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INNOVATION IN THE CARIBBEAN:

# Six Stories of Transformation for Sustainable Development



# Prologue

In the vibrant tapestry of the Caribbean, where azure waters meet lush landscapes, lies a realm of untold stories—stories of resilience, progress, and a collective commitment to a sustainable and prosperous future. “Innovation in the Caribbean: Six Stories of Transformation for Sustainable Development” is more than a collection of narratives; it is a testament to the unwavering spirit of innovation that defines the region and the pivotal role it plays in shaping a brighter tomorrow.

At the Inter-American Development Bank (IDB), our mission is clear—to improve lives for all citizens across the Americas. This collection of stories serves as a living embodiment of that mission, encapsulating the transformative power of innovation in the Caribbean. In the following pages, we invite you to explore six remarkable projects, each a beacon of change, progress, and sustainability.

In a world where challenges often seem insurmountable, the Caribbean nations have embraced innovation as a catalyst for transformation. These stories delve into the heart of initiatives designed not only to address pressing issues but to reshape the very fabric of society. Through these endeavors, we witness the power of collaboration, the brilliance of creative problem-solving, and the enduring commitment of the Caribbean to overcome obstacles and build a future that benefits every citizen.

The IDB’s dedication to improving lives aligns seamlessly with the narratives presented here. Learn how, from enhancing access to credit for productivity in Barbados to upgrading water supply and sanitation systems in The Bahamas, and from strengthening citizen security in Guyana to formulating climate change policies in Jamaica. Explore the rehabilitation of energy sectors in Suriname and the support for health services in Trinidad and Tobago—the common thread is a commitment to sustainable development that leaves no citizen behind.

As you immerse yourself in these stories, envision a Caribbean where innovation is not just a means to an end but a way of life—a life marked by progress, inclusion, and the promise of a better tomorrow for every citizen. Join us on this journey through “Innovation in the Caribbean,” where each page tells a tale of transformation, and together, we strive to improve lives for all.



**ANTON EDMUNDS**  
**General Manager**  
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# Acknowledgments

As we unveil the pages of “Innovation in the Caribbean: Six Stories of Transformation for Sustainable Development,” it is with immense gratitude that we extend our sincere appreciation to the individuals and organizations whose unwavering commitment and invaluable contributions made this publication possible.

We extend our appreciation to all the Executive Agencies in Barbados for their pivotal role in enhancing access to credit for productivity; The Bahamas for their dedicated efforts in upgrading water supply and sanitation systems; Guyana for their significant contributions to strengthening citizen security; Jamaica for their instrumental role in formulating climate change policies; Suriname for the green energy revolution that is transforming the river; and Trinidad and Tobago for its indispensable support in the health services sector.

In addition, to everyone at the Inter-American Development Bank that worked on this publication for the Caribbean: Viviana del Carmen Alva Hart, Country Representative in Barbados; Jean Eric Theinhardt, Chief of Operations in Barbados; Eduardo Sierra, Specialist in Connectivity, Market and Finance and Project Team Leader; Yajaira Archibald, Communicator in Barbados; Daniela Carrera Marquis, Country Representative in The Bahamas; María Eugenia Roca, Chief of Operations in The Bahamas; Rodrigo Riquelme, Specialist in Water and Sanitation and Project Team Leader; Erica Cox, Communicator in The Bahamas; Lorena Solorzano Salazar, Country Representative in Guyana, Jason Wilks, Specialist Modernization of the State and Project Team Leader; Ravena Gildharie, Communicator in Guyana; Anton Edmunds, Country Representative in Jamaica; Lorenzo Escondeur, Chief of Operations in Jamaica; Gerard Alleng, Specialist in Climate Change and Project Team Leader; Tamica Parchment, Communicator in Jamaica; Sergio Ballon, Specialist in Energy and Project Team Leader; Adriana La Valley, Country Representative in Suriname; Steven Collins, Chief of Operations in Suriname; Tessa Sendar, Communicator in Suriname; Sergio Rios, Chief Operations in Trinidad and Tobago; Ian Ho-A-Shu, Specialist in Health and Project Team Leader; Latoyaa Roberts-Thomas, Communicator in Trinidad and Tobago; Mildred Rivera, Communicator and Client Relations Lead in Knowledge, Innovation and Communication; Geraldine Garcia, Communicator in Knowledge, Innovation and Communication; Heather Bernard Communicator in the Caribbean Department; Estefhania Moncada, RPA Consultant in the Caribbean Department; Loreto Setien, Communicator in the Vice President of Countries; Anamaría Nuñez, Communicator in Knowledge, Innovation and Communication; Nadia Goncalves, Communicator in Water and Sanitation; Gabriela Oca, Communicator in Energy; Vanessa Molina, Communicator in Knowledge, Innovation and Communication; Romina Nicaretta Communicator and Client Relation Lead in Knowledge, Innovation and Communication; Janaina Goulart, Communicator in Knowledge, Innovation and Communication; Soledad Planes, Communicator in Knowledge, Innovation and Communication; Jose Luis Lobera, Communicator and Client Relation Lead in Knowledge, Innovation and Communication and Natalie Ponce Hornos, Graphic Designer and Editor.

This collaborative endeavor reflects the spirit of unity and innovation that defines the Caribbean region. To all who played a part, whether through research, implementation, or support, your dedication to sustainable development has left an indelible mark on this publication.

In the true spirit of partnership, we express our gratitude for your shared vision and unwavering commitment to improving lives in the Caribbean.

