Geospatial Information as a useful tool in responding to CoVID-19 in Fiji

Fiji's Ministry of Lands and Mineral Resources Geospatial Information Management (GIM) team set up the geospatial capability within the Ministry of Health and Medical Services Incident Management Team (IMT) for CoVID-19 one week prior to the first reported case. The GIM team has been working with IMT ever since using ArcGIS and their geospatial datasets, combining data such as contact tracing, fever clinics, isolation facilities, cluster information to provide situation reports to assist with the planning and deployment of resources for the health teams.

Officers seconded from the Ministry of Lands and Mineral Resources were organized in shifts as they worked 24 hours on a daily basis with members of the IMT to provide the necessary geospatial information technical support for planning and for the frontline medical teams dealing with CoVID-19.

The GIM team also worked with Fiji's Military Forces to assist them using their geospatial resources for their forward security planning and relief efforts. Prior to Fiji's CoVID-19 dashboard, the GIM team created a VanuaGIS CoVID-19 app where the information captured was reflected on the app along with the Esri based CoVID-19 Dashboard.

In the middle of the CoVID-19 situation in Fiji, on April 7, Tropical Cyclone Harold devastated parts of Fiji, once again geospatial information proved to be very useful for identifying communities affected and the deployment of relief assistance to these communities.

The Geospatial information Management (GIM) Division within the Ministry was approached to provide a team of officers who had mapping and GIS capabilites to be based with the CoVID-19 Incident Management Team (IMT) prior to the first case being detected in Fiji.

Using ArcGIS SDE, the GIM officers were able to use the exisiting base datasets such as cadastral, hydrographic, transport, infrastructure, population, along with the mapped quarantine and isolation centers, fever clinics, contact tracing, resources and medical supplies to provide a "birds eye" view and a better understaing to senior government and health officials on what was taking place on the ground in regards to the CoVID-19 cases and work carried out by the medical teams.

All these information was also reflected on the Fiji's Esri based VanuaGIS platform and the CoVID-19 Dashboard,
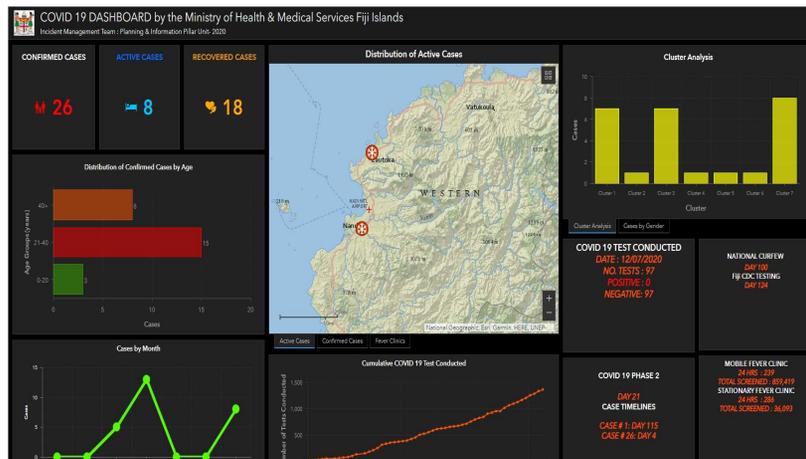
The datasets mentioned below is divided into two categories:

Existing data set and responsible agencies:
- Villages/Settlement – MLMR/Itaukei
- Infrastructure & Transport – MLMR, FRA, CAAF, Navy, NFA, FPF, MEHA
- Administration boundaries - MLMR/Itaukei
- Land Use – MLMR
- Flooding Emergency Response – NDMO
- Census – Bureau of Stats

Newly collected data sets and responsible agencies
- Health Facilities/Quarantine, Isolation, Cases, Fever Clinics, Medical Areas – MOH
- COVID 19 Lockdown – FPF/RFMF
- Contact tracing

There were several factors that were key to the success of the Ministry of Lands and Mineral Resources contribution to the national response to CoVID-19 and these were:

- An established geospatial information data hub that is managed by the Ministry of Lands and Mineral Resoruces, as part of a national strategic move, where over the years base geospatial information was digitized or captured, stored and accessed by agencies for their own planning and deployment of resources
- The work of the cabinet endorsed Fiji Geospatial Information Management Council to form networks and partnerships that allow for sharing of geospatial datasets between agencies, capacity building and stregthening of capacities among agencies
- The recognition by government on the benefits of geospatial information and the decision to use geospatial information as a tool to respond to CoVID-19
- Investment by government in hardwares and softwares, and the creation of mapping and geospatial specialist positions to carry out the necessary work of setting up the data hub along with the capture, storage and analysis of geospatial information, which in turn was deployed in the response to CoVID-19
- The motiviation of the geospatial specialists to serve the nation by working with the IMT to provide the needed geospatial information capability and support on a 24/7 basis for the CoVID-19 response