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BY TOM SMERK,* AA6TS

Hams Respond to Devastating Earthquake in Nepal

The big story this month is the gracious outpouring of ham radio responders to earthquake devastated Nepal:

Ham Operators Assist in Nepal Earthquakes

On April 25, Nepal was shaken by a massive earthquake that registered a 7.8 on the Richter scale, causing widespread destruction in densely populated areas. Landslides and heavy rain hampered rescue efforts in the worst calamity in that country for more than 80 years.

As of May 2, the death toll in Nepal was over 6,600 people with an additional 100 believed to have died in neighboring India, Tibet, and Bangladesh. The roads to the highly affected areas were closed, which caused problems for the rescue teams trying to reach the people who needed help. The authorities asked for radio stations to be set up at different places to cover most of the devastated areas.

Dr. Sanjeeb Panday, 9N1SP, began operating an amateur radio station at the Tribhuvan University in Kathmandu. Dr. Panday said that propagation on 20 meters, where an initial emergency net was established, was poor, but he made contact on 21.360 MHz (in the 15-meter band) with Tim McFadden, KB2RLB/T6TM, a U.S. Military Auxiliary Radio System (MARS) member in Afghanistan who had been scanning International Amateur Radio Union (IARU) Global Emergency Center of Activity (GECOA) frequencies for stations in Nepal. GECOA frequencies were established as places to pass emergency traffic. Worldwide GECOA frequencies are 21.360, 18.160, 14.300, 7.240, 7.060, 3.985, and 3.750 MHz.

This operation followed procedures practiced by MARS in 2013 and 2014 in which the emergency scenario was an earthquake in Nepal. Coincidentally, McFadden, Panday, and others took part in these exercises.

Most of the amateur radio traffic was regarding relief and rescue requirements, medical needs, missing people and confirmed deaths, with many messages such as "Save our lives" and "Can you find my children?" keeping ham radio operators busy. Part of the EmComm work has been the issuing of photographs in trying to locate missing persons, and checking the hospitals.

The Nepal Amateur Radio Society initially provided emergency communications with its members reported to be active on HF emergency nets as well as handling local traffic on VHF/UHF. The 9N1KS repeater is on the outskirts of Kathmandu with coverage into the Kathmandu Valley, although not a lot of ham activities were being conducted via repeater.

Hams in India have been among the most active responders as parts of Eastern India also suffered earthquake damage. Satish Krishna Kharel, 9N1AA, was using solar power in coordination with the Nepal police in Kathmandu, shared the emergency communications work with Suresh Upreti, 9N1HA, who operated an emergency net on 20 meters on 14.205 and/or 14.215 MHz with amateurs from around the world involved in passing messages, including requests for the status of friends and relatives in the disaster areas.

The 20-meter frequencies were chosen by the Nepalese stations because it appeared that sec-

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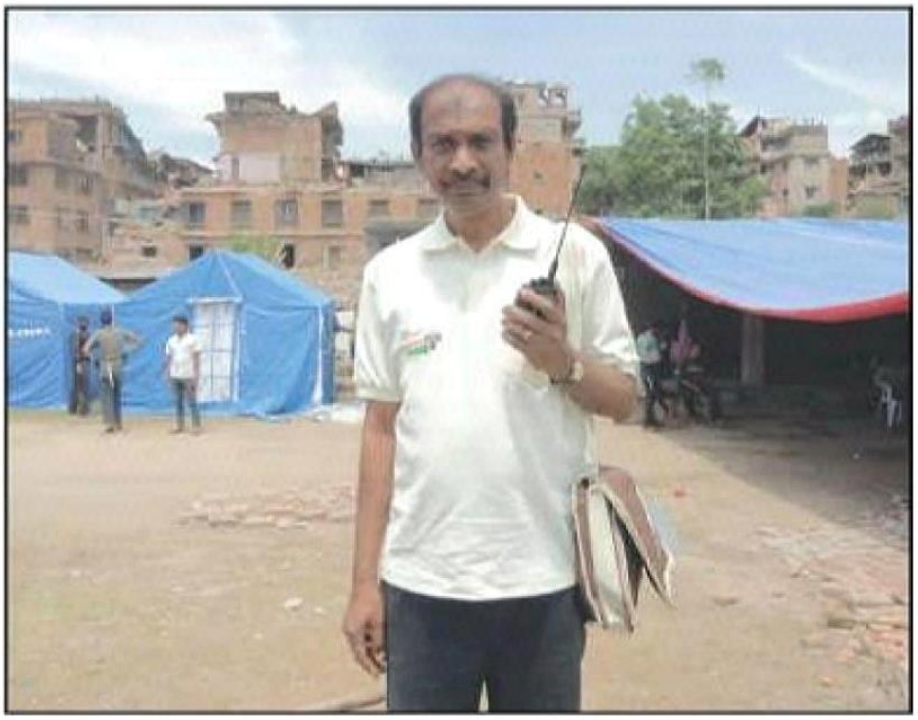
Nepalese and Indian hams worked together to provide communications after the April 25 quake in Nepal. Here Shailendra, 9N1SD (left), and Mr. Ramesh, VU3FTP (right), operate from a relief center. (All photos courtesy of NIAR)

Ravinda, 9N3AA (left), and Jose Jacob, VU2JOS (right), in the quake-affected Gorkha District.



