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SUMMARY CONCLUSIONS

A program of back-up and supplemental communications using existing amateur radio facilities in various countries is technically feasible. This capability could be extremely valuable to PAHO in communicating with and assessing needs for a disaster-stricken area until traditional channels are reestablished. A feasibility program should be undertaken at once in order to test the strengths and weaknesses of the program, before fuller implementation.

The utilization of amateur radio capabilities should be incorporated into the disaster plans of PAHO and member countries. Contacts with government communications officials and with individual amateur operators should be made to develop understandings and a modus operandi to incorporate into disaster plans. Existing amateur traffic networks, and a directory of foreign amateur stations provide the framework on which to develop plans for emergency operation.

Most Latin American and Caribbean countries have excellent relations with amateur operator and their respective organizations. The basic need is simple communication and understanding of the goals and methodology.

Discussions held to date indicate no reservation about the use by PAHO of governmentally licensed amateur radio systems. Equipment cost should be minimal, and may be best handled by "loan contract" with individuals, selected local amateur organizations, a university or agency, or the American Radio Relay League. This could provide for equipment stockpiles, perhaps even providing for operators who could be moved with equipment to set it up and handle communications.

Specific Recommendations for Action

1. Assemble a meeting to discuss the technical feasibility and implementation of this plan. Represented at this meeting should be PAHO Disaster Preparedness personnel, American Radio Relay League, International Amateur Radio Union (Region II) American Red Cross, Medical Amateur Radio Council (MARCO), and one or more consultants familiar with the health needs and amateur radio capabilities.

2. This meeting should be held at PAHO HQ in Washington, D.C. at the earliest feasible time.

3. The product of this meeting should be a document which details the feasibility of the technical program and the next steps to be taken. It should be in the form of a recommendation to achieve a policy decision within PAHO. The next step would be to develop a pilot technical program in 2 disaster prone countries to develop a working model. The pilot program might proceed as follow:

a) Contact local amateur operators in these two countries who would be willing to serve as liaison or key stations, whether on a formal or informal basis.

b) Bring these amateurs into communication with local PAHO officials and appropriate government officials.

c) PAHO would have to make individual arrangements with each country participating to assure administrative approval for the principles of emergency operation.

d) Develop a disaster plan containing a protocol and procedure for an immediate response and establishment of communications between the disaster site, the local PAHO office, country officials, and PAHO HQ via amateur communications.

4. Based on the experiences of the pilot program, prioritize and design steps for the next countries to be involved.

5. Monitor disasters as they occur and determine the effectiveness and weaknesses of the program in order to incorporate the experience into the next stages.

Detailed Report

Introduction

Disasters occur with unpredictable regularity, yet with certainty in all regions of the world. In the countries of Latin America and the Caribbean, the usual occurrences are earthquakes in the Andean Countries and hurricanes in the Caribbean area. While these are high-risk situations and regions, other forms of disaster may also occur in the same or other areas.

Local and regional offices of PAHO as well as Headquarters in Washington have ongoing responsibilities which are suddenly escalated and changed following the occurrence of a disaster. There almost always is a breakdown of communication into and out of an affected area, just at a time when the need for communication intensifies. PAHO is usually greatly hampered because of this disruption of communications.

Historically, the unique mode of communication into and out of a disaster stricken area for the first several days is via amateur radio. Around the world, amateur radio is a government licensed, disciplined and highly experienced system for rapidly replacing or supplementing normal channels of communication, whether the need is local or long distance. Emergency sources of power are often available. It seems logical for PAHO to temorarily utilize these previously developed resources in order to meet its communication needs until traditional channels have been reopened.

It is the purpose of this report to conceptualize and focus on the technical possibility of using existing amateur radio resouces and capabilities to temporarily fill the communication void. The primary need of PAHO is to establish communication links between the local disaster-stricken area, the local and /or regional PAHO office, and PAHO Headquarters in Washington, D.C.

Initial Advisory Meeting at PAHO Headquarters

To further this concept, the consultant proceeded to PAHO Headquarters in Washington, D.C. on December 4-5, 1979 for discussions with the Director of Disaster Preparedness for PAHO, and the Director of communication for the American Red Cross, both located in Washington.

Next follows a report of this activity.

Goals were tentatively Established:

1. To enHance the ability of PAHO to exercise its responsibility in the protection of health, assessment of local post-disaster situations, and response to appropriate request and needs of the affected country/ government.

2. To effect this enhancement by mobilizing amateur radio resources in each country in order to bring about communications between the site of the disaster, the Country PAHO office and PAHO in Washington, D.C.

3. To provide these communications with a rapid and reliable response system capable of great versatility.

4. To protect the integrity of messages and the ability of PAHO to function effectively as an International Organization within a member country.

