

Business model brief



RESEARCH
PROGRAM ON
Livestock

Business opportunities along sustainably intensified beef and dairy value chains

KEY MESSAGES

- Scientific evidence was generated that shows the potential of product differentiation for the Latin American cattle sector based on more sustainable technologies and management systems.
- Consumers, mostly from richer households, are willing to pay a price premium for sustainable beef products. If they are provided with information on the negative environmental effects of conventional cattle systems, the price premium they are willing to pay increases.
- The COVID-19 pandemic has, however, led to reduced household incomes and thus, in a certain way limited the development and spread of differentiated products.
- Nevertheless, efforts have continued regarding the development of sustainability certificates. The *Aval GANSO*, a sustainability certificate launched during the pandemic, is one example for a successful collaboration among science, NGOs, farmers, and the private beef sector. It also shows that obtained price premiums can be shared among the involved actors and reach the primary producers.

SUMMARY

The brief gives an overview on consumer studies conducted for the beef sector in Colombia that have helped inform stakeholders on the possibilities of product differentiation and price premiums. This includes analysis of changes in consumer preferences during the COVID-19 pandemic and how these changes might affect product differentiation efforts.

Emphasis is on how the generated scientific evidence can be put into practice by describing one particular case of product differentiation for sustainable beef, the so-called *Aval GANSO*, which is a certification scheme for sustainable beef products sold at a price premium in the larger cities of Colombia. This example shows how product differentiation can be beneficial to all involved, and how sustainable intensification can be incentivized at a larger scale.



In a study conducted by researchers from the Alliance of Bioversity International and CIAT, 70% of a group of Colombian food consumers from varying levels of income and education stated a willingness to pay for sustainably produced beef. Photo nicepng.com

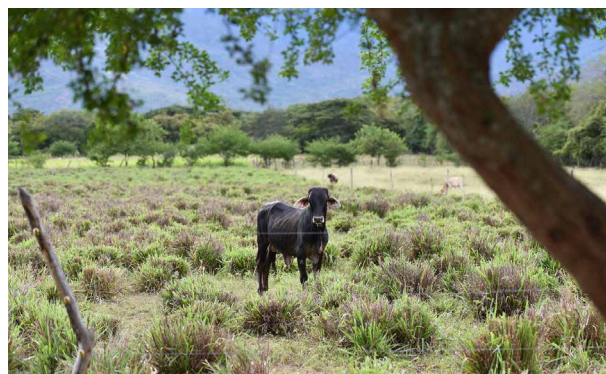
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In addition to raising productivity of livestock as a more nutritious feed source, improved forages can also provide environmental co-benefits such as regenerating soils, reduced water use and prevention of soil erosion.

Photo Alliance of Bioversity International and CIAT/Georgina Smith



Researchers from the Alliance of Bioversity International and CIAT are working with livestock farmers in Colombia to increase the adoption of silvopastoralism, which can improve the productivity and incomes, protect and restore soils, and reduce the greenhouse gas emissions from livestock systems.

Photo Alliance of Bioversity International and CIAT/Neil Palmer

INTRODUCTION AND OBJECTIVE

While a variety of factors contribute to rising temperatures and loss of biodiversity, food production has a high share of responsibility. Supply chains are increasingly associated with environmental and socioeconomic effects—from production to distribution, consumption and waste generation. The agricultural sector contributes to climate change by generating approximately 30% of the anthropogenic greenhouse gas (GHG) emissions. It also uses 70% of the global freshwater, causes 80% of the global deforestation and is responsible for the loss of 70% of the terrestrial and 50% of the freshwater biodiversity. In particular, beef production is associated with generating high amounts of GHG emissions, negatively impacting climate change and causing loss of forest area and biodiversity.

Environmental problems have awakened people's consciousness in recent decades. This has given rise to socially responsible consumption whereby consumer's choose products and services not only on their quality or price but also their environmental and social repercussions, as well as the behavior of the companies that offer them.

To understand and respond to changes in consumer attitudes and behavior, research organizations and the private sector across the globe carry out studies that serve as inputs for adjusting production models (the way how food is produced and processed) and product marketing (e.g. differentiation, labeling) to new realities and demands. As a result, food system actors are transitioning to a bioeconomy model, which contributes to the mitigation of and adaptation to climate change, management of natural resources, preservation of biodiversity and forests, economic growth and employment.