Jose Jacob, VU2JOS, of the National Institute of Amateur Radio (India) stands near tents set up to house homeless victims of the devastating earthquake in Nepal.

tion of the band was the clearest. Steps were taken to improve the communications outside the area when Amir, 4X6TT, offered the facilities of Icelandic station TF4X to operate remotely, as this is a low-noise location with good antennas and propagation into the affected area.

Offers of equipment were received from many countries. Mobile networks and some telephone lines were eventually restored along with power in some places. The International Telecommunication Union said that it had sent emergency communications equipment to Nepal, including 35 satellite mobile phones and 10 satellite Broadband Global Area Network terminals, along with solar panels and laptops to help coordinate the relief effort.

Disaster Amateur Radio Emergency Services (DARES), established in India last December for the purpose of providing emergency wireless communications, also sent a team to Nepal. Founder and Chief Commanding Officer Ankur Puranik told the *Hindustan Times*: "Every day, we are given a fresh list of missing people ... prepared from the numerous calls that the ... disaster helpline receives. Till Friday, around 60 people had been identified, out of whom our network has helped locate at least 20."

At the request of India's National Disaster Management Authority (NDMA) the following members of the National Institute of Amateur Radio, Hyderabad (NIAR), were sent to Nepal to provide emergency communication: S. Ram Mohan, VU2MYH, (Team Leader); Jose Jacob, VU2JOS; Mukesh Kumar Gola, VU2MCW; Ramesh K., VU3FTP; and Sushil Kumar Dhingra, VU2SD.

They reached Kathmandu in the early hours of April 27 by an Indian Air Force plane and coordinated with Satish, 9N1AA, of Nepal Amateur Radio Operators Samaj (NAROS) to assist local hams already providing emergency communications.

According to an interview on YouTube with NIAR founder S. Suri, VU2MY, one of the difficulties in deploying communications was gathering an adequate supply of batteries, as power was not available for a long time and recharging was difficult. Later, 130 chargers were supplied to the affected areas. Many places in Kathmandu and in the interior already had alternate power sources in place such as solar power.

Another ham radio team from India to set up its base in Nepal was the Gujarat Institute of Amateur Radio (GIAR), which set up two ham radio stations in Kathmandu where two relief centers

SPURIOUS SIGNALS By Jason Togyer KB3CNM spuriouscomic.blogspot.com

have been started, according to GIAR Joint Secretary Pravin Valera.

Chinese radio amateurs, as part of a relief team, set up in Tinchuli, Boudha, and Kathmandu on generator power.

In 2013, anticipating the possibility of an earthquake disaster, the Computer Association of Nepal-USA (CAN-USA), also known as the Global Nepali Professional Network (GNPN), funded and installed the only amateur radio repeater currently in service in Nepal. After the recent quake struck, CAN-USA donated another repeater to Nepal, but it was held up for several days by Nepalese Customs. According to the *ARRL Letter*, the repeater was released from Customs on May 5, after personal intervention by Nepal's Minister of Information and Communication. CAN-USA Disaster Preparedness Committee Chair Suresh Ojha, W6KTM, said his organization "sought and received help from the U.S. State Department, the U.S. Embassy in Nepal, and Nepal's Ministry of Information and Communication." Dr Panday, 9N1SP, reported that the repeater had been released and was now at the Tribhuvan University in Kathmandu, ready for deployment.

At 0705 UTC on May 12, Nepal was hit by a new 7.4-magnitude earthquake, witch was followed by significant aftershocks that registered 5 to 6 on the Richter Scale. While a large international disaster response structure was still in place in the country from the earlier earthquake, radio amateurs prepared for possible new communications failures. Fortunately, Internet service appeared to remain functional, but Dr. Panday (9N1SP) was maintaining communication with Tim McFadden, T6TM, in Afghanistan should the situation change. Citizens were being encouraged to use SMS (text messaging) rather than voice calls to reduce the load on the networks.

As of Mid-May, local VHF nets were still in operation as well as the MARS stations and the HF net on either 14.210 or 14.215 MHz, with Indian ham Jayu Bhide, VU2JAU, as net control station and other stations in India participating.

From India, China, and Turkey and elsewhere, radio amateurs will remain until no longer required by the Nepalese police and other agencies. MARS will also continue to link Nepal with the U.S.

