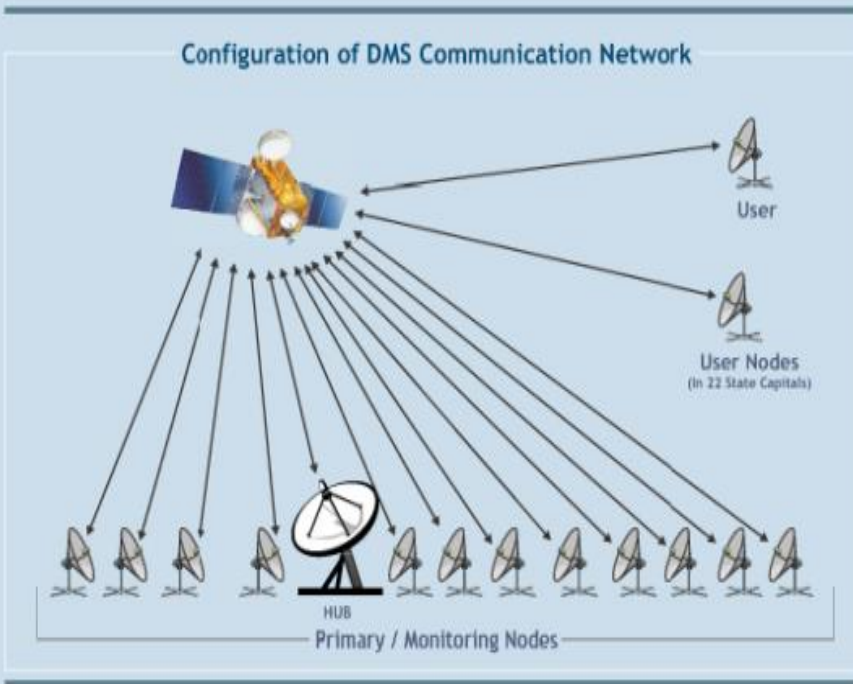इसरो ISRO
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DISASTER MANAGEMENT SUPPORT

In 2008, ISRO had set up a Satcom based broadband Virtual Private Network (VPN) for disaster management support. The network is operational in Ext-C band on GSAT-12 satellite.

The present network has nine Primary Nodes supporting up to 2.5 Mbps and 33 User nodes supporting up to 825 Kbps data rates. It is a Point to Point n/w supporting Video Conference, IP data communication and telephony(DMS). This network was effectively utilized during disasters in Uttarakhand and Jammu & Kashmir.

For more effective and efficient utilization of space resources and for increasing the reach of the network together with up gradation of technology, this network is proposed to be upgraded to DVB-S2/MF-TDMA waveform over satellite with multilayer communication architecture including Optical Fiber backbone.

The user nodes shall support integration with diverse terrestrial communication services to improve the communication reach at disaster sites. The upgraded network shall have initial deployment of 350 user nodes at critical locations with scalable capacity of VSATs and operate using 9.3m HUB.

Successfully utilized during recent disasters in Uttarakhand and Jammu & Kashmir

Configuration of DMS Communication Network

MAJOR HIGHLIGHTS

- Disaster Management Support Network is a Satellite based virtual private communication network using VSATs and is operational since 2008.

- Extended-C band operation using GSAT-12.

- Present Star Network uses DVB-S / MF-TDMA and is proposed to be upgraded to DVB-S2/ MF-TDMA and 9.3m hub.

- Supports voice, video and data and is based on IP telephony & video conference services .

- Nationwide network , presently with 9 primary nodes and 33 user nodes spread across the country.

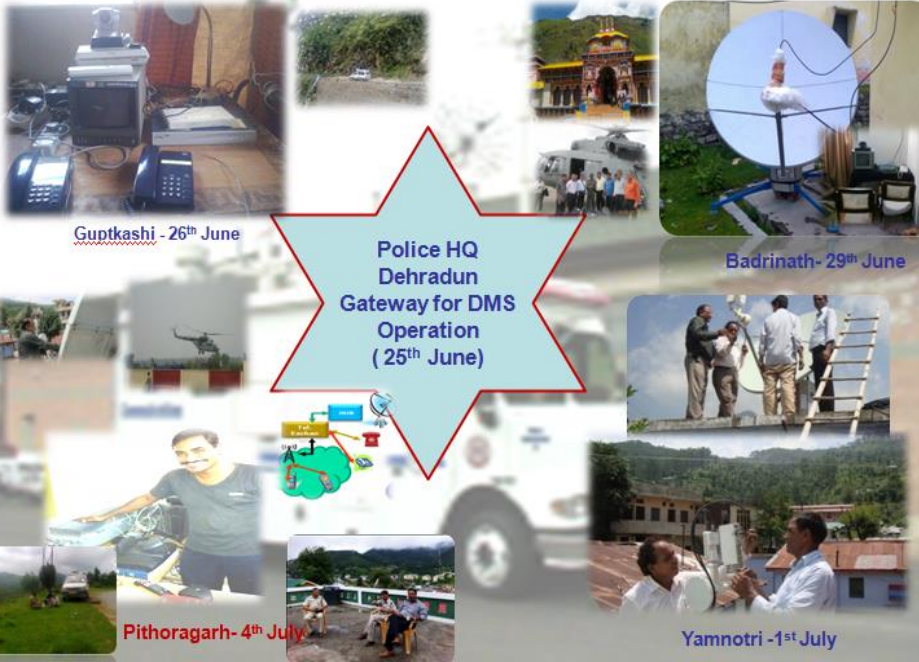- Communication hub is operational at New Delhi in MHA premises.

• MAJOR BENEFITS

- Provides effective emergency communication support during disaster/ emergency situations.

- Effectively utilized during recent disasters in Uttrakhand and Jammu & Kashmir

- Gateway to other terrestrial communication networks

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RECENT DISASTER MANAGEMENT OPERATIONS

UTTARAKHAND DISASTER

DMS node deployment in Uttrakhand - 2014

Guptkashi - 26th June

Police HQ
Dehradun
Gateway for DMS
Operation
(25th June)

Badrinath- 29th June

Pithoragarh- 4th July

Yamnotri -1st July

HIGHLIGHTS

• Deployed Five User Nodes at different disaster sites

• Restored basic communication from affected sites

• User node augmented with CDMA cell network for the first time at Pithoragarh.

• Portable satellite phones were used effectively by first responders (more than 1000 calls made in the first few days)

Jammu & Kashmir Disaster

ISRO Disaster Management SATCOM Support
In Jammu & Kashmir -2014

Kashmir: Seven days after initial flooding

SATCOM to help in governance : With Chief Minister J&K

ISRO's effort for J&K government

HIGHLIGHTS

• Four user nodes deployed under difficult conditions

• Nodes provided internet connectivity and VOIP telephony over Wi-Fi at disaster sites

• Smart phones used for VOIP calls

• Broadband facility was made operational round the clock while the chief minister 's iPad was also enabled through one of the nodes.