Attachment 3

REPORT ON DISASTER PREPAREDNESS

MISSION TO PERU

(November 1980)

by Fred Cole and Paul Krumpe, OFDA, Washington

The following contains the conslusions and recommendations of the team based on its findings in Peru.

1. Conclusions

A. Significant segments of the Peruvian population are at risk from earthquake hazards.

1) Within the context of forecasting the likely occurrence of a major earthquake in the region, it is generally accepted among the geophysical and seismological scientific community that the probability for such an event is relatively high as evidenced by an existing geotetonic seismic gap. The time frame, magnitude and exact location cannot be determined using existing forecasting techniques. In contrast to this approach, prediction of an earthquake is deterministic, i.e., it specifies date, time, place and magnitude well in advance of an event, and is based on a physical model as opposed to empirical or strictly observational data immediately preceding an event. In light of the above, the "Brady Prediction" is a deterministic prediction that can be verified or denied based on scientific investigation of the occurrence of precursory phenomena which are clearly necessary and sufficient to validate or invalidate the prediction and hypothesis upon which it is based.

2) The historical incidence of destructive seismicity along the west coast of South America indicates that high vulnerability exists which could result in catastrophic loss of life and property in the event of a great earthquake and possible tsunami. From 0 degrees South to 10 degrees South along the continental coast, no known great earthquakes have occurred. However, from 10 degrees South to 16 degrees

South, great earthquakes with maximum rupture lengths of 150 km or less have occurred (1970, Northern Peru; 1940, Callao; 1974 and 1942, Central Peru). From 16 degrees South to 37 degrees South, great earthquakes with maximum rupture lengths of about 300 km have occurred (1922 and 1868, Northern Chile; 1943, 1971, 1939, Central Chile). From 37 degrees South to 45 degrees South, the possible rupture zone of the 1960 Southern Chile earthquake was about 1000 km. Selected earthquakes of the largest magnitudes recorded occurring in South America are as follows: Chile, 1960, Mw 9.5; Ecuador, 1906, Mw 8.8; Chile, 1922, Mw 8.5; Chile, 1906, Mw 8.2; Peru, 1940 and 1942, Mw 8.2; Chile, 1943, Mw 8.2; Peru, 1966, Mw 8.1; Peru, 1974, Mw 8.1; and Peru, 1970, Mw 7.9.

3) The "Brady Prediction" currently (November 1980) is "on schedule" (preliminary data suggest seismicity has occurred in the predicted zone) according to Drs. Brady and Spence [following their examination of local seismicity and rock strain data obtained by the regional Peruvian network (IGP)]. The status of the prediction is as follows: low magnitude foreshocks occurring in the inclusion zone August 14 and September 20 indicate initiation of the first active foreshock phase [low magnitude events, some teleseismic, occurring at the specified time (August-September 1980) within the specified region (inclusion zone, 65 km SW of Lima, Peru)]. Additional seismic activity may occur in the inclusion zone until mid-December, at which time no seismicity is expected again until April-May in the inclusion zone. At that time, the second active foreshock phase would begin and would culminate in the mainshock Mw 9.9 and rupture to the South (24 degrees South) to be followed 35 days later with another shock, Mw 9.2 to rupture 700 km to the North along the Peru-Chile trench. The "prediction" will be revised by Brady as deterministic "marker" events occur and establish the sequence, timing and pattern of future events leading to the occurrence of the mainshock. Examination of the IGP rock strain data by Brady and Spence indicated that the elasticity of rock within the coastal region follows the predictive model and therefore supports the seismicity data analysis. Geotectonic anomalies are apparently occurring in the region, as evidenced by seismicity patterns, unusual rock strain data, geodetic data (uplift is continuing), and other "phenomena" (submarine light emanations are reported near Chilca).

