

APRIL-JUNE 2025

# AGRIFOCUS

## CARIBBEAN



### CARDI

**Building a Resilient  
Agricultural Future in  
the Caribbean**

### THE RIGHT TRACTOR FOR THE JOB

**Built for Caribbean  
Terrains**

### ECO-FRIENDLY PACKAGING

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### MIXED CROPPING

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# Cultivating Conversations

## A Note from AgriFocus...

Welcome to AgriFocus eMagazine, your hub for insights, stories, and cutting-edge advancements shaping agriculture in the Caribbean and beyond. It is with immense gratitude that we write to you, our valued subscribers from across the Caribbean. Your enthusiasm and support have been overwhelming, and it is this shared passion for sustainable and innovative agriculture that motivates our team to continuously deliver content tailored just for you.

The agriculture sector is experiencing waves of exciting change, innovation, and formidable challenges. By connecting with our readers, we aim to inform, inspire, and empower everyone in this ecosystem - from farmers and agro-processors to policymakers and researchers. Together, we can drive progress that ensures food security, sustainable practices, and resilient livelihoods across the region.

This issue dives head-first into intricately curated topics that tackle some of the most pressing challenges and exciting trends in Caribbean agriculture today.

When we launched AgriFocus eMagazine, our mission was simple but ambitious: to serve as a platform that connects, educates, and inspires those committed to the Caribbean's agricultural landscape. Since then, we've listened to the feedback and suggestions shared by you, our readers, to improve our content and delivery.

Through the unwavering support of our growing audience, we have seen clear evidence of the region's collective dedication to sustainable agriculture and food security. From agro-processors experimenting with renewable energy to farmers adapting climate-smart techniques, it's clear that innovation is alive and thriving in the Caribbean.

This eMagazine doesn't merely reflect what is happening in agriculture; it represents a shared vision of where we can go as a community of thinkers, doers, and changemakers. Every article and feature is a reminder of the immense potential brewing within the Caribbean's agricultural community.

We encourage every reader to immerse themselves in the articles we've curated in this edition. Take inspiration from those featured within these pages, apply learnings to your practices, and share your own success stories for us to amplify in future issues.

Thank you for being part of this collective journey. Here's to innovation, resilience, and growth in agriculture!

*The AgriFocus Team*

# AGRIFOCUS

## EDITORIAL CONTRIBUTIONS

Are you passionate about agriculture? Share your expertise with AgriFocus eMagazine - the premier platform connecting industry professionals, farmers, and agripreneurs across the region.



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# IN THIS ISSUE



PG 7

## **CARDI**

**Building a Resilient Agricultural Future in the Caribbean**



PG 16

## **Mixed Cropping**

**The Game-Changing Farming Technique Transforming Caribbean Agriculture**

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PG 22

## **The Right Tractor for the Job**

**Built for Caribbean Terrains**



PG 30

## **Agriculture Meets Agro-Entrepreneurship in the Caribbean**



PG 38

## **Eco-Friendly Packaging**

**The Caribbean's Bold Step In Agro-Processing**



Caribbean  
Agricultural  
Research and  
Development Institute

# CARDI Strategic Plan

2024-2028



**Using Science and Innovation to  
Improve Caribbean Agri Food Systems**



# CARDI

## Building a Resilient Agricultural Future in the Caribbean

**Photo:**  
**Flooding in pasture**  
**due to unseasonal**  
**rainfall, Guyana.**  
**© J. Kundun/CARDI**

The agricultural sector in the Caribbean has long been both a backbone and a battleground for regional development. Farmers tirelessly cultivate the land across vast fields and parched soils, not only to sustain families and communities but also to protect a heritage of resilience in the face of adversity. Agriculture in the Caribbean, however, faces mounting threats—from the accelerating impacts of climate change to a heavy reliance on food imports and limited natural resources. Against this challenging backdrop, the Caribbean Agricultural Research and Development Institute (CARDI) has unveiled its ambitious Strategic Plan for 2024-2028, which offers an intricate blueprint for ushering in a robust and forward-looking agricultural revolution.

Through this strategic framework, CARDI aims to create solutions that go beyond immediate



**Photo:**  
**Data collection in**  
**research pilot.**  
**©CARDI Belize**

fixes to systemic problems. It is a roadmap not just to survival but to renewal. The plan speaks to a vision of agricultural transformation, interweaving sustainability, modern innovation, environmental stewardship, and empowerment, with the ultimate goal of building a thriving Caribbean agricultural sector that benefits all layers of society.

