

## Strengthening Guyana's natural defences against effects of climate change while mitigating the risk of disasters

A team of climate change and environmental experts worked with regulators to develop legislative packages supporting the country's integrated coastal zone management efforts, ensuring stakeholder engagement throughout the process.



A field visit in September 2018 with the EU Delegation and Guyana's SRD Division to look at some of the sea defences.



**Ms Biljana Kovacevic**  
NIRAS Project Manager  
T: +381 64268 5134  
bko@niras.com

With its position on the northeast coast of South America, Guyana is highly vulnerable to flooding. To mitigate the risk facing the nearly 90% of its population who live on the coastal plain – and below sea level – a sustainable integrated coastal zone management approach was adopted to promote climate change adaptation and resilience in the country. But despite good intentions, legislation has not kept up with developments and the growing threats from global warming.

With funding from the EU and support from a NIRAS team of experts, in 2018 Guyana drafted two legislative bills: one on Sea and River Defence (SRD) and the other on Disaster Risk Management (DRM). The project to support this work was extended in 2019 to ensure this legislation would receive support, paving the way for its adoption.

### New and improved legislation

Consolidating and updating two existing acts, the SRD bill addresses challenges and gaps in existing legislation, for example by better recognising the role of mangroves as natural flood defences and introducing hefty fines for obstacles to flood defense mechanisms. The aim of the legislation is not to reinvent the wheel but rather to standardise definitions, avoid conflicts, and develop uniform approaches to tackling issues in the sector.

With respect to natural disasters, flooding is the main concern. In 2005, heavy rainfall resulted in catastrophe along Guyana's coasts, affecting almost half of the population. The damage totalled nearly 60% of GDP. The new DRM bill establishes legal authority for Guyana's national architecture for DRM. This consists of national level systems, under the

authority of the Civil Defence Commission, and regional and local level systems.

### Reaching out to stakeholders

Once the draft bills were refined, it was imperative to share the plans with relevant stakeholders, comprising representatives of government, local offices of international organisations, local NGOs, private sector interests, and the media. The public were also invited to submit comments via a consultation process promoted online and in the national media.

These consultations enabled the team to ensure stakeholder concerns were addressed and comments incorporated into the final bills and supporting legislative material, which were polished, validated and forwarded to the Office of the Chief Parliamentary Counsel for preparation.

#### Donor

European Commission

#### Clients

Ministry of Public  
Infrastructure  
Civil Defence Commission  
Ministry of Finance

#### Location

Guyana

#### Contract value

€299,872

#### TA value

€204,230

#### Duration

August 2018 –  
September 2019

50

workshops, meetings or  
interviews were conducted

≈ 300

stakeholders were consulted,  
representing almost 30 institutions at  
the national level and (an estimated)  
75 regional institutions



*The initial stakeholder consultation on 21 September at the Pegasus Hotel, Georgetown, to discuss both the SRD and DRM Bills.*



### A highly experienced team

NIRAS provided an international team of leading experts, which included one of the lead authors on the Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming – Mr Fernando Aragon from Mexico – as well as a regional environmental law expert from the University of West Indies in Barbados, Ms Alana Lancaster. A leading environmental law expert from the UK, Mr Chris Hedley acted as Team Leader.

### The way forward

Both bills are awaiting final adoption. The SRD bill contains some new powers and duties for the SRD Board, including a system of enforcement notices and penalties. In addition, the Board is given a prosecuting function. For the implementation of the bill to be successful and the new innovations fully realised, the Board will need training to develop an enforcement policy and strategy.

As for the DRM bill, some matters must be implemented in other regulations or legal instruments. For example, regulations will need to address emergency shelters, evacuations and other emergency procedures. Consideration should also be given to determining the procedures for cooperation under the new Bill, for example, activating and running emergency operations centres.

**According to Guyana's Office of Climate Change, in addition to rising sea levels, temperatures are expected to increase 1°C– 4°C by the end of the 21st century. Changes in weather patterns will lead to more intense periods of rainfall and longer dry periods. Much of the country's agriculture and food production is located on the coast, so rising sea levels rise and high intensity rainfall is expected to affect food security as well as road and housing infrastructure significantly unless action is taken.**

90%

Of Guyana's population  
lives below sea level