



Ham Radio for Disaster Communication

"VU2UTM, this is VU2NCT. I have one message from New Delhi. Mrs. Prema Gopalan is reaching Bhuj with a truck of essential supplies. Convey this message to Mrs. Sushma Iyengar at Bhuj Collector's office with the instruction that she passes this message to Navanirman Abinayan Samiti". Within minutes, the ham radio hobbyist Purusottam, VU2UTM, at the other end located at Bhuj Collector's office returned a prompt reply from his station that the message was conveyed to the NGO.

This is an example of a message handled by two ham radio hobbyists during the devastating Gujarat earthquake in 2001. When all the conventional modes (Landline telephones, Mobile telephones, Internet, E-mail etc.) of communication were either getting clogged or completely disrupted during the devastating Gujarat earthquake, ham radio was the only communication system functioning efficiently from Gujarat to the rest of the world. It was then once again realized with emphasis that for successful disaster management, an efficient second line of radio communication was a must.

The governmental agencies have their own radio communication channels (e.g. the Police, Army, Paramilitary forces and Fire Department etc.) already existing.

Then why do we talk about a second line of radio communication? From the various past experiences of large scale natural disasters throughout the world, it was realized that a second line of radio communication (ham radio or amateur radio is the only second line of communication in our country) could play a vital role not only in the dissemination of information from the disaster sites, but also in setting up of an effective coordination mechanism among the various governmental and non-governmental agencies. The existing governmental radio communication channels are suitable only for intra-departmental (within the same department) communication. There are many operational limitations of Inter-departmental radio communication. A rescue & relief personal from the Fire Department cannot establish a radio contact with a police personal. We cannot expect the police wireless communication system to work (even during an emergency) for an outside agency, as they are preoccupied with handling the law and order situations. A doctor on duty at a remote disaster struck area may be long isolated from her/his home. How can her/his family keep in touch with her/him? Everybody is worried about the well being of her/his beloved ones.

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Disaster Communication Exercise carried out by Ham Radio Operators in the Mock Drill simulating an Earthquake at North East District of Delhi on August 04, 2004

It was a glittering opportunity for the ham radio operators in Delhi to show their communication expertise when they received an urgent intimation from the Delhi Disaster Management Authority (Govt of NCT of Delhi) about an earthquake hitting the North East District of Delhi on August 4, 2004. It in fact was a mock earthquake exercise carried out by the administration to see the preparedness of different agencies to handle an emergency situation. Vigyan Prasar (which runs the VHF repeater station VU2DLR and club station VU2NCT) received the official intimation from the Delhi Disaster Management Authority where the participation of the ham radio operators was sought. The hams in Delhi rapidly sprung into action to set up the emergency wireless communication network. Assuming that all other conventional modes of communications were either clogged or completely disrupted, ham radio stations were activated at various critical locations. The stations were established at the Office of the Delhi Disaster Management Authority, Divisional Commissioner's office, Police HQ, Office of the Deputy Commissioner of Police (DCP)-North East district and the Deputy Commissioner (North East District)'s office.

Shri R. Narayanaswami, Principal Secretary (Home) came to the mock disaster site to take an account of the situation. While visiting the ham radio station (VU2MUE)

at the DC's office, Shri R. Narayanaswami expressed his feeling that ham radio operators can play a very important role in disaster communication. Shri S.K. Jha, ADM from the



A Ham Radio hobbyist during the mock exercise

Divisional Commissioner's Office also visited the ham radio facility at DC's office and expressed his satisfaction at the functioning of the radio amateur's wireless emergency communication system. After the completion of the mock exercise, a demonstration of ham radio was given to the UNDP officials coming from different districts of Delhi to observe the mock exercise.



