emphasis on the agricultural sector and is supported by the fact that Antioquia is the major producer of chocolate and other industrial products that use cocoa as their key input.

The public sector action was oriented primarily to the promotion and funding of cocoa productive projects, mainly new sowings in the different municipalities of Antioquia, and the development of roads and other productive infrastructure. The private action related to productivity issues at the firm level. There was no participation from the small producers in the functioning of the CCRCC.

The diagnosis of the VC carried out by CCRCC identified the following categories of problems for the value chain: low productivity of genetic material used in existent crops, lack of organization and association of cocoa producers, insufficient training, transference, technical and entrepreneurial assistance, insufficient basic infrastructure, deficient access to financial instruments designed by the government to support agricultural activity, lack of an information system for the VC and little penetration of external markets (Agrocadenas 2002).

There was scope for collective action in areas such as training, technical assistance, organization of production and distribution of seeds and seedlings; strengthening of the organizational capabilities of producer for the implementation of cultivation projects.² The CA also provided space for lobbying to influence the nature of the agreements reached by the government in the discussion and signing of international trade agreements. Likewise, it was expected that the CA would contribute to the improvement of the social and economic standards of living in the production areas, especially in those with problems of insecurity and armed conflict.

12.3 Competitiveness Agreement (CA)

12.3.1 Main characteristics of the CA

This section presents a synthesis of the central aspects of the configuration process and signing of the regional CA for the VC cocoa-chocolate in Antioquia. The analysis was done between 2002 (year CA signed) and 2005.

Table 12.1
Main problems of the VC and scope for VC level action

Link	Main VC problems (2002)	Scope of VC level action
Cocoa	<ul style="list-style-type: none"> • Low production scale • Old plantations with low density and productivity • Lack of organization and association among producers • Need for more training for skills and entrepreneurial capacities • Insufficient transference and technical entrepreneurial assistance • The regional producers needed greater access to national government incentives (funding and capitalization) • Lack of adequate information systems • Lack of basic infrastructure (roads, public utilities) and production support services in the cocoa zones • Low penetration of external markets • Inadequate sanitary conditions • Insufficient institutional support • Lack price incentives for quality • Armed conflict 	<ul style="list-style-type: none"> • Investments in productive infrastructure • Technological and managerial development of cocoa production units • Training and technical assistance • Development of genetic crop materials • Research and development • Quality certification • Information sharing (i.e. market information) • Production of cocoa under cleaner production schemes • Development of cocoa production projects
Primary processing	<ul style="list-style-type: none"> • Inadequate post-harvest management, lack of appropriate equipment and premises for cocoa fermentation and drying 	<ul style="list-style-type: none"> • Development of collective premises for primary processing
Transportation (cocoa and inputs)	<ul style="list-style-type: none"> • Deficient transportation service in most production areas 	<ul style="list-style-type: none"> • Improvement of road infrastructure • Investment in new transportation vehicles
Industry (chocolate manufacturers)	<ul style="list-style-type: none"> • The SME firms have precarious technology and require product diversification to participate in other national and international markets • Lack of organization and association among producers 	<ul style="list-style-type: none"> • Support to small chocolate firms to undertake processes of innovation in products and services • Technology development and technical assistance • Training for community organization and participation
Distribution and commercialization	<ul style="list-style-type: none"> • Lack of penetration of external markets (the case of small chocolate firms) 	<ul style="list-style-type: none"> • Promotion of export mentality among small chocolate producers

Source: MADR-Agrocadenas Antioquia (2002) CA for the cocoa-chocolate VC in Antioquia.

The vision of the CA stated as a goal the establishment of 6000 new hectares of cocoa, the renovation of 2000 in order to have 10,500 hectares in production in the year 2015. For the same period, the agro-industry aimed to be processing about 55 per cent of the crop. The CA was divided into four main strategies: regional focalization of cocoa development, productive modernization of the VC, social development in productive areas, and external markets penetration. The regional government participated in all of them. Private sector participation came primarily from the largest chocolate companies CNC S.A., Casa Luker S.A. and Fedecacao.

Table 12.2
Main national actors and their roles in the making of the CA

National	Interest in participation in the CA
MADR	It is in charge of the national cocoa policy. It proposes and presents law projects to promote the sectoral development, supports the development of planting material, support research and technological transfer amongst others. The MADR is interested in increasing the supply of cocoa, modernization of the crop and generation of export surpluses.
CORANTIOQUIA	This national public agency is in charge of the execution of policies, plans, programs and projects related to the environment and renewable natural resources. It enforces the laws and regulations on this matter according to the guidelines of the Ministry of Environment. In the particular case of cocoa, it is interested in promoting the consolidation of green market initiatives. It is interested in the reconversion of plantations with productivity problems through cleaner production and green markets. ³ CORANTIOQUIA is involved in a region known as the 'BAJO CAUCA'.
FEDECACAO (National Federation of Cocoa Growers)	Fedecacao administers the resources of the Cocoa National Fund. It is interested in increasing the bargaining capacity of cocoa producers and promoting the creation of producer associations. It is also interested in increasing farmers' income and cocoa production, technological transfers and generation of export surpluses. Moreover, Fedecacao expects to increase coverage of its services at the regional level given that production is geographically dispersed and the organization has budgetary constraints.
ICA	Improve scope and quality of the agricultural research on cocoa and technological transfer. To improve the quality of sowing material and to regulate the production of it, to improve the control of cocoa diseases
Corpoica	Improve the pertinence, scope and quality of the agricultural research on cocoa in the region. Generation and transfer of scientific and technological knowledge in the cocoa crop

Source: This research, Acuerdo de competitividad cadena cacao y su agroindustria Antioquia, 2002.

The main chocolate companies as well as Corpoica, ICA and Fedecacao led the research. Participation of producer associations in the CA was weak given the lack of organization and association of cocoa producers. Fedecacao played a key role in addressing the need for associational culture and organization of cocoa producers during the development of the CA. In addition, NGOs participated actively in the CA as operators of cocoa planting projects in Antioquia such as FUPAD, which carried out cocoa projects in the context of the Alternative Development Plan (PDA) of the Presidency of the Republic of Colombia.

The CA for the VC cocoa-chocolate in Antioquia was part of the first generation of regional CAs signed in the country with the support of the Program of Agro and Livestock Supply (PROAGRO). The CA was signed on 24 November 2002. It was formulated and developed within the framework of the national CA (signed in 2001).

In the context of the national CA, the regional CA represents the geographical regionalization of the CA to emphasize the agricultural sector. The largest chocolate companies support the CA given the fact that Antioquia is host of the CNC S.A., the main producer of table chocolate and other industrial products that use cocoa as their main input.

The main drivers of the cocoa-chocolate VC in Antioquia were associated with both, the interest of the largest companies in increasing the cocoa production and the social policy of the regional government. The latter had interest in employment and income generation for poor rural families as well as implementation of illegal crop substitution schemes and peace efforts undertaken by the national government. The regional CA had the Department of Antioquia (regional government) as the main institutional actor. It had a close relationship with the main chocolate companies, especially the CNC S.A. The regional government also supported the functioning of the CCRCC.

Table 12.3
Main regional actors and their roles in the making of the CA

Regional	Interest for participation in the CA
CORPOURABA	It is the highest environmental authority in 19 municipalities of Antioquia. Its actions are carried out within the context of the guidelines of the Ministry of Environment. This public agency sees in the CA, a way to perform better execution of national policies, plans and programs in environmental matters in the region.
CORNARE	The regional autonomous corporation of the basins of the rivers Negro and Nare is interested in carrying out programs, plans and projects about environment and natural resources in the southeastern part of Antioquia.
CNC S.A.	Increase national cocoa supply and improve its quality. Maintain bargaining power and keep prices steady. Position its chocolate products and confectionery at national and international levels.
Casa Luker S.A.	Increase the national cocoa supply and improve its quality. Maintain bargaining power and keep prices steady. Position its chocolate products and confectionery at national and international levels.
Regional government of Antioquia	Promote its social policies (employment generation, income improvement of cocoa producers), mainly in depressed areas of the region with social and armed conflict.
Local administrations (municipalities)	To promote the socioeconomic development of their municipalities through partnerships with public and private sectors. They see the cultivation of cocoa as an employment and income generation activity as well as a means to promote peace in the region.
ICA	Improve scope and quality of the agricultural research on cocoa and technological transfer. Improve the quality of sowing material, regulate production of it, and improve the control of cocoa diseases.
Corpoica	Improve the relevance, scope and quality of the agricultural research on cocoa in the region. Generation and transfer of scientific and technological knowledge in the cocoa crop.
Regional universities	Finding teaching and research opportunities around the VC.
National Apprenticeship Service (SENA)	Supporting the technological and entrepreneurial development of the VC. Improvement of its training activities by means of coordination with the different links of the VC

Source: This research, MADR-Agrocadenas 'Acuerdo de competitividad cadena cacao y su agroindustria Antioquia', 2002.

12.3.2 Regional council for competitiveness and coordination of the CA

The MADR and Corpoica funded the functioning of the technical secretariat in 2003 and part of 2004 (see appendix 30). However, the regional government had mostly assumed the technical secretariat of the CCRCC.

A number of projects included in the CA stated the specific contribution of several stakeholders. For instance, a productive project to be implemented by Fedecacao and the regional government of Antioquia (Agricultural Secretariat).⁴ The total estimated value of the project was US\$ 294,160 and funding distribution was as follows: 26 per cent from municipalities, 19.2 per cent from cocoa-producers, 8.65 per cent from the Department of Antioquia (regional government), 0.72 per cent from Fedecacao, and 45.4 per cent from Ecopetrol. The Federation of Cocoa Growers (Fedecacao) contributed to the funding of the CA with resources of the Cocoa National Fund and by means of cooperation projects in association with other national and international organizations. USAID and FUPAD participated with productive projects in the region too. The regional government earmarked resources for illicit crop substitution programs in two modalities: first, independently, such as in the case of a project to sow 40 hectares under the productive system cocoa-green banana-rubber in the municipality of Zaragoza. In other projects of the same nature, there were also contributions from USAID, FUPAD, oil production companies and transportation related companies.

The fact that the technical secretariat is in the regional government (Secretariat of Agricultural and Rural Development of Antioquia) indicates the leading role that regional government has played in the CA.

The CNC S.A. has great credibility in the region and good relationship with the regional government, which facilitates the functioning of the agreement. CNC S.A. has facilitated technological transfers and training of cocoa producers. The regional council for competitiveness has not endorsed any project that does not count on the new technological package.⁵

Likewise, CNC S.A. provides resources (money) and training as a response to the requirements of the technical secretariat of CCRCC.⁶

CNC S.A. and Casa Luker S.A. prepare some of the projects for cocoa producers led by the regional council and by the Regional Agricultural Secretariat. Casa Luker S.A. has trained them in a farm called Granja Luker in Santagueda (Caldas). It provides the participants with food, board and training in its farms. CNC S.A. trains producers in its farm in Tamesis (Antioquia). "They provide room, food etc; the only thing that producers have to pay is the cost of transportation."⁷

The other agencies that participated actively in the CA include Corpoica, SENA, ICA and Fedecacao. The presence of Fedecacao in the

region is important for cocoa producers in technological transfer and replaces the lack of cocoa producer associations in many areas of Antioquia. According to Angel Jose Salazar, a technician of Fedecacao, 'there are several cocoa schools in Antioquia promoted by the federation of cocoa growers'. In Tamesis, there are two cocoa schools, each one is formed by 10 cocoa producers, and they accept occasional members. The objective of the cocoa school is 'learning by doing'. Each producer shares experiences, problems, good practices and solutions. It has duration of two years and in some cases, there are problems in transportation, communication and so on.⁸

It is important to point out that there was a great deal of coordination in the CCRCC. The council invited members of NGOs and private firms that were conducting research or carrying out cocoa planting projects, or producing seeds and seedlings to its meetings. The idea was to coordinate activities of the VC and to assure that the different actors in the VC kept the standards and guidelines promoted by the CCRCC. The CCRCC attempted to regulate the operators of projects.⁹ In this sense, NGOs and project operators such as ECOCACAO and FUPAD have socialized their regional cocoa projects in the council, though they are not permanent members of it. The CCRCC tried to identify and register them, unify concepts from the technical point of view and in general, give them guidelines for their activities in the VC.

12.4 Implementation and Developmental Outcomes of the CA

12.4.1 Main activities carried out in the development of the CA

The development of the CA included several activities executed during the period of study (2002-2005) through public-private sector partnerships. It is important to highlight that the commitments reached by the different stakeholders from the private, public and academic sectors were condensed in a matrix of commitments regarding the CA and then signed (appendix 29).

Table 12.4a
Main activities carried out in CA development (2002-2005)

Agricultural Link
<p>Production sphere</p> <p>1. Planting of new cocoa areas Project 'cocoa-rubber corridor' for the Departments of Antioquia and Cordoba. Other cocoa production projects operated by producer associations, NGOs, regional government, etc.</p> <p style="padding-left: 20px;">Private sector: Technical assistance to producers per project Commercialization commitments for cocoa production projects Production of seeds and seedlings</p> <p>2. Organization of production and distribution of planting material (seeds and seedlings) by the CCRCC. The supply of planting material was mainly provided by Fedecacao, CNC S.A., Casa Luker S.A., bi-fabric of Corpoica in the C.I El Nus, Bio-factory of FUPAD (Municipality of Taraza), Granja Santa Barbara (Maceo) and farm Pascuitas (Maceo) (Agricultural Secretariat of Antioquia 2005). Introduction of new sowing material and organization of the distribution of the planting material. Certification of cloning gardens for the distribution of certified seeds to cocoa producers, for example certification of a cloning garden of one hectare located in the premises of Tulenapa (Technical Committee of Uraba 01 April 2005).</p> <p>3. Introduction of new technological packages for cultivation suggested by the CNCC and adopted by all new cultivation projects in the region and made mandatory for projects in which the regional government was participating Promotion of entrepreneurial farming</p> <p>4. Training and upgrading of professionals and technicians who work on cocoa cultivation projects (Granja Luker-CCRCC). Training activity in the Granja Luker in Santagueda (Caldas), 3 days (November 2003) Included, 18 people from Cordoba and Antioquia selected by the CCRCC Training of cocoa producers in Antioquia as well as training in planting materials in Cordoba by the CNC S.A. Training of 110 technicians and agriculturalists of the municipalities of Apartado, Chigorodo, in the cocoa-wood systems (Technical Committee of Uraba 01 April 2005).</p> <p>5. Support services Promotion of VC's work awareness Forum on cocoa cultivation. Apartado (Antioquia) 2005 I Cocoa Departmental meeting (I). Maceo (Antioquia) October 2004 II Cocoa Departmental meeting, Apartado (Antioquia) December 2005 Although this activity has not been originated from the CCRCC, the latter has provided support to it. The cocoa departmental meetings are organized by the sub-regional commission (a public regional level organization)</p>

Source: This research based on reports and minutes of the regional and national Technical Secretariats of the VC Cocoa- Chocolate (Minutes of the technical committee of Uraba).

Table 12.4b
Main activities carried out in CA development (2002-2005)

Agricultural Link
<p>Research projects: Cocoa development plan of Antioquia (Regional Agricultural Secretariat) Inventory of cocoa production projects (Technical Committee Uraba) Document: 'The vision of the cocoa activity in Uraba' (Technical Committee of Uraba)</p> <p>Formulation of projects: Research project on planting material collection (CORPOICA, Fedecacao) Monilophthora Roreri in plantations of Antioquia (Universidad Nacional, Medellín) Agricultural Secretariat of Antioquia. Other projects directed by CNC S.A. or joint projects Universidad Nacional-CNC S.A..</p> <p>Credit: Credit meeting with the public banks and cocoa producers to promote awareness about the credit opportunities and public incentives to the crop (organized by the CCRCC) Use or incorporation of public incentives to the crop (ICR, FAG)</p> <p>Contract agriculture: CNC S.A. and Casa Luker S.A. got involved in credit schemes as part of government programs. The companies signed a commitment letter that was used to prove that the harvest was already sold by the cocoa producers</p> <p>Infrastructure: Construction of roads and improvement in electricity (regional government)</p> <p>Planning: Zoning of the agro and livestock of the Department of Antioquia (Atlas)</p> <p>Training in planting, 40 producers (Technical Committee of Uraba) Technical and entrepreneurial training of cocoa producers involved in the different projects (SENA) Training cocoa school (Fedecacao) Training in cocoa grafting for projects that were being implemented and had been co-financed by the Department of Antioquia (Fedecacao) Agro forestry model 'rubber-cocoa' (Corpoica through agreement with the regional government (Agricultural Secretariat) (Minutes of CCRCC, 28 February 2005)</p>
Industrial Link
<p>Chocolate industry</p> <p>No meaningful activities were carried out in the industrial link since the CA concentrated mainly on the cocoa production link.</p>

Source: This research, reports and minutes of the regional and national Technical Secretariats of the VC Cocoa-Chocolate (Minutes of the Technical Committee of Uraba)

There was a supply deficit of seeds and seedlings given the large demand for planting materials because of the new projects promoted in the context of the CA. However, the CCRCC facilitated the coordination and information exchanges among the different agencies and project operators such as FUPAD in relation to the availability and supply of planting material, which was fully utilized.

There was a clear coordination of training activities with the largest chocolate companies according to the guidelines agreed on in the competitiveness council. Likewise, this coordination was extended to the distribution of planting materials; for instance, Casa Luker S.A. and CNC S.A., which are great producers of vegetable material, gave preference to the projects that were registered or were part of the programs coordinated by the CCRCC. Finally, there was also a comprehensive coordination between the regional and sub-regional technical committees.

Fedecacao is the main organizer of cocoa producers' despite the fact that the regional government has promoted development of the crop. The cocoa producer associations participated more in the regional technical committees such as in the case of Uraba.