**Thank you.**

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# THE BAHAMAS

Facing extreme water scarcity,  
the government of The Bahamas  
took a leap forward



# THE BAHAMAS

Facing extreme water scarcity,  
The Bahamas government took  
a leap forward

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**On the island of New Providence, where 70% of the population of the Bahamas lives, fresh water is scarce. Per capita access to renewable freshwater, like rivers or lakes, is over a thousand times lower than in the rest of Latin America and the Caribbean, at 59.2 m<sup>3</sup> compared to 68,000 m<sup>3</sup> on average for the region.**

This leaves The Bahamas with two sources of freshwater: groundwater and desalination of seawater.

Groundwater in New Providence is insufficient to cover all of its residents' needs and desalination, while possible, is three times more expensive and requires an effective water network to transport water from the desalination plant to the users. The latter represented a problem. Although New Providence has a public water utility company, Water and Sewage Company (WSC) with a distribution network all over the island, by 2010 almost half of the residents had opted out of the service provided by the company.

Due to a poor regulatory regime governing water connections and low quality of service – where many residents had insufficient water pressure and occasional reddish water – WSC's reputation was diminished. A part of the problem was that the company lost about half of the water in transit, due to poor maintenance of the water network.

As an alternative, 45% of New Providence residents turned to private wells. However, due to over extraction, lack of proper sewage connection and treatment, and contamination from hurricanes



Industrial equipment used as part of the project with the Water and Sewerage Corporation.

and other atmospheric events, the wells often had insufficient freshwater to meet the daily needs of families and occasionally were dangerous to consume.

According to a report conducted by Water Management Consultants in 2003, over 65% of the groundwater samples collected in The Bahamas showed microbial contamination. Nelson Forbes, a resident of New Providence who relied on a well, shared that insufficient water access and contamination were a common problem. **“The water smells and the pressure is always low,”** he said in a video interview to the Bahamas Water and Sewerage Corporations.<sup>1</sup>

To address this issue, in 2011, the Government of The Bahamas partnered with the Inter-American Development Bank (IDB) to improve the quality and efficiency of the potable water and sanitation services in New Providence. **“The reason why we are here is to provide The Bahamas with a safe and reliable water supply,”** said Glen Laville, former General Manager of WSC, at the BCCEC Luncheon. **“With our action plan, we are trying to leap forward to a new WSC.”**<sup>2</sup>

The program consists of four components: an initiative to repair and improve the physical infrastructure of the water network, and introduce new technology to prevent leaks and improve water pressure; institutional strengthening of WSC, including training of their staff in data monitoring, new automated reading systems, and a public relations campaign to reach out to the users who opted for private wells instead of WSC’s service; an initiative to repair and upgrade the sewage system and create a master plan for wastewater management; and upgrades to the regulatory frameworks.

<sup>1</sup> <https://youtu.be/ZvInDUEnXEK?si=OIXdsITiIRqw5edK>

<sup>2</sup> <https://youtu.be/gaGdj9L9IA4?si=r6V56b4DEbRj1MqC>



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Another standout component was the introduction of new technology to anticipate leaks or loss of water pressure across the water network, and rapidly respond to provide a better service.

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An industrial press gauge that monitors the water system's pressure levels.

At the core of these reforms was a focus on rebuilding the trust of New Providence residents, as many had lost confidence in the capacity of WSC to provide an adequate water and sanitation service. **“Part of what made this project so unique is that it had a component of direct communication with the users, either through water bills, tv shows, or other media,”** explains Rodrigo Riquelme, Senior Water and Sanitation Specialist at the IDB. **“We understood that these infrastructure changes were going to be disruptive. It would cause traffic, break the streets, and interrupt commerce. We wanted for the users to understand what it would take and what they would be gaining.”**

Another standout component was the introduction of new technology to anticipate leaks or loss of water pressure across the water network, and rapidly respond to provide a better service. **“The network modeling not only gives peace of mind as you can track how the network is working, including the pressure, demand, etc. It also gives you something even more important: it provides information for predictive incidence models,”** explains Riquelme. **“With these predictive models, you can estimate the risk of a main rupture, it gives you information on the pressure that you can adapt to, and it provides critical information that can help save a lot of potential costs.”**



Workers excavating a trench for the installation of water pipes.

The program proved effective. According to a study conducted by the IDB, by 2018, the infrastructure improvements reduced the number of leaks by 68% and significantly improved water quality and pressure for over 38,000 homes. For WSC, it also represented US\$68.7 million in savings, which helped pay back the costs of these improvements. The program also brought new and returned customers to WSC. It is estimated that 11,300 people gained access to improved sanitation, 1,500 people stopped using private wells, and 1,987 households connected with WSC's water service.

For Shirleymae Johnson, a resident of New Providence who reconnected to WSC after hearing of the improvements on television, this project meant that she could once again have the simple pleasure of taking a shower without worrying about running out of water. **“The more I shower, the more I want to shower. I felt that I was on top of a mountain and the pure water of the sky just flowed down my back.”** she said in a video interview to the Bahamas Water and Sewerage Corporation.<sup>3</sup>

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<sup>3</sup> <https://www.youtube.com/watch?v=nLQXmfXesE8>



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# BARBADOS

How a Barbadian credit program is taking Good Times Snacks to Latin America



# BARBADOS

How a Barbadian credit program is taking Good Times Snacks to Latin America

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**When Andrew Noel heard on the radio about a new program sponsored by the Central Bank of Barbados that was helping small and medium businesses to obtain loans, he immediately reached out to Mr. Knight, a banker he had worked with.**

Mr. Knight told Mr.Noel that what he had heard on the radio was true — in fact, it was better than he imagined. The Central Bank was not only helping to make access to loans from commercial banks easier and faster, it was offering guarantees so that businesses that could not provide collateral could get access to credit. Mr. Noel immediately began the process of getting the loan.

