

Colombian Supply Chains: How Public Policy Shapes Agriculture

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Over the last 15 years, public policies for rural development in Latin America have evolved significantly. One strategy that has been increasingly incorporated into national agendas involves the strengthening of agricultural supply chains through public sector initiatives, policies, and incentives. With the aim of promoting a competitive rural economy in an increasingly globalized world, Colombia has developed an innovative policy approach that focuses on the development of supply chain organizations at the regional level. This strategy has enormous competitive potential when it is well targeted and has strong institutional support, as evidenced by the Ford Foundation-funded study reported here.

Key Messages

- **More competitive, less poor:** Alleviating poverty and making agricultural supply chains more competitive are not mutually exclusive goals, at least in the long term. Achieving both simultaneously will require inclusive public policies that target smallholder farmers.
- **Focus is key:** Supply chain policy interventions have been shown to increase agricultural yields. But unless these interventions specifically target vulnerable populations, they miss opportunities for improved production where it is most needed.
- **Build decentralized institutional capacity:** Strengthening institutions is not enough. Effective policy implementation demands good coordination between private, public, national, and local actors; integration into the regional competitiveness agenda; appropriate monitoring and evaluation (M&E); and long-term sustainability regardless of changes in government.
- **Less is more:** National supply chain organizations should use discretion when introducing new regional committees: over-extended regional governments may be unable to meet the concurrent needs of multiple supply chains.

Regional Policy

Agriculture is a major source of rural income, employing 2.5 billion people worldwide and constituting 6% of the global economy.¹ With world population expected to reach 8.3 billion by 2030 and with increasing threats to food security, strengthening agriculture has never been more critical.²

Yet, this sector is underdeveloped in many emerging nations. In Colombia, the agricultural growth rate (2.8%) lags well behind the national growth rate (3.6%).³ Moreover, rates of rural poverty (46.1%) and extreme rural poverty (22.1%) are far higher than their urban counterparts and have shown little improvement over the past decade.⁴

Still, the Colombian government views agriculture as a potential engine of growth, and it is not misguided in

1. The World Bank. Statistics. 2010. www.worldbank.org
2. FAOSTAT. 2010. FAO. <http://faostat.fao.org>
3. United Nations. 2010. ECLAC Statistics.
4. Calculations of the Mission to Link Employment, Poverty and Inequality Surveys (MESEP). More information on this Colombian government initiative can be found at www.dane.gov.co/index.php?option=com_content&view=article&id=430&Itemid=66

doing so. Agricultural jobs constitute 18.1% of the country's total labor market, and the sector (including agriculture, cattle, hunting, and commercial and farmed fisheries) plays a key role in the national economy, accounting for 6.76% of the total GDP in 2010.⁵ To harness the potential of the agricultural sector, since 1995 Colombia has increasingly focused public sector support on agricultural supply chains.

The rationale behind the supply chain policy push is two-fold. First, it assumes that public sector investments can help make agricultural supply chains more competitive by:

- Linking actors at various levels of the supply chain to improve coordination
- Providing funds for research and development
- Negotiating preferential treatment in trade policy

Second, the policy assumes that more-competitive supply chains help reduce rural poverty by:

5. United Nations. 2010. ECLAC Statistics.

- Enabling smallholder farmers to create economies of scale
- Encouraging specialization, innovation, and diversification

In recent years, Colombian supply chain policy has focused on improving the connection between macro-level policy initiatives and micro-level program implementation. To this end, national supply chain organizations have encouraged the creation of regional committees in major producing regions. By providing a forum for local actors, such committees aim to create not only more competitive, but also more inclusive and pro-poor supply chains.

The results presented in this policy brief are a first step towards determining the effectiveness of Colombian supply chain policy. Long-term success is contingent upon the achievement of systemic

competitiveness based on economic factors, social inclusion, and environmental sustainability. This brief focuses on the first two issues, leaving environmental sustainability to future studies.

Among other findings, we conclude that in some cases public policies have been effective in reducing poverty and at the same time increasing the competitiveness of agricultural supply chains. However, the results also indicate that such policies often do not target the most vulnerable, rural populations. Acknowledging the extent to which the success of these policy interventions depends on local contexts, we identify certain aspects of Colombian supply chain policy that can be replicated in similar policy environments elsewhere.

Geographically (Un)focused?

In Colombia, the poverty rate varies widely between cities. In 2011, the incidence of poverty in Bogotá, for example, was relatively low at 13.1%, while in Quibdó (department of Chocó) it reached as high as 53%. Poverty also varies between urban and rural spheres. In the 13 main metropolitan areas, the poverty rate was around 30.3%, but in the countryside it surpassed 46.1%.⁶

A key question, then, is whether public policies aimed at improving agricultural supply chains target the poorest rural areas and effectively enable them to benefit from increased competitiveness.