In the cattle sector, the concept of sustainable intensification is focused on increasing productivity while generating ecosystem services (such as reducing the carbon footprint, improving soil quality, reducing sedimentation and erosion) and social and economic benefits for those involved in the sector. Focus is on the primary producer to increase the efficiency of their system (more product on less area and with less environmental footprint) through the implementation of alternative production models (e.g. silvo-pastoral systems, grazing management). Although the

alternative production models are highly profitable compared to the traditional ones, substantial investment is needed to establish them and adoption is often limited due to the financial burden for smallholder producers. Financial support, including subsidies, special credits, tax reliefs, development projects and product differentiation, is needed to encourage implementation.

Compared to the other options, product differentiation efforts are not external incentives or support mechanisms facilitated at the macro-level, but are internal changes facilitated by the value chain actors that respond to a changing consumer demand. This means that the consumer directly pays for changing the production system and associated value chains according to their demand. Usually, product differentiation goes together with price premiums, which can incentivize large-scale changes at the primary producer level.

One approach to product differentiation is the development of food labels or seals. The development of sustainability labels enable consumers to consider environmental and ethical aspects when choosing their products. Such labels are already in use across Europe and in the United States, and are increasingly being used in Latin America and the Caribbean (LAC). For the LAC cattle sector, there are already some sustainability seals in use (e.g. Carbon Neutral Beef (Brazil) and Carne del Pastizal (Argentina)), but most of them are still under development or in the piloting phase, i.e. in Colombia.

The objective of this brief is to provide insights into how the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT) have contributed to the development of a sustainability label for the Colombian cattle sector, named *Aval GANSO*, by (i) generating and sharing scientific evidence on changing consumer demand and willingness-to-pay, (ii) establishing dialogue with those organizations responsible for supporting cattle producers in the transition towards sustainable production systems (GANSO) and the private sector (one of the largest retailers in Colombia), (iii) advising on the development of the label (indicators, monitoring), and (iv) assisting in the dissemination of information to spread word of the label and its benefits.

SCIENTIFIC EVIDENCE ON THE CHANGING CONSUMER DEMAND IN COLOMBIA

Are consumers in Colombia willing to pay more for sustainable beef and animal welfare?

In 2016, a study was conducted with Colombian food consumers (Charry et al. 2019) to determine the characteristics of a potential market segment for sustainably produced beef (contingent valuation exercise) and estimate marginal willingness to pay (MWTP) for potential labels for sustainably produced beef and animal welfare (discrete choice experiment). The effect of information on the consumer's MWTP for sustainably produced beef was also estimated.

The results from the contingent valuation exercise revealed that education and income increase consumers' MWTP for sustainably produced beef. A significantly lower MWTP for this attribute was determined for consumers who prefer beef over other meat alternatives. This could represent an important obstacle for market penetration since the largest number of consumers are less willing to pay for sustainably produced beef. No significant effects of various behavioral or sociodemographic characteristics were found on the MWTP for sustainably produced beef (such as household size, gender, presence of children in the household, per capita beef consumption). This demonstrates

that environmental concerns may no longer be niche issues but instead are becoming social norms, a trend already identified in wealthier countries. Interestingly, 70% of the sample stated a willingness to pay for sustainably produced beef across varying levels of income and education.

Based on the results of the discrete choice experiment, it was found that consumers from higher education and income segments are willing to pay a price premium of 40.2% for beef with ethical and environmental differentiation, with similar values to those found in the context of developed countries. We found that information on the negative impacts of the cattle sector on the environment, even in a brief format, managed to substantially increase the MWTP for sustainably produced beef. This suggests increasing consumer awareness can substantially stimulate the local demand for more sustainable products and might widen the consumer base for sustainable beef labels. The proposed label description for animal welfare was fully based on current regulations, so there is no need to include stricter practices or regulations.

How is COVID-19 affecting consumer preferences and choices?

In 2020, a study was conducted on the potential impacts of the COVID-19 pandemic on the cattle sector in Colombia (Burkart et al. 2020), which focused on describing potential changes in food consumer demand and their influence on the sector's transition towards more sustainability. Before the pandemic, the offer of sustainable food products in Colombia, including beef and dairy products, was rapidly developing in response to increasing demand (i.e. by wealthier consumers) and willingness to pay (Charry et al. 2019), creating opportunities along the value chains (Charry et al. 2018).