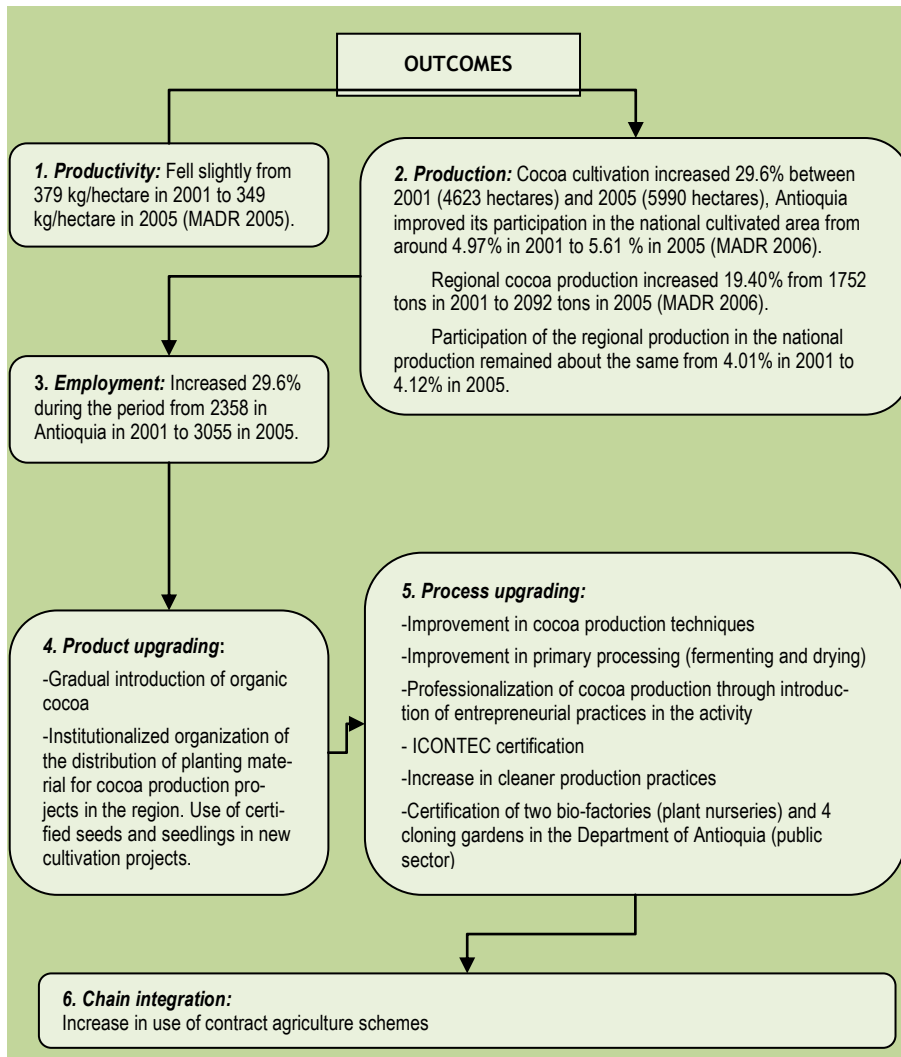
A cocoa farmer from Tamesis explains the different angles of the CA:¹⁰

I went to a demonstration farm in SANTAGUEDA-Casa Luker S.A. Likewise; I went to a Cocoa Congress in 2003 with the presence of the Ministry of Agriculture, where the utilization of clones was proposed... I had hybrids that were more than 25 years old. In addition, I had visited the farm of the CNC S.A. I began planting clones with better seeds, and then I have 3200 clones and 4000 hybrids. At some point, I am planning to substitute the old hybrids. In addition, Fedecacao has helped me with one-hectare project (plastic bags, seeds, some inputs and planting). Fedecacao has been steadier than CNC S.A. in the region.

12.4.2 Main Developmental outcomes of the CA

This section analyses the main outcomes of the CA. It takes into account the perception of members of the CCRCC and of cocoa and industrial producers of the region.

Figure 12.2
Main developmental outcomes of the CA of the VC Cocoa-Chocolate in Antioquia



Source: This research.

It is important to point out that the CCRCC enhanced the institutional role of ICA in control of planting material to the point that certifi-

cation of the units in charge of producing and distributing seeds and seedlings was implemented. Likewise, the CA promoted the use of planning material from cloning gardens certified by ICA. Another important contribution of the CA was the attempt of the CCRCC to coordinate new cocoa cultivation projects including setting guidelines, identification of project operators and information sharing about the development of those cocoa exploitations.

The developmental outcomes of the CA directly benefited cocoa producers. The testimony of Pedro Antonio Velez¹¹ who participates in the project (cocoa-rubber cord) is an example of that.

I cultivate 12 hectares, 10 with traditional hybrids and 2 with new clones. I produce cocoa, coffee and green banana. As a result of the CA there has been more coordination among the organizations that promote the crop in the area. I have access to credit with incentives from PROAGRO. There has been more support now from Corpoica, ICA and Fedecacao.

The next sections discuss the influence of the VC and regional characteristics on the developmental outcomes of the CA.

12.5 Value Chain Factors and the CA

12.5.1 Input output structure

The characteristics of raw cocoa influenced the developmental outcomes of the CA.¹² Given that cocoa is a long-term cultivation product; the investment embodies higher risks for agro-producers. Hence, there is a need for vertical coordination, which strengthens the agriculturalists ability to access credit and reduce uncertainty by assuring a market for their products. All of these issues are necessary to maintain the attractiveness of investments in this crop and guarantee profitable returns to the investments made by cocoa producers.

Domestic cocoa prices were volatile and influenced by international prices, given that it is a commodity widely traded in the international market. However, since there was a cocoa supply deficit in the domestic market and the chocolate companies could not get cheaper quality cocoa in the international market, they were willing to support the CA to increase production and the quality of domestic cocoa.

The cocoa regional and national markets have an oligopsonistic structure. Most of the raw cocoa produced in the region is sold to the larger

chocolate companies. CNC S.A., which has its headquarters in the region, and Casa Luker S.A. set the final price. Given the interest of the largest chocolate companies especially of CNC S.A. in increasing both qualitatively and quantitatively the regional cocoa supply, this factor influenced the development and outcomes of the regional CA positively. Conversely, the oligopolistic market position of the largest chocolate firms prevented them from cooperating with the small, regional cocoa-processing industries.

Finally, it is important to point out that an oligopsonistic market position promotes cooperation with the agricultural links in a CA, though; the same market position reduces the likelihood of cooperation with the SME industrial link.

12.5.2 Governance

According to a member of the CCRCC, 'the chain has both sun and shadow. In other words, it has two clearly defined sectors: on the one hand, cocoa production and on the other transformation and commercialization (managed by two firms with too much power)'. What can manage the cocoa regional council has to be with the shadow (production), the other things are a competence of the big enterprises'.¹³

The dominant position of lead firms (CNC S.A. and Casa Luker S.A.) in the market allowed them to position their agenda in the discussion and signing of the competitiveness agreement. CNC S.A. promoted the expansion of cocoa cultivation in the region to increase its regional sourcing of raw materials and improve quality of raw cocoa supply. The need of the chocolate companies to penetrate external markets increased coordination with cocoa producers to meet quality and other standards set by external actors and thus influenced the CA positively.

The activities included in the CA that target the agricultural sector were also in the interest of the largest companies. For example, the technicians of Fedecacao helped awareness (promotion) of agronomic crops and good agricultural practices. It supported the coordinating role of CNC S.A. since it could not carry out cocoa production fostering activities farm by farm, because it has only six engineers in the entire country.

The most important form of coordination of the VC is directed network. This factor affected the developmental outcomes of the CA positively given that most of the outcomes were in the interest of the leading

firms. The regional government, Fedecacao and the largest companies supported the increased cocoa production and improved quality.

There were institutionally established incentives for higher qualities. However, since the largest chocolate companies owned the laboratories, according to the cocoa producers there were obstacles for the adequate fulfillment of the ICONTEC norm. The main incentive offered by the largest companies was to incorporate cocoa producers as special suppliers to the chocolate companies. As pointed out by a cocoa producer from Medellin, there were no clear incentives for the cultivation of organic cocoa and other high quality cocoa varieties. 'If the farm is cultivated with organic cocoa, there are no premiums (price differentials) until it is officially certified. Generally, there are no processes of certification because they end up much too expensive for producers'.¹⁴

12.5.3 Systemic efficiency

This factor influenced the CA positively. The growing internationalization process of the key regional chocolate industry (CNC S.A.) and of Casa Luker S.A. was a driving factor for the companies to support modernization of the agricultural sector in the context of the CA given their need to produce differentiated and highly competitive industrial chocolate goods. Since the core source of cocoa supply to chocolate companies was the domestic market, the chocolate firms fostered development of new crops technically exploited to satisfy their demands for this raw material.

The need for efficiency gains along the VC was clearly stated by the National Director of Purchases and Supplies of CNC S.A.:

The competitiveness agreement was important since it integrated organizations such as Fedecacao, Corpoica, SENA and Universities around the chain; hence it allowed the generation of synergies, which was important in regards to the promotion of cocoa development in the region. The company participated in the agreement through contract agriculture schemes (the company issued letters of intention to purchase the cocoa harvest to producers' associations). This certification is important for agriculturalists to access institutional credit and to be able to undertake new cultivations. The company also provided technical assistance and supplied planting material to cocoa producers at cost price.¹⁵

12.6 Regional Factors and the CA

12.6.1 Regional development trajectories (regional business system)

The contribution of the regional business system to the CA was high (see table 12.5). The location of the main links of the VC in Antioquia played a positive role in the developmental outcomes of the CA. The main headquarters of CNC S.A. are located in the region. According to Juan Fernando Valenzuela, 'the cocoa-chocolate chain has been more dynamic in URABA and Magdalena Medio (Antioquia) than in other parts of the country.' There is a direct relation between CNC S.A. and the Agricultural Secretariat of Antioquia with the purpose of widening the agricultural frontier. The company is supporting ambitious cocoa programs in the Cordon-rubber-cocoa, which encompasses from northeastern Antioquia to the Uraba Region (part of Zaragosa, Nechi, Maseo) up to the northern part of Antioquia through Cauca, reaching Arboletes and some areas from the Department of Cordoba.

Table 12.5
VC cocoa-chocolate in Antioquia, Regional Business System and the CA

Trajectory	Nature of the firm and inter-firm relations	Articulation state-firms	Contribution of the RBS to the CA
Towards a modern industrial and financial conglomerate	Antioqueño entrepreneurship Export orientation Strong competition along with solid cooperation schemes Fluid inter-firm relationships (joint efforts)	Strong government with financial and administrative strengths and a comprehensive institutional endowment Public-private partnerships-culture High technological support through business incubators, technological development centers, solid financial conglomerates High support to the CA	High

Source: This research.

From this experience, it can be stated that the location of the headquarters of the VC governor in the region including its factories provides special conditions for cooperation schemes contemplated in the CAs. It fundamentally provides opportunities for collaboration between the regional government and the industrial sector not only based on economic

considerations, but also on social and other issues related to the historic embedding of the firms and their owners in the region. The public-private sector partnership targeted mainly the agricultural link (cocoa cultivation). In fact, this cooperation did not take place between the largest companies and the small chocolate regional firms.

12.6.2 Natural resources

The natural resource endowment of Antioquia provides a large supply of land for cocoa programs. Antioquia is the 6th largest cocoa producer in the country. The yields are likely to increase as new areas consolidate their production activity. The most common cocoa exploitation in the region is an unspecialized smallholding that grows other crops in addition to cocoa. The production is not geographically concentrated; on the contrary, there is a great dispersion of producers around the different areas of the Department of Antioquia (MADR 2002).

The lead firms of the VC cocoa-chocolate in Antioquia do not enjoy natural rents. The leading firms do not have natural rents in the region in the short-term but might enjoy them in the long-term given that some of the new planting projects are specialized in the crop and have an entrepreneurial foundation. CNC S.A. largely supports the CA, since the company wants to develop a regional supply base where its key chocolate manufacturing factory is located.

Since the interest of the largest companies relies on assuring a steady cocoa supply and cocoa production from Antioquia lags behind actual demands of the local industry, they are willing to participate in more than one regional CA. Hence, their decision transcends mere geographical considerations and focuses on the availability of cocoa throughout the main cocoa regional nuclei of the country. For example, despite the fact that CNC S.A. does not have a factory in the northeastern region, it has a strong presence there given the region's large share of domestic cocoa supply.

Another particular regional situation that promoted the cultivation of cocoa in Antioquia was the need to reconvert (substitute) some banana and green banana production areas in the Uraba region (main banana production area in the country) into other production crops such as cocoa, oil palm and livestock. As explained by an aide of the Association of Banana Producers of Colombia, there was a 'loss of competitiveness of

these producers as a result of their low productivity and circumstantially the revaluation of the Colombian peso against the US dollar...'.¹⁶

12.6.3 Regional leadership enabling state

Strong participation of the regional government in the CA had a positive influence in the developmental outcomes of the CA. Antioquia has strong institutional capabilities in terms of the financial and administrative strengths of the regional government as well as of some local ones. In addition, there is an old established cooperation tradition amongst the public and private sectors and participation of civil society in public affairs. The regional government had a strong will to participate in the CA and to commit public resources to its development. The good relationship between the government and the chocolate companies also facilitated the CA.

The role of the government has included the contribution of resources to production projects, support to the functioning of the regional CA as well as its role as Technical Secretariat of the VC through the Agricultural Secretariat of Antioquia. Also, the regional government backed institutionally the issues discussed and approved by the cocoa regional council. For example, it issued a resolution in which the cocoa projects with co-funding from the regional government *must work with material from cloning gardens* certified by ICA. The resources allocated by the regional government to cocoa projects were concentrated on input purchases and training. The Agricultural Secretariat of Antioquia (SAA) conducted supervision of the projects directly to determine adequate allocation of resources. If not, the SAA could even withdraw its resources.¹⁷

All of this shows the institutional support provided by the regional government to the CA. In fact, the Regional Agricultural Secretariat sent a memo to the different operative directors in the different regions of Antioquia in 2005, outlining procedures to operate cocoa projects to receive Department participation and funding. The new cocoa cultivation projects 'should be technically managed under the criteria of the "new technology" suggested by the cocoa production chain's organization at the national level, through the cocoa national council and adopted by technical committee of Antioquia and Cordoba. Those criteria are: Agro-forestry systems: transitory shade cocoa, permanent shade cloned cocoa

(implanted), high planting densities (1100-1200 trees/hectare), fertilization programs, sanitary management programs and weed control programs. It is also defined by the National Council and the Departmental Technical Committee that the planting material should be produced in bio-factories and cloning gardens duly certified by ICA'.¹⁸

Although the regional government of Antioquia through the Agricultural Secretariat had an important role in the CA, the institutional development of the region provided opportunities for more participation of the VC's stakeholders. In this sense, the administrative organization of the cocoa-chocolate VC in Antioquia was different from the traditional scheme of a regional council for competitiveness and a technical secretariat. The CCRCC is seen as the institutional articulator of cocoa development promotion in Antioquia.¹⁹ The regional government contributed to the generation of this environment of trust. Given cocoa cultivation's large geographical spread and dispersion, the CCRCC was decentralized to other areas of the region such as Uraba and Bajo Cauca. These councils had participation of local producers as well as the support of local institutions, and coordinate and report to the main office of the regional council in Medellin. The fact that the technical secretariat is in the regional government premises (Secretariat of Agricultural and Rural Development of Antioquia) indicates the leading role that the regional government has played in the CA.

12.6.4 Violence (armed conflict, illicit crops)

The CA deemed cocoa an important crop in the substitution of illicit crops in the most adequate lands for its cultivation. In fact, some areas of Antioquia have been struck by armed conflict and cultivation of illicit crops for decades. Special mention is made in the CA to areas of social conflict: Uraba, Far West, northeastern Antioquia and Magdalena Medium where in some cases, cocoa has become the only source of revenue and employment for peasant families. The CA has promoted substitution of illicit crops and promotion of licit agricultural products to provide income and employment alternatives to the rural population in some areas of the Department affected by this phenomenon (MADR-IICA 2002). These programs receive financial support from the national, regional and local governments with the support of international organizations and NGOs.

The regional and municipal governments of Antioquia played a proactive role, contributing resources to cocoa production projects. They co-funded projects especially in areas with armed conflict and the presence of illicit crops. During the first semester of 2005, the regional government was involved in cocoa projects in 22 municipalities of Antioquia. It contributed around US\$ 1 million, equivalent to 21 per cent of the total costs of those projects. The remaining resources were raised by co-funding schemes with municipal administrations (11%), communities (60%) and other sources (8%).²⁰

The specific regional characteristics in terms of armed conflict and illicit crops facilitated the influx of resources to the development of cocoa projects. The following are examples of that trend. First, about 600 hectares were cultivated in the context of the Forester Families Program. About 200 hectares were part of the program Colombia Forest. CORPOURABA supported the project and provided accompaniment.²¹ Two, a project to cultivate 500 hectares of cocoa over four years included 125 producers. The project's beneficiaries are composed of demobilized members of the Bloque Bananero paramilitary group, displaced families and small producers settled in the sub-region.²²

12.7 Quality of the CA

12.7.1 Policy Process Effectiveness of the CA

Based on the selected criteria, the CA of the VC cocoa-chocolate in Antioquia was classified as 'intermediate' (see appendix 34).

The formulation and development of the CA was characterized as having an average quality of commitments and an average degree of achievement (see appendix 31).

The composition and dynamics of the regional council for competitiveness in the CA of the VC cocoa-chocolate in Antioquia had an average technical secretariat. It had intermittent funding problems, which threatened its continuity and hindered its normal operation. Second, the CA had an average regional council; most of the participants did not have decision-making power. Finally, the council of competitiveness had an average dynamism. There was intermittent periodicity in the meetings, appointment of technical committees, average information flows, insufficient awareness about the CA, and asymmetrical degree of commitment

among the members of the regional council (see section 9.3 and appendix 32).

The life cycle of the CA of the VC cocoa-chocolate in Antioquia had an average trajectory. The CA followed a trajectory that included signing of CA-partial fulfillment of the CA's goals (between 31 and 60%), dissolution of technical secretariat and loss of functionality of the RCC (see appendices 32 and 33 and section 12.3).

12.7.2 Relevance of the CA

Based on the analysis of the CA through the selected criteria the CA of the VC cocoa-chocolate in Antioquia was classified as high for the development of the VC and the region (see appendix 38).

Characteristics of outcomes: The VC cocoa-chocolate in Antioquia received a high score on this indicator, which means that most of the outcomes of the activities carried are related to the goals of the CA (see section 12.4.2 and appendix 35).

Contribution to corporate goals: The VC cocoa-chocolate in Antioquia received a high score on this indicator, which means that the activities conducted during the CA fully supported the achievement of corporate goals of agricultural and industrial producers (see sections 12.4.1 and 12.4.2 and appendix 36).

Improvements in VC coordination. The regional council had an average dynamism and there were few events (program, projects and campaigns) of coordination among different links of the VC (see sections 12.4.1 and 12.4.2 and appendix 37).

12.7.3 Synthesis

The competitiveness agreement of the VC cocoa-chocolate in Antioquia had an intermediate policy process effectiveness, was highly relevant and in the aggregate can be considered an average CA (see table 12.6).

Table 12.6
Summary: Quality of the Competitiveness Agreement

Evaluation criteria Relevance	Policy Process Effectiveness		
	High	Intermediate	Low
High	Outstanding	Cocoa-chocolate Antioquia Average	
Intermediate		Less than average	Poor
Low			

Source: This research.

12.8 Concluding Remarks

The CA of the VC cocoa-chocolate in Antioquia was mainly concerned with the increase of cocoa production in the region.

The most important regional factors that contributed to the formulation and developmental outcomes of the CA related to the comprehensive institutional setup in Antioquia and the presence of armed conflict and illicit crops in the region. These factors have prompted the development of cocoa projects in Antioquia with the support of NGOs, Fedecacao and funding from regional, national and international sources.

The specific regional characteristics in terms of armed conflict and illicit crops have facilitated the influx of resources to the development of cocoa projects. The availability of adequate natural resources provided an adequate factor for the undertaking of cocoa projects.