In search of answers, the study undertakes an analysis of factors of production as they relate to various

6. MESEP Statistics.

The Political Framework of Agricultural Supply Chain Organizations

Agricultural supply chain policy arose in the mid-1990s to meet the challenges presented by growing market liberalization in an increasingly globalized world. The idea behind Colombia's early policy was to increase the added value of agricultural products and ensure that all supply chain actors receive an equitable share of the profits, thus strengthening the sector's competitive edge. With the introduction of Law 811 in 2003, supply chain policy evolved to include social aspects, such as smallholder inclusion.

Three key pieces of legislation – Law 811 of 2003, Decree 3800 of 2006, and Resolution 186 of 2008 – constitute the legal framework for Colombia's public policy on agricultural supply chains. According to these laws, the country's agricultural supply chain organizations include the following governance structures (see Figure 1):

- **National Council:** Consists of representatives from each level of the supply chain (producers, industry, government, etc.), who collectively formulate and implement a competitive agreement and an annual plan of action.
- **National (Regional) Technical Secretariats:** Provide technical assistance at the national (regional) levels.
- **Thematic Panels:** Convene experts to address specific issues, such as technological improvements and market access.
- **Regional Committees:** Located in major producing regions, these mirror the structure and institutional composition of the National Council but with local actors and regional objectives.

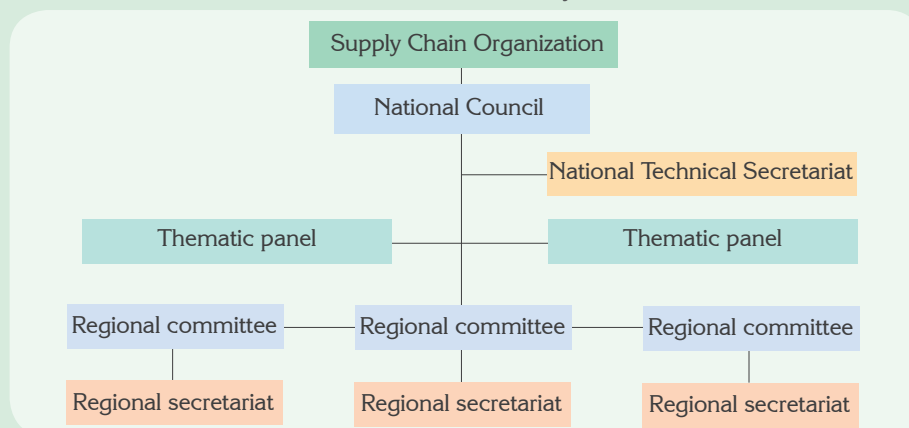


Figure 1. Governance structures of Colombian agricultural supply chain organizations. **Source:** Ministry of Agriculture and Rural Development (MADR, its Spanish acronym) and the Inter-American Institute for Cooperation on Agriculture (IICA, its Spanish acronym).

socio-economic indicators at the municipal level. Factors of production include crop production and yield; socio-economic indicators include human development indices,⁷ land tenure inequality, and population – both rural and urban – with unsatisfied basic needs (see Case Study: Cocoa).

We find that current supply chain policies do not clearly target the rural poor. While such interventions have improved productivity along with poverty, human development, and equality measures, these results are not consistently achieved within the poorest regions and populations.

Measuring Effectiveness

Agricultural supply chain policy has the dual goal of making chains more competitive while simultaneously alleviating rural poverty. The two aspects are closely tied. Assuming that increased yields lead to higher incomes for farmers, it follows that the implementation of policy that improves chain competitiveness at the municipal level will improve income and ultimately reduce poverty in the long run.

To determine whether specific policies are effective, it is essential to identify the extent to which these have been implemented at the municipal level. No policy initiative, however well conceived, can be effective if the institutional structures required for its implementation are not in place.

To address this issue, the study develops an Institutional Strength Index (IFI, its Spanish acronym) as a measure of policy effectiveness. The IFI score describes the apparent performance of public policy at the regional level by identifying the degree to which the governance structures of supply chain

policy have been formalized (see text box on page 4).

Innovative Analysis

In terms of policy implementation, analysis of the IFI scores reveals that policy is not consistently implemented throughout the country. Rather, the degree of implementation varies greatly, depending on the chain and the location.