### **A Call to Action for Agricultural Growth**

The region's agricultural hurdles cannot be overstated. The Caribbean faces an uphill battle against the devastating impacts of climate change, which brings more frequent hurricanes, prolonged droughts, and flooding that devastate crops and livelihoods. Food insecurity poses an additional challenge, made worse by the region's dependence on imported goods. Even under

normal circumstances, this reliance creates vulnerability to fluctuating global supply chains and rising costs, leaving communities in economic and social precarity. These challenges are compounded by structural issues such as lack of access to modern farming technologies, limited resources for smallholder farmers, and waning interest in agriculture among youth.

CARDI's Strategic Plan for the coming five years rises to meet these challenges head-

on. By addressing both immediate need and future uncertainties, the plan equips the region with the tools to to improve and protect its food security, combat environmental pressures, and make agricultural careers a viable, respected, and profitable choice for generations to come.

### **Innovative Solutions for a Resilient Ecosystem**

Key to CARDI's Strategic Plan is the recognition that disruptive challenges require deeply innovative remedies. One of the most striking and far-reaching initiatives involves the development of climate-resilient agricultural practices. CARDI has committed to equipping regional farmers with sustainable solutions to withstand the volatile weather conditions exacerbated by global warming. By developing and implementing new crop varieties capable of surviving periods of drought, excessive rainfall, or hurricane-force winds, the institute is working to buffer farming systems against nature's growing unpredictability.

Equally impactful is its focus on teaching Caribbean farmers adaptive practices such as



**Photo:**  
**IoT Sensor to detect the presence of South American Palm Weevil larvae in coconut tree, Trinidad and Tobago.**  
**© N. Sharma/CARDI**

water-efficient irrigation techniques, improved soil conservation methods, the integration of agroforestry and other nature based solutions.

CARDI is also investing in food and nutrition security by championing local production. By reducing the region's reliance on food imports, the institute seeks to build a more self-sufficient agricultural economy. To achieve this, CARDI plans to invest in better seed storage facilities, reduce post-harvest waste, and improve access to nutritious, high-yield crops tailored to the Caribbean's diverse ecosystems. The result would simultaneously bolster the region's food supply while improving agricultural profitability.

**Photo:**  
**Partners**  
**working**  
**to develop**  
**the coconut**  
**industry in**  
**Barbados.**  
©International  
Trade Centre  
(ITC)

### **Sustainability as the Pillar of Transformation**

Sustainability is woven into the very fabric of CARDI's mission for 2024-2028. Tackling today's problems requires strategies that regenerate the environment rather than deplete its resources further. The plan emphasizes promoting organic farming methods that do away with harmful pesticides and fertilizers.



Trained agronomists and ecological researchers will pilot initiatives to restore degraded lands, reduce the impact of agricultural expansion, and preserve local biodiversity. The adoption of nature based solutions play a critical role in CARDI's model. For example, the adoption of agroforestry is an innovative tree cultivation system with agriculture crops that not only restores soil but ensures economic diversity, providing farmers with alternative products to supply markets while simultaneously regenerating natural habitats.

### **Championing Inclusion in Agriculture**

While technologies and practices are vital to the strategic plan, CARDI recognizes that revitalizing agriculture requires the buy-in, participation, and passion of the people. Of particular focus is the need to empower underrepresented groups. This is why CARDI has tailored its efforts to actively include women and young people at every level of agricultural activity. This includes funding grants for women-led ventures within agricultural logistics, production, and marketing, as well as educating the next generation through partnerships between universities, vocational schools, and CARDI's own training facilities.

By doing so, the institute aims to not only reduce barriers to entry for would-be farmers but to elevate agriculture as a respected and dynamic career choice. Success here will be measured in the thousands of young farmers stepping into the roles of their



**Photo:**  
**Assessing**  
**loss and**  
**damage of**  
**agriculture**  
**assets, St**  
**Vincent**  
**and the**  
**Grenadines.**  
©D. Jackson/  
CARDI

older peers with renewed energy, ambition, and innovation.

### **Breaking Down Barriers Across Borders**

True to its identity as a regional institution, CARDI knows that cooperation is key to tackling problems as complex and cross-cutting as food security, climate change, and agricultural stagnation.

A strong emphasis on regional and global collaboration forms a foundational pillar of the Strategic Plan.

To this end, CARDI will work closely with governments, NGOs, private enterprises, and educational institutions to harmonize policies, remove trade barriers for agricultural goods, and ensure that the benefits of agricultural innovation flow freely between island nations. By fostering this interconnectedness, the institute envisions a united Caribbean agricultural ecosystem that achieves not only self-reliance but competitive leverage on the global stage.