If anything good can possibly come from such a major disaster, it is that it has generated a large amount of positive publicity worldwide for amateur radio and hopefully interested more radio amateurs in preparedness and participation in emergency communications programs.

[Various news sources]

Licensing in Nepal for Ham Radio Responders

With hams pouring into Nepal from countries such as India, China, Turkey, and elsewhere, some of you might be wondering if those amateur radio responders were able to operate with the licenses issued in their own countries while guests in Nepal.

According to S. Ram Mohan, VU2MYH, who was one of the first hams to arrive from neighboring India after the earthquake, a temporary reciprocal license can be issued to any ham by completing and submitting an application form available at website <www.licenceportal.gov.np>. The Ministry of Information & Communications issues the amateur radio licenses.

The administrative process for issue of a temporary reciprocal amateur radio license could take anywhere from two hours to two days, and a disaster of the magnitude of the recent earthquake can further complicate the process. After the initial process of the application, the applicant is asked to pay the necessary fee calculated based on frequencies being used and transmitter power output. Once the fee is paid and received by the bank, a printed paper with a callsign, address of proposed operation location, and the frequency spectrum to be used are issued. An additional document to hold an amateur radio transceiver is also issued.

Be aware that the government of Nepal charges for use of amateur radio spectrum, while in most countries it is permitted to be used without any charge other than the administrative cost for issuing a reciprocal license. In India, a reciprocal license costs Rs.1000, which is about $15.69 U.S.

Mr. Mohan told me that the hams from India have taken one reciprocal license for their team just for the purpose of becoming familiar with the process and procedures, but it took three days to receive it.

The NIAR ham team decided to simplify the process by teaming with Nepal Amateur Radio Operators Samaj (NAROS) members who already have valid Nepalese amateur radio licenses. Teams of one Nepalese ham and one Indian ham were sent to remote locations with their ham gear. The NIAR members offered their expertise in installing and operating amateur radio stations, and the Nepalese hams used the stations with their native callsigns and sent and received messages, which helped them gain valuable experience.

This arrangement saved the NIAR team nearly $1,000 U.S., which helped them to stay in Nepal ten days longer. This arrangement also helped them build good International ham relations and provided necessary equipment and training to local hams needed for relief operations.

[Thanks to S. Ram Mohan, VU2MYH]

ARRL Sends Ham Aid HF Gear to Micronesia

After Tropical Cyclone Maysak struck the Federated States

सत्यमेव जयते

भारतीय राजदूतावास
काठमाण्डू (नेपाल)
Embassy of India
Kathmandu (Nepal)

TO WHOM IT MAY CONCERN

The following Amateur HAM operators belonging to NIAR, Hyderabad have visited Nepal between April 27, 2015 to May 6, 2015 to help in the emergency communication during the Nepal earthquake which struck on 25th April, 2015. They have offered technical assistance to local ham and have visited some areas affected by earthquake during their stay in Nepal.

1. Sri S. Ram Mohan	VU 2 MYH
2. Sri. Ramesh Kuthumbaka	VU 3 FTP
3. Sri. Jose Jacob	VU 2 JOS
4. Sri. Mukesh Kumar Gola	VU 2 MCW
5. Sri. Sushil Kumar Dhingra	VU 2 SD

भारत का राजदूतावास EMBASSY OF INDIA रा०42 काठमाण्डू Kathmandu

02/05/15

S. K. Saraswat
Second Secretary (Security)

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Nepal Amateur Radio Operators Samaj
नेपाल एमेचर रेडियो अपरेटर समाज

NAROS

05/06/2015

To,
The Director,
National Institute of Amateur Radio,
Hyderabad,
India

I, on behalf of Nepal Amateur Radio Operators Samaj (NAROS), would like to sincerely thank you for coming to Nepal during the 25th of April Earthquake relief efforts and coordinating, technically supporting and helping radio operators from Nepal in executing the valuable work of finding of people and reuniting families.

Technicians and operators from NAROS took part in scouting missions, fact finding missions and information gathering missions as part of the rescue and relief efforts helping radio operators setup HF radio as well as use HVF radios to communicate among the operators as well as among counterparts in Nepal, India and other parts of the world.
Operators and technicians from NIAR , with Nepali counterparts, visited fields in Sankhu, Bhotechaur, Melamchi and Sindhupalchowk, some of the most affected areas during the current disaster.

I would like to personally thank Mr. Ram Mohan Suri to coming in contact with us and helping coordinate with NAIR team as well as advising us on matters related disaster management, in which his experience and competence has taught us a lot.

I would like to express my sincerely thank you as well as hope that we can work together in future in better times to learn among each other as well as to share possibilities of improving emergency communications throughout the world.

Pravin Raj Joshi
Secretary