



ACP Science
and Technology II Programme

One Health, One Caribbean, One Love

SUMMARY OF RESULTS

The 'One Health' approach has been promoted and rolled out across the Caribbean region. A Caribbean One Health policy was written and then approved by the Caribbean Community (CARICOM). In parallel, a six-year One Health strategic framework mapping out the implementation of the One Health policy was written and distributed to Caribbean countries and international organisations. 29 inter-sectoral One Health leaders from 12 countries were trained in all areas of One Health. They created national One Health networks and developed and conducted a community-based One Health national project. Using a train-the-trainer philosophy, over 500 field veterinarians and 'first responders' were trained in the recognition and response to key exotic, endemic and zoonotic diseases. Laboratory capacity and capability was also strengthened in veterinary diagnostic laboratories across the region through Quality Assurance & Biosafety training, proficiency testing and the introduction of novel molecular diagnostic techniques into laboratories.



Children in Dominica growing iron-rich vegetables to combat iron-deficiency anaemia (September 2016).

PROJECT IMPLEMENTATION PERIOD

March 2014 - June 2017

CONSORTIUM

- The University of the West Indies (UWI), Trinidad and Tobago
- Pan American Health Organization (PAHO), USA
- CIRAD - Centre de Coopération Internationale en Recherche Agronomique pour le Développement, France
- Ministry of Agriculture, Guyana
- Ministry of Agriculture, Marine Resources and Cooperatives, St. Kitts and Nevis
- Ministry of Agriculture, Forestry and Fisheries, Grenada

Associated partners:

- Food and Agriculture Organisation (FAO), Italy

PROJECT CONTACT

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PROJECT WEBSITE

<http://www.onehealthcaribbean.org>

BACKGROUND

The Caribbean nations are connected by shared waters, culture and climates, yet the distance, diversity and various approaches to governance between nations complicates efforts to promote an integrated, holistic approach to problems at the interface between human, animal and environmental health. Overcoming this challenge is urgent because of the many significant problems related to 'One Health' in the region. These include more frequent and severe tropical storms and hurricanes, water shortages, rises in sea levels, losses of fisheries, increases in mosquito-borne diseases and chronic non-communicable diseases linked to poor nutrition, poverty and environmental pollution.

The low internal capacity, limited resources and high burden of human and animal infectious and non-communicable diseases in the Caribbean clearly point towards the relevance of pursuing a One Health approach involving close collaboration and sharing of resources between human, animal, agricultural and environmental health sectors both within and between Caribbean island states. The many advantages of following a One Health approach include: increased awareness of health issues, fewer unintended consequences from health related problems,

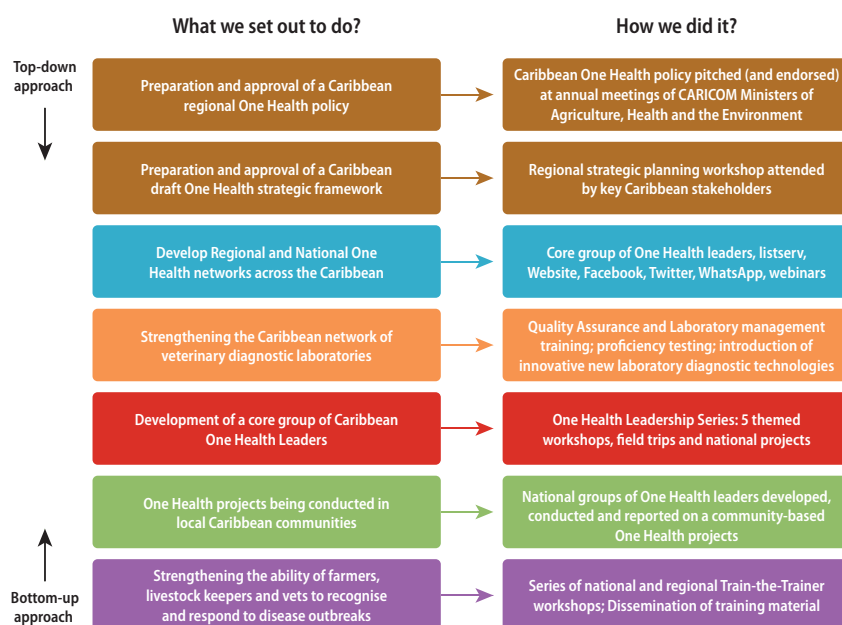
reduced vulnerability and increased resilience to major health threats / disease outbreaks and higher levels of efficiency in dealing with health threats, resulting in reduced human / animal health care costs.