A quick review of IFI scores reveals that policy presence varies widely between the agricultural supply chains, from very strong, in cases such as potato (2.8), *fique* (*Furcraea* sp.) – an Andean fiber – (2.6), and cocoa (2.4), to almost non-existent in cases such as *panela* (unrefined sugar) (0.4) and tobacco (0.4). Within individual departments that host multiple supply chains, the average IFI score of all the chains may be very high, as in Putumayo (2.3) and Caquetá (2.0), or very low, as in Valle del Cauca (0.2) and Casanare (0.4). These results challenge commonly held assumptions regarding the institutional strength of central versus peripheral departments in Colombia.

The degree of variability between the chains' departmental IFI scores is an equally important indicator of the strength of policy presence. Degree of variability refers to differences in policy performance scores obtained by the same agricultural supply chain in different departments. Ideally, a national chain organization would provide equal support to all regional branches, resulting in similar IFI scores and thus a low degree of variability. Indeed, certain chains, such as potato (0.2) and cotton (0.4), show little regional variability, while others such as forestry and palm oil (1.4) include some regional committees that are very strong and others that are very weak (see Figure 3).

One of the most significant results of the study concerns the relationship between the number of regional committees and the institutional strength of chain policy

at the regional level. While we are unable to identify the relationship between the number of regional committees supported by a national chain organization and their IFI scores, we find that as the number of regional supply chains within a department increases, so does the variability of policy strength between those chains.

The development of regional committees is currently promoted as a strategy for improving competitiveness, based on the assumption that more regional organizations translate into stronger organization-wide policy implementation. In fact, just the opposite may be true; national chains may be better served by lending their full support to fewer regional committees in key geographical areas. Several factors may contribute to this phenomenon, not the least of which is limited access to the scarce economic sources of regional governments.

Challenges

Colombia's agricultural supply chain policy largely reflects competitiveness goals rather than social priorities. However, if managed appropriately, improvements in competitiveness can lead to better rural livelihoods in the long run.

The Ministry of Agriculture and Rural Development's current supply chain policy focuses almost exclusively on productivity. Within a supply chain model, the transformation and marketing aspects are equally important, though some of these aspects fall under the purview of the Ministry of Commerce. The result is a set of partial supply chain support strategies that do not always mesh well. This lack of institutional coordination presents a major obstacle to the creation of coherent supply chain support policies.

Furthermore, the success of government policies on the development of regional agricultural supply chains depends heavily on good coordination

7. UNDP (United Nations Development Programme). 2011. Colombia rural: Razones para la esperanza. National Human Development Report 2011. Bogotá, Colombia. Available at: http://pnudcolombia.org/indh2011/pdf/informe_completo_indh2011.pdf

IFI: Institutional Strength Index

The IFI offers a straightforward quantitative measure of the public policy performance of agricultural supply chain organizations at the regional level (see Figure 2).

Constructing the IFI

The IFI is defined positively on a scale from 0 to 3, with higher scores indicating better policy performance. The IFI is built on three key sub-indexes, which are calculated as follows:

Regional Committee: Existence and activity level of the Regional Committee based upon its current stage of development and the frequency of formal meetings. The sub-index is scored from 0 to 1 as follows:

- 0: No committee
- 1/3: Committee in developmental stage, inactive
- 2/3: Committee established, meets occasionally
- 1: Committee established, meets regularly

Regional Secretariat: The presence of a Regional Secretariat or formal coordinator is scored as either 0 or 1 as follows:

- 0: No secretariat
- 1: Established secretariat or coordinating entity

Competitive Agreement: Existence and implementation of a general “Competitive Agreement” detailing the objectives and strategies established by the Regional

Committee. The sub-index is scored from 0 to 1 as follows:

- 0: No competitive agreement
- 1/3: Competitive agreement in developmental stage, not yet implemented
- 2/3: Competitive agreement approved, in the process of being implemented
- 1: Competitive agreement approved, fully implemented

The comprehensive IFI score is calculated by summing the scores of these three components.

Impact

By generating a quantifiable measure of public policy performance, the IFI index helps to establish a direct correlation between public policy performance and competitiveness indicators (holding all other variables constant).