4) There is a clear need for additional, accurate, timely, formatted, and consolidated seismic, rock strain, radon and geodetic data to establish a meaningful Peruvian earthquake monitoring, prediction and early warning capability. The relatively high probability of the occurrence of a major or even catastrophic earthquake looms over the scientific seismological establishment and Government of Peru. The threat of devastation due to <u>any</u> possible earthquake is ever present in Lima, Peru. Without adequate seismic data reduction computer software and hardware, digital recorders for automatic data collection (seismic and rock strain data) and examination of geodetic control (rate of uplift), there will be no way of validating or invalidating the "Brady Prediction" in real time such that credible warning and logistical response are possible (even based on prior preparedness planning). Without a program of scientific data collection and analysis, preparedness activities and logistical planning take on marginal significance in this context.

5) There is an immediate need to define the dimensions of the threat posed by the possible occurrence of these postulated catastrophic earthquakes, their aftershock sequence, seismic sea wave inundation, landslides, river diversions and other geo-morphological consequences both within the region and the circum-pacific area. Once the threat of these large magnitude earthquakes is better understood, more meaningful planning and risk analysis is possible. The threat can be studied as a hypothesis, i.e., hypothetical parameters are used to drive a model which generates possible outcomes upon which appropriate responses are made. The need to translate scientific data into risk, hazard, and threat analyses for implementation of disaster mitigation programs and decision-making is clear. The probability distributions of different levels and kinds of damage caused by these (or other) earthquakes as a function of geophysical, engineering, economic and social factors is an area in need of further assistance in Peru. Results derived from these studies should be used in decision-making concerning mitigation of earthquake hazard to all types of construction (including traditional adobe housing), lifelines, evacuation routes, stockpiles, etc.

B. The Peruvian Civil Defense Office has proved effective in reacting to small and medium-scale disasters. They are not equipped to prepare the

population for, or respond to, the magnitude of earthquake which is forecast for Peru.

1) Considerable effort was made to beef up the organization following their poor showing in the 1970 earthquake relief programme. In the earthquake of 1974, they are said to have done a much better job. Currently they are staffed at the level of about 70 officials, some of whom man the few field offices they maintain. Their connection with the public is through the local constabularies.

2) Civil Defense has three principal functions in regard to natural disasters. They translate scientific data (accumulated by the IGP) into risk and vulnerability analyses, primarily through mapping techniques; they are responsible for preparing the population for the threat of disasters; and they coordinate the relevant sectors of government in response to disasters. Apparently, their major thrust in developing their capabilities has been long on methodology and short on implementation of plans. They have defined the problem well but have not grabbed hold of potential solutions. They are better at producing paper than attacking problems.

3) It is evident that the specter of a major natural disaster is intimidating. They are loath to admit that a significant disaster relief effort is beyond their grasp and are wary of asking for assistance they know they need. They are conscious of being deficient in preparing the public for an emergency and seem not to know how to get started. There is an aura of inertia which stems the will to proceed with an active preparedness and response programme.

4) Civil Defense has a clear mandate to define the disaster threat to Peru, prepare the public and respond to disasters once disasters occur. They need help in the following:

   (a) Determining the specific populations which are threatened by earthquake, tsunami and flood hazards.

   (b) Defining the threat in terms of the vulnerability of those populations.

   (c) Informing the populations of pragmatic means of protecting

themselves from, and mitigating, disasters' effects.

(d) Training Lima and Field C.D. personnel in disaster management techniques and procedures.

(e) Planning for contingencies (scenario analysis, simulation).

(f) Decision-making processes for alerts and warnings.

(g) Mobilization procedures.

(h) Communications.

(i) Evacuation and logistics planning.