**Photo:**  
**Guyana**  
**fruit farming.**  
**©CARDI**



## **Vision 2028: Milestones and Measures of Progress**

CARDI has made it clear that its goals are both ambitious and measurable. By 2028, the institute envisions that food production will increase by at least 20%, dramatically reducing reliance on imported goods. Half of the region's smallholder farmers will adopt regenerative agricultural practices, laying the groundwork for a sustainable future. Expanded education programs will inspire thousands of young people and women, bridging the workforce gap and fostering diversity in agricultural careers. Perhaps most significantly, CARDI projects the creation of a thriving network of climate-resilient farms able to anticipate and withstand the adversities of a changing world.



## **An Invitation to Be Part of the Future**

CARDI's work is groundbreaking, but it cannot succeed in a vacuum. The transformation of Caribbean agriculture involves collaboration, creativity, and commitment from every level of society. Whether you are a farmer eager to modernize your methods, a policymaker shaping the future, or even a consumer looking to make informed food choices, your participation is critical.

The importance of CARICOM-produced food cannot be overstated. Choosing local, collaborating

**Photo:**  
**Tissue culture -**  
**NAREI, Guyana.**  
**©CARDI**

on projects, and remaining engaged with CARDI's goals represent meaningful ways for stakeholders of all kinds to stand behind the region's agricultural transformation.

### **A Bold New Era for Caribbean Agriculture**

The Caribbean has long been a region characterized by its resilience, creativity, and ability to thrive in times of difficulty. CARDI's Strategic Plan for 2024-2028 is more than a call to action; it is a call to dream bigger. It challenges the notion of agriculture as a static industry, revealing a profitable, dynamic, and indispensable engine for the growth of the region overall.

By empowering communities while protecting ecosystems, CARDI is reshaping what agriculture can mean for the Caribbean. With bold steps, unified efforts, and belief in the possibilities of innovation, the region has the opportunity to redefine its future, one resilient crop at a time.

**Photo:**  
**Hydroponics -**  
**Bahamas.**  
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# Mixed Cropping

## The Game-Changing Farming Technique Transforming Caribbean Agriculture

Modern innovations like vertical farming and hydroponics are gaining traction in urban areas to combat limited land access. Yet, it is the deeply rooted method of mixed cropping that stands out as the most prevalent and impactful practice.

Caribbean agriculture is rooted in a rich blend of cultural traditions and modern ingenuity. Across the region, from small backyard plots to expansive commercial enterprises, farming remains essential—not just for its contribution to the economy but for ensuring food security and preserving cultural heritage. Among the multitude of farming techniques utilized throughout the Caribbean, mixed cropping has emerged as the unequivocal favorite, celebrated both for its sustainability and practicality. This traditional method, practiced for generations, is now seen as a critical tool for building a resilient agricultural future in the islands.

Caribbean agriculture thrives on diversity. The region's tropical climate, fertile soils, and varied landscapes provide the perfect grounds for an array of crops and farming practices to flourish. Traditional techniques like subsistence farming continue to feed families by producing just enough for household needs, while industrial farming dominates the large-scale cultivation of cash crops such as sugarcane and bananas. Meanwhile, modern innovations like vertical farming and hydroponics are gaining traction in urban areas to combat limited land access. Yet, it is the deeply rooted method of mixed cropping that stands out as the most prevalent and impactful practice.

Mixed cropping, also known as intercropping, involves growing two or more crops together on the same piece of land. This method has woven its way into the fabric of Caribbean agriculture, especially on the islands, where land availability is often a challenge. A classic example can be seen in farmers who grow bananas alongside coffee or cocoa plants. The bananas, with their towering canopies, provide much-needed shade for these crops, which thrive in partial sunlight, creating a

**Beyond sustainability, mixed cropping holds economic promise. Farmers gain the ability to grow and sell several crops throughout the year, smoothing out income fluctuations and reducing economic risk.**





**Among its many virtues, it takes full advantage of the region's constrained land resources**

mutually beneficial environment. This symbiotic relationship between crops exemplifies the adaptability and ecological harmony central to mixed cropping.

What makes mixed cropping so popular in the Caribbean is its multifaceted appeal. Among its many virtues, it takes full advantage of the region's constrained land resources by maximizing space and allowing for the cultivation of multiple crops in one area. By diversifying their plots, farmers also guard against the risks of complete harvest failure that could result

from pests, diseases, or climate extremes. Resilience proves invaluable in a region that frequently grapples with hurricanes, droughts, and other manifestations of climate change.

