



## **Joint Select Committee on Land and Physical Infrastructure**

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### **Summary of Proceedings**

#### **Public Hearing Summary**

*Tuesday November 26, 2019 at 10:30 a.m.*

#### **Topic:**

An inquiry into flood alleviation and control measures for major river basins and drainage.

#### **Objectives of the Inquiry:**

- 1. To examine the current policies and measures for flood alleviation and control of major river basins and drainage catchments;**
- 2. To examine the effectiveness of policies and initiatives for flood alleviation and control;**  
**and**
- 3. To determine the challenges associated with flood alleviation and control measures**

**Venue:** The ANR Robinson Meeting Room (East), Level 9, Office of the Parliament, Tower D, The Port of Spain International Waterfront Centre, 1A Wrightson Road, Port-of-Spain.

#### **Committee Members:**

The following Committee Members were present:

- i. Mr. Deeroop Teemal – Chairman
- ii. Mr. Rushton Paray, MP – Vice Chairman
- iii. Mr. Nigel De Freitas – Member
- iv. Mr. Wade Mark - Member

#### **WITNESSES WHO APPEARED:**

##### **Officials from the Ministry of Rural Development and Local Government**

- Ms. Desdra Bascombe, Permanent Secretary
- Mr. Raymond Seepaul, Deputy Permanent Secretary (Ag.)

- Mr. Jameel Chadee Ameerah, Deputy Permanent Secretary (Ag.)
- Mr. Jerry David, Senior Disaster Management Coordinator
- Mr. Saheed Shah, Technical Officer (Ag.)

**Officials from the Ministry of Public Utilities**

- Ms. Nicolette Duke, Permanent Secretary (Ag.)
- Ms. Beverly Khan, Deputy Permanent Secretary
- Mr. David Manswell, General Manager, Communications, Sales, Marketing, SWMCOL
- Mr. Kenneth Kerr, Chief Climatologist (Ag.) Met Services
- Mr. Keith Meade, Senior Manager, Water Resource Agency

**Officials from the Ministry of Planning and Development**

- Ms. Joanne Deoraj, Permanent Secretary
- Ms. Marie Hinds, Director (Ag.) Town and Country Planning Division
- Ms. Camille Guichard, Assistant Director (Ag.) Town and Country Planning
- Dr. Ancil Kirk, Assistant Coordinator
- Ms. Erica Campbell, Senior Land Use Planner

**Officials from the Division of Infrastructure, Quarries and the Environment Tobago House of Assembly (THA)**

- Councillor Kwesi Des Vignes, Secretary of Infrastructure, Quarries and the Environment and Leader of Assembly Business
- Mr. Ritchie Toppin, Administrator
- Mr. Abdallah Chadband, Senior Technical Coordinator
- Mr. Howard Dobin, Climate Change Specialist

**Representative from the Faculty of Engineering University of the West Indies (UWI)**

- Dr. Vincent Cooper, Expert in Water Management

## **Key Issues Discussed:**

### **Opening Remarks**

#### ***Ministry of Public Utilities (MoPU)***

- i. Agencies under the MoPU's purview, particularly the Water Resource Agency, Trinidad and Tobago Meteorological Services Division (MET) and Trinidad and Tobago Solid Waste Management Company Limited (SWMCOL) execute critical responsibilities throughout the flood and alleviation control cycle from prevention and preparedness, response and mitigation to rehabilitation and recovery;
- ii. The WRA is charged with the management of the country's water resources which includes the monitoring of rainfall, surface water and ground water systems;
- iii. The agency has a real-time monitoring system that includes rainfall and stream fall system;
- iv. Data from the system is provided to organisations such as the MET and ODPM for consideration in the issuance of alerts and warnings;
- v. The WRA is currently implementing two programmes, the Adopt a River Programme and the Community Flood Early Warning System;
- vi. The Community Flood Early Warning System is being implemented in partnership with the MoRDLG and the Trinidad and Tobago Red Cross Society;
- vii. The Community Flood Early Warning System is intended to reduce the vulnerability of communities that are susceptible to flooding by providing near real-time information on rising water levels using a web-based data and notification portal;
- viii. The application is in the beta phase and when completed will provide near real time rainfall data, river levels and reservoir information;
- ix. The information from the application will be shared with the Municipal Corporations and other key stakeholder such as the ODPM, MET, Drainage and Highways Division, MoWT and community groups;
- x. These agencies will be trained to analyse and interpret the data and how to respond based on the level of alert;
- xi. In 2015, the MET operationalised a National Climate Outlook Forum (NCOF) to shift the actions of key stakeholders from one of response to preparedness;