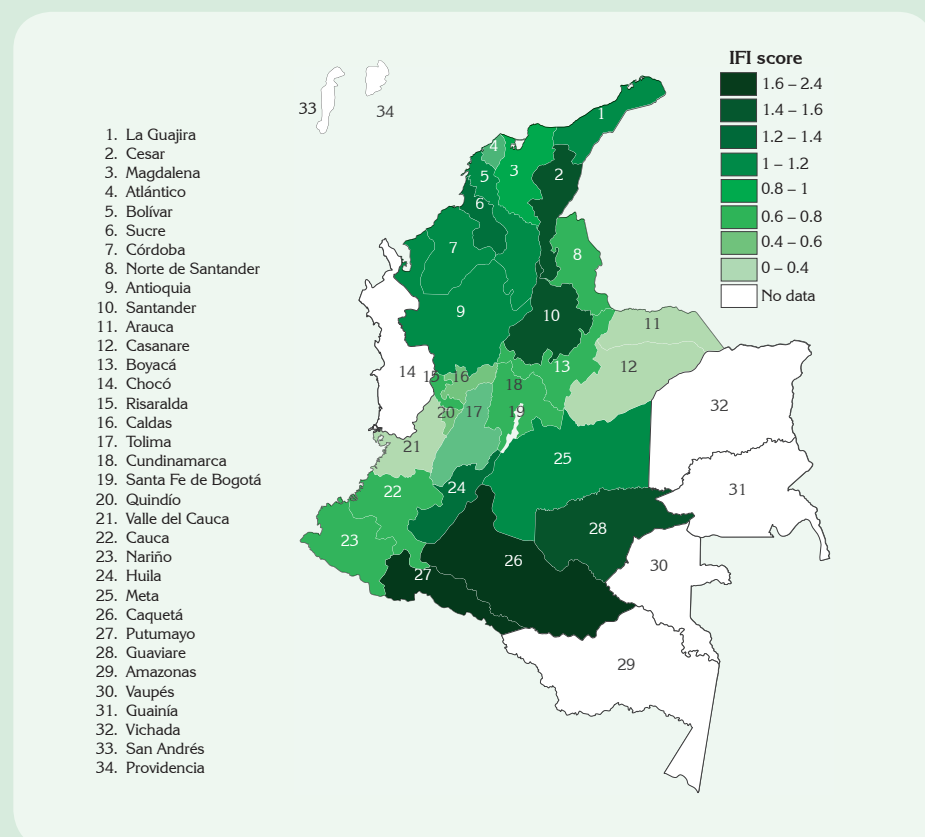


Figure 2. IFI score by department. Average of IFIs of agricultural supply chains supported by MADR.

Source: Authors, using data from MADR and IICA.

between national and local governments and on the participation of private sector actors. A lack of interest on the part of local governments and the failure of the private sector to fulfill commitments result in a weak regulatory framework and poor governance. Support from

the national chain council may compensate for such difficulties, but only where the regional chain organization itself is strong and committed.

Among Latin American countries, Colombia continues to be at the

forefront of strategic policy initiatives aimed at strengthening agricultural supply chains. Thus, this analysis may be considered an important contribution to the development of effective regional policy.

Consistent Implementation

Figure 3 shows the average level of institutional strength (IFI score) for each agricultural supply chain organization. An indicator of variability

accompanies the comprehensive IFI score. Effective policy initiatives will demonstrate strong political performance (high IFI score) and

consistent implementation (low degree of variability). The potato supply chain, for example, has a high IFI score (2.8) and a low variability score (0.2).

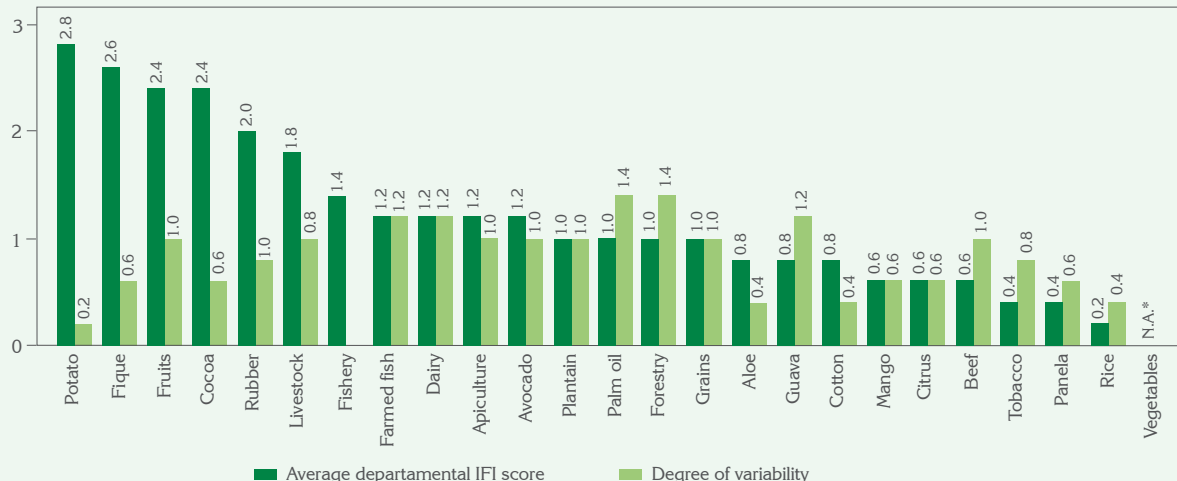


Figure 3. IFI score and degree of variability by agricultural supply chain.