The method is also intrinsically sustainable. Certain crops, like legumes, naturally enrich the soil by fixing nitrogen, eliminating the overreliance on chemical fertilizers. This natural enhancement of soil fertility not only lowers costs for farmers but also aligns with worldwide calls for environmentally conscious farming practices. Beyond sustainability, mixed cropping holds economic promise. Farmers gain the ability to grow and sell several crops throughout the year, smoothing out income fluctuations and reducing economic risk.

Nonetheless, mixed cropping is not without its hurdles. Juggling the differing needs of various crops, from water and sunlight to spacing and nutrient competition, requires a considerable degree of expertise and labor. For example, if not properly planned, one crop may overshadow another, reducing overall yields. There is also the issue of market uncertainty. While diversifying crops can buffer income, fluctuating consumer demand for specific products means that farmers occasionally find themselves with surplus produce and few buyers.

Despite these challenges, the success stories from across the Caribbean illustrate just how effective mixed cropping can be. Jamaica's famed Blue Mountain coffee farms often pair coffee plants with banana and

**There is also the issue of market uncertainty. While diversifying crops can buffer income, fluctuating consumer demand for specific products means that farmers occasionally find themselves with surplus produce and few buyers.**



timber trees. This combination not only improves the flavor of the coffee beans but also enriches the soil and provides farmers with additional revenue streams through bananas and wood sales. Over in St. Lucia, cassava and beans are frequently planted together. The beans, which naturally fix nitrogen into the soil, enhance cassava's growth and yield, creating a perfect partnership.



The Grenadian spice farms, synonymous with nutmeg, also employ mixed cropping by interplanting cacao trees. This approach fosters an environment where both crops can flourish while minimizing pest invasions that might otherwise wreak havoc in monocultures.

Looking forward, mixed cropping will undoubtedly continue to shape the Caribbean's agricultural future. With the integration of digital tools like AI and IoT devices, farmers can fine-tune their strategies by monitoring soil health and optimizing crop pairings. Advances in climate-resilient crop varieties are also on the horizon, ensuring that mixed cropping techniques can withstand the challenges of rising temperatures and

erratic weather patterns. The promotion of agroecology, which combines ecological principles with traditional farming methods, is further reinforcing the role of mixed cropping in ensuring food security for generations to come.

Governments and organizations across the Caribbean are also playing pivotal roles in supporting this shift. Investments in education, training, and policy frameworks are providing farmers with the tools they need to adopt and refine mixed cropping practices. Workshops, subsidies, and expanded access to resources are all aimed at empowering smallholder farmers to maximize the potential of their land while adhering to sustainable practices.



Mixed cropping has proven itself far beyond a traditional method. It is now a vital instrument for balancing the demands of a growing population, the challenges of climate change, and the preservation of the Caribbean's unique agricultural heritage. By maximizing land use, promoting biodiversity, and offering farmers economic stability, mixed cropping represents not just the past but the future of farming in the region. For those seeking a sustainable, resilient, and culturally meaningful way to cultivate the land, the Caribbean's most celebrated farming technique offers lessons that resonate far beyond the islands.



# The Right Tractor for the Job Built for Caribbean Terrains

Farming in the Caribbean is as rewarding as it is challenging. The region's diverse landscapes, ranging from lush rolling hills to rugged, rocky soils, combined with a tropical climate, make it one of the most dynamic environments for agriculture. Whether cultivating crops against the picturesque backdrop of St. Vincent's hills or planting sugarcane on expansive flatlands, a tractor is an indispensable ally for any farmer navigating these terrains.

But in this region, not just any tractor will do. The unique demands of Caribbean farming require machinery tailored to manage the complexities of the land while optimizing productivity. Choosing the right tractor involves careful consideration of crucial features suited to the terrain, climate, and type of crops being grown. A bad choice could mean inefficiency, higher operational costs, and untimely breakdowns that derail your farming calendar.

For farmers in the Caribbean, understanding what to look for in a tractor is vital to ensuring a successful agricultural season. From engine power to tire selection, comfort to maintenance support, this guide explores every detail you need to consider to make an informed decision.

### **A Tractor Built for Caribbean Terrains**

Caribbean farms deal with a mix of smooth flatlands, rugged hills, and everything in between. The terrain, coupled with weather conditions like seasonal rainfall, demands tractors that are both resilient and adaptable. Many farmers overlook the importance of selecting a tractor designed to tackle their specific environment, which can lead to inefficiencies and significant wear and tear on their machines.