- xii. NCOF is an international best practice of the global framework for climate services and brings together stakeholders such as the Drainage Division, MoWT, WRA, WASA, ODPM, TEMA and the Disaster Management Units of the Regional Corporations;
- xiii. SWMCOL continues to successfully partner with civil society and the private sector to implement a number of public education programmes aimed at reducing the impact of flooding by raising environmental awareness to reduce littering and eradicate waste from communities;
- xiv. SWMCOL closely monitors pre-warning flood alerts, and prepares the landfills to receive post-flood debris if significant flooding is predicted.

***Ministry of Planning and Development (MoPD)***

- xv. The MoPD is responsible for the National Development Strategy, Vision 2030;
- xvi. One of the MoPD primary objective is placing the environment at the centre of social and economic development;
- xvii. Several entities within the MoPD such as the EMA effect this primary objective;
- xviii. The Town and Country Planning Division (TCPD) is one of the key agencies in the MoPD responsible for the initiative;
- xix. The TCPD derives its mandate from the Town And Country Planning Act Chapter 35:01;
- xx. The TCPD has the responsibility through the Minister to guide the orderly and progressive development of land in both urban and rural areas and to preserve and improve the amenities thereof;
- xxi. The Planning and Facilitation of Development Act, 2018 when fully proclaimed will cause the Town And Country Planning Act Chapter 35:01 to be repealed;
- xxii. The MoPD and the TCPD are conscious of the potential impacts of flooding on various communities in Trinidad and Tobago;
- xxiii. The MoPD has been working with several of its development partners to implement policies and standards to guide the development of the built infrastructure of Trinidad and Tobago;
- xxiv. One of the key initiatives of the MoPD is the construction permit process which is an automated-based initiative to guide the development of applicants in terms of where to construct built infrastructure;

- xxv. The project is also intended to *inter alia* improve efficiency and effectiveness of the TCPD and will automate the processes for the submission of applications;
- xxvi. With Local Government Reform, the activity will be shared with other authorities and effected by the local government entities;
- xxvii. The TCPD looks forward to the potential enhancement of the process development planning control and management for the full proclamation of the Planning and Facilitation Act, 2014, the passage of the Urban and Regional Planning Bill and the ultimate devolution of land use planning functions to the Municipal Corporations;
- xxviii. The role of inter-agency coordination is critical to address the issue of flooding.

***Ministry of Rural Development and Local Government (MoRDLG)***

- xxix. Flooding is everyone's business;
- xxx. The Ministry cannot view flooding as business as usual but business unusual;
- xxxi. The need to devise new strategies to alleviate problems citizens are facing;
- xxxii. The MoRDLG together with the fourteen (14) Municipal Corporation spent millions of dollars to complete a number project under its Drainage and Irrigation Programme;
- xxxiii. The MoRDLG has seen an increase in allocation for fiscal 2019/2020;
- xxxiv. The need for a holistic Government and societal approach;
- xxxv. Climate change is ensuring high intensity rainfall in a short period;
- xxxvi. The need for ministries and departments to do things differently in terms of legislation, enforcement legislation, culture change, education and awareness building and provision of facilities such as bins.

***Division of Infrastructure, Quarries and the Environment Tobago House of Assembly (THA)***

- xxxvii. Under a new mandate in 2017, the Department of Environment was paired for the first time with the Department of Infrastructure to form the Division of Infrastructure, Quarries and the Environment;
- xxxviii. In recognition of the need to do things differently, a Coastal Zone Management Unit and a Drainage Task Force to address the drainage network on the island was established under the Division;

- xxxix. The Division established and continues to work with the Tobago Infrastructure Development Committee and the Tobago Disaster Management Committee;
- xl. These initiatives were borne out of caution and the recognition of the need to provide policy oversight and the necessary support as the impact of climate change is being dealt with;
- xli. The Division looks at the reality of increased rainfall;
- xlii. During the passage Storm Karen, Tobago received over a period of 20 hour, two-thirds of the 30 year average of rainfall for the month of September, 2019;
- xliii. Given increased rainfall, the Division recognised that it has real challenges that are greater than just one unit;
- xliv. The Division recognises the importance of collaboration with multiple stakeholders through all sectors of society such as civil society and the business sector to deal with challenges it faces;
- xlv. The Division implemented Green Solutions such as reforestation programmes, a deliberate attempt to reduce carbon footprint, wetland co-management and rehabilitation; greater policing of mining and land clearance;
- xlvi. The Division recognises that it cannot be insular in its approach.