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"VU2NCT this is VU2RIO, Pankaj from Anjar. Please ring up 228973, Dr. Sujata and tell her that Dr. Sunil is safe and sound at Anjar." That was a message from Dr. Sunil via a ham radio station at Anjar. Dr. Sunil had rushed to Kutch as a member of a medical team from New Delhi during the devastating Gujarat earthquake. When he had no access to telephones, he could convey his messages to his family only via ham radio stations. But there are also many doctors who themselves are ham radio operators! People from all the spheres of life are found as ham radio operators. Ham radio operators are hobbyists licensed by the government recognized by their unique call-signs (e.g. VU2NCT is the club station call-sign of Vigyan Prasar & NCSTC). They make worldwide communication using short wave (also known as High Frequency) radio frequencies (ranging from 1.8 MHz to 30 MHz). It is a passion, which makes them expert (but yet non-professional!) radio operators with the knowledge of different wireless communication techniques. Ham Radio is an exciting way was to discover new friends across the globe by talking on the two-way radios.

"VU2NCT this is VU2PHR, Pawan, from Samakhiali relief camp. Please ring up Delhi landline number 5469517, Ranjit Kaur, and inform that relief volunteer Amrutpal Singh is safe at Samakhiali relief camp. He is now leaving for Duda, some 14 kms away from this place. Also please ring up landline number 5138205, Sunder Singh, and inform that relief volunteer Paramjeet Singh will be at Samakhiali relief camp for the next couple of days."

These are just a few examples out of hundreds of messages handled at NCSTC & Vigyan Prasar ham radio station VU2NCT during the devastating Gujarat earthquake in 2001. Whenever a disaster strikes, ham radio operators are the self-appointed communication commandos always ready to come forward to help the disaster-affected people. It is the spirit of voluntarism, a zeal to learn and disciplined operation, which make the ham radio operators reliable during emergency situations. Amateur radio or ham radio is well recognized throughout the world as a tool of disaster mitigation since a long time. Resolution 640 of the World Administrative Radio Conference, Geneva, 1979 clearly states that: "in the event of natural disaster, normal communication systems are frequently overloaded, damaged, or completely disrupted. That under those circumstances the stations of the amateur service, because of their widespread distribution and their demonstrated capacity in such cases, can assist in meeting essential communication needs"

The Non-governmental Organizations (NGOs) and individuals who would like to possess wireless equipment for disaster communication would need to take a ham radio license issued by the Ministry of Communications & Information Technology, New Delhi. A ham radio license (called an Amateur Wireless Telegraph Station Operator's License) costs just Rs.100 (fee for 5 years for a Grade-I

License). However, one has to pass a licencing examination before getting the licence.

Can ham radio communication system function as a basic utility service? It in fact can! But it is not suppose to do so under normal circumstances, because it is a hobby. Government regulation clearly states that when a ham radio operator communicates with another ham radio operator, her/his message should be of 'technical nature' related to testing of radio equipment and the remarks should be of 'personal nature' where both the hams are directly involved and their conversation should not justify recourse to the public telecommunication service. These restrictions are relaxed only in the event of a disaster. The use of ham radio for third party communication (communication on behalf of individuals or agencies who are not hams) in the event of a disaster is legally permitted. This implies that ham radio operators can volunteer to help different agencies whenever the needs arise during the time of a disaster. There is a wide spread distribution of ham radio operators across the globe. When a message could not be passed on directly, another ham radio operator elsewhere in the world could relay it.

-Sandeep Baruah, VU2MUE

विज्ञान पहेलियां

1 . मेरे महल में दस खिड़की
उंगली डाल घुमाओ जी
जिससे चाहो बात करो
अपना हाल सुनाओ जी।

(टेलीफोन)

2 . पिता जी एक डब्बा लाए
न कुछ खाये न कुछ पिये
कान मरोड़ो तत्काल बोले
हर देश की सैर कराए।

(रेडियो)

3 . सबके दिल की धड़कन सुनकर
कानों तक पहुँचाता हूँ
बना रहूँ गलहार नर्स का
नहीं वैध को भाता हूँ।

(स्टेथोस्कोप)

नमिता सिंह, 'बाल विज्ञानी'

यूनिफाइड साइंस क्लब,
प्रतापगढ़ (उ.प्र.)