For instance, if you're farming sugarcane or bananas on expansive flatlands, you'll need a tractor capable of plowing, hauling, and driving heavy equipment—which typically necessitates higher horsepower. However, if you're working in specialized mountainous regions, such as those found in St. Vincent or Dominica, stability

**For smaller operations growing produce like vegetables or root crops, a tractor producing between 40HP and 80HP may be enough to handle daily tasks effectively.**





From plowing new fields to watering crops in the dry season, the range of tasks a tractor can accomplish depends heavily on its capability to seamlessly integrate with various implements.

and traction become just as critical as power. Tractors that can confidently manage inclines and rainy conditions without losing grip or control will be your best bet.

### **The Heart of a Tractor: Engine Power**

At the core of a tractor's functionality is its engine. Caribbean farming demands tractors capable of providing optimal performance under challenging conditions like sticky, wet fields during the

rainy season or rocky landscapes that might require extra pulling power. Engine horsepower is one of the most important metrics to assess when selecting a tractor for your specific needs.

For smaller operations growing produce like vegetables or root crops, a tractor producing between 40HP and 80HP may be enough to handle daily tasks effectively. On the other hand, larger farms that cultivate sugarcane, bananas, or coconuts often require tractors with horsepower ratings ranging from 90HP to 120HP to manage extended workloads and heavy machinery attachments.

Fuel efficiency is another critical factor. Frequent operation over vast agricultural areas can result in significant fuel costs. Advanced engines such as Tier 4 diesel engines are optimal as they deliver better fuel economy while meeting modern emissions standards. Another key consideration? Tractors with high low-RPM torque. These machines can operate efficiently under heavy loads without taxing the engine, especially in rain-soaked fields where soil resistance can be higher.

### **Tire Selection for Varied Landscapes**

A tractor's tires are just as important as its engine when it comes to performance across the Caribbean's diverse landscapes. With terrains ranging from soft, sandy soils in coastal areas like Barbados to steep, slippery hillsides, the choice of tires can make or break your farming operation.

For general farming across varied conditions, agricultural tires offer excellent all-around grip and work well on muddy or uneven soil. Meanwhile, for farms situated on sandy or loose soils, flotation tires are ideal as they distribute

**For general farming across varied conditions, agricultural tires offer excellent all-around grip and work well on muddy or uneven soil.**



**Tractors with waterproof electrical systems and effective drainage designs are also essential for dealing with the Caribbean's frequent downpours.**

the tractor's weight more evenly, reducing the compaction that could damage the soil.

For steep, elevated regions, dual rear tires often prove invaluable. These give the machinery greater grip and help keep the tractor steady during operations like hauling and plowing on hillsides. Remember, poor tire selection can lead to inefficiencies, unstable operation, and increased wear on both the tires and the tractor itself.

### **Versatility Through Implement Compatibility**

The beauty of a tractor is its ability to take on multiple roles, which is essential for Caribbean farming. From plowing new fields to watering crops in the dry season, the range of tasks a tractor can accomplish



depends heavily on its capability to seamlessly integrate with various implements.

To ensure versatility, select a tractor equipped with a three-point hitch, which works as a universal connection system for a variety of farming tools like tillers, harrows, and seeders. A robust hydraulic system is equally essential, especially if you need to power utility implements like sprayers and backhoes.



For energy-intensive machinery such as sugarcane crushers or irrigation pumps, a Power Take-Off (PTO) system is non-negotiable. Make sure the PTO horsepower matches the equipment you plan to use, as this can significantly impact efficiency.

### **Enhancing Comfort and Operator Safety**

Farming in the Caribbean means you'll spend long hours in the field under the blazing tropical sun or during sudden downpours. Tractors designed with operator comfort and safety in mind play a significant role in improving productivity while reducing fatigue.

Consider tractors with canopies or enclosed cabs to protect against the intense heat and rain. If the enclosure has air conditioning, even better; it can help boost focus and comfort during extended shifts.

**Safety features like rollover protective structures (ROPS) and high-visibility lighting are critical for reducing operational risks,**

**Modern tractors often provide diagnostic features that streamline maintenance, making it easier to monitor performance and resolve issues before they escalate.**

Ergonomically designed controls can make long hours behind the wheel far more manageable, while safety features like rollover protective structures (ROPS) and high-visibility lighting are critical for reducing operational risks, particularly in low-light conditions or unstable terrain. Tractors with waterproof electrical systems and effective drainage designs are also essential for dealing with the Caribbean's frequent downpours.