***Representative from the Faculty of Engineering University of the West Indies (UWI)***

- xlvii. The Civil and Engineering Department's particular role is in training professional in hydrologic and hydrological modelling for developing predictive tools that can be used for designing systems for flood mitigation;
- xlviii. UWI is fully aware that such is but a part of the requirement needed for building flood resilience;
- xlix. Input and information from other disciplines are needed and are available at other departments at the UWI that would be willing to contributing to solving this national problem;
  - 1. Public education is an important component in terms of informing the public of expectations in the near future, advising them how to prepare and informing them of their role in minimising adverse consequences to flooding;
  - li. The need for physical and hydro meteorological data of sound quality;

- lii. The need for hydro meteorological data to be made available to the public;
- liii. The need to ensure that the agencies responsible for hydro meteorological data are supplied with the necessary resources.

**The status of the Integrated Flood Management Plan and the entity taking the lead role on the Plan**

- liv. The issue of flood mitigation is part of the Vision 2030 Plan;
- lv. The MoPD has been in discussions with a number of agencies for different components of the plan;
- lvi. The Drainage Division will deal with the physical infrastructure;
- lvii. The MoPD has been working along with other entities to deal with regional issues for example, an initiative with one of the Regional Corporations;
- lviii. The MoPD is working on the environmental aspects for example, as it relates to forestry and the management of beverage containers and plastics;
- lix. There is no one agency that is responsible for plan;
- lx. The MoPD continues to take the overarching responsibility in terms of coordinating with all agencies and monitoring the implementation of the plan;
- lxi. The responsibility is also handled at the level of the policy agenda and in terms of budgeting under the Public Sector Investment Programme (PSIP);
- lxii. The MoPD has sight of all programmes and initiatives and determines whether the objectives of the flood alleviation agenda are being achieved.

**Whether there is a Specific Unit or Project Team to implement the Integrated Flood Management Plan**

- lxiii. There is no specific unit or project team, implementation of the NDS is handled at the level of the policy, Budgeting and Monitoring and Evaluation Unit;
- lxiv. A specific unit or project team within the MoPD was not planned for but will be taken into consideration.

**Whether the initiatives being taken are being done in conjunction with the MoWT or separately**

- lxv. The MoPU is collaborating with a number of stakeholders including the Drainage Division;
- lxvi. The data from the stakeholders will be fed into portals to inform the public to take mitigation measure in the event of flooding.

#### **The accuracy of the MoPU data**

- lxvii. The portal was developed in-house and is in the testing phase;
- lxviii. The portal was developed to make data on rainfall and streamflow available in a timely manner to stakeholders so that the necessary action can be taken in a timely manner;
- lxix. The MoPU did not find suitable portal for information and so developed an in-house portal;
- lxx. The MoPU shared the site with various stakeholders such as its main partner, the MoRDLG and their DMUs, the Drainage Division, UWI and several other stakeholders to examine the portal to determine if it met their needs or requires changes;
- lxxi. The portal is a work in progress and is expected to be finalised in the ensuing 2-3months and will be made available to other stakeholders.

#### **The Beta Phase**

- lxxii. The MoPU is testing the portal to ensure it works well, that there are no issues with it and that information is reliable and can be used by various response entities and community members;
- lxxiii. The portal is an information display system which provides information on rainfall and levels of stream flow in various areas;
- lxxiv. The MoPU is seeking to work with MoRDLG to equip each Regional Corporation with information on rainfall and stream flow in their respective areas, in order to warn citizens of potential flooding and take the necessary action accordingly.