2. Recommendations

Whether or not the Brady prediction is valid, it may pose a severe threat to the social, economic and political fabrics of Peru. The public has been exposed to the prediction through the media. The public has been relatively quiescent in recent months, but this is not to say that renewed interest and fear will not be generated as the projected date draws nearer. Added to the constant concern of Peruvians to the general threat of earthquakes, the specific prediction is a severe worry which has the potential for inducing depression, panic or precipitate action. This worry will be aggravated by vagueness of the parameters of the predicted event and by perceptions on the part of the public that mitigative actions are not being taken. If a catastrophic event does take place, countless lives will needlessly be lost if the government of Peru is unable to warn the population and respond to the threat. The U.S. Government should offer co-operation and assistance, as appropriate and in coordination with International Organizations and other donors, in the following areas:

A. Scientific Instrumentation and Technical Assistance

1) Immediately implement a program in real-time seismic data collection, reduction and analysis, concentrating on the inclusion zone, to monitor the hypothesized foreshocks and precursory events. Programme priorities and estimated costs are as follows:

First Priority:	Install Data Processing Computer System	US$	200,000
Second Priority:	Install Telemetry for Seismicity Data Collection (15 stations, spare parts, test equipment, vehicle)		460,000
Third Priority:	Install Strain Meter Telemetry Transducers and Recorder at four Stations		190,000
Fourth Priority:	Investigate Geodesy Data and Tide Gauge Programme		80,000
Fifth Priority:	Conduct Seismic Risk and Hazard Analysis to Define Threat Dimensions		200,000

2) Provide immediately the best possible means for rapid transmission of seismic and other geophysical data to Golden Co. for review and analysis by Drs. Brady and Spence.

3) Accelerate funding and modify scope of work with S.A.I. to conduct a detailed Tsunami threat analysis for the South American coast and Lima region. This work would incorporate NOAA and the Peruvians in data analysis and scenario development for hypothesized threat parameters. Programme should be funded by mid-December as an amendment to S.A.I.'s existing contract.

4) Accelerate NOAA's programme utilizing the GOES satellite for Tsunami Early Warning dissemination throughout the Pacific region. This system should be in place by June 1981.

5) Implement immediately a programme in threat definition, hazard and risk analysis and isoseismal intensity mapping based on postulated earthquake parameters. Peruvian cooperation and participation would be essential in this programme. A USGS proposal is in preparation to accomplish the above.

6) Develop a fail-safe communications network and pre-position equipment to ensure viable transmissions from Lima region in the event of total destruction. This should be accomplished by April 1981.

B. Civil Preparedness Assistance

1) Co-operation in Public Awareness Campaign: Within three months transfer communication skills and technologies in mounting a sensitive media campaign to inform Peruvian public of earthquake threat, protective measures to be taken and procedures to be followed in the event of a disaster, to include technical assistance, written materials, video-tapes, film strips and possibly financial aid for television time. Possible resources include FEMA, ANRC, state and local civil defense organizations (California), NSF. Campaign should be completed by June 1981.

2) Disaster Management Training: Short-term co-operative ventures to give Peru Civil Defense officials exposure to U.S. Civil Defense installations (probably California) and training of officials in Peru by U.S. counterparts and OFDA. This effort should begin as soon as possible. Serious consideration should be given to involving Philippine Civil Defense in such a programme. Peru's Civil Defense has had prior experience with PAGASA (Philippine Atmospheric and Geophysical Agency); communications and logistics problems are analogous; Philippines has an excellent public awareness and response programme which would be of benefit to Peru.

3) Tsunami Threat Analysis and Contingency Planning: A follow-on programme to OFDA's tsunami modelling effort which would describe the effect of randomly generated tsunami conditions on specific shore areas of Peru, with indicated scenario analysis. Could be supported by FEMA and Hawaii and California Civil Defense systems. UNDRO is interested in this prospect and should be included as planner/sponsor to the extent their resources permit. This effort should be contiguous with the S.A.I. tsunami modelling programme and should begin by January 1981.