This case shows a financially and administratively robust regional government with a strong will to participate in the CA based on its social agenda. Although the regional government through the Agricultural Secretariat had an important role in the CA, the institutional development of the region provided opportunities for more participation of the members of the VC. In this sense, the administrative organization of the cocoa-chocolate VC in Antioquia was different from the traditional scheme of a regional council for competitiveness and a technical secretariat. The CCRCC is the institutional articulator of the cocoa development promo-

tion in Antioquia.²³ The regional government contributed to the generation of this confidence environment. Given the large geographical spread of cocoa cultivation and its dispersion, the CCRCC was decentralized to other areas of the region such as Uraba and Bajo Cauca. These councils have the participation of local producers, the support of local institutions, and they coordinate and report to the main office of the regional council in Medellín.

Institutional support provided by the regional government to the CA shows how the regional councils for competitiveness can become policy advisors to the regional government and important meso-level institutions at the regional level. The latter has the potential to enhance the work of the council by institutionalizing its decisions at the regional level through available legal, financial and administrative tools.

VC factors also played an important role in the formulation and developmental outcomes of the CA. Since cocoa is a long-term cultivation crop, investment embodies higher risks for the agro-producers. Hence, there is need for vertical coordination, which strengthens the agriculturalists ability to access credit and reduce uncertainty by assuring a market for their products. All of these issues are necessary to maintain the investments in this crop and guarantee profitable returns to the investments made by cocoa producers.

Notes

¹ The Sindicato Antioqueño (Grupo Empresarial Antioqueño) is the largest entrepreneurial group in Colombia. During the last decade, it has concentrated its economic activity in three main sub-groups: meals, cement and finances. The group is organized into three holdings: Inversiones Nacional de Chocolates (National Chocolate Group), Cementos Argos, and Suramericana, which constitute the investment matrices for their respective groups. The Grupo Empresarial Antioqueño has adjusted and taken advantage of the economic internationalization of the Colombian economy. It has established alliances with other international firms and has bought other firms in Latin America to support its expansion plans.

² Minutes of technical committee of the chain, December 2003.

³ Edgar Vélez D. (CCRCC Minutes, 6 November 2005).

⁴ Project of technological improvement of 122 cocoa producers through cultivation of 122 hectares in the municipalities of Maceo, Remedios, Yali and Puerto

Nare (Antioquia) (Agrocadenas Antioquia, 'Acuerdo de Competitividad -cadena cacao y su Agroindustria', 2002).

⁵ Interview with Luis Fernando Valenzuela, Sales Executive Manager of CNC S.A., Medellin, June 2006.

⁶ Interview with Jorge Vasquez (Agriculture Secretariat of Antioquia) June 2006.

⁷ Interview with Jorge Vazquez, June 2006, Medellin.

⁸ Interview with Angel Jose Salazar, Technician of FEDECACAO Tamesis (Antioquia), July 2006.

⁹ Project operators are organizations that administer the cocoa production projects and conduct technical assistance. Ecocacao is one of the strongest NGOs that work in the region. They keep the norms of the committee and have cocoa projects in different municipalities of Antioquia.

¹⁰ Interview with Mario Escobar; Tamesis (Antioquia), 12 July 2006.

¹¹ Personal interview with Pedro Antonio Velez, Medellin, 14 July 2006.

¹² The joint action in a value chain is influenced by characteristics of the product in terms of quality, expiration, instability in prices and production (CORPOICA 2000).

¹³ Personal interview with a member of the RCC of the value chain, Medellin, July 2006.

¹⁴ Personal interview with an agriculturalist from Medellin, 12 July 2006.

¹⁵ Personal interview with Juan Fernando Valenzuela, National Director of Purchases and Supplies of CNC S.A., Medellin, 10 July 2006.

¹⁶ Ingeniero Marco Tulio Calvo Sánchez, Asesor de la Presidencia de AUGURA (Minute CCRCC, 28 March 2005).

¹⁷ Personal interview with Alejandro Vazquez, Technical Secretariat of the RCC for the value chain cocoa-chocolate in Antioquia, 2006.

¹⁸ Personal interview with Sergio Trujillo Turizo, Secretary of Agriculture and Rural Development of Antioquia, Medellin, 16 August 2005.

¹⁹ Minutes CCRCC, Medellin, 28 February 2005.

²⁰ Personal interview with Fernando Alberto Arango Díaz (Secretaria de Agricultura y Desarrollo Rural de Antioquia). Acta comité técnico regional cadena agroalimentaria del cacao Antioquia-Córdoba, 8 July 2005.

²¹ Cocoa technical committee of Uraba, 26 August 2005.

²² CCRCC Minutes, 30 September 2005.

²³ Minutes of the CCRCC, Medellin, 28 February 2005.

13

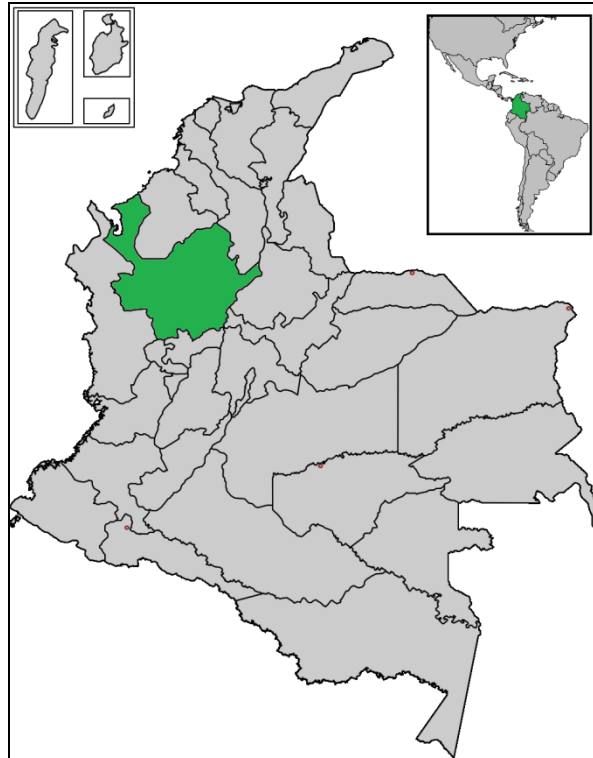
Case Study 5: The VC Dairy Products in Antioquia

During the last two decades, Antioquia has become a major player in Colombia's processed food production. The localization in the region of two of the largest dairy processing firms in Colombia (Colanta and Proleche-Parmalat), and the outstanding production of raw milk in the region are in part, accountable for this performance. The dairy VC has softened the socioeconomic crisis in the northern and eastern parts of Antioquia, and above all, has contributed to employment and income generation in both rural and urban areas of the region (MADR-IICA 2001: 18).

13.1 Structure of the Regional VC

It had the following links in Antioquia: livestock (raw milk production), agro-industry, pulverization and raw milk processing (pasteurization, fabrication of cheese, butter, milk cream, yogurt and kumis, lacteous products in general) and retailing. In 2000, there were about 16,000 raw milk producers dedicated to the livestock specialized dairy production (80%) and double purpose livestock (20%) (MADR-IICA 2001). Given the nature of this agro-food processing VC, exchanges and coordination events between the links were common even before the CA considering that Antioquia is the main location of the largest milk cooperative in Colombia and one of the largest in Latin America (Colanta). Despite the fact that the latter did not support the CA in Antioquia actively, it played an important role in the daily business of the VC to the point that it claims to have its own VC (MADR-IICA 2001).

Map 13.1
Geographical location of Antioquia (Colombia)



Source: This research based on IGAC, 2011.

Antioquia is the second largest milk producer in the country. In 2002, it produced 969.8 million liters of milk, 16.2 per cent of the national production. Although the production took place in the whole region, there was important fresh milk production in the *northern* and *southern* areas of Antioquia, which in 2001 and 2002 accounted for 74 per cent of regional production (Gobernación de Antioquia 2004). Milk production spread through large productive areas of the region. ‘The specialized dairy farms and the double purpose livestock stretches along one area of 1,092,000 hectares, which represent 39% of the total area allocated for grass and crops’ (MADR-IICA 2001: 21).

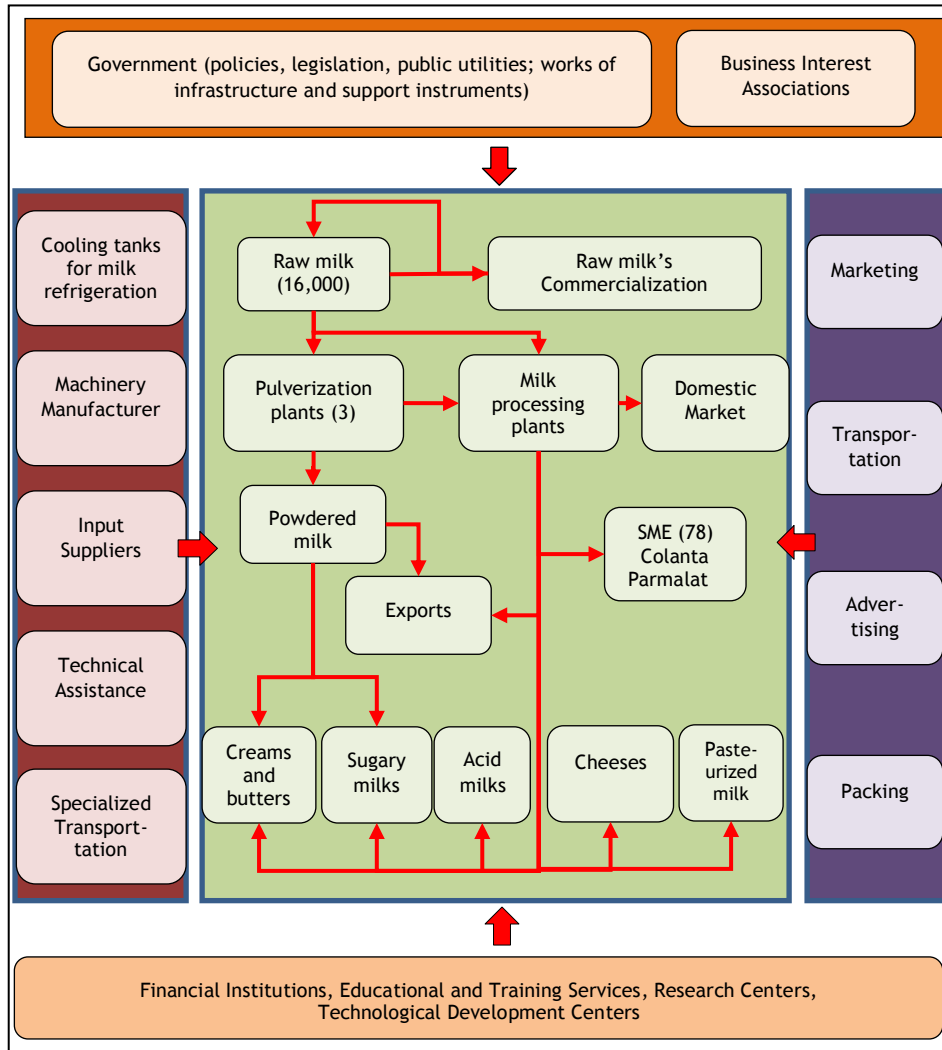
The northern part of Antioquia is the most important producer of milk in the Department and contributes 7.3 per cent of the total annual supply of milk in the country. There were other firms in different places in Antioquia, mainly the 'Magdalena Medio' where milk is commercialized by the big enterprises and Colemma (a cooperative of milk producers). There is a large presence of intermediaries of raw milk. In 2000, there were about 16,000 raw milk producers dedicated to livestock specialized dairy production (80%) and double purpose livestock (20%) (MADR-IICA 2001).

The dairy industry in Colombia is a growing sector with increasing exports. In 2002, the major milk pulverizers in the country were Colanta, a domestic dairy cooperative based in Antioquia with 40.2 per cent of the total production of powdered milk and two multinationals—Nestle-Cicolac (24.1%) and Proleche-Parmalat (16.1%). These firms concentrated about 80.4 per cent of the total national production consolidating an oligopoly since there were around a dozen firms in this link (IICA 2005). Colanta pulverized an average of 750,000 liters per day in 2002. Its production is distributed in two plants. One is in Planeta Rica (Cordoba) and the other in San Pedro de los Milagros (Antioquia) (Agrocadenas 2005). In 2003, the number of firms dedicated to the milk industry in Colombia was 1067. Antioquia had 82 firms and 7.7 per cent of the participation ranking 4th after Cundinamarca, Valle and Boyacá (MADR-IICA 2005). The most important firms in Antioquia are Cooperativa Colanta, Proleche-Parmalat and 'Cooperativa Lechera de Uraba' (COLUR), which commercializes most of its milk with Proleche-Parmalat.

The dairy processing firms performed different functions within the VC and in some instances were integrated vertically, as is the case of Colanta, a large cooperative from the region. Conversely, craft industries were localized in rural areas or small cities and generally utilized low technology (IICA 2001: 44).

A large number of small milk producers trade with the largest agro-industrial enterprises. In certain areas of Antioquia, there is substantial presence of intermediaries of raw milk. The main industrial firms have a well-positioned brand and a well-established system of distribution. Colanta has a commercializing network that integrates 50 agro and livestock stores in the country. The big supermarkets are positioned in this segment of the chain as well (IICA 2001).

Figure 13.1
VC dairy products in Antioquia



Source: MADR-IICA (1999, 2001). Acuerdo de competitividad de la cadena láctea de Colombia (1999) y Acuerdo de Competitividad de la cadena Láctea Antioquia (2001).

In short, at the regional level, industry is the most developed link and has an oligopsonistic position in relation to the livestock link. Most of the

milk demanded by the industry is of national origin. The main industrial firms have positioned brands and important channels of commercialization. Small entrepreneurs in both agriculture and industry have less influence in the market than the larger firms of those sectors do. The demand for raw milk is essentially regional and is carried out primarily by regional industry. Regarding processed milk, some firms sell locally, some sell regionally while others sell on the national market. Exports are primarily for the biggest firms: Colanta and Proleche-Parmalat (powder milk, cheese cream and evaporated milk) (IICA 2001).

13.2 VC's Competitive Challenges and Scope for VC-level Action

During the 1990s the dairy products VC was facing several challenges associated with increasing pressure to become more competitive to face international markets due to state liberalization policies. The main stakeholders of the regional VC were interested in increasing their competitiveness while fully recovering from the economic crisis amidst the opening of the Colombian economy. The industrial sector was particularly interested in strengthening raw milk production and improving its quality. Nevertheless, price setting was a very divisive issue because the milk industry was interested in price fluctuation according to market signals, while raw milk producers wanted institutional price regulation, to protect them from seasonal supply situations and unfair practices derived from the commanding market position of the industry.

Before the CA, the raw milk production structure was heterogeneous in scale and technology and characterized by the preponderance of small livestock producers who traded almost exclusively with the largest agro-industrial enterprises. The raw milk producers had many expectations in regards to their participation in the CA but largely the raw milk producers wanted institutional price regulation to protect them from seasonal supply situations and unfair practices derived from the commanding market position of the industry.

The dairy products VC in Antioquia faced several main competitive challenges before the CA. First, the need for milk processing firms to prepare to participate in the TLC (Free Trade Agreement with the US), once it was approved. This issue implied the promotion of milk production upgrading given that it needed to have more protein and solids and

there needed to be widespread use of cooling tanks for milk collection. Hence, there was growing pressure for a segment of milk producers to certify their production since the industry was demanding quality for the fabrication of spin-offs such as kumis, yogurts and cheeses.

Another challenge was to maintain the territory free from hoof and mouth disease, brucellosis and other cow diseases, through vaccinations and good production practices. It had been one of the key problems for the national dairy industry to export and increase its participation in the international market.

To determine prices and adequate market functioning, there was a need to develop a concerted price system among the VC stakeholders, especially between the industry and the raw milk producers. The national CA had already set that priority and counted on the support of MADR to implement it. Likewise, an independent laboratory for testing the milk quality was needed to promote transparency in the determination of raw milk prices, hence in the relationship between raw milk producers and industrial processors.

Fourth, the regional government regarded the CA as an instrument to promote its social policies (employment generation and income increases for producers) mostly in depressed areas of the region with tradition or potential for milk production. Alternatively, the key actors of the VC expected to focus efforts on sub-regions with high productive potential instead of dispersing efforts and resources in other areas. The administration of Colanta was sympathetic to the regional government's position. Such was not the case with some producers; members of the cooperative felt that it should be managed as a modern private firm and not as an appendix of the government for its social policies.

The diagnosis of the VC carried out by the Dairy Product Regional Council for Competitiveness (DPRCC) identified the following categories of problems for the VC: training, information systems, sustainable development, supporting infrastructure to production, distribution and consumption, quality, costs and inputs, prices, quality and functioning of the dairy market and penetration of foreign markets (IICA 2001: 9) (see table 13.1).

Table 13.1
Main problems of the VC and scope for chain level action, 2001

Link	Main problems of the chain (2000)	Scope of chain level action
Livestock (Raw milk)	<ul style="list-style-type: none"> • High production costs including inputs • Low labor technical level • High incidence of inputs, inadequate use of them and high prices • Low milk hygiene quality • Inadequate use of soil and low productivity by unit of area • Little utilization of technological and market information systems • Low utilization of management tools • Deficiency in support infrastructure for milk production 	<ul style="list-style-type: none"> • Development of support infrastructure for dairy production • Structuring and development of a cleaner production agreement • Develop a new price scheme • Quality improvement • Development of quality certification laboratories • Purchase of inputs to different links at the regional level • Marketing and commercialization schemes • Research and development • Development of physical infrastructure • Training (human resource development) • Technology development & technical assistance • Milk collection centers • Infrastructure of milk cooling and management (refrigeration infrastructure for the production sector)
Industry (Milk processing industry)	<ul style="list-style-type: none"> • High production costs • Little product diversification • Lack of export capacities excluding powdered milk (Colanta and Parmalat) • Cases of obsolete equipment • Seasonal consumption "The milk supply in Colombia is characterized by its marked seasonability; there is a period of scarcity during the first months of the year; and surpluses during the second semester. It depends upon the rain behaviour" (Suarez 2001: 47). 	<ul style="list-style-type: none"> • Structuring and development of a cleaner production agreement • Training (human resource development) • Development of an information center for the dairy VC • Diversification of industrial production • Reduction of processing costs of industry • Market intelligence • Innovation and updating of equipment • Certification of production • Collecting centers for cold or processed milk • Purchase of inputs to different links at the regional level
Transportation (Dairy farm to industrial plant)	<ul style="list-style-type: none"> • Deficient road conditions • Obsolescence of transportation tracks and deficient cooling temperature • Lack of training for personnel in charge of recollection and transportation 	<ul style="list-style-type: none"> • Development of physical infrastructure • Updating of transportation trucks • Training for truck drivers
Distribution and Commercialization	<ul style="list-style-type: none"> • Deficient cooling infrastructure and its inadequate management • Deficient marketing capacity for processors and distributors • Collecting centers for cold and processed milk • Quality and functioning of lacteous markets and penetration of external markets 	<ul style="list-style-type: none"> • Market studies • Training for milk management • Implementation of cold for the distributors • Intelligence and marketing logistics • Penetration of external markets • Promotion of dairy culture and higher consumption • Marketing capacity of processors and distributors

Source: MADR-IICA (2001) 'Competitiveness Agreement for the Dairy Products VC in Antioquia'.