Andrew Noel is the Chief Operating Officer of Good Times Snacks, a family-owned company that produces corn and nut snacks that are popular across the Caribbean. It started in 1982 with only two products. Over the coming decades, they have consistently but slowly expanded, introducing new products and package sizes. But the main impediment to their growth has been access to credit.

Their slow growth was not due to a lack of vision. Mr Noel had already identified the machine needed to increase production and introduce new products. **“We were looking at a particular piece of machinery that we had our eyes on for a little while to help us with production volume, as far as packaging was concerned. We wanted a machine that could handle a variety of package sizes, and that gave us speed and reliability,”** he said in a video interview to the Central Bank of Barbados.<sup>4</sup> But finding a suitable loan to acquire the machine was hard, expensive, and took a long time in the Barbadian commercial banking system.

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<sup>4</sup> <https://youtu.be/tjt-VmLgCT0?si=oqpeigfaEKJjLcqq>

Mr. Noel was not alone. According to an analysis conducted between 2013 and 2014 by the World Economic Forum's Global Competitiveness Report on Barbados, the biggest constraint to doing business was access to credit.

For small and medium enterprises like Good Time Snacks — which represent over 95% of businesses and employ over 60% of the jobs on the island — the most significant barrier in accessing credit is that commercial banks in Barbados have an excessive collateral requirement, which many small and medium businesses cannot provide. A study by the Sir Arthur Lewis Institute of Social and Economic Studies (SALISES) estimates that the mean value of collateral in relation to the value of the loan was 146% — that means that for every US\$100,000, the business must offer a collateral worth at least US\$146,000.

And the problem is not only how large the collateral has to be; it is also what banks would take as collateral. **“Commercial banks have maintained a certain perception of high credit risk, a fact that has recently been compounded by the international financial crisis and its consequences in the local economy. As a result, small and medium enterprises have been required to provide high levels of collateral to secure credit; however, the range of available assets for collateral, as well as the legal entities allowed to pledge collateral, is limited,”** explains Eduardo Sierra, Senior Specialist for Connectivity, Markets, and Finance at the Inter-American Development Bank.

As is the case for small and medium businesses anywhere else in the world, growth comes in stages. A business owner might use all their savings to start a factory with one machine and rent the building where they operate. If that business owner wanted to get a loan to buy land and build a factory, even if the business is doing well and can match the average 146% collateral requirement, in Barbados, the bank might reject the application as they might only accept real estate as collateral.



Workers at the production line of Good Times Snacks.

Andrew Noel, Chief Operating Officer of Good Times Snacks, speaking with visitors at his company.





Visitors learn about the main products of Good Times Snacks.

To address this need, in 2015, the Inter-American Development Bank partnered with the Government of Barbados to set up a Guarantee Fund managed by the Central Bank of Barbados. The Fund provides guarantees of up to US\$ 1 million per loan, providing coverage of up to 80% of the loan amount for a duration of up to 10 years for small and medium businesses with at least 20 employees. In Barbados, small and medium businesses are defined as those with less than 200 employees and earning less than US\$10 million in annual revenue.

**“Addressing the issue of access to credit has been very high on our list of priorities,”** said Dr. DeLisle Worrell, former Governor of the Central Bank, at the introduction event for the program.<sup>5</sup> **“The Central Bank’s credit guarantees are designed to help address this problem. This latest facility, with help from our long-time partner, the Inter-American Development Bank, gives us access to a substantial additional pool of funds and allows us to offer larger facilities for insurance of credit.”**

Under the program, called the “Enhanced Credit Guarantee Fund,” the Central Bank of Barbados does not provide the loans directly to the businesses but instead works with participating financial institutions, like commercial banks, to provide guarantees for their loans. The small and medium enterprises apply directly through their bank as they normally would, and loan decisions are quickly processed. **“The turnaround was surprisingly quick, rather than facing the red tape that you normally have to endure with banking institutions,”** explains Noel. **“The turnaround of the loan was actually faster than what it took to get the machine.”**

<sup>5</sup> <https://www.youtube.com/watch?v=3EI3LGmv1gs&t=15s>



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“ The turnaround was surprisingly quick, rather than facing the red tape that you normally have to endure with banking institutions. ”  
Andrew Noel, Chief Operating Officer  
of Good Times Snacks

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Mr. Noel speaking with the press alongside then Minister of Industry, International Business, Commerce and Small Business Development, Donville Inniss.

These types of interventions have been proven effective in other countries. According to an evaluation carried out for Chile's Fondo de Garantía para Pequeños Empresarios (FOGAPE), providing loan guarantees helped generate an average of 6% higher sales and 4% higher profits for the businesses that received the loans. Similarly, the impact evaluation for Colombia's Fondo Nacional de Garantías (FNG) found that the sales of the beneficiaries of the guarantee program grew 8% more on average when compared to those who obtained loans without using the guarantee program.

When the "Enhanced Credit Guarantee Fund" was first launched in 2015, the program intended to provide US\$35 million in guarantees to leverage at least US\$54 million in additional credit access for small and medium enterprises by 2020. The demand was much larger than expected. By May 2022, 119 guarantees were approved for loans valued at US\$148.5 million, overarching the goal by 272%.

