

OPEN SCIENCE DATA



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TRINIDAD & TOBAGO

Open Data Key To Caribbean Competitiveness

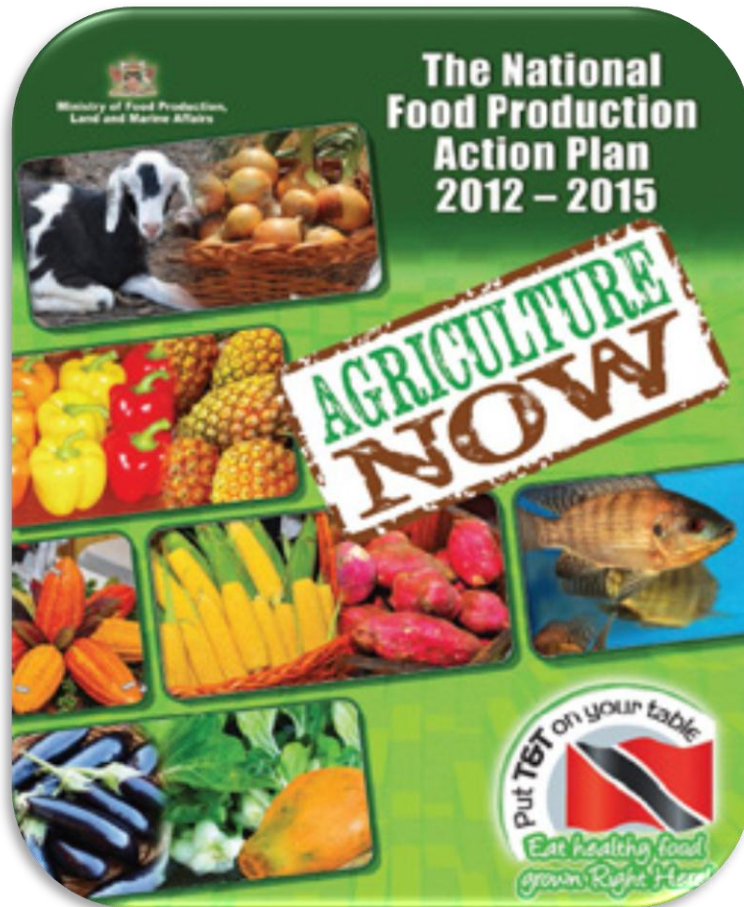
Open Data has facilitated unparalleled access to data by all segments of society around the world. Such access, together with phenomenal computational capabilities and the convergence of network technologies, has located data, its derivative processes and the availability of this derived information via web and mobile applications at the centre of the next generation of economic growth cycles.

Capacities to **collect, aggregate, analyse, visualize and disseminate** data are key to Caribbean competitiveness; and the strategic development of these capacities, with associated **tools, standards and procedures**, is critical to Caribbean development.

One compelling application area for increased regional resilience is food security.



In Trinidad & Tobago, Agriculture and Food Security are high on the agenda for Government



Government has set as its goal ‘an agriculture sector that is competitive, vibrant, technologically advanced and fully integrated with other critical sectors such as manufacturing, tourism, trade and the environment’.

http://sta.uwi.edu/agrinett

- ✓ The **AgriNeTT** project is geared toward *research and development on Intelligent Decision Support for Enhancing Crop Management*.
- ✓ The primary focus of **AgriNeTT** is to build Information and Communications Technology (ICT) applications around Agriculture data.

The screenshot shows the homepage of the AgriNeTT project. At the top, there is a navigation bar with the UWI logo, the RDI FUND logo (The UWI-Trinidad and Tobago Research and Development Impact Fund), and a search bar. Below the navigation bar, the AgriNeTT logo is displayed on the left, and a navigation menu lists: Home, About AgriNeTT, Researchers, Projects, News, and Contact Us. The main content area features a large photograph of three farmers in a field, with a caption that reads: "Farmers getting information of a plant disease by taking a photo." Below the photo is a "Welcome" section with the following text: "The Agrinett project is geared toward research and development on Intelligent Decision Support for Enhancing Crop Management. Agrinett intends to build Information and Communications Technology (ICT) applications around Agriculture data." and "AgriNeTT is an Agriculture ICT project of the St. Augustine campus of The University of the West Indies. It is funded by the UWI-Trinidad & Tobago Research and Development Impact (RDI) Fund. The AgriNeTT team is multi-disciplinary, consisting of academics from the Department of Computing & Information Technology and the Faculty of Food and Agriculture at UWI as well as persons from industry in the agriculture sector." At the bottom, there are three icons representing the project's focus: "Pest & Disease Tracking" (a green leaf with a black beetle), "Farm-land Information" (a map with labels for soil type, boundary, and crop type), and "Decision Support" (a bar chart with a question mark).

OPEN DATA – <http://data.tt> <http://maps.tt>



The **AgriNetT** Open Data Repository will house different data sets from institutions and associations, including **farm level production data, commodity prices and volumes, farm land spatial data, soils, weather and pest and diseases tracking data.**

We are collaborating with our National Research and Education Network- TTRENT to house the repositories.

A prime objective in building this platform is to **create a central repository for agriculture data** in which the data sets can be visualized in different ways and where local developers can build applications, including mobile apps, that are useful to the national community





Applications that are being developed

- ❑ Applications in the areas of Data Mining to extract useful information from the data, particularly as it relates to commodity prices and production volumes.
- ❑ Mobile apps: **Market Watcher**- An app that alerts farmers to price changes of commodities of interest, including a price predictive component.
- ❑ Mobile apps: **AgriExpenseTT**- An app that assist farmers to collect crop expenses on the go and monitor cost of production per unit harvested. Expense data will be stored on cloud and data analytics applied.
- ❑ A GIS application using spatial models to assist farmers with production alternatives based on land use factors and environmental data.
- ❑ Expert system tools for diagnosing plant pests and diseases, including automatic recognition of images of diseased leaves. Farmers will access these tools via a mobile app.



RTOD Real-Time Open Data Platform

Real-time data generated by the many sensors and other sources today can serve as important input to mobile and web applications.

This data, however, is often either proprietary or in a format that is not easily usable by real time applications.

Furthermore, if an application developer needs to integrate (mash-up) data from multiple sources it is quite burdensome to develop interfaces.

The present open source platforms for Open Data repositories are designed for static non real-time data.

The AgriNeTT project has created RTOD, an open source platform that will accept Real-Time Open Data from multiple sources in multiple formats and make the data accessible in a standard format at any desired frequency.

The data is held for a finite period of time (depending on factors such as frequency and precision) and digests made so that developers can also make use of historical data