13.3 Competitiveness Agreement (CA)

13.3.1 Main characteristics of the CA

This section presents a synthesis of the main aspects related to the configuration process and signing of the regional CA for the dairy products VC in Antioquia. The analysis is for the period 2001 to 2004, the year in which the CA lost dynamism given that the council did not have the physical space to operate after 2004 when the contract with MADR-IICA ended.¹

The CA for Dairy Products in Antioquia was part of the first generation of regional agreement signed in the country. The regional agreement was formulated and developed within the framework of the national CA (signed in 1999).²

The regional CA had Fadegan and Asoholstein as the main institutional actors. They were mainly associated with livestock and raw milk production. These were national institutions with a strong presence at the regional level. There was less participation from the milk processing industries after implementation of the CA. It is important to point out that the national CA had better participation and contributions from the business interest associations of the raw milk production and processing firms. Such as with Acoleche, Analac, Fedecoleche, Fedegan and ANDI that contributed to the functioning of the national council.

The main drivers of the VC in Antioquia were associated with the raw milk production instead of the industrial firms. The regional government also had an important role in the CA. This was not true of the larger dairy processing companies. According to a member of the regional council, 'Colanta participated in the regional council with observers, they did not get involved in the process and were not committed themselves to the process. It is a vertical organization'.³

The regional government (Regional Agricultural Technical Secretariat) played an important role in the development of the CA. It offered logistical support to the DPRCC and participated in the implementation of some of the programs that were considered as a social and economic priority for the regional administration. It had close relationships with the general manager of Colanta. The regional government regarded the CA as an instrument to promote its social policies (employment generation and income increases for producers) mainly in depressed areas of the region with tradition or potential for milk production. Likewise, the

Dairy Products CA promoted the substitution of illicit crops for licit livestock products to provide income and employment alternatives to the rural population in some areas of the Department affected by this phenomenon (MADR-IICA 2001).

Despite the fact that Colanta did not support the CA in Antioquia actively, it fulfilled a key role in the daily business of the VC to the point that it claims to have its own VC. The industrial link of the VC in Antioquia is largely related to the performance of Colanta, which is the largest milk processing industry in the region. It daily purchases about 2 million liters of milk, which account for 13.3 per cent of the 16 million produced everyday nationwide.⁴ The cooperative contributes around 52 per cent of the total milk purchases in Antioquia; it buys all the milk produced by its associates and around 48 per cent of the total of non-associated producers. In addition, Colanta sells around two thirds of the pasteurized milk in the Valle de Aburra (MADR-IICA 2001: 54). The cooperative was created in 1964 in Antioquia, and at present is the leading dairy firm in the country and one of the most important dairy firms in Latin America. Colanta has 11,500 milk suppliers. The cooperative associates around 4,500 raw milk producers and 3,500 employees. Upon signing the CA, Colanta had four milk collecting centers in Antioquia and processing plants where milk was also collected (San Pedro de los Milagros and Medellin). It also had plants in other parts of the country and a pulverizing plant in San Pedro Antioquia (MADR-IICA 2001: 45).

In 2005, Colanta was the 32nd largest company in Colombia. It had an operational income of US\$467,971,014 in 2005 and a loss of US\$ 4,464,207.30, which accounted for a variation of -227 per cent.⁵ Critics of the administration of the company among them Asoholstein pointed out that the company should not become an appendix of the social policies from the government and had to reorganize its administrative and financial practices. The cooperative purchased all the milk produced by its associates without price variation at least until the first semester of 2005 before the government liberalized internal prices. This philosophy also caused a negative balance for the company because the milk surpluses were exported to Venezuela and the US with high losses for the company given the subsidies the cooperative had to pay in order to export product (Semana 2006). In fact according to the company, 'Colanta guarantees the purchase of the total milk production of its associated producers and has been exporting surplus milk since 1998 as: milk pow-

der, evaporated milk, milk cream, cheese, yogurts, and “arequipe” -a caramel spread, among other products’ (ibid).

Table 13.2
Main national actors and their roles in the making of the agreement

National	Interest in participation in the agreement
MADR	Interested in promoting increases in competitiveness of specialized and double purpose livestock raw milk producers. Promotes the establishment of a price system that favors milk production activity and reduces uncertainty for livestock producers.
ASOLECHE (Colombian Association of Milk Processing Industries)	To strive for the interest of the dairy processing industry. Affiliates are mainly medium-size firms (i.e. Lacteos el Recreo S.A. and Alquería). In 2003, ASOLECHE fused with ACOLECHE (Colombian Association of Milk Processors).
FEDECOLECHE	Associates milk processing cooperatives such as COOLECHERA, COLACTEOS and CILEDCO being Colanta by far the largest cooperative to the point that many VC actors see it as representing mostly the interests of Colanta. It defends the price liberty and tends to oppose price regulation agreements.
ANALAC (National Association of Milk Producers)	It represents the interest of milk producers. ANALAC is interested in regulation of the milk market and its spin offs, productivity and profitability increases for milk producers, promotion of consumption campaigns, promotion of good livestock practices, amongst others.
ANDI (National Association of Industrialists)	To strive for the interests of the larger milk processing industries (i.e. Alpina, Parmalat, DANONE). ANDI did not sign the regional CA, Parmalat participates in the DPRCC.
Fedegan (Livestock National Fund)	Support livestock producers to increase their bargaining capacity in their dealing with the largest milk processing companies. The livestock national fund generally is used directly to support the producer’s efforts toward the development of a commercialization infrastructure and of transformation in the producing zones. Likewise, FEDEGAN is interested in organizing consumption campaigns, training programs, vaccination campaigns, technological transfer amongst others (Suarez 1999: 227).
Asoholstein (Colombia’s Holstein Association)	To defend the interest of its affiliates (75), the entrepreneurial milk producers. To empower them in relation to the largest milk processing industries. It affiliates producers with economic and political power, professionals with bargaining capacity. It is closed to Fedegan.
ICA	As described in its new strategic focus, ICA strives for dialogue with the private sector, the sanitary and phytosanitary policies to improve conditions of livestock production, improve coverage and effectiveness of its services.
Corpoica	To promote its institutional programs seeking to strengthen the available resources through cooperation schemes with the government, producers and other VC actors. Generation and transfer of scientific knowledge and provision of technological solutions to the livestock activity.

Source: This research.

Table 13.3
Main regional actors and their roles in the making of the agreement

Regional	Interest in participation in the agreement
FADEGAN (Federation of Livestock Producers from Antioquia)	Support livestock producers to increase their bargaining capacity in their dealing with the largest milk processing companies. The livestock national fund generally is used 'to directly support the producer's efforts towards the development of a commercialization infrastructure and of transformation in the producing zones Likewise, to organize consumption campaigns, training programs, vaccination campaigns, technological transfer amongst others (Suarez 1999: 227).
Asoholstein has great influence in the regional CA	To defend the interests of its affiliates (75), the entrepreneurial milk producers. To empower them in relation to the larger milk processing industries. It connects producers with economic and political power, professionals with bargaining capacity. The Corporation Asoholstein is closely related to Fedegan.
Regional government of Antioquia	To promote its social policies (employment generation and income increases for producers) mainly in depressed areas of the region with tradition or potential for milk production.
Input suppliers (Solla S.A., Finca S.A., Monomeros S.A.)	To be up to date on the current development of the VC (present and likely future demands of inputs from livestock and industrial links). They find it a necessary marketing strategy, which explains the large participation in the DPRCC.
SME regional dairy cooperatives	Improve their bargaining position with larger buyers and increase their productivity by reducing costs amongst others.
Colanta	To assure steady and good quality supply of milk. To maintain their market control and overall control of the VC. They did not participate actively in the regional CA. At the national level, they did it through Fedecoleche.
Parmalat	To assure steady and good quality supply of milk
Regional universities	The following universities participated in the CA: Universidad de Antioquia and Universidad de Medellin. The University of Antioquia was mainly interested in the quality certification laboratory for milk. Once approved it should function in its premises. They were also interested in teaching and research opportunities around the VC.
National Apprenticeship Service (SENA)	To support the technological and entrepreneurial development of the VC. Improvement of its training activities by means of coordination with the different links of the VC.
	Agreement signed (2001).

Source: This research

The CA was divided into three strategy groups: productive modernization, development of internal market and external market penetration. The first group included four strategies: human capital development (training), development of an information system for the VC, sustainable development for the dairy VC (cleaner production), and production sup-

port infrastructure for the VC. The second group included the following strategies: access, distribution and consumption; quality-‘improvement in milk quality’; costs and inputs; regional focus of the dairy production; and prices, quality and functioning of the markets. The third group included as a strategy the development of an export mentality and the correspondent capacities (see appendix 39). Each strategy had a responsible institution(s) in charge of its coordination and a group of partners to carry out implementation of the different issues presented in the CA.

Finally, it is important to point out that the regional CA had only partial participation from Colanta and in this sense, it lost the opportunity to promote a regional dairy products VC that included the entire region, most of the raw milk producers and small and medium milk processing firms.

13.3.2 Regional council for competitiveness (RCC) and coordination of the agreement

The DPRCC was created in 2000 in the context of PROAGRO. The CA was signed in May 2001 at the premises of Proantioquia, Medellin (see appendix 40).

As explained by a raw milk producer from Medellin and member of the DPRCC, ‘while the Dairy Products National Council’s suggests policies to the national government, at the regional level, the Dairy Products Regional Council is the advisory organism of the regional government in lacteous policy.’⁶

The institutional development of the region provided opportunities for more participation of the members of the VC. The administrative organization of the VC dairy products in Antioquia was different from the traditional scheme of a regional council for competitiveness and a technical secretariat. Leon Jairo Osorio member of the DPRCC explained the characteristics of their organization.

The region created a Direction Committee (Board of Directors composed of five members). It was different from the regional council, which was wider in its composition. Most of the members of the regional board were livestock producers and some of them were input suppliers, academicians and VC experts. The Committee of Direction was like a Board of Directors of the DPRCC. It set the guidelines and designed policies. Then, they

were socialized to the whole group (regional council) (Personal interview 2006).

This scheme assured wider participation in the decisions of the dairy products VC in Antioquia.

The regional government (Agricultural Technical Secretariat) played a central role in the development of the CA; it offered logistical support to the dairy products regional competitiveness council, and participated in the implementation of some of the programs that were social and economic priorities for the regional administration. It had a close relationship with the general manager of Colanta, who was also a politician.

In terms of the funding of the agreement, the CA did not state explicitly in the different lines of action and project profiles the specific sum of money that accounts for the contribution of the actors involved in the signing and development of the CA. However, the members of the VC explicitly promised to 'keep the agreements and plans of action defined within the CA framework' (MADR-IICA 2001: 10). The main business interest associations (5) contributed to the functioning of the Dairy Products National Council on Competitiveness (DPNCC); there is also the case of Colanta who paradoxically did not contribute economically to the functioning of the DPRCC. A member of the DPRCC stated that 'there was no direct financial or economic contribution of Colanta to the regional council'. This was an indicator of little interest shown by the firm in both the council and the CA.

The Regional Secretariat of Agriculture offered logistical support to the CA and the MADR earmarked resources for the functioning of technical secretariat during the period of study through a fixed contribution by MADR-IICA (contracts for 6 or 8 months). The DPRCC was located and functioned in the facilities of the Fondo Ganadero (Livestock Fund). According to Oscar Palacio⁷ Technical Secretariat of the DPRCC, 'during the period of the CA Asoleche, Fedecoleche, Fedegan contributed to the maintenance of the secretariat at the regional level. Corpoica was the institution that has had the most clarity in this process'.

The technical secretariat also organized national and international seminars and from them raised some resources. The council also participated in fairs and expositions. The private sector channeled resources for training and technical assistance and developed projects for dairy producers.

Colanta had several conflicts, especially with non-associated milk producers. The regional group of small-scale milk processing industries is organized through Asoleche. As explained by a member of the DPRCC, 'individual processing units are very small and they cannot compete or gain anything on an individual basis in dealing with Colanta. Thus, the small and medium producers are organizing themselves to become a counterpart to Colanta and to become a visible player in the milk production sector'.⁸ The organization of small industrialists in the context of the CA is another example of how the dynamic nature of the CA and the different steps it took led toward a more democratic governance of the VC. Finally, Corpoica, ICA and SENA, de-concentrated sectoral institutions, contributed to the CA since they coordinated their intervention activities with the technical secretariat and in this sense improved their performance.

The next sections discuss the influence of VC and regional characteristics on the discussion and signing of public-private sector cooperation schemes (agreements on competitiveness) and the influence of the VC and regional characteristics on the developmental outcomes of the CA.

13.4 Implementation and Outcomes of the CA

13.4.1 Main activities carried out in the development of the CA

This section presents a synthesis of the main activities during implementation of the CA for the VC Dairy Products Antioquia (see tables 13.4 and 13.5).

The development of the CA included several activities executed during the period of study (2001-2004) through public-private sector partnerships. It is important to highlight that the commitments reached by the different stakeholders from the private, public and academic sectors were condensed in a matrix of commitments regarding the CA and then signed (see appendix 39).

The regional government (Agriculture Technical Secretariat) played a very important role in the CA with several projects and investment in the milk producing regions (see box 13.1).

This particular program was criticized by Corporación Antioquia Holstein; Beatriz Helena Trujillo, Regional Executive Director⁹ argued that

The General Manager of Colanta committed himself to buy the milk the new producers promoted by the regional Agricultural Secretariat, and it was a type of political arrangement. The cooperative had to comply with all of them and in this case, the transportation cost was too high given the bad conditions of the roads. Thus, finally cooperative could not reduce prices even under price liberty schemes. Anyway, he kept the agreement with the politicians to buy milk in inaccessible places where the politicians had made their projects. The incremental milk purchases of Colanta to non-affiliated members of the cooperative in certain junctures caused oversupply, which had to be absorbed by the cooperative. In a scenario of price liberty, the milk surpluses affected the affiliated members of Colanta, since the cooperative had to reduce prices or to export in spite of not being competitive in the international market. In this context, Colanta became part of the political establishment and basically also run the risk to turn out to be an unmanageable firm, because it was not a public enterprise and its main interest was to strive on behalf of its associates and not to become an appendix of the social policies of the government.

Since the new raw milk projects in remote areas depend upon the larger companies buying their product, they are non-affiliated members of Colanta. With that comes considerable transportation costs, the demand depends on political regional issues and in this sense runs the risk of remaining dysfunctional.

Colanta was also criticized from the economic and financial point of view as to its participation in the social policies of the government. The cooperative participated in a leading social program of the government and the ICBF (Colombian Institute of Family Welfare) called MANA. The cooperative sold cheap milk to the Colombian Family Welfare Institute (ICBF) for the program, and this caused important losses in the operative balance of Colanta. The program in 2004 attended about 76 per cent of the 126 municipalities of Antioquia with a coverage of about 100,000 kids less than five years of age registered in the alimentary security plan of Antioquia.¹⁰

As can be appreciated there was an important discussion amidst the conception and development of the CA in terms of what should be the optimal social interventions and economic rationality. The latter analysed in terms of spatial concentration or dispersion of investments and activities; and in terms of the private sector's profit search or social responsibility (example of Colanta). In this case, a group of raw milk producers

of the cooperative raised the issue of whether the members of the cooperative should subsidize the social policies of the government.

Box 13.1
Construction of milk collecting centers

The regional government undertook the construction of milk collecting centers in different municipalities of Antioquia in joint action with milk producers and local governments, including participation of dairy processing firms, particularly Colanta. They were allocated to groups of organized producers (associations averaging 20 members) mainly in remote or less developed areas of Antioquia. As Gloria Bedoya, member of the Regional Agricultural Secretariat, explained, 'in these routes the firms with high economic capacity did not have the chance to transport milk because it was too expensive for them'. Meanwhile in other areas, large and medium producers already had their milk collecting centers. The regional government co-financed these projects under the following scheme. It contributed with the collecting center (equipment and physical structure); the firms trained producers and guaranteed commercialization. The regional government co-financed the project jointly with the municipalities and the group of producers. The raw milk producers who were project beneficiaries contributed the labor costs to build the center. Likewise, municipalities were in charge of the construction material, Colanta and Parmalat (private sector) participated in these projects securing milk purchases. Under this scheme, the equipment and infrastructure used in the projects remain (pledged) and producers have to commit themselves to manage them adequately, so then, with time they may be entitled to property rights on it. The municipality gives the milk-collecting center to the community with a clause that the moment they stop keeping their duties of collecting milk (they do not use it), the municipality can retake it. The government is not responsible for equipment maintenance. Most of these things have been done as part of the CA of the chain. In view of the regional government, the CA worked because of the commitment and obligation of the regional administration. The CA counted on the commitment of the regional administration, which offered to provide the offices for the technical secretariat of the chain. "The regional government has done its homework; the advantage is that it has presence all over the region and counts on resources to co-finance projects and have technicians localized in the regions who are leading these processes. For the regional government the CA was an indicative document-and one of planning. Issues of the CA such as training are included in the Regional Development Plan, (Gloria Bedoya, Interview, 7 July 2006).

Source: This research.

Table 13.4
Main activities carried out in development of the competitiveness agreement 2001-2004 (Livestock link - Raw milk production)

<p>In production sphere 1. Dairy: incorporation of new livestock (specialized and double purpose) to the milk production activity</p>	
<p>2. Genetic research to increase participation of solids and proteins in milk -Transformation of embryos, artificial insemination, imports of new breeds</p>	<p>3. Upgrading -Participation in 'the national plan for the milk quality securing, 2005 with an actualization process through a Web page' (CNCC 2006). -Development of collecting infrastructure; construction of milk collecting centers in remote zones of the region. For example, in 2002, in the municipality of Tamesis, a milk-collecting center was inaugurated for the producer association (ASOTAGRO). A 'cooling tank' had a capacity for 3500 liters of milk and was promoted by the regional government of Antioquia. Collecting centers were established in places where without them, the large and medium-size companies wouldn't be interested because of transportation costs. Incorporation of specialized transportation with refrigeration system (cooling systems) Building of electrical fences in the livestock farms</p> <p>Environmental control Testing for traceability in several farms in the eastern and northern areas of Antioquia. The industry increased the controls to avoid medicines and weird substances in the milk taken to the factories Participation in the regional committee in charge of monitoring compliance of the cleaner production agreement at the level of raw milk producers (Gobernacion de Antioquia 2004) ICA conducted a livestock sanitary program in the region</p> <p>Training Training courses in YARUMAL (zone of guerrilla activity) carried out by Asoholstein. Training campaigns to producers in hygiene's management of milk (UMATA, SADR and SENA) Training programs for cheese production (SENA) Training of raw milk producers in good practices of handling and processing, quality, associational practices with resources of the national livestock fund. Training of small producers in associational issues. Training was conducted by Corporation Antioquia Holstein and consisted of 25 modules. Each training group comprised about 30 small producers of the region (They had to be associated). There was a group in Granada, another in La Union, another in Rio Negro. The funding came from Fedegan (National Livestock Fund), SENA and Asoholstein Antioquia. Value chains academic courses with emphasis on the dairy chain (Universidad de la Salle) Training in sanitary genetics and good practices ICA -Agricultural Secretariat Organization of seminars on 'sustainability of dairy production'</p>
<p>4. Support services</p> <p>Promotion of chain's work awareness Promotion forums of the regional competitiveness agreement for the dairy products value chain Antioquia.</p> <p>Research Formulation of a project in good practices for milk producer in northeastern Antioquia (DPRCCI with the Center for Research and Technological Development of the Meals Industry).</p> <p>Science and technology Identification of technological demands for cattle farms Labor competencies: Constitution of the dairy sectoral board of Antioquia. Originated from the directive committee of the DPRCC (2003)</p> <p>Credit Promotion and training of milk producers to access credit from FINAGRO and benefit from incentives such as the ICR and the Guarantees Fund.</p>	
<p>5. Collective action An important group of milk producers were uncomfortable with Colanta's management practices and undertook collective action with the support of Asoholstein to improve the management practices of it and democratize its administration.</p>	

Source: This research. Reports of the regional and national technical Secretariat of the VC Dairy Products to IICA-MADR. Consejo Nacional Lácteo (2006) Matriz de evaluación del acuerdo de competitividad de la cadena láctea.