For Noel, the "Enhanced Credit Guarantee Fund" was the missing piece his company needed to expand their snack offerings and explore exporting to Panama, Cuba, and the Dominican Republic. **"When I say what is next for Good Times Snacks, there is a large export market just waiting for the quality that we are producing."**



Good Time Snacks employees discussing the particulars of a delivery to be made.



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# GUYANA

Community-based policing helped reduce homicides by 46% in Guyana's most dangerous neighborhoods



# GUYANA

Community-based policing helped reduce homicides by 46% in Guyana's most dangerous neighborhoods

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**In his 27 years as a police officer, Sgt. Johnson has seen a lot of pain. However, few things torment him more than the growing incidence of violence against women. “The issue of domestic violence is serious, we have seen a lot of young women that have lost their lives,” he explains.**

He is not the only police officer concerned about this issue. Intimate partner violence is a persistent problem in his country, Guyana. According to the Guyana Women's Health and Life Experiences Report, 55% of women have experienced intimate partner violence in their lifetime.

The main impediment for the police in addressing this issue is that many of the women and community members who witness the attacks fail to report the aggressors. Some are too scared to come forward; others distrust the police. Data from the 2016 LAPOP suggests that over 50% of Guyanese have little to no trust in the police, a rate higher than any of the 27 other countries in Latin America and the Caribbean included in the survey.

As the officer in charge of the Parika Police Station in East Bank Essequibo, Guyana, Sgt. Johnson understands the urgency of restoring trust with the communities he serves. His police officers have undergone specialized training to identify, handle, and address cases of violence against women. His station has also received upgrades. The government installed cameras to increase transparency and introduced new software and computers to digitized records, so that officers can keep better track of open cases.



Sgt. Johnson at Police Station in Parika.

And most importantly, the police officers are reaching out to the community, even if it involves traveling by boat to remote locations. **“We have a weekly community outreach, we visit a different community every week. Every Wednesday, we walk and meet with residents and share our knowledge of gender-based violence,”** says Sgt. Johnson.

The changes seen in the Parika Police Station are happening nationwide. They are part of a strategy that started in 2014 by the Government of Guyana, in partnership with the Inter-American Development Bank, to reduce crime and violence in the country by improving the capacity and effectiveness of the police force to prevent and investigate crime, increasing the effectiveness of prisons to reduce recidivism, and improving the social and economic conditions of at-risk people to promote prosocial behaviors. Under the strategy, the government also created a dedicated Gender Based Violence unit to train police officers to better respond and investigate cases of domestic violence and other forms of gender-based violence.

The program is focused in the 20 communities that have the highest rates of homicides, robberies, burglaries, and domestic violence. **“The focus on 20 communities is in keeping with the best practices of public engagement, citizen security, and public safety. The research has been very clear, crime as a social phenomenon is very sticky in terms of adhering to places, peoples, and situations, causing crime to concentrate in certain geographic locations,”** explains Jason Malcolm Wilks, Public Management Sector Specialist

Welcome to  
**PARIKA POLICE STATION**

Bienvenido a  
**ESTACIÓN DE POLICÍA DE  
PARICA**



W. 25243  
MURRAY

W. 25453  
MURRAY

at the Inter-American Development Bank. **“So you want to target these communities, promoting better prosocial dynamics both within the communities – with the individuals that live there – and between those communities and the wider society to ensure that they don’t feel excluded or stigmatized.”**

The strategy was built on the premise that to fully address crime, it is equally important to invest in preventing it by creating social and economic opportunities, as it is to deter it by investigating and prosecuting it with an improved justice system.

In the 20 targeted communities that have the highest incidence of crime and violence, the government worked with the residents to create “Community Action Councils,” where a group of neighbors works together with a Community Action Officer – who serves as a liaison between the community and the police and government – to decide and implement interventions that fit the needs of their community.

**“Our community had been suffering from high unemployment rates, high dropout rates, and very low morale, as it was stigmatized because of the crime,”** says Colin Marks, a resident and Community Action Officer of the Sophia community. **“With the program, a lot of our young people were glad to get involved as it gave them an opportunity to get employed, as many of them have no employable skills.”**

The community is actively involved in the process and has agency in determining what would work best for them. This model led to the introduction of vocational training for welding,



Police Station in Parika.



Mabaruma Police Station.

plumbing, cosmetology, and other high demand areas, as well as entrepreneurship classes, youth mentorship programs, and public education campaigns.

**“You’re working directly with the most at-risk people, reducing their risks both for victimization and also perpetration of crime by providing them meaningful opportunities through vocational training, job placement and, really in large part, general soft skills development, just to know how to engage in society,”** says Wilks. **“And if you’re doing that, then that will have a knock-on effect because it will certainly make them more open to engaging with state actors like the police.”**

But for the community to reach out and engage with the police, the whole justice system needed to improve as well, especially due to the widespread distrust of the police in Guyana. The first step was to strengthen the capacity of the police to prevent and investigate crimes through training, technological and data system upgrades, and facility improvements. The institution as a whole also became more sophisticated, conducting high-quality crime and violence surveys, training staff in specialized fields of forensic science, and promoting inter-agency coordination. **“It is important that we continue on this path to have a police service instead of a police force,”** Clifton Hicken, Guyana’s Policy Commissioner, was quoted as saying by Stabroeknews.<sup>6</sup>

Trust was also built by having police officers engage in positive ways with the community by walking the neighborhood, meeting and starting conversations with residents to hear their