4) Communications Upgrade: The Civil Defense Office in Lima boasts an outdated HF transceiver and a CB for local use. The network extends only to three field posts between which transmission is dicey. First step would have to be requirements survey to indicate who would be communicating with whom, what repeaters/relays needed, type of data to be transmitted, maintenance constraints, relevance of emergency utilization to administrative needs, etc. Some 15 field locations

are in question for C.D. installations, State/A.I.D. communications, FEMA and local U.S. CD offices, ANRC, ITU and contractors are potential resources for feasibility study and specifications. This study should begin January 1981 and be completed within three months.

5) Lima Lifeline Analysis and Strategy: Water systems, sanitation, fuel and power systems are considered very vulnerable. UNDRO has suggested analysis of potable water availability in aftermath of disaster and presumably has resources to support such a project. Other lifelines should be analyzed as well. Earthquake Engineering Research Institute, FEMA, NSF and City of San Francisco could probably mount such a study in conjunction with UNDRO resources. This effort should be initiated as soon as possible and be completed by May 1981.

Attachment 4

REQUEST FROM THE PERUVIAN GEOPHYSICAL INSTITUTE FOR SCIENTIFIC EQUIPMENT

Report to the Agency for International Development on a trip to Peru from Aug 17 to Sept 1, 1980 by Jerry P. Eaton, Geophysicist of the United States Geological Survey

From August 17 to September 1, 1980, I travelled to Peru at the request of Dr. Alberto Giesecke, Director of the Instituto Geofísico del Perú, and with the support of AID to discuss problems raised by the prediction of a catastrophic earthquake near Lima in the fall of 1980. My activities in Peru can be divided into four topical areas, the last two of which were pursued more or less concurrently throughout the visit:

1. discussion with Dr. Giesecke and the Executive Secretary of the National Security Council of Peru on

   a) the scientific merit of the Brady-Spence prediction,

   b) the long-term threat to Peru of major earthquakes in the country,

   c) the importance and appropriateness of the earthquake studies programme carried out by the Instituto Geofísico del Péru;

2. discussions with Ambassador Scleuderman and with Mr. Leonard Yaeger (and others) of USAID in Lima on the three topics listed under No. 1, above;

3. field trips to several field study areas to examine facilities and discuss IGP work in those areas and to become acquainted with working conditions and support facilities in those areas.

   a) Talara-Piura region of north coastal Peru, with Dr. Daniel Huaco,

   b) Lima-Ica region of central coastal Peru, with Dr. Giesecke and Mr. Deza,

   c) Cuzco-Machupicchu region of the Peruvian altiplano, by myself but

with instructions from IGP staff;

4. discussions with principal members of the IGP staff on current seismological studies of IGP and on plans to augment those studies to provide a more adequate basis for efforts to reduce loss of life and economic disruption from future earthquakes in Peru.

In accordance with recent telephone conversations with Mr. William Rhodes, USAID Washington, this report will address itself primarily to an evaluation of the senior staff, current programme, plans for an expanded programme, and principal difficulties facing IGP, based on items 3 and 4 above.

The modern Instituto Geofísico del Perú has developed partly out of a long-continuing series of Peruvian-Foreign (chiefly US) co-operative scientific studies of global importance that have been carried out in Peru. A partial list of these co-operative studies related to the solid earth includes:

1. the Huancayo Observatory for magnetic and seismic observations, established in the 1930's in co-operation with the Carnegie Institution of Washington, and continued with some support from the US Coast and Geodetic Survey (later NOAA);

2. the Nana Observatory for seismic and strain observations, established in the 1950's in co-operation with the California Institute of Technology;

3. establishment in the early 1960's of worldwide standard seismograph stations at Nana and Huancayo in co-operation with NOAA, and continued operation of those stations in co-operation with first NOAA, then the USGS;

4. collaboration with the Carnegie Institution of Washington in a study of earthquakes in the Peruvian Andes by means of a sparse short-period seismic network from the 1960's to the present time;

5. collaboration with Kyoto University in a study of crustal deformation in central coastal Peru by means of several sets of "invar wire" strain meters during the last 5 years or so.