The majority of Caribbean countries are unable to recognise and diagnose animal and zoonotic infectious diseases. This makes the animal and human populations, as well as the tourist-reliant Caribbean economies, extremely vulnerable. With the recent emergence of new and emerging animal and zoonotic diseases both globally and across the Caribbean, as well as the effects that climate change is having on incidence and rates of transmission, it has become imperative to be able to rapidly, efficiently and accurately recognise, diagnose and then respond to these diseases locally.

The direct beneficiaries from the One Health project include: Caribbean Ministries of Health, Agriculture, Environment, Finance and Planning; the Caribbean Community (CARICOM); the trained One Health leaders from 12 Caribbean countries; the Caribbean public, livestock producers and farmers, veterinary surgeons and diagnostic laboratories, animal technicians, first responders, medical doctors, nurses and environmental scientists.



METHODOLOGY



Preparation of a Caribbean regional One Health policy and a strategic framework

A regional Caribbean One Health policy was prepared and then approved by the Caribbean Community (CARICOM) Ministers of Agriculture, Health and Environment. At a regional strategic planning workshop with 60 representatives (from 10 countries) from key CARICOM organisations, a draft six-year Caribbean One Health strategic framework was developed to implement the One Health policy.

Development of a core group of Caribbean One Health Leaders

A core group of One Health leaders across 12 Caribbean countries was created, coming from multiple sectors (public, non-governmental and academic). Participants were carefully selected based on their leadership capacity, passion for One Health, and professional references.

A One Health Leadership series was conducted to develop a cadre of inter-sectoral, One Health leaders. A multi-prong approach was used, combining themed training workshops (five in total), field trips, project formulation / management and reporting, and mentoring to foster leadership skills in the selected professionals. The workshops included technical training on One Health approaches, using concrete examples of successful One Health projects. The workshops also built leadership capacity by setting personal goals and exploring leadership qualities,



Farmers in Haiti learning about the safe use of pesticides as part of the Haitian One Health leaders' national project (June 2016).

personality types, individual core values, and developing communication capacity. Team building exercises were conducted in order to establish the Caribbean One Health Leadership team.

One Health projects

Each country participant team prepared a proposal for a simple One Health project. These proposals addressed priority health issues in their home countries, and had goals and objectives aligned with those of the One Health One Caribbean One Love project. Participants were encouraged to leverage additional funding. At the final Leadership workshop, each participant gave a presentation on their project, including lessons learned. This activity allowed participants to practice project formulation and management, including reporting, as well as gain practical experience in developing and testing One Health approaches.

Information and communication on One Health and the establishment of a Caribbean One Health regional network with national working groups

Information and communication was facilitated through the project website, as well as through other social media platforms (Facebook, Twitter, WhatsApp). The One Health leaders developed national working groups in their home countries. A listserv of all Caribbean stakeholders who attended the workshops held throughout the project was developed, which has formed the basis of a Caribbean One Health regional network.

Strengthening the ability of field veterinarians and 'first-responders' to recognise key exotic animal / zoonotic diseases

A series of regional and national 'train-the-trainer' workshops / training courses were held for field veterinarians, farmers and livestock keepers to accurately recognise, diagnose and respond to the threats of animal and zoonotic infectious diseases.