### **Maintenance and Support**

No matter how robust your tractor is, regular maintenance and potential repairs are inevitable, especially when farming in the challenging terrain and climate of the Caribbean. The importance of accessible service centers and spare parts cannot be overstated.



When making your purchase, always inquire about available warranties and service plans. Modern tractors often provide diagnostic features that streamline maintenance, making it easier to monitor performance and resolve issues before they escalate.

### **Investing in the Future of Your Farm**

Choosing the right tractor is not just about finding a piece of equipment that fits your budget. It's an investment in the long-term sustainability and efficiency of your farm. Caribbean agriculture comes with its own set of challenges, but the right tractor, built to handle the demands of this region, can significantly enhance productivity and reduce operational headaches.



Before finalizing your purchase, take the time to analyze your farm's needs, including the size and type of your crops, the terrain, and your operational goals. Reaching out to local farming communities and consulting agricultural experts can provide additional guidance.

With the right choice, you can ensure that your tractor becomes an invaluable partner in your farming enterprise, helping you maximize every acre of Caribbean soil.



# Agriculture Meets Agro-Entrepreneurship in the Caribbean

Across the Caribbean, agro-entrepreneurs are not just farming; they are innovating, building businesses, uplifting communities, and inspiring a new wave of resilience and progress.

The Caribbean, often celebrated for its kaleidoscope of cultures and stunning natural beauty, carries a profound legacy that goes beyond idyllic beaches and lush rainforests. That legacy is agriculture—the backbone of the region’s economy and a vital thread woven into the fabric of its communities.

For generations, Caribbean farmers have nurtured the land, feeding millions and sustaining livelihoods through crops like sugarcane, bananas, and coffee. But today, the agricultural sector finds itself at a crossroads, facing mounting challenges posed by climate change, shifting economic trends, and a declining interest from younger generations.

Out of these challenges, however, emerges a transformation. Enter agro-entrepreneurship, the bold and innovative fusion of agriculture and modern business acumen. This shift goes far beyond traditional techniques, introducing sustainable practices, advanced technologies, and creative market strategies that are reimagining farming as a dynamic enterprise. Across the Caribbean, agro-entrepreneurs are not just farming; they are innovating, building businesses, uplifting communities, and inspiring a new wave of resilience and progress.

### **A Sector Under Pressure**

Agriculture in the Caribbean is more than just an industry; it's a way of life. But even this essential sector is grappling with a daunting set of challenges that threaten its sustainability. Climate change has had a profoundly disruptive effect, with more extreme weather events like hurricanes, rising sea levels, and intensifying droughts becoming the norm. After a particularly destructive hurricane season, farmers can face lost crops, livestock destruction, and diminished productive land, which sometimes take years to recover.

At the same time, economic pressures weigh heavily on the

**Agro-entrepreneurship represents a forward-thinking approach that merges the traditions of agriculture with the innovations of modern business.**





**Agro-entrepreneurship  
does more than  
reinvent agricultural  
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local economies.**

region's traditional agricultural model. Historically export-oriented, many Caribbean economies have relied on sugarcane, coffee, and bananas to drive growth. But today, fluctuating global markets, trade agreement revisions, and increased reliance on imported food staples have exposed the vulnerabilities of this system. Compounding this are limited access to advanced technologies and financial resources for farmers, making it nearly impossible to scale operations or compete with highly industrialized imports.

Perhaps most troubling is the dwindling interest among younger generations. Agriculture is frequently perceived as arduous, outdated, and less lucrative compared to urban career opportunities. This talent drain not only leaves an aging workforce in

its wake but also jeopardizes the long-term viability of the sector.

### **The Rise of Agro-Entrepreneurship**

Amid this challenging landscape, a new paradigm of farming is taking root. Agro-entrepreneurship represents a forward-thinking approach that merges the traditions of agriculture with the innovations of modern business. It captures the best of both worlds, turning farming from a subsistence activity into a thriving and sustainable enterprise. Agro-entrepreneurs are transforming the sector in key ways that hold enormous promise for the future.

One of the most defining features of agro-entrepreneurship is its focus on value addition. Entrepreneurs are no longer settling for simply selling raw crops; they're creating high-margin products that tap into consumer trends and markets. For instance, a banana farmer might diversify their offerings by producing banana chips or smoothies, leveraging local processing to strengthen the economy and build a unique brand identity.

Sustainability is another central tenet of agro-entrepreneurship. Across



**Technology is especially valuable as it expands the reach and profitability of small-scale farmers who otherwise might have remained isolated from the larger marketplace.**

the region, many farmers are adopting renewable energy systems, organic farming practices, and climate-resilient methods like hydroponics and aquaponics. These approaches not only reduce the environmental impact of farming but also help insulate it from the devastating forces of climate change.