Table 13.5
Main activities carried out in development of the competitiveness agreement 2001-2004 (dairy industry - commercialization)

INDUSTRIAL LINK: dairy industry	<ul style="list-style-type: none"> -Organization of meetings to discuss the cleaner production agreement for the dairy products industry -Colanta upgraded two cheese factories and three pulverizers for the production of milk powder -Incorporation of cooling tanks for milk collecting. It was generally allocated by the industry to collective groups -Participation in the national plan for the milk quality securing, 2005 with an actualization process through a Web page (CNCC 2006) -Machinery upgrading -Formulation of environmental management projects -Private action: Colanta provides technical assistance to its associates to promote improvements in three main aspects: soil, grasses and genetics. It has introduced changes in the payment systems to reward the milk with high content of solids. -The Universidad de Antioquia handed in to MADR the project for the constitution of a milk reference laboratory. It is considered a very important project in order to introduce impartial milk analyses, alternative to those performed by the industry. In other words, there was a need for a neutral milk laboratory for the chain. -CORPOICA worked with livestock sector in the improvement of pasture and genetics.
COMMERCIALIZATION	<ul style="list-style-type: none"> Annual food fair, participation of the DPRCC with its own stand <ul style="list-style-type: none"> - Forum: dairy products exporting process, 2003 - Educational day's work on milk consumption with youths

Source: This research. Reports of the regional and national Technical Secretariat of the VC Dairy Products to IICA-MADR, and Consejo Nacional Lácteo (2006) 'Matriz de evaluación del acuerdo de competitividad de la cadena láctea'.

13.4.2 Main outcomes of the CA

CA's outcomes and new challenges for raw milk producers

As Oscar Palacio, technical secretariat of the VC, pointed out, 'most of the milk producers did not necessarily have a clear picture about the existence of a CA in the dairy product VC in Antioquia. However, the CA

introduced more dialogue and cooperation among the support institutions that worked on behalf of them in the different links of the VC and largely in the livestock link. Also, the CA generated more programs for the VC and so on'.¹¹

Table 13.6a
Main outcomes of the agreement on competitiveness of the VC dairy products in Antioquia

<p>1. Productivity: Positive increase in productivity from 6.87 (liters/cow/day) in 2001, to 7.90 liters/cow/day in 2004 (MADR 2005)</p>	<p>4. Product upgrading: Innovation through development of new products for the dairy industry (diversification of dairy products i.e. different kinds of flavored milk)</p> <p>Positive improvement in milk quality in terms of contents of solids and proteins, which is positive response to the new specific demands of the industry. (The dairy processing firms are paying price differentials taking into account these criteria).</p> <p>Improvement of specialized milk production livestock breeds.</p> <p>Achievement of innocuous milk with better quality given the generalization of cooling processes in the collecting stage. Includes widespread use of cooling tanks for milk.</p> <p>Successful eradication of distribution and consumption of raw milk (not pasteurized) for direct consumption (Antioquia, Medellin was a successful case) (DPNCC Evaluation Matrix 2006). This is a national program promoted by the DPNCC and supported by legislation. It was implemented successfully in Antioquia. The regional government and the health territorial bodies supported implementation of it.</p> <p>Pulverization of milk has substantially increased. It has become an alternative to dealing with seasonal surpluses of milk.</p>
<p>2. Employment: Employment in the Dairy link increased 3% during the period 2001-2004 (MADR 2005)</p>	
<p>3. Production: Dairy production increased 7.1% between 2002 (1091.74 million liters) and 2004 (1169.06 million liters). Antioquia consolidated as the 2nd largest Dairy producer in the country from 17.2% of total national production in 2001 to 17.6% in 2004 (MADR 2009).</p> <p>Milk production increased 5.0% in the country. In 2002, national production of milk was 6356.76 million liters, and in 2004, it was 6645.68 million liters (MADR 2005).</p> <p>During the 1990s, Colombia was a net importer of powdered milk. At present, dairy product exports is largely due to exports of Colanta. In 2000, national milk exports were 109.89 million liters and in 2004, they were 223.82 million liters with 104% variation (MADR 2009).</p>	

Source: This research based on MADR 2005, 2009 and DPNCC 2006.

Table 13.6b
Main outcomes of the agreement on competitiveness of the VC dairy products in Antioquia

<p>5. Process upgrading: During the period 2001-2004, modernization of livestock and dairy processing milk took place.</p> <ul style="list-style-type: none"> -Professionalization of milk production through introduction of entrepreneurial practices -Gradual introduction of organic milk production. -Increase in cleaner production practices. There were meaningful advances in this area: consciousness of using in limited way agrochemicals, water and so on. -Improvement of infrastructure for milk collecting and commercialization. Increase in availability of cooling tanks at the level of the farm (individual and collective). Cooling chain will be practically 100% in the region in the short term. At the level of organized producers, the cooling chain is working properly from the farm up to the enterprise. -The VC has been upgraded in terms of widespread technological use. There has been productive modernization of the largest firms. 	<p>6. Chain integration: There was a great response from the milk producers to the training programs organized by the DPRCC. There is more receptivity to chain level actions.</p> <ul style="list-style-type: none"> -Given the increase in the use of cooling tanks, there were three regional factories working at full scale in their production.
<p>7. Increase in internal consumption: During the period of the CA, there was an increase in the internal consumption of milk. Antioquia is the Department with the largest average pasteurized milk consumption in the country.</p>	<p>8. Introduction of a concerted and mandatory price system: Established amongst members of national chain and coordinated by the DPNCC. It applies by extension to the region and consists of payments and price differentials to producers and consumers in function of milk hygienic qualities and composition of it (DPNCC 2006).</p>
<p>9. Empowerment: Of raw milk producers in their relationship with Colanta. CA promoted organization of milk producers outside the boundaries of Colanta. They exerted pressure on Colanta through collective action to democratize its management giving more participation to producers and introducing administrative changes</p>	

Source: This research, DPNCC 2006, DPRCC 2006

Productive modernization of large milk processing firms was promoted by national government policies in the context of the dairy products CA through tax exemptions and tariff payments for machinery imports (DPNCC 2006). It was an activity more directed to large firms instead of SMEs. The regional government deems the CA a tool to promote local regional development. In addition to the contribution of producer associations and sectoral institutions to the CA, the regional government (Agriculture Technical Secretariat) played a crucial role in the CA with several projects and investment in the milk producing regions. Special mention has to be made of the development of *collecting infrastructure-construction of milk collecting centers* in remote zones of the region some of them with illicit crop problems.

In the context of the CA, raw milk production and productivity have increased. However, it has been accompanied by intensification in quality demands from dairy processing companies toward milk producers. As pointed out by a member of a dairy processing firm, ‘before the CA, there were production problems. There was no self-supply of milk and there were no systematic surpluses for exports. In this scenario, the dairy processing industries were less exigent. Now, that this situation has improved, the standards demanded by the dairy firms have broadened and moved toward other factors’.¹²

13.5 Value Chain Factors and the CA

13.5.1 Input output structure

A domestic oligopsony of an agricultural/livestock raw material protected¹³ by the national government reduces the likelihood of success for the expected outcomes of a CA. A domestic market shielded from imports introduces as a main contention point between agro-producers and industrialists the issue of price determination. Nevertheless, it is important to point out that the main outcome of the CA is the determination of a minimum price mechanism (price regulation)¹⁴ among the key actors of the VC in the context of the Dairy Products National CA. It lasted throughout the period of this study (2001-2004) in Antioquia. The raw milk producers were comfortable with this scheme. According to Asoholstein, ‘despite the fact that transport was not included in the CA, the chain was working properly. When prices were fixed and regulated, the rest of the VC agreed and concerted what could be the price because there was a mechanism in place’ (personal interview 2006). However, this issue has been very contentious since some industrialists, especially Colanta, preferred price liberty in the raw milk market and the lack of consensus around this issue. In the end, it alienated Colanta from the competitiveness council of the VC. Raw milk prices are a very sensitive issue for the cooperative because it affiliates milk producers but at the same time is an industrial firm that processes their input. To accumulate capital and participate competitively in the international market the industry requires higher milk qualities and paying for raw material according to market conditions. This situation generates tensions between some milk producer associations and Colanta management. This system

was finally broken in 2005 after Colanta left the Dairy Products National Council for Competitiveness.

At the national level the new Minister of Agriculture (from Antioquia), who determined a price liberty scheme for raw milk in mid-2005, made a political decision. Since the price, regulation scheme was not in the interest of the leading firms, in the end, their leading role in the governance of the VC diminished to the point that the scheme was abandoned. The largest milk processing firms under a raw milk price-liberty scheme, at the end, set prices based on their buying power and their positioning in specific segments of the VC (i.e. milk collecting centers) and their close links with the transport of milk from farm to factories. The non-associated smaller producers got lower prices given their lack of communication with the agro-processing industry.

A positive outcome of the CA for raw milk producers (price consensus during 2001-2004) was achieved; however, due to pressures from dairy processing firms, this mechanism was abandoned. This is an example of how a directed network can implement an agro-industrial CA better when the expected outcomes are in the interest of the leading firms. Moreover, how it can turn out when the outcomes are at odds with their dominant position in the market. At first, the increasing need for VC level coordination experienced by the leading firms in a directed network, and the opportunities offered by the CA to do it, strengthened their willingness to promote and participate in it. However, should their power position be challenged in development of the CA, they might exit the CA.

13.5.2 Governance

The quality laboratory for the dairy products VC contemplated in the CA was not developed, though the study and proposal was sent to the MADR by initiative of livestock producers believing that it was better to have a neutral party in charge of milk quality appraisal. A dairy producer and member of the DPRCC stated,

[T]here must be an independent laboratory, at present the only one belongs to Colanta, which is judge and part of the processes. Some raw milk producers feel that it is not fair, and complain about the management that Colanta does to this process. However, it is understood that Colanta as a

private firm might refuse to use a different laboratory arguing that they have leading technology in this field. (Personal interview 2006)

Beatriz Helena Trujillo regional director of Asoholstein affirms that: Colanta suggests livestock races and other schemes of production to the specialized milk producers in order to increase the solids and protein contents. In this sense, all the burden of the modernization process falls on specialized producers. Milk has to keep all the international standards. The best milk received by Colanta comes from the specialized milk producers. The main exigencies from Colanta target the producers who are also members of the cooperative. The raw milk supplied by smaller producers and those from distant regions was out of this scheme (exports and free trade agreement) because they did not have the training, neither the technical capacity nor the economic capacity to produce in order to comply with these requirements.

The participation of Colanta in the dairy products CA was minimal. The cooperative claimed to have its own VC, since it participated in the different links of the VC ranging from direct raw milk production, to collecting, transportation, processing and distribution. This situation affected the willingness of Colanta to engage in the CA. In practice, the issue was that, the cooperative might have preferred to continue with its traditional cooperation schemes (business as usual framework) without active involvement in a CA where the firm's commanding position runs the risk of challenge by other VC stakeholders. A member of the DPRCC stated, 'there was no direct financial or economic contribution of Colanta to the regional council'. It did contribute indirectly through the National Federation of Milk Producers' Cooperatives (Fedecoleche). This was an indicator of the little interest shown by the cooperative in both the council and the CA.

In short, Colanta, under a directed network type of governance,¹⁵ tried to maintain the relationship with its suppliers as was before the CA and was not so much committed to the Dairy Products Regional Council for Competitiveness. In this context, new developments promoted by the CA generated tensions between Colanta administration and a group of milk producers that wanted to improve efficiency in the way the cooperative was managed.

Finally, one of the main outcomes of the CA was the empowerment of raw milk producers in their relationship with Colanta. The CA facili-

tated the organization of milk producers outside the boundaries of the cooperative. In fact, organized raw milk producers through collective action exerted pressure on Colanta, which finally democratized its management giving more participation to producers and introducing administrative changes.

13.5.3 Systemic efficiency

The most important competitive challenge that the VC dairy products in Antioquia faced before the CA was the need of the milk processing firms (Colanta and Proleche-Parmlat) to get ready to participate in the TLC (Free Trade Agreement with the USA) once it was approved. This question implied introducing systemic efficiency to the VC. In other words, the leading VC firms wanted to promote milk production upgrades given that it needed to have more proteins and solids and there needed to be widespread use of cooling tanks for milk collection. Hence, there was growing pressure for a segment of milk producers to certify their production since the industry was demanding quality for the fabrication of spin-offs such as kumis, yogurts and cheeses. However, price fixing of raw milk and the upgrading costs in this link was a very contentious issue that diminished support from the leading firm for the CA.

13.6 Regional Factors and the CA

13.6.1 Regional development trajectories (regional business system)

The contribution of the regional business system to the CA was high (see table 13.7). The institutional structure provided an important boost to the CA. Antioquia counted with strong institutional capabilities in terms of financial and administrative strengths of the regional and some of its local governments. There was a strong presence of the regional government with resources and the will to promote the development of the region through the CA. In addition, the regional business systems supported the CA based on several factors: the alternative and complementary public-private cooperation schemes developed in Antioquia within or outside the CA scheme, the leading role assumed by producer associations (Asoholstein) and the support of Fedegan.

The case of the dairy products VC in Antioquia shows a financially and administratively robust regional government with a strong will to participate in the CA based on its social agenda. The main regional milk processing firms participated in the CA, though they were not too committed to it. However, there was a notorious private-public sector partnership between the Agricultural Secretariat (regional government) and Colanta, which was reinforced by political ties between the general manager of the cooperative who is also a politician and the regional government. On the other hand, the raw milk producer organizations (mainly Fedegan and Asoholstein) were focused on improvement of the bargaining capacity of raw milk producers with the largest dairy firms. They questioned to a certain extent the effectiveness of regional government programs such as the supply of cooling tanks in disperse areas, which according to the CA did not have enough potential to be developed. Finally, in the context of the CA and because of the dynamics generated by it, a set of meaningful organizational changes have taken place in Colanta, the larger milk processing industry in the region. They are partially the result of the collective action promoted, organized and carried out among milk producers in the context of the CA.

Table 13.7
VC dairy products in Antioquia, Regional Business System and the CA

Trajectory	Nature of the firm and inter-firm relations	Articulation state-firms	Contribution of the RBS to the CA
Toward a modern industrial and financial conglomerate	<ul style="list-style-type: none"> - 'Antioqueño entrepreneurship' - Export orientation - Strong competition along with solid cooperation schemes - Fluid inter-firm relationships (joint efforts) 	<ul style="list-style-type: none"> - Strong government with financial and administrative strengths and a comprehensive institutional endowment Public-private partnerships-culture - High technological support through business incubators, technological development centers, solid financial conglomerates - High support for the CA 	High

Source: This research.

13.6.2 Natural resources

The natural resource advantage of the region for milk production in terms of availability of large expansions of land, good soil, weather, light, rain, and others played a positive role in the outcomes of the CA. It facilitated the development of economies of scale for production in the specialized dairy farms and the incorporation of new production areas through the development of productive infrastructure in projects led by the regional government. There has been a large increase in areas with grass for the raw milk specialized and double purpose livestock. The area allocated to the activity in Antioquia is about 1.1 million hectares. The northern and eastern parts of Antioquia lead in raw milk production.

13.6.3 Regional leadership enabling state

The governmental and political traditions of Antioquia show a very proactive regional government and comprehensive support services institutional network. This factor is mainly analysed in terms of the presence of public sector and support institutions. In this sense, the regional institutional endowments supported the outcomes of the CA.

The regional and municipal governments contributed resources in projects such as the cooling tanks in rural areas. Although the regional government through the Agricultural Secretariat had significant participation in the CA, some members of the DPRCC questioned the effectiveness of some of its programs, particularly the development of cooling tanks for milk collection in rural areas. They agreed that the government as a member of the CA could have different priorities in its agenda, for example, the social criterion when it invested in remote areas. However, these actions were not fully in line with the priorities of the CA in terms of concentration of production in identified sub-regions with more potential for the activity.¹⁶

There was an important discussion over the conception and development of the CA in terms of what should be the optimal social interventions and economic rationality. The latter analysed in terms of spatial concentration or dispersion of investments and activities. From the beginning, many members of the CA defended the thesis of geographic focalization of production in the most advantageous areas of the region to make policy interventions more effective. The other discussion was in terms of the private sector's profit search or social responsibility (exam-

ple of Colanta¹⁷). In this event, a sector of raw milk producers of the cooperative raised the issue of whether the members of the cooperative should subsidize government social policies.

13.6.4 Violence (armed conflict and illicit crops)

There was an especially strong presence of armed conflict in Antioquia during the period 1987-1995 with a high frequency of conflicts between guerrilla and paramilitary groups. The region was highly affected by killings, kidnapping and population displacement, including livestock producers. Throughout this period, the conflict hit cattle farming hard. Because of a greater sense of security during the last decade, investment increased in livestock regions and in this sense supported the implementation and outcomes of the CA. In addition to the contribution of producer associations and sectoral institutions to the CA, the regional government (Agriculture Technical Secretariat) played a crucial role in the CA with several projects and investment in the milk producing regions. Special mention must go to the development of collecting infrastructure—*construction of milk collecting centers*—in remote zones of the region some of them with problems of illicit crops.

13.7 Quality of the CA

13.7.1 Policy Process Effectiveness of the CA

Based on the selected criteria, the CA of the VC dairy products in Antioquia was classified as ‘intermediate’ (see appendix 44).

1. The formulation and development of the CA was characterized by having an average quality of commitments and an average degree of achievement (see appendix 41).
2. Composition and dynamics of the regional council for competitiveness. The CA of the VC dairy products in Antioquia had an average technical secretariat. It had intermittent funding problems, which threatened its continuity and hindered its normal operation. Second, the CA had an average regional council; most of the participants did not have decision-making power. Finally, the council of competitiveness had an average dynamism. There was intermittent periodicity in the meetings, appointment of technical committees, average information flows, insufficient awareness about the CA and asymmetrical de-

gree of commitment among the members of the regional council (see section 13.3 and appendix 42).

