

The Crucial Role of Agriculture in the Colombian Economy: Challenges and Opportunities

El Papel Crucial de la Agricultura en la Economía Colombiana: Retos y Oportunidades

In Colombia's vast economic landscape, agriculture emerges as a fundamental pillar, with a significant impact on national development and the well-being of its citizens. This activity not only supports millions of rural families but also plays a crucial role in the country's trade balance and economic growth. As Colombia faces global and local challenges, it is imperative to recognize and strengthen the role of agriculture in the national economy, which has become one of its foundational pillars. According to recent data from the National Administrative Department of Statistics (DANE), the agricultural sector contributes approximately 6% of the country's Gross Domestic Product (GDP) and employs around 16% of the labor force. This significant participation demonstrates that agriculture is not only vital for food supply but also as an economic engine for society.

Colombia is a country with diverse geography that allows for the cultivation of a wide variety of products. From coffee, avocado, and cocoa in the Andean region's mountains to bananas in the Caribbean region, each area has its own specialties contributing to the country's agricultural wealth. Coffee, for example, is not only one of the main export products but also a cultural symbol of Colombian identity.

The economic impact of agriculture in Colombia is manifested in multiple ways. First, through job creation. In rural areas, agriculture is often the primary source of income. Coffee plantations, avocados, fruit trees, sugar cane, and flowers, among other products, provide employment to thousands of Colombians, often in areas where other job opportunities are scarce. Additionally, agriculture contributes to the country's trade balance. Agricultural exports represent a significant portion of Colombia's foreign trade. In 2023, exported agricultural products totaled approximately \$8.2 billion, with coffee, bananas, and flowers standing out as the main export products. This flow of foreign currency is crucial for the country's economic stability and financing imports.

However, despite its importance, agriculture in Colombia faces numerous challenges that threaten its stability and growth. Among these are insecurity in rural areas, deforestation, and climate change. Violence in some regions prevents the full development of agricultural activities and affects the safety of workers. Deforestation, partly driven by the expansion of the agricultural frontier, is destroying vital ecosystems and affecting biodiversity. Climate change is another critical challenge. Changes in precipitation patterns and extreme temperatures affect agricultural production, reducing the quality and quantity of crops. Farmers face prolonged droughts and intense rains, affecting not only crop yields but also the economic stability of rural families.

Despite the challenges, there are opportunities to transform Colombian agriculture into a more resilient and sustainable sector. The adoption of modern technologies and sustainable agricultural practices is essential to improve productivity and profitability. For example, the adoption and implementation of plant biotechnology techniques, considered a pillar of agricultural innovation. We are talking about using biological techniques necessary to improve plants in terms of yield, resistance, and food quality. Techniques such as in vitro cell and tissue culture, developing new plants through plant genetic engineering, molecular marker-assisted selection, and, lately, the gene editing. This scientific approach has revolutionized global agriculture and is beginning to show its potential in Colombia. For example, biotechnology allows for the development of crops that are more productive, disease-resistant, and

adapted to adverse climatic conditions. Genetically modified crops such as corn, cotton, and soybeans have proven more resistant to insects and diseases. Other crops, such as flowers, avocados, rice, cocoa, and sugar cane, have also been improved through plant biotechnology. (In Colombia, cocoa is one of the most profitable crops in the long term and one of the crops whose production has increased year after year, according to Eduardo Baquero López, executive president of the National Federation of Cocoa Growers of Colombia (Fedecacao), who mentions that “17 years ago, 30,000 tons were produced annually, and today around 63,416 are produced”). The banana industry expects a 5% increase by 2024, and it is reported that “during the last season (2023), accumulated exports were 106 million boxes worth USD 969 million, compared to the 2022 season, where 108 million boxes were sold for USD 891 million. The producing regions of Colombia are Urabá with 64 million boxes and Magdalena and Guajira with 42 million boxes.”

It is also necessary to mention that implementing efficient irrigation systems, using climate-resilient crop varieties, and adopting conservation tillage techniques can help mitigate some of the negative impacts. Additionally, boosting agricultural research and development can provide new solutions and improve existing practices. Partnerships between the public sector, private sector, and academic institutions can foster innovation and promote the development of new technologies that benefit farmers and the environment.

For Colombian agriculture to face its challenges and seize its opportunities, effective public policy support is essential. The Colombian government must continue strengthening support programs for farmers, ensuring they have access to financing, technical assistance, and risk insurance. Subsidy policies and soft loans can facilitate the adoption of more sustainable technologies and practices. It is also crucial to implement strategies to improve rural infrastructure, such as roads and markets, to facilitate market access and reduce transportation costs. Investment in infrastructure can improve the competitiveness of Colombian products in the international market and increase farmers' incomes.

The future of agriculture in Colombia depends on the country's ability to adapt to global and local changes. Promoting sustainable agricultural practices and including farmers in decisions affecting the sector are crucial steps to ensure balanced development. The participation of rural communities in policy and strategy formulation can ensure that their needs and perspectives are considered. Agriculture is not just an economic activity; it is a way of life for millions of Colombians. Strengthening this sector is essential for the country's economic development and improving quality of life in rural areas. With a combination of innovation, institutional support, and effective policies, Colombia can face current challenges and ensure a prosperous future for its agriculture.

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