Source: Authors, using data from MADR and IICA.

Note: The variability score indicates the degree of variation (average standard deviation of IFI scores) of public policy performance found between different regional branches of the national supply chain organization.

* N.A. = Not available.

Case Study: Cocoa

The cocoa supply chain presents a novel case in terms of both focalization and competitiveness.

A geographic analysis of the cocoa supply chain reveals interesting findings in the municipalities with active supply chain policies. Production is positively correlated with high inequality of land tenure. Yield, defined as production per hectare, tends to be higher in more-developed areas with less poverty. These findings indicate that public policy interventions may encourage cocoa production and thus improve chain competitiveness. Unfortunately, competitiveness does not seem to have increased in municipalities where rural poverty is most prevalent, or where land tenure inequality is most pronounced (see Figure 4).

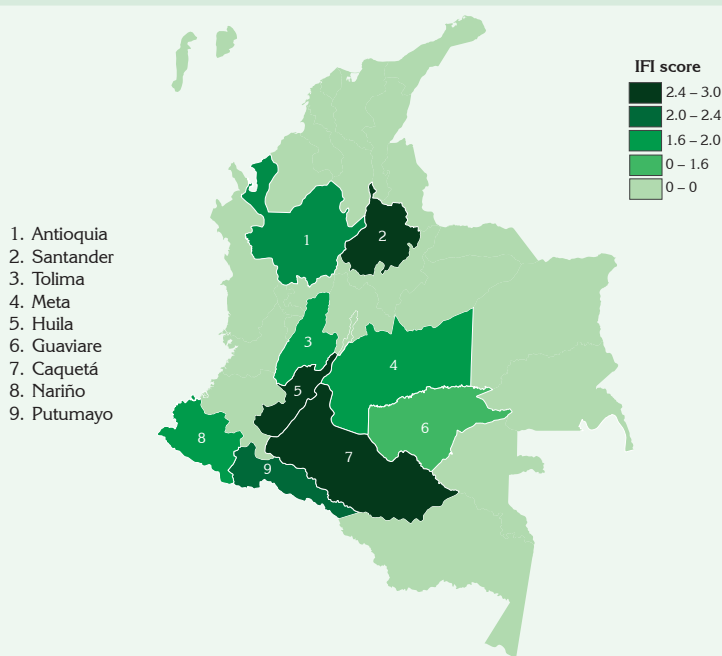


Figure 4. Institutional strength of cocoa supply chain policy by department.

Source: Authors, using data from MADR and IICA.

Note: Institutional strength refers to the existence of governance institutions that effectively implement supply chain policy initiatives.

Policy Recommendations

Future policy design may benefit from the following recommendations:

- Agricultural supply chain policy must be integrated into subnational development strategies and competitiveness initiatives to ensure proper allocation of limited regional resources.
- The Ministry of Agriculture and Rural Development (MADR) should

design and consistently monitor an institutional strength index, similar to the IFI, as an important tool for public policy monitoring and evaluation.

- Proper documentation at the national and regional levels is essential. Policy outcomes, especially at the local level, must be consistently recorded, as the current lack of data hinders the

development of future policy initiatives.

- Regional committees should be fully and equally supported by national chain policies, and new regional committees should be included only when proper resources and support are available.

Further reading

This policy brief is based on the internal project report prepared for the Ford Foundation:

Parra-Peña RI; Lundy M. 2012. Cadenas productivas en el sector agropecuario y rural de Colombia: Un análisis macro de una política pública de competitividad (Production chains in Colombia's agricultural and rural sector: A macro-analysis of a competitive public policy).

Fedesarrollo (Fundación para la Educación Superior y el Desarrollo). 2010. Algunas reflexiones sobre la política agropecuaria en Colombia. In: Tendencia Económica. Monthly Report No. 100, Bogotá, Colombia. p 6–11. Available at: <http://www.fedesarrollo.org.co/wp-content/uploads/2011/08/TE-No.-100.pdf>

Peña Y; Nieto PA; Díaz F. 2008. Cadenas de valor: Un enfoque para las agrocadenas. Equidad y Desarrollo 9:77–85. Available at: <http://publicaciones.lasalle.edu.co/images/openaccess/Revistas/equidad/equidad9.pdf>

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