inmarsat
The mobile satellite company

Key benefits

1. Reach: availability of terrestrial fixed and mobile networks is limited outside main population centres
2. Reliability: operates over the Inmarsat-4 satellite and ground network, offering over 99.9% availability
3. Resilience: not susceptible to terrestrial network issues such as infrastructure loss in natural disasters
4. Deployable: quick and easy to set up in the most difficult environments

Digital Frontiers: Philippines

Fast response saves lives

Satellite connectivity is reducing the impact of natural disasters in the Philippines.

IPP overview

The UK Space Agency's International Partnership Programme (IPP) is a five-year, £152 million programme designed to partner UK space expertise with governments and organisations in emerging and developing economies around the world to deliver a sustainable economic or societal benefit. All IPP projects are fully aligned to the United Nations' (UN) Sustainable Development Goals (see relevant SDGs below).

Inmarsat has been awarded IPP funding for three projects in Nigeria, Indonesia and the Philippines which began in 2017.

The challenge

Located in the Pacific Ring of Fire, the 7,000 islands that make up the Philippines are struck by around 20 cyclones every year and are at constant risk of devastating damage from earthquakes and tsunamis.

Although the Philippines has very good early warning systems and a robust disaster preparedness system in place, the infrastructure and resource allocation to respond to disasters is poor, so the human and economic cost remains high. This problem is escalated because of the growing population and the increasing hazards associated with climate change.

Disaster rescue and relief efforts are often hampered because terrestrial networks are knocked out or simply do not cover affected areas. A key lesson from Super Typhoon Haiyan in 2013 – which killed 6,300 people in the Philippines, affected 1.5 million more, and caused US$2bn worth of damage – was the ineffective deployment of crisis communications. Government first responders were only able to glean information on the extent of the devastation from TV reports 24 hours after the storm hit because broadcasters were equipped with Inmarsat BGAN terminals.

UK SPACE AGENCY

The solution

Through the Philippines IPP project, Inmarsat is supporting the Department of Social Welfare and Development (DSWD) in improving disaster response through a satellite communications solution that can provide the best and fastest connectivity while also being highly mobile and portable.

Pre-positioning of the satellite kit in five regions especially vulnerable to natural hazards, and training of DSWD Rapid Emergency Response Teams (RETT) by Inmarsat partner Télécoms Sans Frontières, means critical data can be sent direct from a disaster site to coordinate a detailed government response within 24 hours.

The project uses Inmarsat's powerful Global Xpress (GX) satellite service, highly portable mobile BGAN broadband terminals and rugged IsatPhone 2 satellite phones.

The results

In the first year of the project, which was launched in March 2017, RETT was deployed to deal with four humanitarian crises, including a mass population displacement caused by an insurgency and two tropical storms.

By far the greatest test of the satellite communications solution, however, was the eruption of Mount Mayon in Bicol in January 2018. Over several weeks of violent activity, an estimated 80,000 people living in the vicinity of the volcano were moved to 97 evacuation centres.

The DSWD incident command post, set up in a nearby hospital, was entirely powered by Global Xpress. Thirty users from various government agencies coordinating the evacuation were able to use the reliable, high-capacity connection for chat functions, VoIP, file transmission (for reports, images, etc), internet access and video conferencing.

DSWD teams routinely visited offline evacuation centres with the mobile BGAN terminals so camp managers could stay in touch with the command post and request supplies.

In each of these emergency deployments, the fast transmission of information and improved situational awareness made the delivery of aid quicker and more efficient.

The future

As the three-year project progresses, any future events, as well as regional and national emergency preparedness training exercises, will further serve to demonstrate to the Philippine government the effectiveness of mobile satellite communications in reducing the impact of natural disasters. Pre-deployment of satellite equipment to hazardous areas and training for first responders can easily be scaled up across the region and to other disaster-prone countries.

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