#### **Whether the MoPU's web-based Data and Notification Portal application takes into account the size of the flood plain**

- lxxv. Another component of the project together with the WRA involves, mapping the extent of and height a flood and to collect information on the rainfall contributing to the flood;
- lxxvi. The information from the mapping will be used whenever another flood occurs to compare the information.

### **Possible duplication of initiatives by the MoPU and MoWT**

- lxxvii. The MoPU was unaware that the MoWT was also considering mapping;
- lxxviii. The lack of co-ordination amongst agencies and authorities;
- lxxix. The need for co-ordination amongst agencies and authorities to avoid unnecessary duplication of initiatives.

### **The entity responsible for evaluating development to determine that conditions are met**

- lxxx. Applicants approach the TCPD with applications for construction building;
- lxxxi. Based on the TCPD response from field work and information on the site, the TCPD will provide conditions on the approval process;
- lxxxii. TCPD does not give final approval for developments;
- lxxxiii. Subsequent to receiving conditions on approval, the application goes to other entities including the respective local government authorities;
- lxxxiv. In some instances where the project is high risk, the MoWT is also included in terms of conditions with regards to drainage and drainage advice where there is a proposal for construction for example on a flood plain.

### **The entity responsible for final approval for developments**

- lxxxv. The responsibility for final approval for developments lies with the Regional Corporations;
- lxxxvi. The application does not come back to the MoPD, TCPD.

### **The status of the National Hillside Development Policy**

- lxxxvii. The MoPD implemented a Hillside Policy years ago specifically for the Northern Range;
- lxxxviii. The TCPD is currently revising the policy to include the entire country;
- lxxxix. The revised policy is before the executive for consideration.

### **Whether consideration is being given to addressing slash and burn and deforestation**

- xc. The slash and burn issue does not fall under the purview of the MoPD, it is a matter for the Forestry Division or in some cases, the Ministry of Agriculture, Land and Fisheries (MALF) and the Commissioner of State Lands;

- xc. The TCPD collaborates with its sister agencies to provide information;
- xcii. Recommendations may differ depending on the area.

**Whether the National Hillside Development Policy would be put out for stakeholder comment**

- xciii. A number of stakeholder were included to craft the policy for the Northern Range and this could be done with the nationwide policy.

**The reason why the enforcement responsibly at the level of the Regional Corporations is not happening**

- xciv. The MoRDLG's request to adjust its response to make it consistent with that of the MoPD TCPD as it concerns the entity responsible for final approvals for building construction;
- xcv. Regional Corporations are the final approving authority through its local councils for building construction;
- xcvi. Upon its final approval for full planning permission, the MoPD, TCPD will indicate conditions which include fire, drainage design from the MoWT, Drainage Division, WASA and accordingly conveys approval;
- xcvii. The Drainage Division has the responsibility to monitor drainage designs and to grant approval for certain developments;
- xcviii. Enforcement of developments including unauthorised structures are tardy because Municipal Corporations Councillors examine things objectively from a community perspective and may not want to enforce upon developers and inadequate staffing capacity and capability at the Corporations to undertake full and complete inspections during the course of construction of developments;
- xcix. Developers engage in developments and inspection is limited because of inadequate staff;
  - c. The MoPD and the EMA may have a role to play in the enforcement of bulldozing and filling of land which are engineering works.

**Whether the MoPD, TCPD has the authority to stop Orders**

- ci. The MoPD currently does not have the authority to stop Orders but has a role in enforcement;

- cii. The MoPD faces the same challenges with human capacity as the Regional Corporations;
- ciii. The MoPD hired Enforcement Officers in 2015 as a result of Development Control Officers becoming overwhelmed;
- civ. At present, the MoPD has twelve (12) Enforcement Officers;
- cv. Enforcement is a time consuming process;
- cvi. Research must be accurate and requires time;
- cvii. There has been a lot of improvement in the TCPD's role in enforcement;
- cxviii. Collaboratively, many agencies have officers to engage in enforcement for example, the EMA, Regional Corporations, TCPD, Forestry Officers and Public Health Officers;
- cix. MoPD has been considering ensuring that training is taking place to empower the MoPD to increase the number of Enforcement Officers;
- cx. Such training is being considered when the Planning and Facilitation of Development Act, 2018 is proclaimed.