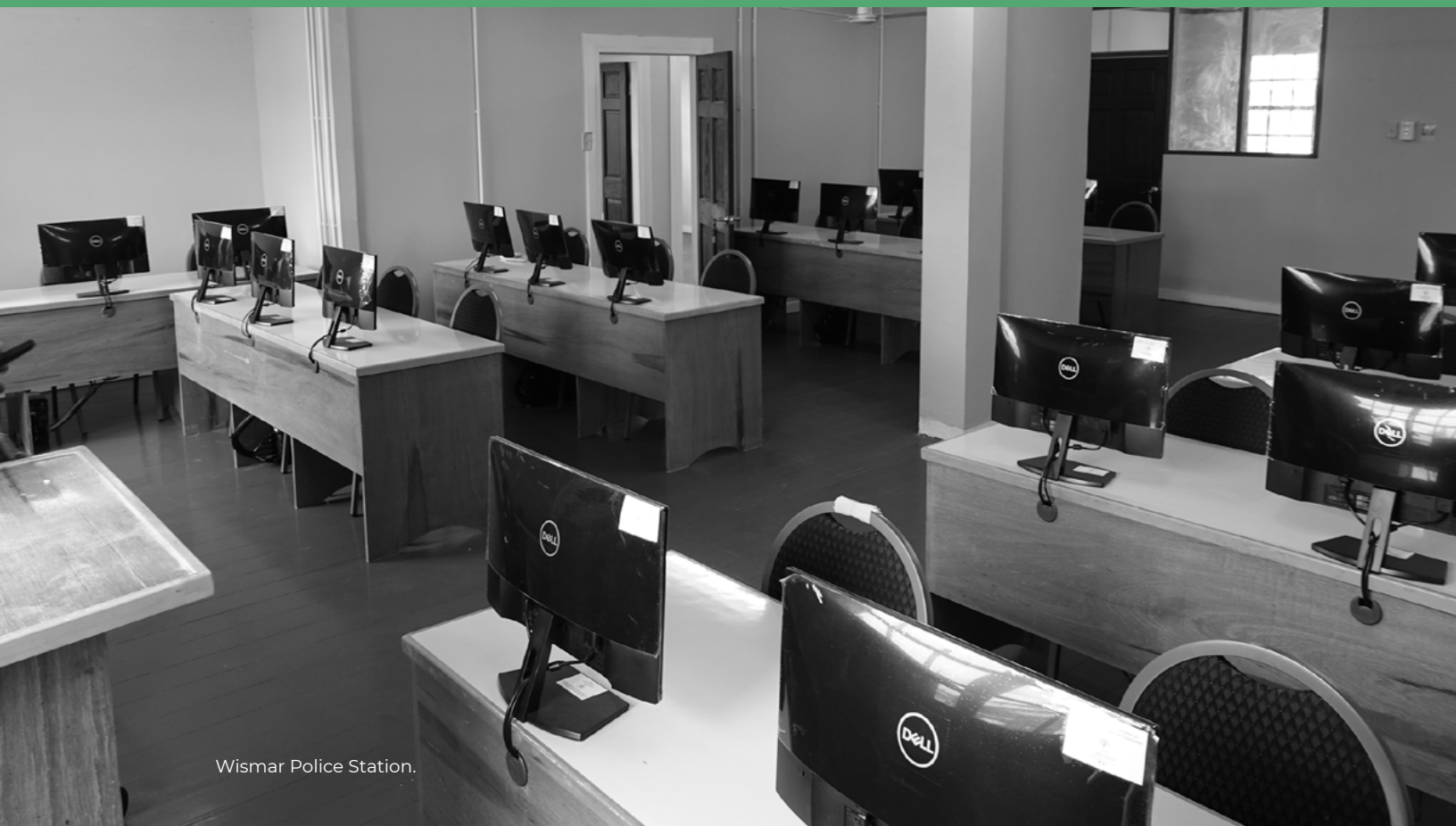
<sup>6</sup> <https://www.stabroeknews.com/2022/11/06/news/guyana/cops-credit-idb-funded-citizen-security-programme-for-lower-crime-building-public-trust/>



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Wismar Police Station.

concerns, and creating events to bring the community together. “The police organize football and cricket matches, and ‘fun days’ for the community,” says Shanna Hughes, a resident of the Sophia community.

At the prisons, the government conducted several programs to reduce recidivism. The first step was to conduct a census of the five prisons in Guyana to identify what they needed to implement effective rehabilitation interventions. After that process, the government trained the prison staff, upgraded the prisons with machinery and spaces to conduct workshops for vocational training, and began providing skills training to the inmates to facilitate their reintegration to society.

The strategy, which ran in conjunction with other government investments and policies, was highly effective. It contributed to the reduction of the homicide rate in the 20 targeted communities by 46% between 2015 to 2022, from 81 homicides per 100,000 people to 43.2 per 100,000. Similarly, domestic violence cases that were reported and resulted in charges or warnings doubled, from 31% to 61.6%. And trust in police at the national level drastically improved, where the number of people who reported distrusting the police fell from 50% to 16%.

**“I think that one of the things that made this strategy work was that there were dedicated personnel in each community mobilizing, supporting, and facilitating the community members who were already trying to help, but certainly needed that support and technical advice. It made the communities themselves feel safer knowing that the solutions were coming, in part, from within,”** says Wilks.



Police Station in Parika.