It is expected that the crisis will cause two opposing effects regarding product differentiation efforts. First, substitution effects could lead to even less demand for differentiated beef and dairy products, since they are generally more expensive than conventional ones, and negatively affect the development of sustainable value chains (short-term perspective). Second, the crisis could lead to a change in consumer perceptions and cause a shift towards more sustainability and animal welfare once the financial means are available, leading to a boost in the development of sustainable value chains (long-term perspective).

The crisis has shown that consumers have lost confidence in the food system and there is a stronger focus on healthier diets. An increase in demand for more food safety, hygiene, traceability and sustainability is expected, particularly in the livestock value chain, which could lead to higher investments by the industry (Burkart et al. 2020).

A consumer household survey was conducted during the strict lockdown in Colombia in 2020, to measure the effects of the pandemic on beef consumer preferences and beliefs (Ramirez et al. 2021). Through logit regression models, the following issues were evaluated

(i) the effects of sociodemographic variables on changes in food consumer preferences for a set of selected attributes, such as animal welfare and environmental sustainability

(ii) consumer's decision on beef consumption in the midst of the COVID-19 pandemic.

Results show that the effect of the pandemic in Colombia has not considerably changed consumer beliefs regarding various

attributes, such as animal welfare, environmental sustainability, information on the origin and manufacturing of food, food appearance, food price, fair payment to the producer and food packaging. Although this result is different from what was expected (Burkart et al. 2020), consumer beliefs might still change if the pandemic continues.

However, consumption preferences have been affected by the pandemic as evidenced by the decline in beef consumption, i.e. amongst lower-income households or households that faced income reductions due to the pandemic (83.3% of the surveyed consumers). As expected (Burkart et al., 2020), this could affect the pre-COVID-19 efforts of the cattle sector in Colombia, which were strongly oriented towards the development of sustainable products with price-premiums (Charry et al. 2019; Charry et al. 2018; Ruden et al. 2020).

The results of these studies suggest that to preserve the achieved progress and to take advantage of new opportunities, stakeholders at all levels (e.g. public policy, markets, primary producers) should increase their support and investment in sustainable products and production processes, despite the mentioned setbacks caused by the pandemic. This represents a major opportunity with various confluent demands of the local population, such as increasing food security and sovereignty, ensuring incomes and livelihood of the most vulnerable and affected population, promote rural justice and redistribution, and address the national and international commitments of environmental protection, climate change mitigation and adaptation (Burkart et al. 2021). A positive example for this is the development of the *Aval GANSO* label for sustainable beef launched during the peak of the pandemic in 2020.



This small herd of steers are part of a research project on improved forages and silvopastoral systems, to assess liveweight gain, productivity and GHG emissions. Photo Alliance of Bioversity International and CIAT/Miller Escobar

SHARING SCIENTIFIC EVIDENCE WITH INTERESTED STAKEHOLDERS

The study results have been shared with stakeholders in both the private and public sector of the cattle industry to inform them of the identified opportunities that come along with changing consumer demand. The most important platform for sharing the results was the Colombian Roundtable for Sustainable Beef (MGS-Col), a national level roundtable consisting of over 75 members from the public and private cattle sector, academia, research, and Non-Governmental Organizations, as well as thirteen regional roundtables representing the main cattle regions in Colombia.

Results were presented, discussed and validated with member institutions at various bi-monthly meetings and workshops between 2016 and 2021. In 2020, the results were presented during the 4-month virtual seminar series on sustainable cattle organized by MGS-Col, which was accessed by over 23,000 people from more than fifteen countries. Results were also shared at scientific conferences and other events, during meetings with key stakeholders from the sector, or sent to interested institutions, mostly from the private beef sector.

DESCRIPTION OF THE BUSINESS MODEL – *Aval GANSO*

The collaboration with GANSO and Grupo Éxito

GANSO (“Ganadería Sostenible”, which means Sustainable Livestock) is a technical assistance and financing facility that supports farms in their transition from inefficient cattle ranching activities to sustainable and diversified production systems through integrating the elements of intensification of cattle production (with trees and improved forages), ecosystem conservation and restoration. GANSO's objective is to support the development of scalable businesses at the farm level that help reduce pressure on natural ecosystems, while supporting local economic and social development in areas occupied by inefficient livestock production systems. GANSO was founded in 2018, supported by Climate Focus - an international climatic and advisory company - and the Alliance of Bioversity International and CIAT. GANSO is based in Villavicencio in the Meta Department of Colombia and works along the Orinoco region, located in the eastern plains of the country.