3. Life cycle of the agreement on competitiveness. The CA of the dairy products VC in Antioquia had an average trajectory; it followed a trajectory that included signing of CA, partial fulfillment of the CA's goals (between 31 and 60%), dissolution of technical secretariat and loss of functionality of the RCC (see appendices 42 and 43 and section 13.3).

13.7.2 Relevance of the CA

Based on the analysis of the CA through the selected criteria, the CA of the VC dairy products in Antioquia was classified as 'intermediate' for the development of the VC and the region (see appendix 48).

Characteristics of developmental outcomes. The VC dairy products in Antioquia received an intermediate score on this indicator, which means that the outcomes of the activities carried out are partially related to the goals of the CA (some are related and others not) (see section 13.4.2 and appendix 45).

Contribution to corporate goals. The VC dairy products in Antioquia received an intermediate score on this indicator, which means that the activities conducted during the CA partially contributed to the achievement of corporate goals of agricultural and industrial producers (see sections 13.4.1 and 13.4.2 and appendix 46).

Improvements in value chain coordination. The regional council had an average dynamism and there were few events (programs, projects and campaigns) of coordination among different links of the VC (see sections 13.4.1 and 13.4.2 and appendix 47).

13.7.3 Synthesis

The CA of the VC dairy products in Antioquia had an intermediate effect and an intermediate relevance and taken together, can be considered a less than average CA (see table 13.8).

Table 13.8
Summary: Quality of the agreement on competitiveness

Evaluation criteria Relevance	Policy Process Effectiveness		
	High	Intermediate	Low
High	Outstanding	Average	
Intermediate	Good	VC Dairy products in Antioquia Less than average	Poor
Low			

Source: This research.

13.8 Concluding Remarks

Most of the members of the DPRCC considered the value chain's approach and the CA as a necessary instrument to face the economic opening of the country in the globalization context. Their immediate concern was the prospects of a free trade agreement with the United States.

One of the main outcomes of the CA was the establishment of regulation scheme for raw milk prices paid to producers, which was applied for the period 2000-2005. The Dairy Products National Council for Competitiveness had a great deal of participation in the scheme, applied at the regional nodes of the VC. The raw milk producers considered it positive for them since the scheme reduced uncertainty in their activity because it offered reference to minimum prices for raw milk purchases and defined quality premiums to be paid to the raw milk producers by the industry. However, this price system was substituted by a supervised price liberty system in mid-2005.

Since institutionalized price schemes risk being overturned, it is important to take into account that sustainable rent improvements in the agro and livestock link of a VC are not necessarily a consequence of the price regulatory system. As explained by German Serrano, Technical Secretariat of the DPNCC,¹⁸ the problem is not only that raw milk producers get a lower price, it is necessary to work more on the costs' scheme. In addition, there is a lack of association on the producer side. It must be understood that the subject cannot be resolved by pricing.

One of the main shortcomings of the CA was that it did not have the participation of two links with important margins of intermediation and commercialization. First, the milk transporters (from milk farms to dairy factories) and second the retailing link (supermarkets and hypermarkets).¹⁹ The latter appropriate an important share of the added value and in certain cases have close ties to the dairy industry. The lack of integration of these links constitutes a primary barrier to achieving transparency in raw and pasteurized milk price determination. Ultimately, it might affect the overall competitiveness of the VC. The larger milk processing firms were likely to use this situation to maintain the status quo arguing that the transportation costs were too high; accordingly, they could neither increase prices to raw milk producers nor decrease prices to consumers.

As stated in the CA, security and stable macroeconomic conditions are a pre-requisite for achievement of the vision of the CA. One of the problems that affected the exports of Colanta and other dairy processing firms was the revaluation of the Colombian peso. In this case, despite the micro productivity improvements and the positive effects of meso-level policies, the revaluation affected competitiveness of dairy products firms. For instance, 'in 2003 Colanta exported 132 million liters of milk worth US\$32 million. In 2004, mainly because of the reevaluation of the Colombian peso the exports were reduced to US\$23 million'.²⁰

An oligopolistic market position promotes cooperation with the agricultural or livestock links in a CA. The same market position reduces the likelihood of cooperation with the SME industrial link. The particular case of the dairy products VC in Antioquia diverts from this hypothesis in terms of participation of Colanta in the CA. As stated, Colanta is a large cooperative with strong market control in the region and a large number of associated producers, about one-third of the total. It claims to have its own VC since it participates in the different links of the VC, from direct raw milk production to collecting, transportation, processing and distribution. This situation affected the willingness of Colanta to engage in the CA. In practice, the oligopsonistic market position of an industrial cooperative promotes cooperation with the agro-livestock producers. Indeed, this cooperation tends to be more comprehensive with its associates, though the cooperative would be interested in cooperating with other suppliers too. The issue is that the cooperative might prefer to continue with the traditional cooperation schemes without getting ac-

tively involved in a CA where the firm's commanding position runs the risk of challenge.

The CA helped agro and livestock producers (small, medium and large) to meet part of these challenges and to do that, they counted on three main actors who worked on behalf of them: the agricultural secretariat of Antioquia, Fedegan and Asoholstein. It is important to point out, small producers from marginal areas with bad road conditions and higher transportation costs were frequently marginalized from the upgrading processes. While the CA helped producers meet the competitive challenges, it inevitably implied higher demands on producers and their interaction with the VC. While the concerted mechanism to fix prices in the VC was in place until the second semester of 2005, raw milk producers were better off; however, when the fixed price mechanism was abandoned and the watched over market price liberty scheme was adopted, a contradiction arose particularly between specialized medium and large raw milk producers and the industry, chiefly Colanta.

Notes

¹ Personal interview with Oscar Palacio, Technical Secretariat of the Regional Chain in Antioquia (Bogotá, 10 May 2006).

² The regional agreement must be understood in the context of the national agreement. Resolution Number 00076 of 1999 of MADR created the Dairy Products National Council for Competitiveness (DPNCC) and gave it the following functions: advising the national government in the dairy policy, suggestions to the government, actions aimed at the development of program on behalf of the strengthening of the dairy sector and monitoring the administration of the national system of prices, quality and functioning of the dairy products.

³ Personal interview with Leon Jairo Osorio, 10 July 2006, Medellin, Bogotá.

⁴ ANALAC, the average daily milk production for the period 2002-2005 was 16 million liters.

⁵ Revista Semana, 27 April 2006.

⁶ Personal interview with Leon Jairo Osorio, a dairy producer from Antioquia and member of the DPRCC (10 July 2006, Medellin).

⁷ Personal interview with Oscar Palacio, Technical Secretariat of the Regional Chain in Antioquia (Bogotá, 10 May 2006).

⁸ Personal interview (Medellin, 20 June 2006).

⁹ Personal interview (Medellin, 10 July 2006).

¹⁰ Source: <http://www.colanta.com.co>

¹¹ Personal interview (Bogotá, 10 May 2006).

¹² Personal interview (Medellin, 11 July 2006).

¹³ 'This sector is regulated in Colombia by the Andean System of Price Bands (SAFP) for 27 tariff sub-entries, through which a variable tariff is established according to the worldwide price situation. In addition, a system of import licenses and of previous permits authorizes imports according to the internal production and supply' (Gobernación de Antioquia 2004).

¹⁴ The regulation scheme for raw milk prices paid to producers applied to the period 2000-2005. The government created a price commission; the Dairy Products National Council used to meet in February each year to prepare and present the proposal to the commission. They discussed and agreed on the minimum price of reference milk should be paid to producers. Also, there were included premium schemes for quality. Finally, the council suggested to the government (MADR) the minimum price. During the time that the norm was in place, the government adopted the minimum price by means of a resolution or agreement until July 2005 (Personal interview, German Serrano, National Technical Secretariat of the VC, Bogotá, May 2006).

¹⁵ There is a directed network type of coordination in the linkage between raw milk producers and milk processing firms, taking into account that generally the customer takes the entire product (Colanta) or at least more than 50% of it from the supplier.

¹⁶ Interviews with Leon Jairo Osorio, Medellin, July 2006 and Oscar Palacio, Bogotá, May 2006.

¹⁷ Colanta was also criticized from the economic and financial point of view on its participation in the social policies of the government. The cooperative participated in a leading social program of the government and the ICBF (Colombian Institute of Family Welfare) called MANA. The cooperative sold cheap milk to the ICBF for the program, and this caused important losses to the operative balance of Colanta. The program in 2004 attended about 76% of the 126 municipalities of Antioquia with a coverage of about 100,000 kids 5 years old or younger who were registered in the alimentary security plan of Antioquia. See <http://www.colanta.com.co>

¹⁸ Personal interview, Bogotá, May 2006.

¹⁹ Centro de Estudios Económicos de la Universidad de los Andes (CEDE) 'Report to the DPNCC on the evaluation of the strategy price system, quality and functioning of the dairy products market in Colombia'. Informe técnico final Bogotá, Junio 2005 CONVENIO 048/2004 MADR-IICA German Serrano Basto.

²⁰ <http://www.colanta.com.co>

Appendices

Appendix 1a
Matrix of commitments for the VC cocoa-chocolate
northeastern region 2002

Strategies/link	Commitments Planned activities	Responsible stakeholder	
		Public sector	Private sector
Strategy 1: Modernization of cocoa cultivation (Renovation and new cultivation) <i>AGRICULTURE</i>	Project for renovation of 55,000 hectares and planting of 37,900 new hectares in the region: It is composed of three subprojects	Corpoica, ICA, SENA, local governments, regional and national governments, FINAGRO, Banco Agrario, FIP, PDPMM	Fedecacao, producers' associations, CNC S.A., Casa Luker S.A., regional industry, PNDA Fundescat, Ecocacao
	1. Project for renovation of 37,000 hectares planted in Santander and 21.000 hectares in new sowing.		
	2. Project for renovation of 9,500 hectares planted in Norte de Santander and 8,000 new hectares		
	3. Project for renovation of 8,000 hectares planted in Arauca and sowing of 8,000 new hectares		
	Project of transfer of the technological package for the setting, maintenance and benefit of cocoa cultivation	Corpoica, ICA, SENA, UMATAS, municipal and regional governments	Fedecacao, Producer Associations, CNC S.A., Casa Luker S.A., regional industry, PNDA, Fundescat
	Project of formulation and implementation of strategies of financing and incentives for cocoa production development	National and regional governments, Banco Agrario, Finagro	Fedecacao, producers' associations, CNC S.A., Casa Luker S.A., regional industry, PNDA-Fundescat
	Project of production of special cocoas	Corpoica, ICA, SENA, UMATAS, municipal governments, regional government	Fedecacao, producers' associations, CNC S.A., Casa Luker S.A., regional industry, PNDA-Fundescat, Ecocacao
	Production of vegetable material for the development of cocoa cultivation (installing cloning gardens)	Corpoica, ICA, SENA, UMATAS, municipal governments, regional government	Fedecacao, producers' associations, CNC S.A., Casa Luker S.A., regional industry

Source: MADR-IICA 2002

Appendix 1b
Matrix of commitments for the VC cocoa-chocolate
northeastern region 2002

Strategies/link	Commitments	Responsible stakeholder	
	Planned activities	Public sector	Private sector
Strategy 2: Training and improvement of the technological level <i>AGRICULTURE</i>	Project of training for the participation and community organization	Corpoica, UMATAS, regional government, municipal government, SENA, PDPMM	Fedecacao, Producers' associations, PNDA, Fundescat
	Training and formation of technical and specialized human talent for the VC	Corpoica, regional government.	Fedecacao, regional universities
	Project of youth researchers	Corpoica, ICA, regional government	
	Design of a curriculum program for the cocoa sector	SENA, Corpoica, municipal government, regional government	Fedecacao, producer associations
Strategy 3: Research and development	Project of evaluation of the irrigation needs in the producing cocoa zones	INAT, regional government	Fedecacao
	Development of technology for the integrated management of plagues and diseases	Corpoica, ICA, regional government, SENA.	Fedecacao
	Research project for the obtention of high quality genetic material and resistance to Monilia, Rosellinia and cocoa witches broom disease	Corpoica, ICA, regional government, SENA	Fedecacao, Ecocacao
	Creation of the research center for the technological development of cocoa, CENICACAO	Corpoica, ICA, national government	Fedecacao, CNC S.A., Casa Luker S.A.
	Agro-forestry alternatives for the productive development of cocoa	Corpoica	Fedecacao
	Recovering of the Germoplasma Bank	Corpoica, ICA, Universidad Industrial de Santander.	Fedecacao, Universidad Santo Tomas, CNC S.A., Casa Luker S.A., Fundescat, Ecocacao
	Evaluation of the agro-industrial quality of the genetic material	Corpoica, Universidad Industrial de Santander.	CNC S.A., Casa Luker S.A., Fedecacao, Universidad Santo Tomas, Fundescat
	Socioeconomic research for the production of cocoa	Corpoica, ICA	Fedecacao

Source: MADR-IICA, 2002

Appendix 1c
Matrix of commitments for the VC cocoa-chocolate northeastern region 2002

Strategies/link	Commitments	Responsible stakeholder	
	Planned activities	Public sector	Private sector
Strategy 4: Formation and export promotion	Export promotion of coca in grain and end products	Regional government, Mincomex, ICA, CITI	Fedecacao, Ecocacao
Strategy 5: Support the constitution and modernization of regional small industry	Technological strengthening of the small industry through the implementation of new technologies for the production of chocolate and other end products with high value added	Regional government	Financial institutions, small and large industry
	Project training for industrial human resources	SENA, regional government	Financial institutions, industry
Strategy 6: Support for the Agreement	Definition of a long term scenario for the VC	Regional government, CRCC, technical secretariat	CRCC, technical secretariat
	Setting of a system of information and monitoring for the VC cocoa-chocolate	Regional government, CRCC, technical secretariat	CRCC, technical secretariat

Source: MADR-IICA, 2002

Appendix 2
VC cocoa-chocolate northeastern region: Formulation and development of the CA

INDICATOR	SCORE	LEGEND/DESCRIPTION
1.1 Quality of commitments	1	Commitments were not formulated in terms of concrete and measurable actions (too general)
	2	Formulation of a mixture of well structured commitments with other incomplete in terms of financial and administrative responsibilities by members of the agreement.
	3	Mostly well structured commitments with clearly defined goals and measurable activities, with allocation of financial resources and timeframe set for their development.
1.2 Degree of achievement	1	Less than 20% of commitments fulfilled
	2	Between 21% and 60% of commitments fulfilled
	3	More than 60% of commitments fulfilled

Source: Own Elaboration, CEPAL (2003), CAF (2002)

Appendix 3**VC cocoa-chocolate northeastern region: Composition and dynamics of RCC**

INDICATOR	SCORE	LEGEND/DESCRIPTION
2.1. Functioning of the technical secretariat	1	Inactive technical secretariat. Lacks co-financing schemes by the private sector for its functioning
	2	Technical secretariat with intermittent funding problems, which threatens its continuity and hinders its normal operation
	3	Active technical secretariat (a person or an organization) with technical and administrative experience in value chain related issues; adequate funding with private and/or public contributions; and recognition by most of the VC stakeholders
2.2 Composition of the RCC	1	Composed by stakeholders of one link and public sector, does not integrate directly agro and industrial producers, and depends on participation of business interest associations. Its members are not endowed with decision-making power
	2	Includes two or more links. Composed of members of NGOs, Universities, public agencies, business interest associations. It has either low participation of local and regional governments or of key agro and industrial sector producers. Most participants do not have decision-making power
	3	Comprises most links of VC. Active public and private sector participation including leading firm(s) of the VC; includes NGOs, small, medium and large agro and industrial producers, business interest associations, producer associations, universities, centers of productivity. Stakeholders have decision-making power
2.3. Dynamism of the RCC	1	Low dynamism. No periodicity in the meetings; lack of technical committees; deficient information flows; lack of awareness about the CA, low degree of commitment of VC actors
	2	Average dynamism. Intermittent periodicity in the meetings, appointment of technical committees, average information flows, insufficient awareness about the CA, asymmetrical degree of commitment among members of regional council
	3	High dynamism. RCC meets regularly; has supporting technical committees, solid information flows and high degree of commitment of VC members. VC actors aware of CA

Source: Own elaboration

Appendix 4
*VC cocoa-chocolate northeastern region:
Life cycle of the CA*

INDICATOR	SCORE	LEGEND/DESCRIPTION
3.1 Trajectory of competitiveness agreement	1	Signing of CA- partial fulfillment of the CA's goals (less than 30%)-dissolution of RCC
	2	Signing of CA-partial fulfillment of the CA's goals (between 31 and 60%)-dissolution of technical secretariat and loss of functionality of the RCC.
	3	Signing of CA-Fulfillment of more than 60% the CA's goals-renewal of CA and permanence of RCC

Source: Own elaboration

Appendix 5
*Policy Process Effectiveness of the CA of the value chain:
Cocoa-chocolate northeastern region (summary)*

Value Chain	Agreement on Competitiveness		Regional Council for Competitiveness			Trajectory of CA	Total score	Ranking
	1.1	1.2	2.1	2.2	2.3			
Cocoa-chocolate Santander	2	3	3	2	3	3	16	More effective
	1.1	1.2	2.1	2.2	2.3	3.1		

Source: Own elaboration

Appendix 6
*VC cocoa-chocolate northeastern region:
Characteristics of outcomes*

INDICATOR	SCORE	LEGEND/DESCRIPTION
1.1 Relevance developmental of outcomes	1	Most outcomes of activities carried out are not related to goals of the CA
	2	Outcomes of activities carried out are partially related to goals of the CA (some are related and others not)
	3	Most outcomes of activities carried out are clearly related to goals of CA.

Source: Own elaboration

Appendix 7
VC cocoa-chocolate northeastern region:
Contribution to corporate goals

INDICATOR	SCORE	LEGEND/DESCRIPTION
2.1 Relevance of activities	1	Activities carried out during CA did not support most corporate goals of primary stakeholders of the VC, particularly agricultural and industrial producers.
	2	Activities conducted during the CA partially contributed to achievement of corporate goals of agricultural and industrial producers.
	3	Activities conducted during the CA fully supported the achievement of corporate goals of agricultural and industrial producers.

Source: Own elaboration

Appendix 8
VC cocoa-chocolate northeastern region:
Improvements in VC coordination

INDICATOR	SCORE	LEGEND/DESCRIPTION
3.1 Degree of coordination	1	Regional council has low dynamism and there are no events of coordination (programs, projects, campaigns) among different links of VC.
	2	Regional council has average dynamism and few events of coordination among different links of VC.
	3	Regional council is highly dynamic and several events of coordination amongst different links of VC.