5. To prepare for two types of communications:

a) local in-country communications for assessment teams and relief work;
b) long distance communications following the breakdown of normal international communication channels.

Assumptions Upon Which Goals and Recommendations Are Made:

1. The privacy of communications via amateur radio is limited by the public nature of the frequencies used. The privacy of sensitive communications cannot be assured and is limited by the availability of receivers for the amateur-designated frequencies.

2. The utilization of short-wave radio communications by an international agency within a country must be explored as a sensitive issue, depending upon the attitudes of a particular government. However, it seems realistic to assume that any such reservations would dissipate rapidly in a disaster situation.

3. The technology for such a communications effort is presently available and the equipment resources are largely in place. The primary obstacle to overcome is to establish lines of communication and agreement between the amateurs, the government officials in large of communication and PAHO.

4. This program might start with a feasibility test in one or two disaster-prone countries to learn the successes and the problems encountered. Then take this experience and develop a functioning system for each disaster prone country on a prioritized and step-wise basis.

5. This program need not call for large PAHO investment in equipment resources, which have the attendent problems of inventory and maintainence.

6. Post-disaster assessment teams might be advised in advance of the capabilities, and be given specific instructions as to how to implement amateur radio contacts for PAHO.

Conclusions reached as of December 31, 1979:

1. Such a program of back-up and supplemental communications is feasible and could be extremely valuable to PAHO in communicating with and assessing needs for a disaster-striken area.

2. The technical resources for executing this program exist at the present time. Minimal investment in equipment is strongly preferred.

3. A feasibility program should be undertaken in order to test the strengths and weaknesses of the program in its conceptual stage.

4. Since the consultant was scheduled to travel to the Caribbean area in the immediate future on a separate STC mission for PAHO, the decision was reached to test the ideas as possible in Barbados and other countries as possible.

Consultant Visit to the Caribbean Area:

The consultant departed January 17, 1980 for a three week, multi-purpose mission in the Caribbean region, and returned home on February 6, 1980. This report concerns only the use of Amateur radio capabilities as an emergency medium for PAHO communications.

A meeting had been pre-arranged by the local PAHO staff for January 18, 1980 in Bridgetown, Barbados. The purpose of this meeting was to discuss the sensitivity and acceptance of the local government to the utilization by PAHO of amateur radio as an important communications link, when no other means are available.

The meeting was held in the main governmental office building in Bridgetown, occupied about one hour, and was composed of the following persons:

Sir Carlisle Burton, Chairman of the Central Emergency Relief Organization for Barbados (CERO), office of the Prime Minister

Miss Grace Pilgrim, Secretary, CERO

Mr. Alleyne, Permanent Secretary, Prime Minister's Office

Mr. Pedro Parris, Director of Communications, Police Headquarters, Bridgetown

Mr. Arthur Farmer, Emergency Coordinator for the Barbados Amateur Radio Society

Dr. Donald C. Blenden, PAHO Short Term Consultant

The meeting was highly productive and totally positive, with encouragement and no impediments resulting. Specific points discussed and agreed upon were:

1. Amateur radio is widely recognized as the only means of communications into and out of a disaster striken coutry or area.

2. The recent devastation of Hurricane David on the island of Dominica was uppermost in the minds of all, including the unique role played by amateur radio in the transmission of official messages. Prior examples of this role were likewise recognized.

3. Citizens Band radio capabilities are included in order to maintain control and to provide for some local communications; This capability is recognized as somewhat unpredictable in efficiency.

4. Neither Mr. Burton, nor any other Barbados official, expressed any reservation about a limited Nations agency such as PAHO utilizing a locally licensed and controlled medium as amateur radio, whether in a PAHO office or at the private radio station of a Barbados licensed amateur operator; to the contrary, the matter and potential seemed to be taken for granted.

5. Amateur radio capabilities have been and are now incorporated into the disaster plan for Barbados in the Annual Report of the Central Emergency Relief Organization, updated and published annually by the Prime Minister's office.

6. The meeting closed on a totally positive level with mutual encouragement to pursue these goals and incorporate the conclusions into the disaster planning of both parties (i.e. Barbados and PAHO)

Mr. Pedro Parris (Director of Communication, Barbados Royal Police Force) himself an amateur operator then took the PAHO Consultant on an extended visit to the Emergency Operations Center (EOC) at Police Headquarters in Bridgetown. This center is the focus for all communication equipment for Barbados, including an amateur radio station, licensed as 8P6CN. The center is well equipped and has emergency generators for power. During Hurricane David the EOC amateur station was in constant contact with Dominica add handled a large volume of official communications for several days.

The consultant then proceeded to a meeting with Mr. Eugene Fingall, Director of Telecommunications for Barbados, and most particularly in charge of licensing for amateur radio operators. His reaction to the concept of PAHO utilizing amateur radio capabilities for emergency purposes was totally positive, saying only that it might be "courteous to let them know, if possible, that such was occurring.