In addition to the solid earth studies indicated above, IGP operates a

sophisticated electronic facility at Jicamarca, I believe in co-operation with a US agency (NASA or NOAA?) and for the purpose of low-lattitude ionospheric sounding studies.

The steady development of the apparently fragile IGP during at least the last 10 years is due largely to the remarkable energy, insight, and skill of its current director, Dr. Alberto Giesecke, who occupies a leading (perhaps unique) position in the Peruvian government/scientific community. Dr. Giesecke has strong personal contacts within the Peruvian leadership and enjoys the respect of his scientific associates and foreign scientific co-operators. He has wisely used the opportunities provided by the co-operative programmes to develop a Peruvian competence in the topical areas of the programmes. This effort has resulted in several promising Peruvian students being sent to the US for higher degrees in geophysics. Two of these men, Dr. Leonidas Ocola (PhD, University of Wisconsin) and Dr. Daniel Huaco (PhD, St. Louis University), are current leaders of the two principal seismology Divisions of IGP.

The arousal of scientifc, governmental, and public concern over earthquakes in Peru that has resulted from the long-continuing (and changing) Brady-Spence predictions of a catastrophic earthquake near Lima has led the Peruvian government to authorize, somewhat tentatively, a substantial increase in the IGP seismological programme. Two draft propcsals for an expanded programme have been produced within IGP, one by Huaco and one by Ocola. These proposals differ in the emphasis and priority placed on various types of studies that should be undertaken: seismic network studies of seismicity, crustal structure, and tectonic processes; long-base-line and "point" measurements of crustal strain, etc. Both proposals were developed with an awareness of similar work now under way in the US and elsewhere. The document by Ocola is particulayly useful because it is based on a recent fact-finding trip made by Ocola to the US and because it summarizes the status of current studies in Peru. It is an extremely well-thought-out document that proposes a plan of organization of the work as well as an outline of the work that should be undertaken and a list of equipment and facilities that would be required.

The proposed programme is a long-term one, and I believe that in its full version it would require considerably higher funding levels than appear to be available as well as a considerable increase in the size and level of training of the staff now available for maintenance and operation of equipment and for the analysis and interpretation of data. It is therefore extremely important that initial efforts to implement such a plan be scaled at an appropriate level,

concentrated on the most urgent tasks, and undertaken by the institution (or group) best prepared to carry them out. Extension of the work to other groups (and/or regions) and to other tasks could then be carried out with the help of a trained Peruvian staff that had proven its ability to do the work.

Within the general framework of studies outlined in the Ocola report, I believe that the most crucial and urgently needed element is the portion of the national seismic network that will cover central Peru and will be recorded and analyzed at IGP in Lima. This is the region involved in the Brady-Spence prediction and the region that is most readily accessible to IGP for installing and testing the proposed network. In addition to the seismic and telemetry equipment required in the field, facilities for recording, processing, and analyzing the network data at IGP in Lima will also be needed. I believe that some further consideration of the recording and analysis equipment is needed to decide just what combination of several possible choices would be most effective and reliable.

In the design, selection of specific equipment items, installation, and testing of the system suggested above, I believe that IGP would be aided greatly by collaboration with some group in the US, like the USGS or one of several university groups, that is already operating such a system. Such collaboration could also provide a means of training selected Peruvian technicians in the maintenance and operation of the equipment before it is installed and of expediting the acquisition and shipping of repair parts after the system is operating.

To indicate an appropriate level of effort for the proposed system, I shall list the major equipment items that it might include:

1) 20 single-component seismic stations for installation along the coast and in the Andean foothills with appropriate radio telemetry equipment,

2) 10 single-component seismic stations with onsite recorders for installation in the Andes and on the altiplano,

3) seismic recorders (film or paper type) for recording the telemetered stations at IGP,

4) tabletop digitizer for reading seismograms,

5) minicomputer (or guaranteed access to a convenient general-purpose

computer) and associated input/output devices suitable for processing seismic data to determine earthquake hypocenters and to prepare plots of epicenter maps, cross sections, etc.