Source: Own elaboration

Appendix 9

VC cocoa-chocolate northeastern region: Relevance of CA (summary of criteria and indicator scores)

Value Chain	Developmental Outcomes	Support to Corporate goals	Activities	Total score	Ranking
Cocoa-chocolate Santander	1.1	2.1	3.1		High
	3	3	3	9	

Rank	Relevance
80-100	High
50-79	Intermediate
< 50	Low

Source: Own elaboration

Appendix 10

Matrix of commitments for the VC cotton-textiles in Tolima

Strategies/link	Commitments Planned activities
Strategy 1: Training - human resource development	1) Meta-level positioning of competitiveness issue
	2) Management training with VC emphasis
	3) Formation of new technical personnel
	4) Updating of industry personnel
	5) Entrepreneurial training for cotton producers
Strategy 2: Market penetration	1) Creation of VC information system
	2) Infrastructure development to facilitate VC exports
	3) Promotion of strategic alliances
Strategy 3: Technological development	1) Creation of certification unit (laboratories)
	2) Technological improvement of cotton cultivation
Strategy 4: Sustainable development	1) Access to facilities for productive development (i.e. bring to region government support programs)
	2) Quality and environmental management programs (ISO 9000 and ISO 14000)
Strategy 5: Development of competitive environment	Watchdog project to oversee VC developments such as government infrastructure programs in the region, smuggling control and unfair competitive practices, development of instruments to regulate contracts among parties.

Source: MADR-IICA, 2001

Appendix 11
VC cotton-textile-clothing in Tolima:
Formulation and development of the CA

INDICATOR	SCORE*	LEGEND/DESCRIPTION
1.1 Quality of commitments	1	Commitments were not formulated in terms of concrete and measurable actions (too general)
	2	Formulation of a mixture of well-structured commitments with other incomplete in terms of financial and administrative responsibilities by members of the CA
	3	Mostly well-structured commitments with clearly defined goals and measurable activities, with allocation of financial resources and timeframe set for their development.
1.2 Degree of achievement	1	Less than 20% of commitments fulfilled
	2	Between 21% and 60% of commitments fulfilled
	3	More than 60% of commitments fulfilled

*1: Poor 2: Average 3: Good

Source: Own Elaboration, CEPAL (2003), CAF (2002)

Appendix 12
VC cotton-textile-clothing in Tolima:
Composition and dynamics of the RCC

INDICATOR	SCORE	LEGEND/DESCRIPTION
2.1. Functioning of the technical secretariat	1	Inactive technical secretariat. Lacks co-financing schemes by the private sector for its functioning
	2	Technical secretariat with intermittent funding problems which threatens its continuity and hinders its normal operation
	3	Active technical secretariat (a person or an organization) with technical and administrative experience in VC related issues; adequate funding with private and/or public contributions; and recognition by most of the VC stakeholders
2.2 Composition of the regional council	1	Composed of stakeholders of one link and public sector, does not integrate directly agro and industrial producers and depends on participation of business interest associations. Its members are not endowed with decision-making power
	2	Includes two or more links. Composed of members of NGOs, Universities, public agencies, business interest associations. Either low participation of local and regional governments or of key agro and industrial sector producers. Most participants do not have decision-making power
	3	Comprises most links of the VC. Active public and private sector participation including leading firm(s) of the VC; includes NGOs, small, medium and large agro and industrial producers, business interest associations, producer associations, universities, centers of productivity. Stakeholders have decision-making power
2.3. Dynamism of RCC	1	Poor dynamism. No periodicity in meetings; lack of technical committees; deficient information flows; lack of awareness about CA, low degree of commitment of VC actors
	2	Average dynamism. Intermittent periodicity in meetings, appointment of technical committees, average information flows, insufficient awareness about the CA, asymmetrical degree of commitment among members of RCC
	3	Good dynamism. RCC meets regularly; supporting technical committees, solid information flows and high degree of commitment of VC members. VC actors aware of CA

Source: Own elaboration

Appendix 13
VC cotton-textile-clothing in Tolima:
Life cycle of the CA

INDICATOR	SCORE	LEGEND/DESCRIPTION
3.1 Trajectory of competitiveness agreement	1	Signing of CA- partial fulfillment of the CA's goals (less than 30%)-dissolution of RCC
	2	Signing of CA-partial fulfillment of the CA's goals (between 31 and 60%)-dissolution of technical secretariat and loss of functionality of the RCC.
	3	Signing of CA-Fulfillment of more than 60% the CA's goals-renewal of CA and permanence of RCC

Source: Own elaboration

Appendix 14
VC cotton-textile-clothing in Tolima:
Policy Process Effectiveness of the CA (Summary)

Value Chain	Agreement on Competitiveness		Regional Council for Competitiveness			Trajectory of CA	Total score	Ranking
	1.1	1.2	2.1	2.2	2.3			
Cotton-textile-clothing Tolima	1	1	1	1	1	1	12	Intermediate
	2	2	2	2	2	2		

1: less effective 2: intermediate 3: more effective

1. Formulation and development of the agreement on competitiveness

1.1 Quality of commitments

1.2 Degree of achievement

2. Composition and dynamics of the Regional Council for Competitiveness

2.1 Functioning of the technical secretariat

2.2 Composition of the regional council

2.3 Dynamism of the regional council

3. Life cycle of the agreement on competitiveness

3.1 Trajectory of competitiveness agreement

Source: Own elaboration

Appendix 15
VC cotton-textile-clothing in Tolima: Characteristics of outcomes

INDICATOR	SCORE	LEGEND/DESCRIPTION
1.1 Relevance of outcomes	1	Most outcomes of activities carried out not related to goals of the CA
	2	Outcomes of activities carried out are partially related to goals of the CA (some are related and others not)
	3	Most outcomes of activities carried out clearly related to goals of the CA.

Source: Own elaboration

Appendix 16
VC cotton-textile-clothing in Tolima: Contribution to corporate goals

INDICATOR	SCORE	LEGEND/DESCRIPTION
2.1 Relevance of activities	1	Activities carried out during the CA did not support most corporate goals of primary stakeholders of the VC, particularly agricultural and industrial producers.
	2	Activities conducted during the CA partially contributed to achievement of corporate goals of agricultural and industrial producers.
	3	Activities conducted during the CA fully supported achievement of corporate goals of agricultural and industrial producers.

Source: Own elaboration

Appendix 17
VC cotton-textile-clothing in Tolima: Improvements in VC coordination

INDICATOR	SCORE	LEGEND/DESCRIPTION
3.1 Degree of coordination	1	Regional council has low dynamism and no events of coordination (programs, projects and campaigns) among different links of the VC.
	2	Regional council has average dynamism and few events of coordination among different links of the VC.
	3	Regional council is highly dynamic and several events of coordination amongst different links of VC.

Source: Own elaboration

Appendix 18**VC cotton-textile-clothing in Tolima: Relevance of the CA (summary of criteria and indicator scores)**

Value Chain	Outcomes	Support to Corporate goals	Activities	Total score	Ranking
Cotton-textile-clothing (Tolima)	1.1	2.1	3.1		Intermediate
	2	2	3	7 (78%)	

Rank	Relevance
80-100	High
50-79	Intermediate
< 50	Low

Source: Own elaboration

Appendix 19**Commitments matrix for VC Rice-Rice Threshing in Tolima, 2000**

Strategies/link	Commitments Planned activities
Strategy 1: Reduction of costs	1. Rent of land To increase the land supply through enlargement of irrigated hectares. Allocation of resources to conclude: construction of a huge irrigation system called the Tolima Triangle, and the Dam 'Zanja Honda' that feeds the triangle irrigation district. This infrastructure will allow 1500 hectares to enter the rice production system.
	To establish a ceiling price for the land rent and to regulate rent contracts
	2. Land Preparation: Crops integrated management
	3. Seeds To design a regional campaign to establish mechanisms to eliminate use of non-certified seeds. To organize special team to study certified seeds' production and distribution costs.
	Agrochemicals: To develop techniques for organic rice cultivation
	Financing and credit: To seek funding for the CA To foster the use of available financial public instruments such as the ICR (incentive to the rural capitalization) To develop a strategy to improve conditions through which producers access credits and the existent financial instruments

<p>Strategy 2: Human resources</p>	<p>Training and transference To carry out seminars and conferences on issues that affect VC competitiveness, such as financing, training, transference, technology, international markets and environmental management. To improve the formation of professionals and technicians including curriculum adjustment according to needs derived from the CA. To develop one strategy to improve adoption and application of knowledge of available technical supply</p>
<p>Strategy 3: Technology</p>	<p>Machinery Regulation of imports for second-hand machinery and state of the art technologies To design and implement system of indicators for evaluation and monitoring of productivity, competitiveness and accomplishment of acquired commitment by each of the actors of the CA.</p>
<p>Strategy 4: Markets</p>	<p>To carry out studies of market opportunities and business feasibility for new rice products with higher value added To promote horizontal and vertical integration of the value chain's actors To develop mechanisms for communication and distribution of market information through permanent monitoring of variables such as inventories, imports, sowing, expectations, prices, subsidies, import duties and commercialization in the international markets with a monthly periodicity.</p>
<p>Strategy 5: Environment</p>	<p>To give continuity to the agreement of cleaner production in the rice threshing link of Tolima and implement a similar one to the rice farming sector.</p>
<p>Strategy 6: Information</p>	<p>To elaborate one study on the characterization of rice threshing mills (industrial link of the VC in Tolima) To monitor employment situation in each link in order to rely on more consistent data To create committee of statistics for the rice sector made up of Induarroz, Fedearroz, Agricultural and Livestock Stock Market, Ministry of Agriculture and DANE, which share and validate information about areas, production, returns, manufacture survey, inventories, costs, harvest forecasts and others.</p>

Source: MADR-IICA, 2002

Appendix 20
Members of the VC Rice-Rice Threshing
Regional Competitiveness Committee

Created 13 August 1999

Input distributors

El Aceituno (seeds producer and threshing)
Distribuidora Sullanta
Coprosem
Casa Toro S.A., (Machinery and equipment distributor)

Rice producers

Arrocera Proterito Laserna
Asocombeima,
Hacienda La Pradera
Fedearroz
Serviarroz

Threshing industrialists

Induarroz

Irrigation Districts

Usosaldaña

Institutions

ANDI
IICA
MADR
ICA.
SENA
Gobernación Del Tolima.
Universidad Del Tolima.
CORPOICA
Productivity Centre of Tolima

Source: MADR-IICA, 2002

Appendix 21
VC rice-rice threshing in Tolima:
Formulation and development of the CA

INDICATOR	SCORE	LEGEND/DESCRIPTION
1.1 Quality of commitments	1	Commitments were not formulated in terms of concrete and measurable actions (too general)
	2	Formulation of a mixture of well-structured commitments with other incomplete in terms of financial and administrative responsibilities by members of the CA
	3	Mostly well-structured commitments with clearly defined goals and measurable activities, with allocation of financial resources and time-frame set for their development.
1.2 Degree of achievement	1	Less than 20% of commitments fulfilled
	2	Between 21% and 60% of commitments fulfilled
	3	More than 60% of commitments fulfilled

Source: Own elaboration, CEPAL (2003), CAF (2002)

Appendix 22
VC rice-rice threshing in Tolima:
Composition and dynamics of the Regional Council for Competitiveness

INDICATOR	SCORE	LEGEND/DESCRIPTION
2.1. Functioning of the technical secretariat	1	Inactive technical secretariat. Lacks co-financing schemes by the private sector for its functioning
	2	Technical secretariat with intermittent funding problems that threatens its continuity and hinders its normal operation
	3	Active technical secretariat (a person or an organization) with technical and administrative experience in VC related issues; adequate funding with private and/or public contributions; and recognition by most of the VC stakeholders
2.2 Composition of the regional council	1	Composed of stakeholders of one link and public sector, does not integrate directly agro and industrial producers and depends on the participation of business interest associations. Its members are not endowed with decision-making power
	2	Includes two or more links. Composed of members of NGOs, Universities, public agencies, business interest associations. Either low participation of local and regional governments or of key agro and industrial sector producers. Most participants do not have decision-making power
	3	Comprises most links of the VC. Active public and private sector participation including leading firm(s) of the VC; includes NGOs, small, medium and large agro and industrial producers, business interest associations, producer associations, universities, centers of productivity. Stakeholders have decision-making power
2.3. Dynamism of the RCC	1	Poor dynamism. No periodicity in meetings; lack of technical committees; deficient information flows; lack of awareness about the CA, low degree of commitment of the VC actors
	2	Average dynamism. Intermittent periodicity in the meetings, appointment of technical committees, average information flows, insufficient awareness about the CA, asymmetrical degree of commitment among members of the regional council.
	3	Good dynamism. The RCC meets regularly; it has supporting technical committees, solid information flows and high degree of commitment of VC members. The VC actors are aware of the CA

Source: Own elaboration

Appendix 23
VC rice-rice threshing in Tolima: Life cycle of the CA

INDICATOR	SCORE	LEGEND/DESCRIPTION
3.1 Trajectory of competitiveness agreement	1	Signing of CA- partial fulfillment of the CA's goals (less than 30%)-dissolution of RCC
	2	Signing of CA-partial fulfillment of the CA's goals (between 31 and 60%)-dissolution of technical secretariat and loss of functionality of the RCC.
	3	Signing of CA-Fulfillment of more than 60% the CA's goals-renewal of CA and permanence of RCC

Source: Own elaboration

Appendix 24
*VC rice-rice threshing in Tolima:
Policy Process Effectiveness of the CA (summary)*

Value Chain	Agreement on Competitiveness		Regional Council for Competitiveness			Trajectory of CA	Total score	Ranking
	1.1	1.2	2.1	2.2	2.3			
Rice-rice threshing in Tolima	1	1	2	2	1	1	9	Less effective
	2	1	2	2	1	1	9	

1: less effective 2: intermediate 3: more effective

1. Formulation and development of the CA

1.1 Quality of commitments

1.2 Degree of achievement

2. Composition and dynamics of the Regional Council for Competitiveness

2.1 Functioning of the technical secretariat

2.2 Composition of the regional council

2.3 Dynamism of the regional council

3. Life cycle of the CA

3.1 Trajectory of competitiveness agreement

Source: Own elaboration

Appendix 25*VC rice-rice threshing in Tolima: Characteristics of outcomes*

INDICATOR	SCORE	LEGEND/DESCRIPTION
1.1 Relevance of outcomes	1	Most outcomes of activities carried out not related to goals of the CA
	2	Outcomes of activities carried out partially related to goals of the CA (some are related and others not)
	3	Most outcomes of activities carried out are clearly related to goals of the CA.

Source: Own elaboration

Appendix 26*VC rice-rice threshing in Tolima: Contribution to corporate goals*

INDICATOR	SCORE	LEGEND/DESCRIPTION
2.1 Relevance of activities	1	Activities carried out during the CA did not support most corporate goals of primary stakeholders of the VC, particularly agricultural and industrial producers.
	2	Activities conducted during the CA partially contributed to the achievement of corporate goals of agricultural and industrial producers.
	3	Activities conducted during the CA fully supported the achievement of corporate goals of agricultural and industrial producers.

Source: Own elaboration

Appendix 27*VC rice-rice threshing in Tolima: Improvements in VC coordination*

INDICATOR	SCORE	LEGEND/DESCRIPTION
3.1 Degree of coordination	1	Regional council has low dynamism and very few events of coordination (programs, projects and campaigns) among different links of the VC.
	2	Regional council has an average dynamism and few events of coordination among different links of the VC.
	3	Regional council is highly dynamic and several events of coordination amongst different links of the VC.

Source: Own elaboration

Appendix 28

VC rice-rice threshing in Tolima: Relevance of the CA (summary of criteria and indicator scores)

Value Chain	Outcomes	Support to Corporate goals	Activities	Total score	Ranking
Rice-rice threshing Tolima	1.1	2.1	3.1		Intermediate
	2	2	1	5 56%	

Rank	Relevance
80-100	High
50-79	Intermediate
< 50	Low

Source: Own elaboration

Appendix 29

Commitments matrix for the VC cocoa-chocolate in Antioquia 2002

Strategy / link	Planned activities	Responsible stakeholder Public Private	
Strategy 1 Regional focalization of cocoa development	Development of economies of scale in production, transportation, storage, and industrial processing by means of planting cocoa in specific zones (endowed with appropriate physical infrastructure, soil and weather conditions).	Secretariat of Agricultural and Rural Development, municipalities, FIP, Finagro, Banco Agrario	Fedecacao, Casa Luker S.A., producer associations, NGOs
	Development of specialized services for production, commercialization and primary processing of the crop (fermenting and drying)	ICA, Secretariat of Agricultural and Rural Development, municipalities	Fedecacao, Casa Luker S.A., producer associations, NGOs
	Concentration of public resources (credit, ICR, direct investment in infrastructure) oriented to the cocoa production areas, in the productive conglomerates of greater potential.	Secretariat of Agricultural and Rural Development, municipalities. Finagro, Banco Agrario	Private banks

Strategy / link	Planned activities	Responsible stakeholder Public Private	
Strategy 2 Productive modernization of the value chain cocoa and its agro-industry	Technological and managerial development in the cocoa productive units Project 1. Renovation of 2000 hectares and planting of 6000 new hectares of cocoa Project 2. Transference of the technological package for the establishment, maintenance, primary processing and entrepreneurial management of the cocoa production system	Corpoica, ICA, Secretariat of Agricultural and Rural development of Antioquia, local municipalities, UMATAS, regional and national governments, FINAGRO, Banco Agrario, FIP.	Fedecacao, CNC S.A., Casa Luker S.A., CORANTIOQUIA, CORNARE, Universities, producer associations
	Innovation in products and processes by the industries	Colciencias, MADR, FONDO DRI, MCIT	ANDI
	Investment in productive infrastructure Project 1. Installation and/or adaptation of bio-fabrics and cloning gardens for the achievement of enhanced genetic material improving the productive system of the cocoa production (green banana, forestry, fruits).	MADR, Corpoica, ICA, Agricultural Secretariat of Antioquia, local, regional, and national governments, UMATAS	Fedecacao, Casa Luker S.A., CNC S.A. producer associations.
	Credit and ICR (Incentive for rural capitalization)	Banco Agrario, FINAGRO, National and regional governments	Fedecacao, Casa Luker S.A., CNC S.A. producer ass.
Strategy 3 Social development in productive areas	Supply of infrastructure to support production in the production areas	CCRCC	CCRCC
	Training for participation and community organization	Corpoica, ICA, Agricultural Secretariat of Antioquia, local, regional, and nat. govern., UMATAS	Fedecacao, producer associations
Strategy 4 External markets penetration	General strategies Promotion of entrepreneurial spirit and export consciousness among all the links of the VC Support to cocoa processing firms in the activities of market research, commercialization and products promotion. Promotion and commercialization of cocoa and cocoa spin offs under cleaner and sustainable production schemes.	MADR, MCIT, CRCC, PROEXPORT	CCI, CCRCC

Source: MADR-IICA, 2002

Appendix 30
Members of the VC Cocoa-chocolate
National Competitiveness Council (2001)

Created by Resolution Number 00041 of 18 February 2002 by the Ministry of Agriculture and Rural Development. Members are representatives of the following institutions:

Ministry of Trade, Industry and Tourism
Ministry of Agriculture and Rural Development
Corpoica
ICA
CASA LUKER S.A.
CNC S.A.
Representative of SME regional chocolate firms (Chocolate Girones S.A.)
Fedecacao

Members of the VC Cocoa-chocolate Antioquia Regional Competitiveness Council
(November 2002)

Agriculturalists

Fedecacao

Industrialists

CNC S.A.
Casa Luker S.A.