The Grupo Éxito, Colombia's largest meat and general grocery retailer, approached GANSO for expert advice to certify, through satellite imaging, their beef farm suppliers for deforestation. After all suppliers were assessed, Grupo Éxito and GANSO expanded their engagement into developing a sustainability certification program for cattle farms in Colombia, called *Aval GANSO* (Ruden et al. 2020).

The development of the *Aval GANSO* seal for sustainable beef

The *Aval GANSO* certification or seal was created by the two founding institutions and drawing on the experience of professionals from the beef value chain, who chose the most important pillars of sustainability in cattle production for the certification scheme, such as zero deforestation within the last ten years.

How does the *Aval GANSO* seal work?

Aval GANSO is a voluntary assessment tool for cattle producers and processing companies interested in assessing their production system and management, and a guarantee mechanism for consumers interested in purchasing sustainable beef. The tool was created to respond to the demand to establish a system to qualify and quantify the level of commitment and compliance of cattle farms with sustainability criteria. These criteria were classified in four pillars: environment, social, animal, and system management. *Aval GANSO* allows for three levels of progress, according to the results of the assessment carried out by an independent third party. This endorsement is applied at the farm level and to the product that leaves the farm. A price premium of up to 5% is paid to the certified producers by Grupo Éxito depending on the level of compliance with the sustainability criteria:

- (i) GANSO Inspired: 50% compliance with the assessed sustainability practices
- (ii) GANSO Committed: 51-80% compliance with the assessed sustainability practices
- (iii) GANSO Responsible: >81% compliance with the assessed sustainability practices

GANSO's technical team is responsible for this evaluation through a checklist with a consulting firm that guarantees impartiality. The cattle producer receives a report of his evaluation and is given technical support to improve his system and scores if needed.

Potential for scaling and replication

The GANSO monitoring program has been monitoring 140 farms with approximately 40,000 hectares of productive land and 11,000 hectares of forest for conservation. Of these, the *Aval GANSO* endorsed seven farms by 2020 covering more than 10,000 hectares of productive land, over 1,000 hectares of forest for conservation and monitoring over 15,000 cattle. Meat from the endorsed farms is being sold by Grupo Éxito and the number of farms working with GANSO has doubled in 2021. There is huge growth potential for the coming years.

LESSONS LEARNED

- ✓ The generation of scientific evidence has helped to inform the private sector on the possibilities of product differentiation for the beef sector in Colombia
- ✓ The collaboration among actors from science, financing, processing and the commercial sector has helped develop a sound certification scheme for sustainable beef
- ✓ It is possible to transfer parts of the price premium obtained in the niche market to the primary producer and by this, incentivize the sustainable intensification of the production system
- ✓ It is necessary to involve a third party in the certification and monitoring process to guarantee impartiality
- ✓ Although COVID-19 has had effects on beef consumption and the beef value chains, the *Aval GANSO* was launched during the first lockdown in Colombia, sending a clear signal on the importance of such efforts even in difficult times

CONCLUSION: IMPLICATIONS AND RECOMMENDATIONS

This brief shows how product differentiation efforts can work through an integrated approach, which includes the generation of scientific evidence and its dissemination, the development of a monitoring and certification scheme based on scientific evidence and the constant collaboration among different stakeholders.

The practical example we provided on the *Aval GANSO* shows that obtained price premiums can be shared among the involved actors and reach the primary producers. This will, in the medium- to long-term, help incentivize cattle producers to invest in improving their systems and undergo product certification. Everyone can benefit: a) cattle producers increase their income, livelihoods and resilience, b) benefits for the environment occur through sustainable intensification and monitoring, and c) the growing consumer demand for sustainable beef can be satisfied.

Right now, the provision of differentiated beef is oriented towards a very small niche market, which satisfies the demand of rather wealthier and well-educated consumers from the large cities of Colombia. The planned scaling efforts should have this in mind and through economies of scale try to satisfy a larger market of interested consumers.

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How can I find out more?

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Partners



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Cover photo: About 200 livestock producers were trained on the use of forage resources for sustainable cattle production systems in Patía, Cauca in Colombia through a collective effort by researchers from the Alliance of Bioversity International and CIAT, the University of Cauca and the Government of Cauca.