6) 6 self-recording portable seismograph stations for temporary deployment to study regions of unusual short-lived interest: aftershock sequences, regions with unusual changes in seismicity, etc. At least half of these should be 3-component systems, preferably recording digitally on tape, supported by an appropriate playback facility at IGP.

The foregoing list is not necessarily balanced or complete, but it may help to fix ideas.

The most serious problems that IGP will face in carrying out an expanded earthquake programme are those that are common to most of Central and South America. They include:

1) salaries, particularly for all but the highest level personnel, are very low: morale among the technicians is therefore rather low and the most able are likely to leave government employment for higher paid jobs in industry;

2) the general level of technology is low, so local facilities for the support of electronic and computer systems are inadequate;

3) foreign mail service is extremely slow; so other provisions must be made for rapid access to foreign suppliers of critical parts and materials.

I see no good way around the first of these difficulties. The second two could be ameliorated (as they have been for earthquake studies in Central America) by close collaboration between IGP and a US co-operating project or agency.

IGP's principal assets are:

1) dedicated, determined leadership at the highest level,

2) excellent preparation and experience of its principal earth scientists,

3) broad institutional background and long history in the conduct of scientific studies in Peru,

4) electronic expertise developed through its operation of the Jicamarca observatory and its present seismic network.

I believe that the focused programme sketched above would have a very high probability of success.

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Attachment 5

INTERNATIONAL ORGANIZATIONS AND VOLUNTARY AGENCIES BELONGING TO THE "COMITE DE ENTIDADES DE COOPERACION TECNICA Y FINANCIERA" OF THE PERUVIAN CIVIL DEFENSE

Acción Comunitaria del Perú

Dirección:	Avenida República de Chile 683, Lima.
Teléfono:	28-19-50 - 32-86-30
Nombre del Delegado (T):	Manuel Montoya Larios
Cargo:	Director Ejecutivo
Nombre del Delegado (S):	José Criserique Carranza
Cargo:	Funcionario

Agencia para el Desarrollo Internacional

Dirección:	Avenida España 386, Lima.
Teléfono:	28-62-00
Nombre del Delegado (T):	Edilberto Alarcón
Cargo:	Jefe de la División de Ingeniería
Nombre del Delegado (S):	Edward Kadung
Cargo:	Funcionario de Préstamos

Alas de Esperanza Inc.

Dirección:	Jr. Carhuaz 840, Breña, Lima
Teléfono:	32-60-25
Nombre del Delegado:	Alfredo Aramayo
Cargo:	Consultor

Asociación Automotriz del Perú

Dirección:

Teléfono:

Nombre del Delegado (T):

Cargo:

Nombre del Delegado (S):

Cargo:

Asociación Cristiana de Jóvenes de Lima (YMCA)

Dirección:	Avenida Bolivar 635, Pueblo Libre, Lima.
Teléfono:	621746 - 611895 - 621742
Delegado (T):	Manuel Sayan Díaz
Cargo:	Secretario General
Delegado (S):	Raúl Flores Rodríguez
Cargo:	Presidente

Asociación Cristiana Femenina

Dirección:	Avenida Cuba 279, Lima 11
Teléfono:	717442
Nombre del Delegado (T):	Delia M. de Oyola (Sra.)
Cargo:	Presidente
Nombre del Delegado (S):	Bettina Echeverría (Srta.)
Cargo:	

Asociación de Dirigentes de Ventas (ADV)

Dirección:	Avenida Jorge Chavez 184, Miraflores, Lima
Teléfono:	455845 - 327155
Nombre del Delegado (T):	Rosell Christian
Cargo:	Gerente General
Nombre del Delegado (S):	Juan Nuñez Mercado
Cargo:	Coordinador General