Institutions

Agrocadenas Antioquia
CORANTIOQUIA (Corporación Autónoma Regional del Centro de Antioquia).
CORNARE
CORPOICA
CORPOURABA
ICA
MADR
Secretaria de Agricultura (Antioquia)
PROGRESAR ONG

Source: MADR-IICA, 2002

Appendix 31
VC cocoa-chocolate in Antioquia:
Formulation and development of the CA

INDICATOR	SCORE*	LEGEND/DESCRIPTION
1.1 Quality of commitments	1	Commitments not formulated in terms of concrete and measurable actions (too general)
	2	Formulation of a mixture of well-structured commitments with other incomplete in terms of financial and administrative responsibilities by members of the CA
	3	Mostly well-structured commitments with clearly defined goals and measurable activities, with allocation of financial resources and timeframe set for their development.
1.2 Degree of achievement	1	Less than 20% of commitments fulfilled
	2	Between 21% and 60% of commitments fulfilled
	3	More than 60% of commitments fulfilled

Source: Own elaboration, CEPAL (2003), CAF (2002)

*1: Poor 2: Average 3: Good

Appendix 32
VC cocoa-chocolate in Antioquia:
Composition and dynamics of the regional council for competitiveness

INDICATOR	SCORE*	LEGEND/DESCRIPTION
2.1. Functioning of the technical secretariat	1	Inactive technical secretariat. Lacks co-financing schemes by the private sector for its functioning
	2	Technical secretariat with intermittent funding problems that threatens its continuity and hinders its normal operation
	3	Active technical secretariat (person or organization) with technical and administrative experience in VC related issues; adequate funding with private and/or public contributions; and recognition by most of the VC stakeholders
2.2 Composition of the regional council	1	Composed of stakeholders of one link and public sector, does not integrate directly agro and industrial producers, depends on the participation of business interest associations. Its members are not endowed with decision-making power
	2	Includes two or more links. Composed of members of NGOs, Universities, public agencies, business interest associations. Either low participation of local and regional governments or of key agro and industrial sector producers. Most participants do not have decision-making power
	3	Comprises most links of the VC. Active public and private sector participation including leading firm(s) of the VC; includes NGOs, small, medium and large agro and industrial producers, business interest associations, producer associations, universities, centers of productivity. Stakeholders have decision-making power
2.3. Dynamism of the Regional Council for Competitiveness	1	Poor dynamism. No periodicity in the meetings; lack of technical committees; deficient information flows; lack of awareness about the CA, low degree of commitment of the VC actors
	2	Average dynamism. Intermittent periodicity in the meetings, appointment of technical committees, average information flows, insufficient awareness about the CA, asymmetrical degree of commitment among the members of the regional council.
	3	Good dynamism. The RCC meets regularly; supporting technical committees, solid information flows and high degree of commitment of VC members. The VC actors are aware about the CA

*1: poor 2: average 3: good

Source: Own elaboration

Appendix 33
VC cocoa-chocolate in Antioquia:
Life cycle of the CA

INDICATOR	SCORE*	LEGEND/DESCRIPTION
3. 1 Trajectory of competitiveness agreement	1	Signing of CA- partial fulfillment of the CA's goals (less than 30%)-dissolution of RCC
	2	Signing of CA-partial fulfillment of the CA's goals (between 31 and 60%)-dissolution of technical secretariat and loss of functionality of the RCC.
	3	Signing of CA-Fulfillment of more than 60% the CA's goals-renewal of CA and permanence of RCC

*1: poor 2: average 3: good

Source: Own elaboration

Appendix 34
VC cocoa-chocolate in Antioquia:
Policy Process Effectiveness of the CA (summary)

Value Chain	Agreement on Competitiveness		Regional Council for Competitiveness			Trajectory of CA	Total score	Ranking
	1.1	1.2	2.1	2.2	2.3			
Cocoa-chocolate in Antioquia						3.1		Intermediate
	2	2	2	2	2	2	12	

1. Formulation and development of the CA 1.1 Quality of commitments
1.2 Degree of achievement

2. Composition and dynamics of the Regional Council for Competitiveness
2.1 Functioning of the technical secretariat
2.2 Composition of the regional council
2.3 Dynamism of the regional council

3. Life cycle of the CA 3.1 Trajectory of competitiveness agreement

Source: Own elaboration

Appendix 35
VC cocoa-chocolate in Antioquia: Characteristics of outcomes

INDICATOR	SCORE*	LEGEND/DESCRIPTION
1.1 Relevance of outcomes	1	Most outcomes of the activities carried out not related to goals of the CA
	2	Outcomes of activities carried out partially related to goals of the CA (some are related and others not)
	3	Most outcomes of activities carried out clearly related to goals of the CA.

1: poor 2: average 3: good

Source: Own elaboration

Appendix 36
VC cocoa-chocolate in Antioquia: Contribution to corporate goals

INDICATOR	SCORE*	LEGEND/DESCRIPTION
2.1 Relevance of activities	1	Activities carried out during the CA did not support most corporate goals of primary stakeholders of the VC, particularly agricultural and industrial producers.
	2	Activities conducted during the CA partially contributed to achievement of corporate goals of agricultural and industrial producers.
	3	Activities conducted during the CA fully supported achievement of corporate goals of agricultural and industrial producers.

*1: poor 2: average 3: good

Source: Own elaboration

Appendix 37
VC cocoa-chocolate in Antioquia:
Improvements in VC coordination

INDICATOR	SCORE*	LEGEND/DESCRIPTION
3.1 Degree of coordination	1	Regional council has low dynamism and very few events of coordination (programs, projects and campaigns) among different links of the VC.
	2	Regional council has average dynamism and few events of coordination among different links of the VC.
	3	Regional council is highly dynamic and several events of coordination amongst different links of the VC.

*1: poor 2: average 3: good

Source: Own elaboration

Appendix 38
VC cocoa-chocolate in Antioquia: Relevance of the CA (summary of criteria and indicator scores)

Value Chain	Outcomes	Support corporate goals	Activities	Total score	Ranking
Cocoa-chocolate in Antioquia	1.1	2.1	3.1		High
	3	3	2	8 89%	2

Rank	Relevance
80-100	High
50-79	Intermediate
< 50	Low

Source: Own elaboration

Appendix 39a
Commitments matrix for the VC dairy products in Antioquia 2001
(production modernization)

Strategies/link	Commitments Planned activities
<p>Strategy 1: Development of human capital (training)</p> <p>Strategy 2: Development of an information system for the VC</p>	<p>Main identified areas for training: Sustainability and technological development, technical operation, business management, commercialization and marketing of dairy products and derivatives, milk's quality and hygiene, development of entrepreneurial projects.</p> <p>Projects: Schools of stewards (Escuelas de mayordomía) for eastern and northern Antioquia</p> <p>Management development in the dairy firms in Antioquia</p> <p>Technical management in the dairy (cattle) farms</p> <p>Commercialization and marketing</p> <p>Quality of dairy products as competitive advantage in the market</p> <p>Introduction of management elements in the cattle firm</p> <p>To determine inventory of sources of information necessary for the center</p> <p>To carry out the actual inventory of information</p> <p>To identify information that can be provided to each organization included in the project</p>
<p>Strategy 3: Sustainable development for the dairy VC (cleaner production)</p> <p>Strategy 4: Production support infrastructure for the VC</p>	<p>To participate in the elaboration, concertation and fostering of an agreement on cleaner production between the environmental bureau and the productive sector that lead to a sustainable development</p> <p>To strive for the achievement of an agreement on cleaner production at the level of the dairy industry in the Department of Antioquia</p> <p>Concerted action between the VC and the government to conduct actions and processes toward development of social and productive infrastructure</p> <p>Strengthening of entrepreneurial organization of cooperatives and producers' associations</p> <p>Organization and participation in conferences and seminars. Design profile of the seminar 'initiation to the exporting culture'</p> <p>Preparation and signing of agreement between DPRCC and PROEXPORT to support dairy product export projects</p>

Source: MADR-IICA (2001) Acuerdo de Competitividad de la cadena Láctea Antioquia, May.

Appendix 39b
Matrix of commitments for the VC dairy products in Antioquia 2001
(development of internal market)

Strategies/link	Commitments Planned activities
Strategy 5: Access, distribution and consumption- 'lacteous culture, consumption'	Activities
	Diagnosis of milk consumption and its derivatives 'Recuperation of the dairy culture'
	Foster alliances with the governor of the Department and majors of municipalities to increase milk consumption and purchases for hospitals, schools and other institutions administered by the government.
	Design and foster an educative campaign on milk consumption and its derivatives
Strategy 6: Quality- 'improvement in milk quality'	Payments to producers based on compositional and hygienic characteristics of milk (study issue of quality incentive payments)
	Organization of high level conferences to promote awareness of the advantages of milk quality
	Promote the use of government financial and tax incentives (ICR for machinery and equipment), tariffs incentives and VAT exceptions
	Cooperate with the DPNAC program of implementation of 'reference laboratories'
Strategy 7: Costs and inputs	To divulge through courses of basic training the methodology and the necessity to carry out cost analyses in the small milk production farms and small processors
	To promote through the UMATAS adoption of software for monitoring and cost analyses and other services that help the achievement of competitiveness
Strategy 8: Regional focus of the dairy production	Exploitation of the natural advantages for milk production such as soil, weather etc.
	Development of economies of scale for production, distribution, collection and industrial transformation
	To seek concerted allocation and concentration of public resources in the specialized raw milk production areas as well as in the double purpose livestock dairy farms in the identified regions
Strategy 9: Prices, quality and functioning of the markets	To elaborate a proposal of the DPRCC to the DPNCC about the national system of prices for the sector

Source: MADR-IICA (2001) Acuerdo de Competitividad de la cadena Láctea Antioquia, May.

Appendix 39c
Matrix of commitments for the VC dairy products Antioquia in 2001
(external markets penetration)

Strategies/link	Commitments Planned activities
Strategy 10: Export mentality and capacity	Project profile: Center of innovation, entrepreneurial and technological development of the dairy product VC
	Organization and participation in conferences and seminars. Profile design of the seminar 'initiation to the exporting culture'
	Preparation and signing of an agreement between DPRCC and PROEXPORT to support the projects for exporting dairy products

Source: MADR-IICA (2001) Acuerdo de Competitividad de la cadena Láctea Antioquia. May 2001.

Appendix 40
Members of the VC Dairy Products National
Competitiveness Council (1999)

Created by Resolution Number 00076 of 10 March 1999 by the Ministry of Agriculture and Rural Development. Members are representatives of the following institutions:

Ministry of Trade, Industry and Tourism
 Ministry of Agriculture and Rural Development
 Ministry of Health
 FEDEGAN
 FEDECOLECHE

ANDI (Industry's Food Chamber)
 ANALAC
 ACOLECHE
 Association of Independent Milk Producers

Members of the VC Dairy Products Antioquia Regional Competitiveness Council (May 2001)

Input distributors

Solla S.A.
Sumiagro
Biocaribe S.A.
Contegral S.A.
Finca S.A.
Lideragro S.A.
Monómeros S.A.
Seilam Ltda (Laboratory)

Milk producers

Fadegan
Asoholstein
Asoproleo

Industrialists

Cooperativa Colanta
Parmalat
Lácteos del Camino S.A.
Lácteos El Zarzal
Lácteos Rionegro
Uralac
Colemma Ltda
Colesa

Institutions

Secretaría de Agricultura de Antioquia
Sena
Universidad de Antioquia
Universidad Nacional
ICA
Cámara de Comercio de Medellín
Banco Agrario
Proagro
Corpoica

SOURCE: Own elaboration

Appendix 41***VC dairy products in Antioquia: Formulation and development of the CA***

INDICATOR	SCORE*	LEGEND/DESCRIPTION
1.1 Quality of commitments	1	Commitments not formulated in terms of concrete and measurable actions (too general)
	2	Formulation of mixture of well-structured commitments with other incomplete in terms of financial and administrative responsibilities by members of the CA
	3	Mostly well-structured commitments with clearly defined goals and measurable activities, with allocation of financial resources and timeframe set for their development.
1.2 Degree of achievement	1	Less than 20% of commitments fulfilled
	2	Between 21% and 60% of commitments fulfilled
	3	More than 60% of commitments fulfilled

*1: Poor 2: Average 3: Good

Source: Own elaboration, CEPAL (2003), CAF (2002)

Appendix 42**VC dairy products in Antioquia: Composition and dynamics of the regional council for competitiveness**

INDICATOR	SCORE*	LEGEND/DESCRIPTION
2.1. Functioning of the technical secretariat	1	Inactive technical secretariat. Lacks co-financing schemes by the private sector for its functioning
	2	Technical secretariat with intermittent funding problems that threatens its continuity and hinders its normal operation
	3	Active technical secretariat (a person or an organization) with technical and administrative experience in VC related issues; adequate funding with private and/or public contributions; and recognition by most VC stakeholders.
2.2 Composition of the regional council	1	Composed of stakeholders of one link and public sector, does not integrate directly agro and industrial producers, and depends on participation of business interest associations. Members are not endowed with decision-making power
	2	Includes two or more links. Composed of members of NGOs, Universities, public agencies, business interest associations. Either low participation of local and regional governments or of key agro and industrial sector producers. Most participants do not have decision-making power
	3	Comprises most links of the VC. Active public and private sector participation including leading firm(s) of the VC, NGOs, small, medium and large agro and industrial producers, business interest associations, producer associations, universities, centers of productivity. Stakeholders have decision-making power
2.3. Dynamism of the Regional council for competitiveness	1	Poor dynamism. No periodicity in meetings; lack of technical committees; deficient information flows; lack of awareness about the CA, low degree of commitment of the VC actors
	2	Average dynamism. Intermittent periodicity in the meetings, appointment of technical committees, average information flows, insufficient awareness about the CA, asymmetrical degree of commitment among the members of the regional council.
	3	Good dynamism. The RCC meets regularly; it has supporting technical committees, solid information flows and high degree of commitment of VC. The VC actors are aware of the CA

*1: poor 2: average 3: good

Source: This research

Appendix 43
VC dairy products in Antioquia: Life cycle of the CA

INDICATOR	SCORE*	LEGEND/DESCRIPTION
3. 1 Trajectory of competitiveness agreement	1	Signing of CA- partial fulfillment of the CA's goals (less than 30%)- dissolution of RCC
	2	Signing of CA-partial fulfillment of the CA's goals (between 31 and 60%)-dissolution of technical secretariat and loss of functionality of the RCC.
	3	Signing of CA-Fulfillment of more than 60% the CA's goals-renewal of CA and permanence of RCC

*1: Poor 2: Average 3: Good

Source: Own elaboration

Appendix 44
*VC dairy products in Antioquia:
Policy Process Effectiveness of the CA (summary)*

Value Chain	Agreement on Competitiveness		Regional Council for Competitiveness			Trajectory of CA	Total score	Ranking
	1.1	1.2	2.1	2.2	2.3			
Dairy Products-Antioquia	1.1	1.2	2.1	2.2	2.3	3.1		Intermediate
	2	2	2	2	2	2	12	

1: less effective 2: intermediate 3: more effective

1. Formulation and development of the CA

1.1 Quality of commitments

1.2 Degree of achievement

2. Composition and dynamics of the Regional Council for Competitiveness

2.1 Functioning of the technical secretariat

2.2 Composition of the regional council

2.3 Dynamism of the regional council

3. Life cycle of the CA

3.1 Trajectory of competitiveness agreement

SOURCE: Own elaboration

Appendix 45
VC dairy products in Antioquia: Characteristics of outcomes

INDICATOR	SCORE*	LEGEND/DESCRIPTION
1.1 Relevance of outcomes	1	Most outcomes of activities carried out not related to goals of the CA
	2	Outcomes of activities carried out partially related to goals of the CA (some are related and others not)
	3	Most outcomes of activities carried out clearly related to goals of the CA.

*1: Poor 2: Average 3: Good

Source: Own elaboration

Appendix 46
VC dairy products in Antioquia: Contribution to corporate goals

INDICATOR	SCORE*	LEGEND/DESCRIPTION
2.1 Relevance of activities	1	Activities carried out during the CA did not support most corporate goals of primary stakeholders of the VC, particularly agricultural and industrial producers.
	2	Activities conducted during the CA partially contributed to achievement of corporate goals of agricultural and industrial producers.
	3	Activities conducted during the CA fully supported achievement of corporate goals of agricultural and industrial producers.

*1: Poor 2: Average 3: Good

Source: Own elaboration

Appendix 47

VC dairy products in Antioquia: Improvements in VC coordination

INDICATOR	SCORE*	LEGEND/DESCRIPTION
3.1 Degree of coordination	1	Regional council has low dynamism and very few events of coordination (programs, projects and campaigns) among different links of the VC.
	2	Regional council has average dynamism and few events of coordination among different links of the VC.
	3	Regional council is highly dynamic and several events of coordination amongst different links of the VC.

*1: Poor 2: Average 3: Good

Source: Own elaboration

Appendix 48

VC dairy products in Antioquia: Relevance of CA (summary of criteria and indicator scores)

Value Chain	Outcomes	Support corporate goals	Activities	Total score	Ranking
Dairy Products-Antioquia	1.1	2.1	3.1		Intermediate
	2	2	2	6 67%	

Rank	Relevance
80-100	High
50-79	Intermediate
< 50	Low

Source: Own elaboration



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Alexander Blandón Lopez

Born in Ibagué (Tolima), Colombia, Alexander Blandón earned his BA degree in Economics at the University Externado de Colombia in 1986. He enrolled as a lecturer at CORUNIVERSITARIA, today University of Ibagué. In 1989 he received an US AID scholarship as part of the Andean Peace Scholarship project and in 1991, was awarded a Master of Arts Degree in Public Affairs at the University of Oregon (USA). In 1994, he enrolled as full-time lecturer at the University of Tolima. He received a scholarship from the Netherlands Fellowship Programme (NFP) and in 1997, earned a Master of Arts degree in Development Studies in Employment and Labor Studies with research paper distinction at the Institute of Social Studies, in the Netherlands.

He was commissioned by the University of Tolima to be the director and main researcher of the Observatory of Employment and Human Resources of Tolima from 1998 to 2003. In 2004 he received a scholarship from the NFP to study a PhD program in Development Studies at the Institute of Social Studies.

Alexander Blandón is at present a full-time lecturer at the University of Tolima in the areas of Development Economics and Urban and Regional Economy. He is the director of a research group, 'Value Chains and Regional Competitiveness' and is carrying out various research projects on topics related to value chains and local and regional development.

Contact information

Address:

University of Tolima,
NBHD Santa Helena
Ibagué (Colombia)
Mailbox 546

PBX: (+57) (8) 2 77 12 12 - (+57) (8) 2 77 13 13

Email: blandon2008@hotmail.com
blandon@iss.nl

The above candidate was admitted to the PhD program in the Institute of Social Studies (now the International Institute of Social Studies of Erasmus University Rotterdam) in The Hague in January 2004 on the basis of:

MA in Employment and Labor Studies, Institute of Social Studies (The Netherlands), 2007

MA in Public Affairs, University of Oregon (USA), 1991

This thesis has not been submitted to any university for a degree or any other award.