**Apathy as a challenge with implementing flood alleviation and control measures**

- cxii. People do not think there is a need to change because experiences will continue;
- cxiii. Changing apathy will make the problem real;
- cxiiii. Only if people demand more, leaders will take action;
- cxv. Public Education is required to get the message across;
- cxvi. It is very likely that floods will be frequent;
- cxvii. Apart from climate change, land use practices account to flooding;
- cxviii. The need to figure out how to move forward;
- cxviiii. The need to address land use practices and land zoning policies.

**The implications to a Water Resources Management Authority being the coordinating body to play a major role in flooding**

- cxix. Water Resources Management is about the integration of the issue of water and water as a resource;
- cxx. Flood water can be used;
- cxxi. The need to find a way to harness floodwater for use to WASA and the MALF;
- cxxii. The need for a coordinating body to provide that role to harness available water;

cxxiii. The need to change the name of the Drainage Division to Stormwater Management.

**The status of studies in Tobago for the suitability and locations of storm water ponds and other flood mitigation systems in key flooding hotspots**

- cxxiv. The Division adopted a more aggressive and proactive approach following the passing of storm Karen particularly in the area of Scarborough;
- cxxv. The Drainage Task Force collaborates well with the WASA, Division of Food Production, Forestry and Fisheries and the Division of Health to ensure that the drainage infrastructure is up to standard;
- cxxvi. The Division decided to go ahead with studies and these were approved last week;
- cxxvii. The initiative seeks to engage UDECOTT to provide the project management and procurement systems necessary to acquire skilled consultancy services required for the studies;
- cxxviii. With recent volumes of water, the Division recognised the need for stormwater ponds in key areas that have flooded;
- cxxix. The Division observed unique situations and has to plan for them for example spring tides;
- cxxx. The need for specialised input to ensure that the correct design solutions;
- cxxxi. Studies have to be integrated and encompass the entire island and include all the river basins and watersheds;
- cxxxii. The Division is at the stage of engaging in a MoU with UDECOTT;
- cxxxiii. The Division will also want to piggyback on applications being implemented in Trinidad.

**The status of Climate Change given the intensity of rainfall and the action that can be taken and expected in the future to treat with the intensity of rainfall**

- cxxxiv. The Division recognises that the normal pattern that was expected in time past no longer expected;
- cxxxv. The intensity of rainfall is increasing;
- cxxxvi. The average rainfall for the month of September, 2019 was approximately 171mm whereas it was 117mm in 20 hours with Storm Karen;
- cxxxvii. Projection of rainfall may continue in the future;
- cxxxviii. The need to save and reuse stormwater;

cxxxix. Recharge of groundwater should also be considered;

**The extent to which it is important to harness stormwater**

cxli. The harnessing of stormwater needs to be a priority going forward;

cxlii. Dams, stormwater ponds and other retention basins need to be considered to store water.

**Whether the information being collected for Trinidad for the application is also being done for Tobago**

cxlii. The TEMA is extending the application to Tobago;

cxliii. The application will be available in the ensuing 3-4months.

**Closing remarks**

cxliv. The need for closer collaborations amongst entities;

cxlv. The need to examine issues such as containment or squatting;

cxlvi. The need for enforcement;

cxlvii. The need to address culture change;

cxlviii. The need for Tobago to be integrated into the national plans;

cxlix. The need to ensure that information is shared;

cl. The UWI has a lot of interaction and a good relationship with the entities present;

cli. The UWI worked with the WRA on the application;

clii. The UWI has shared with the WRA its models to provide predictive information;

cliii. Recently, the UWI had a training with the Drainage Division;

cliv. UWI has been meeting with Drainage Division and suggesting research topics;

clv. UWI met with the WRA and outlined its research agenda and the number of students available and the support the UWI requires with respect to data;

clvi. The WRA has been providing the UWI with the data and the students have been continuing with their work;

clvii. The UWIs willingness to provide assistance with respect to training and creating knowledge to develop a flood resilient system.

**View the Hearing:**

The hearing can be viewed on our YouTube page via the following link:

<https://youtu.be/09VS30Ek19w>

**Contact Information:**

You may contact the Committee's Secretary at [jsclpi@tparliament.org](mailto:jsclpi@tparliament.org) or 624-7275 Ext. 2828.

*Committees Unit*

*November 27<sup>th</sup>, 2019*