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# JAMAICA

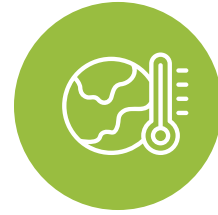
In Jamaica, community-led initiatives are proving effective at adapting to climate change



# JAMAICA

In Jamaica, community-led initiatives are proving effective at adapting to climate change

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**In Clarendon, Jamaica, climate change has made the seasons more extreme. During the rainy season, floods have become a common occurrence and during the dry season, droughts have increased in frequency and duration.**

In this largely agricultural area, the extreme weather has resulted in farmers either losing their crops or having lower yields, causing economic stress. **“Sometimes you have heavy and persistent rain. We have months of rain. The water will just wash out everything,”** said Trevor James, a farmer from James Hill, Clarendon, in a video interview to the Adaptation Programme and Financing Mechanism for the Pilot Programme for Climate Resilience.<sup>7</sup>

Farmers are not the only ones affected but also local businesses and organizations. The limited supply of water during the dry season forces them to reduce opening hours or close, as they can't operate without sufficient water.

It even affects school attendance, as students who rely on school lunches as one of their main sources of nutrition lose access to them. **“If we don't have water at school, the students don't turn up because if we don't have water, we don't cook,”** explains Tracy-Ann Mahoney, Principal at James Hill Primary School. This trend is a cause for concern for local school administrators, especially when absences occur. **“The droughts come usually around the time when students have exams, both internal and external exams,”** she says.

The extreme weather cycles of floods and droughts contribute to soil erosion, which affect the rate at which the soil can absorb rain. It has caused the area's Upper Rio Minho Watershed to

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<sup>7</sup> <https://www.youtube.com/watch?v=d46CDZ3HCbc>

become one of the most severely degraded in Jamaica. In 2015, it became a water deficit area, which means that more water is being extracted to meet the local demand than can be normally replaced by rain.

To address this issue, in 2014, the Government of Jamaica, in partnership with the Inter-American Development Bank (IDB), began a pilot program to increase the country's resilience to climate change through a series of interventions designed to adapt to the adverse conditions caused by extreme weather.

**“When the Government of Jamaica approached us to be part of this program, we jumped on it. It falls within our mandate and how we want to support countries to address climate change,”** says Gerard Alleng, Climate Change Senior Specialist at the IDB. **“And because it is a pilot, we wanted to demonstrate how to do climate adaptation and scale it up, so we are able to present the lessons learned to other countries.”**

The pilot program consists of four components including a program dedicated to implementing measures to help farmers and residents that live within the Upper Rio Minho Watershed to adapt to extreme weather conditions, and the development of climate change sector strategies and action plans for the government agencies dealing with water, health, tourism, coastal resources, and human settlements.

There is also a loan and grant program to help micro, small, and medium businesses, nonprofit organizations, and community-based organizations that are focused on agriculture and tourism to introduce measures that help them adapt to climate change, and a knowledge management system to record and share the lessons learned from the pilot to facilitate a scale up of the program.



Proposal writing workshop for businesses, nonprofits, and community organizations in agriculture and tourism seeking finance for projects to adapt to climate change.



Aquaponics system.

For the farmers in Clarendon, who primarily farm on hilltops and rely on rainwater, the adaptation measures aim to help them respond to floods using low-cost and income-generating sustainable techniques that reduce water runoff. The program assists them with planting live barriers – like pineapples, sugar cane, and vetiver, a type of grass – and the installation of micro check dams, which slow down the flow of water, reducing soil erosion and improving the quality of the soil. **“When you work on a hillside, you tend to see a lot of soil erosion because the place is very steep. So, when you use these barriers, it helps build back the soil,”** says James in a video interview to the Adaptation Programme and Financing Mechanism for the Pilot Programme for Climate Resilience.<sup>8</sup>

These measures proved to be highly effective. According to a report conducted by the IDB as part of the pilot program, the farmers reported significant reductions in spoilage due to flooding, reducing from an average of 25% loss of crops in 2014 to an average of under 5% by 2018.

The pilot also benefited other businesses, nonprofits, and community organizations working in agriculture and tourism to adapt to climate change. A total of 135 projects were awarded grants valued at over US\$4 million and 291 small and medium enterprises received loans from a local financial institution (Jamaica National Small Business Loans) valued at US\$2 million, which are estimated to have benefited over 200,000 people. The grants and loans were used to build greenhouses, water storage systems, and aquaponics systems.

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<sup>8</sup> <https://www.youtube.com/watch?v=d46CDZ3HCbc>



**“This program is extremely important for the Government of Jamaica because it helps to build the resilience of communities and key economic sectors in terms of their response to the impacts of climate change”** says Gillian Guthrie, Chief Technical Director at the Ministry of Economic Growth and Job Creation of Jamaica. **“And what is most important is that it is responding at a community-based level. We are building the resilience of communities, where the residents themselves decide how they respond to issues related to climate change.”**

In James Hill, the residents decided to address the issue of droughts during the dry season by introducing large rain harvesting systems that could store enough water during the rainy season to sustain them throughout the year. Among the first places they implemented these systems was at the James Hill Primary School. It proved highly effective in combating school absenteeism. According to a report conducted in 2019 by the IDB, the average number of days of the year that the schools restricted operations due to water scarcity were reduced by 80%, from 10 in 2014 to two in 2018.

Principal Mahoney saw firsthand how introducing the rain harvesting system impacted student attendance at her school. **“We are extremely grateful because it has helped us to adequately store enough water during the rainy season for when it is scarce, and that has enabled us to have more students everyday throughout the year.”**





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# SURINAME

The green energy revolution  
that is transforming river villages  
in Suriname



# SURINAME

The green energy revolution  
that is transforming river villages  
in Suriname

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**In the harbor town of Atjoni, Suriname, blackouts were common. Locally referred to as the “gateway to the interior,” Atjoni is the last town accessible by road in the district of Sipaliwini and serves as a hub for transporting goods and people.**

Over 60 villages located along the Suriname River depend on Atjoni, where an estimated 15,000 maroons live – descendants of enslaved Africans who escaped sugar plantations in the 18th century and are one of the recognized tribes in the country.