Strengthening the Caribbean network of veterinary diagnostic laboratories

The ability of Caribbean diagnostic laboratories to accurately diagnose priority infectious diseases was strengthened through training in Quality Assurance (QA) and laboratory management (biosafety), the organisation of proficiency testing (comparative testing) and the introduction of innovative new diagnostic technologies into selected laboratories.

RESULTS

→ Outputs

Policy

- Approval and endorsement of a CARICOM One Health regional policy by representations of Chief Medical Officers, Chief Veterinary Officers and the CARICOM Ministers of Agriculture, Health and Environment.
- A draft regional One Health strategic framework.

Network

- 29 One Health Leaders from 12 Caribbean countries.

Data

- A list of priority animal and zoonotic diseases by country for the Caribbean region.
- 12 small scale One Health country projects:
 - **Antigua and Barbuda:** reducing the impact of the Giant African land snail on farmers.
 - **Barbados:** antibiotic residues in locally produced meat, poultry, milk and eggs.
 - **Belize:** rabies outreach and prevention.
 - **Dominica:** reducing the prevalence of iron deficiency anaemia.
 - **Grenada:** reducing obesity in preschool children.
 - **Guyana:** improving solid waste management through collaboration.
 - **Haiti:** knowledge and practices for the safe use of pesticides.
 - **Jamaica:** improving farming practices on the river's edge.
 - **St. Lucia:** reducing childhood obesity, vector-borne diseases and solid waste.
 - **St. Vincent and the Grenadines:** mitigating the effects of lionfish on marine ecosystems.
 - **Suriname:** use of aquaponics to provide heavy metal free and safer food.
 - **Trinidad and Tobago:** risk assessment for the consumption of shark meat.
- Resource material, including 20 training videos on priority diseases, factsheets and PowerPoint presentations, to identify and respond to endemic and zoonotic animal diseases (disseminated to trainers across the Caribbean region, available on the project website).

Technologies

- Novel diagnostic technology (molecular Polymerase Chain Reaction, PCR) validated within the Caribbean region and rolled out into 3 national veterinary diagnostic laboratories (Trinidad and Tobago, Suriname and Guyana).



Promotion of rabies vaccination in small ruminants in Northern Belize as part of the Belizean One Health leaders' national project (January 2017).

Infrastructure

- 2 Caribbean diagnostic laboratories with quality accredited tests in place (Cuba and Jamaica).

Capacity building

- 29 One Health leaders from different health sectors (animal, human and environment) trained in One Health issues.
- 32 veterinary personnel from 14 Caribbean countries trained as trainers in the recognition and response to foreign and endemic animal diseases.
- 5 national workshops on the identification and response to endemic and zoonotic animal diseases (Dominican Republic, Guyana, Jamaica, St. Lucia and Trinidad and Tobago) for 500 veterinary personnel and first responders (approx. 50:50 male / female).
- 11 laboratory technicians trained in Quality Assurance (QA) and Biosafety.
- 7 veterinary diagnostic laboratory technicians from Guyana, Suriname and Trinidad and Tobago trained in real-time molecular PCR technology.
- 7 national diagnostic laboratories participated in a proficiency testing exercise.

Visibility

- Project website.
- 3 social media accounts (Facebook, Twitter, WhatsApp).
- YouTube channel (training courses, presentations, news...).
- 1 One Health celebrity patron 'Bay-C', bass vocalist from platinum-selling dancehall / reggae quartet T.O.K. (Listenmi News presentation: https://www.youtube.com/watch?v=0mL29J_bk).
- 8 promotional and 20 training videos.
- 2 One Health webinars.
- 21 presentations at national, international and regional conferences and events.
- 20 press releases and interviews (TV and

radio), regionally and nationally.

- 300 hard copies of book 'Caribbean resilience and prosperity through One-Health' distributed to key Caribbean One Health stakeholders.