Asociación de Exhibidores Cinematográficos del Perú

Dirección:	Galerías Boza, 2do. piso, Of. 206, Lima
Teléfono:	277737
Nombre del Delegado:	Julio Luna Reyes
Cargo:	Presidente

Asociación de Exportadores (ADEX)

Dirección:	Las Flores 375, San Isidro, Lima.
Teléfono:	404929
Nombre del Delegado (T):	James McDonald Checa (Ing.)
Cargo:	Presidente Junta Directiva
Nombre del Delegado (S):	Francisco Fernandini Tejada
Cargo:	Presidente de la Comisión Revisora de Cuentas

Asociación de Laboratorios Farmacéuticos (ALAFARPE)

Dirección:	Avenida Arequipa 3440, Lima
Teléfono:	40-97-90
Nombre del Delegado (T):	Federico Montenegro M. (Dr.)
Cargo:	Farmacéutico Asesor
Nombre del Delegado (S):	Sonia Zevallos (Dra.)
Cargo:	Gerente General

Asociación Internacional del Club de Leones

Dirección:	Nicolás de Piérola 530, Of. 507, Lima
Teléfono:	23-99-69
Nombre del Delegado (T):	José Ricardo Allemant
Cargo:	Gobernador Distrito H.3
Nombre del Delegado (S):	
Cargo:	

Asociación Nacional de Muchachas Guías del Perú

Dirección:	Godofredo García 375, San Isidro, Lima
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Nombre del Delegado (T):	Blanca de Figari (Sra.)
Cargo:	Presidenta del Comité Nacional de Extensión y Capacitación
Nombre del Delegado (S):	Hortencia León N. (Srta.)
Cargo:	Coordinadora Nacional (Sra. Amparo de Mazzini: Presidenta Nacional).

Asociación Nacional de Scouts Peruanos

Dirección:	Avenida Arequipa 5140, Miraflores, Lima
Teléfono:	47-20-70
Nombre del Delegado (T):	Ricardo Revolledo
Cargo:	Ejecutivo Nacional
Nombre del Delegado (S):	José Crang Bellido
Cargo:	Comisionado a Nivel Actividades

Asociación Peruana de Empresas de Seguros

Dirección:	Antonio Miroquesad 247, Of. 504, Lima
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Cargo:	Vice-Presidente
Nombre del Delegado (S):	
Cargo:	

Caritas del Perú

Dirección:	Calle Omicrón 492, Parque Internacional de Industria y Comercio - Gamma y Omicrón, Lima
Teléfono:	51-15-52

Nombre del Delegado (T):	R.P. Enrique León P.
Cargo:	Secretario General
Nombre del Delegado (S):	Gabriela Damiani V. (Srta.)
Cargo:	Sub-Secretario General

Obra Filantrópica y Asistencia Social Adventista (OFASA)

Dirección:	Avenida Angamos 770, Miraflores, Lima
Teléfono:	45-82-97 - 46-90-32
Director General:	Jenson William H.
Nombre del Delegado (T):	Rodrigo Montenegro Rivas
Cargo:	Director Asistente
Nombre del Delegado (S):	Mirtha Victoria Alvarado de Villar (Sra.)
Cargo:	Asistenta Social

Oficina Nacional de Apoyo Alimentario (ONAA)

Dirección:	Natalio Sanchez 220, Piso 13, Jesús María, Lima.
Teléfono:	246493
Nombre del Delegado (T):	María T. Zumaita Cevallos (Srta.)
Cargo:	Directora de Seguridad Alimentaria
Nombre del Delegado (S):	Alberto Tejedo Luna
Cargo:	Jefe de División de Reservas y Servicios de Alimentación
	(Ing. Eduardo Guerrero Coello)
Nombre del Delegado Coordinador:	Luis Nacarino Monzón
Cargo:	Especialista en la División de Reserva

Organización de Estados Americanos (OEA)