And yet, in this vital hub, access to electricity relied on diesel generators. When everything worked properly and fuel was available, the generators could supply electricity for 4 to 6 hours a day.

The residents of the town struggled without a reliable source of electricity. For Steve Jeroe, a local entrepreneur who owns a restaurant bar, it meant relying on his own generator and buying ice to keep drinks and meat cold, which drastically limited how much food he could keep on hand. **“We could only have one fridge and we had to store everything there, which made our work harder,”** he says.

For Dana Joekoe, the Head of the Junior Residence at the local residential secondary school, the unpredictable access to electricity meant worrying that her students would not be able to study at night, that the meat they bought to feed the students might spoil, or that, in an emergency, it would be hard to get help. **“Electricity is one of those basic things that a human being needs to develop properly,”** she says.



Solar farm in Pokigron.

That changed in 2018 when the Ministry of Natural Resources (MNH) and the Government of Suriname's national electric company N.V. *Energie Bedrijven Suriname* (EBS), decided to invest in a new solar electrical facility that was built in the nearby town of Pokigron with the support of the Inter-American Development Bank (IDB).

The solar plant produces 500kW and has a group of eight battery banks. This signifies that the solar power plant not only successfully met the entirety of the area's energy requirements but was also strategically prepared to accommodate the expansion of various businesses, health facilities, schools, and economic activities, thereby contributing to the overall enhancement of citizens' quality of life.

The solar plant that serves Atjoni is one of many improvements to Suriname's electric grid that started in 2014. With the support of the IDB, EBS began a process to improve the quality and reliability of the local electricity service, introduce 24-hour access to electricity to different areas of the interior of the country, and reduce the use of fossil fuels by transitioning to renewable energy production. As part of the program, there is also a component to reform EBS to increase the efficiency, transparency, sustainability, and accountability of the power sector.

**“The introduction of green energy was vital to ensuring electricity to the towns in the interior;”** says Sergio Ballón, energy sector specialist at the IDB. **“Before, when their electric**

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For the residents of Atjoni, like many other towns in the interior that gained access to a reliable 24-hour source of electricity, it meant a significant improvement to their lives.

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By ensuring the success of Suriname's solar initiative, we bring a wave of green energy to power progress.

grid relied on fuel, sometimes the government could not bring the fuel on time. The towns would go dark. And with fuel you pollute the atmosphere; sometimes you pollute the rivers when there are spills during transport. With green energy, you don't have any of those issues and the electric system is highly reliable.” In addition to addressing challenges related to unreliable fuel delivery, this project mitigated the issues associated with generator failures and the inherent difficulties in maintaining them, particularly in the interior regions, including Atjoni.

Adriana La Valley, IDB Representative in Suriname, mentions that when the program was evaluated in 2023, the audit showed that between 2010 and 2022, the frequency and duration of power outages in Suriname were reduced by 58% and 75%, respectively. For the residents of Atjoni, like many other towns in the interior that gained access to a reliable 24-hour source of electricity, it meant a significant improvement to their lives.

A **study** conducted by the IDB in 2020 suggests that the rural electrification program increased the total annual household income by 37.5% — approximately US\$ 1,000 — when compared to similar households that did not gain access to the electrical grid. It also helped families save large amounts in consumables like batteries, diesel, and candles, reducing their annual costs by about US\$ 250.



Local hands shaping Suriname's solar future at the Pokigron plant.





School kids in Suriname, benefitting from reliable electricity, thanks to the solar plant in Pokigron.

The study also found that villagers that benefited from the electrification projects were 30% less likely to have family members leave in search of education or work opportunities outside the village, when compared to similar households that didn't gain electrification.

According to Jeroe, the restaurateur, **“Now we have three freezers, one for meat and two for drinks, which makes our work a lot easier. We also had to close early in the evening. Now that we have electricity, our guests can stay longer and people can stop by to charge their phones, watch the tv, or use the Wi-Fi.”**

For Joekoe, access to reliable electricity meant that her students now can study after it gets dark, have access to Wi-Fi and mobile phones, and can eat better and more diverse meals, as the cafeteria can now acquire frozen and refrigerated foods without the risk of spoilage. It also meant that she could act faster during an emergency. **“In case of illness or some other emergency, when I'm absent, the kids can reach out to me with their mobile phones, which they can now charge. They also don't have to make fire lanterns anymore. It was dangerous, especially with the wooden floor.”**



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# TRINIDAD AND TOBAGO

In Trinidad and Tobago, the government is promoting sports and dance to save lives





# TRINIDAD AND TOBAGO

In Trinidad and Tobago, the government is promoting sports and dance to save lives

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**Every day, Sheldon Mason travels to four health centers in the St. George West region of Trinidad and Tobago to supervise wellness and sports activities for senior citizens sponsored by the government.**

**“We do an exercise program that includes activities that are easy for seniors to do – things that you can do when you have mobility issues like being in a chair, while lying in your bed, or sitting on the floor.”** Mason told TTT Live Online.<sup>9</sup>

He keeps track of the progress made by the participants, whom he calls his clients. Among them is a 91-year-old woman. **“She is busy! She is always going and stays active. She clocks in over 5,000 steps every day,”** he says proudly.