Technology is also playing a starring role. Whether through the use of drones to survey farms, blockchain systems for transparent supply chains, or mobile apps that connect farmers directly with buyers, agro-entrepreneurship is unlocking efficiencies and new possibilities. This tech-driven component is especially valuable as it expands the reach and profitability of small-scale farmers who otherwise might have remained isolated from the larger marketplace.



Agro-entrepreneurship does more than reinvent agricultural processes; it empowers local economies. By creating jobs, fostering community pride, and reducing reliance on imports, it strengthens the bonds between the land and the people who rely on it. The movement is about more than food security; it's about resilience, independence, and economic vitality.

### **The Role of Support Systems**

The region's transition from traditional agriculture to agro-entrepreneurship wouldn't be possible without strategic support from governments and NGOs. Across the Caribbean, governments are rolling out initiatives to engage young people, fund modern farming techniques, and address resource shortages. Barbados, for example, has launched grants specifically tailored to help agro-entrepreneurs under 30, while Jamaica's Agricultural Development Fund helps farmers invest in cutting-edge technologies.

Collaboration with international organizations is also critical. The Caribbean Development Bank (CDB) and the UN Food and Agriculture Organization (FAO) are



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education, and maintain  
its commitment to  
innovation.**

working hand-in-hand with regional governments to improve agricultural infrastructure, provide training, and promote sustainable practices across the islands. Their mentorship programs play a particularly vital role, offering young farmers guidance from experienced industry leaders and helping them integrate advanced techniques into their operations.

Coupled with education campaigns like the Youth in Agriculture Initiative, these efforts ensure that the next generation of agro-entrepreneurs will not only see farming as a viable career path but as an exciting and impactful one.



## A Brighter Future

The transformation unfolding in Caribbean agriculture is nothing short of inspiring. Agro-entrepreneurship represents a new paradigm that blends the timeless wisdom of traditional farming with the unlimited possibilities of innovation and sustainability. It's a model that empowers communities, revitalizes economies, and strengthens resilience in the face of global challenges.

But the work is far from complete. The Caribbean's agricultural future depends on the region's ability to foster collaboration, invest in education, and maintain its commitment to innovation. For those ready to take the leap, agro-entrepreneurship is an opportunity not just to grow crops but to grow entire communities.

If you've been inspired by the potential of agro-entrepreneurship, now is the time to explore how your vision could take root. Whether you're a budding entrepreneur or a seasoned farmer, the future of Caribbean agriculture needs your bold ideas and unwavering determination. Together, we can cultivate a sustainable and prosperous tomorrow.





# Eco-Friendly Packaging

## The Caribbean's Bold Step In Agro-Processing

The region faces the dual challenge of safeguarding its fragile ecosystems while elevating its competitive edge in global markets.

Across the globe, a monumental shift towards sustainability is reshaping industries, challenging traditional practices, and sparking further innovation. Among these vital sectors, agro-processing stands uniquely poised to make a measurable impact through eco-friendly packaging. This is a particularly pressing concern and a burgeoning opportunity for the Caribbean. Renowned for its lush landscapes, crystal-clear waters, and a vibrant agricultural heritage, the region faces the dual challenge of safeguarding its fragile ecosystems while elevating its competitive edge in global markets.

For the Caribbean, adopting sustainable packaging is more than an environmental obligation. It reflects an opportunity to lead by example, strengthen trade partnerships, and align with rising consumer demand

for environmentally responsible practices. Yet, it represents a complex and multifaceted challenge, pushing small and large businesses to think innovatively while governments step up to support this critical transition.

### **Tackling a History of Packaging Challenges**

The Caribbean agro-processing industry has long depended on single-use plastics for the packaging of agricultural produce, food products, and exports. Plastics have seemingly been the convenient option due to their ubiquity, affordability, and versatility. Nevertheless, this reliance has come at a significant environmental cost. The excessive use of plastics has contributed heavily to waste accumulation, particularly endangering the marine ecosystems that serve as a lifeline for many local economies, fisheries, and coastal communities.