Amateur radio capabilities are well-developed in Barbados and other parts of the Caribbean as well. There are a number of well-equipped stations in continual operation and the governmental emergency operating center is so-equipped. The attitude ofthe amateurs is enthusiastic.

The amateur stations of Barbodos are primarily equipped for long distance and inter-island communications (within the Caribbean region). Indeed, there is an inter-island radio "net" which meets on the air twice daily, involving several amateur stations in the caribbean who discuss and exchange information about weather, etc. Thus the inter-island communication, and communications with marine vessels in the vicinity occurs routinally and at twice daily or more frequent intervals. These stations and this inter-island "net" are perfectly capable of extending their coverage to the United States or other countries, either directly or by utilizing a daily "Interamerican Net". The "Interamerican Net" routinely transfers messages and maintains daily, organized communications within the Americas; the net goes into full-time operation during emergency.

The amateur stations of Barbados are less well equipped for intra-island (Barbados only) communications. There currently exists some short distance equipment available (2 Meter FM) which lies idle as the automatic repeater station through which they operate is non-cunctional. The non-functional repeater station has the potential of furnishing total island coverage between either base or mobile stations, and perhaps even to closely located islands.

The repeater station, which should be located at the highest accessible point in Barbados, is idle because it is privately owned, and private capital is not sufficient to renovate, install, and maintain the equipment.

The Barbados Amateur Radio Society seems well developed and organized. The Society meets regularly and cooperates closely with governmental and Red Cross endeavors. The present President of the Society is Trevor Alleyne (8P6AA) whose work telephone is 62865 and home telephone is 03457.

Summary and Recomendations with Respect to Barbados

The concept of PAHO utilizing amateur radio capabilities for transmission of official messages during emergency times is not only tolerable but encouraged and expected. It remains only for Headquarters and local PAHO staff to further direct communications with local amateurs to establish a protocol, understandings, and modus operandi to initiate activity on short notice under emergency conditions.

Such communications can be initiated immediately. The infusion of a minor amount of capital (e.g., to make the fm repeater operative) would be invaluable. Expert short term consultant services can be mobilized on rather short notice as needed to accomplish specific goals for a specific local and situation.

St. Lucia

The consultant then proceeded to St. Lucia to carry out a major teach-

ing function in the training course for Veterinary Mobile Laboratory Technicians from several Caribbean countries.

During the 10 day stay in St. Lucia the consultant had considerable opportunity to become acquainted with local amateur operators and the licensing system in use. There was no discussion with specific government officials regarding PAHO utilization of amateur radio capabilities during an emergency. There was, however, great appreciation and knowledge of the singular role played by amateur radio following Hurricane David.

The amateur operators of St. Lucia, while not as organized as in Barbados are non-the-less well equipped and some are quite eager to be of service.

One PAHO staff person, Randy Morely, DVM, Project manager for Veterinary Mobile Laboratories was alerted to the potentials of emergency communications and become acquainted with one Amateur (Bernie Mogal, J6LDZ, Box 908, Castries) and to the government person in charge of amateur licensing and activities (Alvin J. Meyers, Police Headquarters, Castries).

There is no good intra-island communication in St. Lucia as a back-up to the telephone service. There exists a tremendous potential to utilize an FM repeater, as in Barbados, located at a high and accessible point, to achieve island wide and even some inter-island (e.g., Martinique) communication. The chief limitation is again capital as the number of amateurs is considerably less then in Barbados (estimated 25 on St. Lucia).

For reference purposes, the names of highly responsible and well-equipped amateurs in St. Lucia follows as a supplement to the official contact at police Headquarters mentioned above.

Mr. Clement Bobb, J6LCT of Castries, Work telephone is 3589 and home telephone is 8421.

Mr. Richard Johnson, J6LHY who can be reached at the Johnson hardware store in downtown Castries.

In St. Lucia the way is well-prepared for PAHO Headquarters and local staff to make an official contact and discuss the potential with local amateur operators.

It is anticipated that establishing lines of communication and procedures for short notice mobilization of amateur radio communications could be easily accomplished.

Trinidad

The primary obligations of the consultant did not lend themselves

to an in depth exploration of amateur radio capabilities. The following names were acquired in St. Lucia, but upon arrival were not easily evident in the Trinidad telephone directory. All of these reside in Port-of-Spain.

Nick Percival, 9Y4DX, President of the Trinidad Amateur Radio Association.

Alistair Devertuil, 9Y4DX, who works for Trinidad and Tabago Air Services.

Pam Devertuil, 9Y4AL, wife of the above.

While specific contacts were not made, the consultant has no reason to believe that the task would present greater problems than in Barbados or St. Lucia.