Mason’s efforts to promote physical activity among seniors are part of a larger strategy by the government of Trinidad and Tobago to tackle the leading cause of death in the country — non-communicable diseases. **Especially when you are dealing with non-communicable diseases, you need to be more active so that the body can help itself heal. Exercise is the process by which we do that,”** says Mason.

Non-communicable diseases, also known as chronic diseases, is a term used to describe illnesses that affect a person generally over an extended period of time and that are not usually caused by a virus, fungus, or bacteria. Some examples include diabetes, hypertension, and heart disease. In Trinidad and Tobago, they account for 78% of all deaths, one of the highest mortality rates for non-communicable diseases in the Americas.

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<sup>9</sup> <https://youtu.be/fGsg0Xs5YIM?si=T5qB9Hfe8F30zygM>



In the photo, from left to right: Robert Le Hunte, IDB Executive Director for the Caribbean; Carina Cockburn, IDB Country Representative; The Honourable Penelope Beckles, MP for Arima and Minister of Planning and Development; The Honourable Terrence Deyalsingh, Minister of Health; Ferdinando Regalia, IDB Manager of Social Sector, along with the rest of the NCRHA and IDB team visited the Arima Hospital.

Many of these deaths are premature, meaning that with proper care and detection, they could have been prevented. Among the factors that increase the risk of developing or worsening these diseases are an unhealthy diet, smoking, consuming alcohol, inactivity, and obesity. In 2017, the latest data suggested that the latter were dangerously high in Trinidad and Tobago – 46% of adults were physically inactive and 75% of children and adolescents led a sedentary life, while 59% of women and 52% of men were either overweight or obese.

Facing these challenges, in 2017 the Inter-American Development Bank (IDB) partnered with the Ministry of Health of Government of Trinidad and Tobago to build an integral strategy to prevent and manage non-communicable diseases by focusing on tackling risk factors, like inactivity and poor diet.

**“The collaboration is based on the IDB’s protection and nutrition framework, where our mandate is improving lives. Because of the epidemic of chronic disease, we were happy to partner with the Ministry of Health to do something different and to do some behavioral change to curb this trend,”** said Ian Ho-A-Shu, Senior Health Specialist at the IDB.

The strategy consists of four elements. First, it includes a program to reduce the occurrence and deaths caused by non-communicable diseases by improving early detection, changing behaviors to reduce risk factors, and providing adequate treatment. Second, it also contemplates a program to improve hiring and retention of primary care doctors and nurses. Third, the implementation of an e-health information management system using a centralized system with patients’ data to ensure proper tracking and care. And finally, it includes a program to develop tools at the Ministry of Health to improve financial operations, so there are enough resources to build new health centers and provide supplies to existing ones.

The first element of the strategy – aimed at early detection and prevention – provides resources to medical facilities and other institutions to better identify, track, and help those who have developed or are at risk of developing a non-communicable disease.

The prevention component also has a separate strategy for schools to help children and teenagers to eat healthier and do more exercise called “Healthy Schools TT.” In coordination with the Ministry of Education, the program implemented changes that include having a water-only policy at participating schools, improving the quality and nutritional content of the food served at schools, creating a curriculum focused on physical education, giving pedometers to students to motivate movement, and building new outdoor gyms and sports equipment.



Students from Bishop's High School Tobago participate in physical education activities.

**“The project has improved the lives of the students because they can now practice sports more often. We were able to help them develop more skills from the program. They were able to play hockey, basketball, cricket, and tennis. But most importantly, they were learning and having fun,”** says Dayne Issac, a physical education teacher at Bishop's High School in Scarborough, Tobago.<sup>10</sup>

According to a **meta-analysis published in Cochrane Library**, school-based interventions aimed at improving nutrition and increasing physical activity have proven to be effective at reducing the incidence of childhood obesity, one of the main risk factors in developing chronic diseases.

Based on the early success with youth, in 2019 the prevention program was expanded beyond schools and relaunched as “TT Moves,” to help the whole Trinidadian population eat healthier and get active.

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<sup>10</sup> <https://www.youtube.com/watch?v=IDSZvuvvFvo>

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The government is also sponsoring physical activity at community centers, schools, and gyms, for people of all ages, including multi-generational gatherings to dance and stay fit.

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Adults and children participate of aerobic activity hosted by Tobago Regional Health Authority as part of "TT Moves" initiative for IDB Cheer Fair 2023.

One of the initiatives that fall under “TT Moves” is the one that hired Mason to support senior citizens at health centers in St. George West. The government is also sponsoring physical activity at community centers, schools, and gyms, for people of all ages, including **multi-generational gatherings** to dance and stay fit.

**“We are simply asking people to make three small changes: drink a little bit more water, substitute starchy and oily foods for more vegetables and fruits, and move more.”** said the Hon. Terrence Deyalsingh, Minister of Health, during the signage event of TT Moves on TTT Live Online.<sup>11</sup> **“If we don’t intervene now, what is our future? Our future is an amputated leg, our future is speech therapy because you had a stroke, our future is to lose your job because you can’t go to work, our future is to have your children provide 24/7 care for you because you are in a bed. Is that the future we want for our people?”**



The Honourable Farley Augustine, chief secretary of the Tobago House of Assembly, gets his vitals checked at IDB Cheer Fair 2023. The event included many activities promoting healthy lifestyles, as part of the “TT Moves” initiative.

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<sup>11</sup> <https://www.youtube.com/watch?v=PrF19xu7KMw>

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