Publications

- Oura C., Mahase-Gibson A. and Stephen C., 2017. Caribbean resilience and prosperity through One Health. www.onehealth-caribbean.org
- Oura C.A.L., 2014. A One Health approach to the control of zoonotic vector-borne pathogens. *Veterinary Record*, 2014 Apr 19; 174 (16):398-402. doi: 10.1136/vr.g2539.



One Health leaders being trained in leadership and One Health in Jamaica (June 2015).



Laboratory technicians from Trinidad and Tobago, Suriname and Guyana learning to perform molecular diagnostics in Trinidad (January 2017).

RESULTS

Outcomes

- Increased capacity for veterinary personnel to identify and respond to endemic and zoonotic animal diseases.
- Increased laboratory capacity for laboratory technicians to diagnose foreign and endemic animal diseases.
- Veterinary diagnostic laboratories in Guyana, Suriname and Trinidad and Tobago able to rapidly detect priority animal and zoonotic disease-causing pathogens using molecular techniques.
- One Health Leaders across the Caribbean sensitised on the importance of following a collaborative One Health approach when addressing priority health issues at the interface between human, animal and environmental health.

Impacts

Usage

- 32 veterinary personnel from 14 Caribbean countries are training national 'first responders' in their home countries to recognise and respond to priority animal / zoonotic diseases. Over 500 people trained to date.
- Efficient and accurate recognition and diagnosis of priority animal and zoonotic diseases will lead to faster and more efficient interventions.
- Relevant and easily accessible training material is available through the project website to carry out national training courses.
- Multiple stakeholders from various ministries, NGOs, universities and the private sector across the Caribbean region can now recognise the connections between well-being, prosperity and healthy environments, and also the advantages of working together by sharing resources and expertise to find better and more urgent solutions to priority health issues.

Policy implications

- With a ratified CARICOM One Health policy, the Caribbean is the first region in the world to have such a regional policy in place.
- Caribbean countries are using a One Health approach to solve priority health issues nationally and regionally. For example, antimicrobial resistance action plans are being developed across the region.
- Many agencies in the region are tackling the root causes of priority health issues using a One Health approach. They are also building resilience by examining the shared health factors that link people, animals and the environment. CARICOM's action plans for combating obesity and other chronic diseases stipulate that food, nutrition and health goals cannot be decoupled from agricultural systems, thus ensuring food security is central in regional health policy.

Sustainability

- Government employees and workers from multiple sectors are regularly emphasising the importance of using a One Health approach in their policies and practices and the need for inter-sectorial and inter-governmental collaboration.
- PAHO is currently working to secure funding to implement plans from the Strategic framework and get approval from CARICOM organisations.
- Multiple stakeholders from various ministries, NGOs, universities and the private sector across the Caribbean are now promoting One Health in their work.
- The One Health Leadership series is considered to be the first of its kind worldwide. It has attracted global interest and requests for replicability around the globe.

TESTIMONIALS



**Rennard Overton, lecturer,
University of Guyana,
Guyana**

"Being part of this project did a lot for me. I learned a lot over the two years and have grown as a result. I have been pushing the One Health concept as much as I can in lectures, in the Ministry of Public Health and wherever possible."



**Kerry-Ann Hamilton, social
scientist, St. Vincent and
the Grenadines**

"The One Health journey has been an enriching experience. The benefits are evident in my practice and the way I regard crisis intervention and educational campaigns in the psychosocial field. It has widened the lens through which I view psychological and social issues allowing me a larger canvas to plan and implement more effective interventions. I'm looking forward to facilitating the One Health movement across the region and beyond."



**Joann M. Lindenmayer,
Chair, Board of Directors,
One Health Commission,
USA**

"This book [Caribbean resilience and prosperity through One Health] is outstanding! I am so pleased that it covers such a wide range of topics. It's truly one of the best One Health publications I've ever seen. It's critically important that the world views One Health through a broad lens and applies it in every aspect of health and well-being for people, animals, plants and the environment. Only by doing so, as you have in the Caribbean, will we be able to restore health and well-being to our planet and its inhabitants."