Several Caribbean nations, including Jamaica, Barbados, and Trinidad and Tobago, have struggled with limited recycling infrastructure. With inadequate systems in place to process non-biodegradable waste, enormous volumes of plastic often end up in landfills or, worse, are swept into the open sea. This pollution exacerbates environmental degradation, depletes biodiversity, and undermines the very natural resources upon which much of the region depends economically. Compounding these

**Cane bagasse packaging, for instance, has gained international recognition for its resilience and sustainability, offering a durable alternative to plastic food containers.**





**Innovators in the Caribbean are seeking inspiration from the sea. The overabundance of sargassum seaweed washing up on the region's picturesque shores has become both a headache and an opportunity.**

concerns are the economic barriers faced by the region's many small-scale agro-processors. For them, transitioning to eco-friendly materials feels like a daunting and costly endeavor, requiring significant capital for experimentation, sourcing materials, and reworking operations.

Collectively, these forces have placed immense pressure on the Caribbean to reshape its approach to packaging. The stakes couldn't be higher, and overcoming these hurdles requires ingenuity, collaborative strategies, and regional determination.

### **Homegrown Innovations Shaping the Future**

Despite the challenges, the agricultural ingenuity and resourcefulness of the Caribbean are shining through. Across the region, forward-thinking agro-processors and entrepreneurs are harnessing the natural abundance of their environment to pioneer

sustainable packaging innovations. These efforts provide both hope and practical examples of what an eco-friendly future could look like.

Some ingenious solutions are found in the region's own agricultural heritage. Crop by-products like sugarcane bagasse, banana leaves, and cassava starch are being transformed into biodegradable and compostable packaging materials. Cane bagasse packaging, for instance, has gained international recognition for its resilience and sustainability, offering a durable alternative to plastic food containers. Similarly, cassava starch-based packaging is positioning itself as a strong contender to replace polystyrene, cutting down environmental waste without sacrificing functionality.

Simultaneously, innovators in the Caribbean are seeking inspiration from the sea. The overabundance of sargassum seaweed washing up on the region's picturesque shores has become both a headache and an opportunity. Startups are leading the charge by converting sargassum into a raw material to create sustainable, plastic-free packaging. This turns a troublesome invasion of seaweed into an environmental success story while providing tangible solutions to dwindling packaging options.

**Across the Caribbean, brands are introducing "smart packaging," eliminating the need for excessive labeling while enabling greater transparency for consumers.**



**Some businesses are reintroducing tried-and-true traditional methods with a modern twist. Glass containers, for instance, are making a strong comeback**

Meanwhile, some businesses are reintroducing tried-and-true traditional methods with a modern twist. Glass containers, for instance, are making a strong comeback as a reusable alternative for food and beverage storage. Compostable paper packaging, uniquely designed for Caribbean climatic conditions, connects eco-conscious consumers with agricultural products that are genuinely mindful of waste.

Even the realm of smart technology is being embraced to further streamline eco-friendly packaging initiatives. Across the Caribbean, brands are introducing “smart packaging,” eliminating the need for excessive labeling while enabling greater transparency for consumers. QR codes or NFC tags printed with biodegradable inks allow customers to trace their purchases from farm to table. This not only strengthens consumer trust but also underscores the dedication of agro-processors to combine sustainability with technological advancement.

Taken together, these innovations reveal

a dynamic and thriving ecosystem of ideas in the Caribbean. The marriage of creativity, nature, and cutting-edge technology enhances the potential for long-term environmental benefits while positioning the region as a vanguard of sustainable practices in global agro-processing.



## Leading With Government Initiatives and Collaboration

While individual businesses are sowing the seeds of change, governments across the Caribbean are playing an indispensable role in laying the groundwork for this sustainable future. Recognizing the urgency of reducing single-use plastics, several nations have enacted landmark legislation to ban these materials altogether. Barbados and Antigua and Barbuda, especially, have distinguished themselves as pioneers, introducing strong bans on polystyrene and other disposables. These policies are no mere symbolic gestures; they are driving real outcomes by pressuring industries to adapt quickly to sustainable alternatives.



Governments are also launching financial incentive programs to ease the burden on agro-processors making the shift toward greener operations. Small and medium-sized enterprises, which often face the steepest barriers to entry, benefit greatly from grants, subsidies, and tax breaks designed to offset the initial cost of adopting sustainable solutions. Beyond this, there is a growing push for regional cooperation. Joint ventures, shared recycling infrastructure, and centralized manufacturing facilities for eco-friendly materials are becoming central points of conversation among Caribbean policymakers.

Fostered by these efforts, governments are achieving far more than environmental protection; they are helping to secure the economic interests of the region. Export-focused businesses in particular find themselves better equipped to meet the rising sustainability standards of overseas markets. This, in turn, strengthens the global competitiveness of locally made products, opening doors to premium markets in Europe and North America.

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