Dirección:	Avenida Arequipa No. 2544, Lince, Lima
Teléfono:	40-92-45
Nombre del Delegado (T):	Antonio Lulli Avalos
Cargo:	Director

Nombre del Delegado (S):	Humberto Bermudez (Ing.)
Cargo:	Sub-Director

Organización Mundial de la Salud - Organización Panamericana de la Salud

Dirección:	Los Cedros No. 269, San Isidro, Lima
Teléfono:	40-92-00
Nombre del Delegado (T):	Fortunato Vargas Tentori (Dr.)
Cargo:	Representante Area IV
Nombre del Delegado (S):	Philippe Cavalie (Dr.)
Cargo:	Epidemiólogo de la Oficina Sanitaria

Ejército de Salvación

Dirección:	Fr. Huancayo No. 245, Lima
Teléfono:	23-98-38
Nombre del Delegado (T):	Alex Hughes (Mayor)
Cargo:	Director Nacional
Nombre del Delegado (S):	Pedro M. Miranda Choque (Tnte.)
Cargo:	Director (Albergue), Pastor de Iglesia

Fondo de las Naciones Unidas para la Infancia (UNICEF)

Dirección:	Avenida Gral. Juan Pezet No. 1500, San Isidro, Lima
Teléfono:	40-19-20
Nombre del Delegado:	Lugo Nasser
Cargo:	Oficial Encargado de la Oficina de Area
Nombre del Delegado:	Yvonne Villanueva (Sra.)
Cargo:	Oficial de Programa

ENAPRONEF

Dirección:	Avenida San Martín No. 685, Pueblo Libre, Lima
Teléfono:	61-39-44, 61-2391, 61-0295

Nombre del Delegado (T):

Cargo:

Nombre del Delegado (S):

Cargo:

Presidenta: Matilde Pérez Palacios (Sra.)

Médico Internacional de Suiza

Dirección: Inca Garcilazo de la Vega No. 1218

Teléfono: 23-83-49

Nombre del Delegado: Bernal Klever Flores

Cargo:

Nombre del Delegado: Julio E. Erhart Chaca

Cargo:

Catholic Relief Services

Dirección: Parque Internacional de la Industria y Comercio - Gamma y Omicrón No. 492, Lima

Teléfono: 51-07-65

Nombre del Delegado (T): Lynn Renner

Cargo: Director de Programa

Nombre del Delegado (S): John Wiater A.

Cargo: Sub-Director

Nombre del Delegado (S): Lorenzo González

Cargo: Asistente Administrativo

Confederación Nacional de Comerciantes

Dirección: Avenida Abancay No. 210
Lima

Teléfono: 27-2450, 27-2707, 27-3450, 27-7989

Nombre del Delegado (T): Manuel Aguilar Bermudez (Dr.)

Cargo: Asesor Legal

Nombre del Delegado (S): Germán Moreau Ponce de León

Cargo: Asesor Legal

Cooperativas Americanas de Remesas al Exterior (CARE)

Dirección:	Los Laureles No. 485, S.I., Lima.
Teléfono:	40-05-91, 40-05-89
Nombre del Delegado (T):	Dale Harrison
Cargo:	Director
Nombre del Delegado (S):	Adolfo Valdivia
Cargo:	Asistente Administrativo

Cruz Roja Peruana

Dirección:	Jr. Chancay No. 881, Lima
Teléfono:	23-78-72
Nombre del Delegado (T):	Augusto del Solar Gamarra (Ing.)
Cargo:	Presidente
Nombre del Delegado:	Jenny Artola de Gendreau (Sra.)
Cargo:	Director de Auxiliares Voluntarios

OXFAM

Dirección:	Santa Isabel No. 160, Miraflores, Lima.
Teléfono:	47-75-88
Nombre del Delegado (T):	Brian S. Pratt (Dr.)
Cargo:	Sub-Director Regional Zona Norte (P.A.)
Nombre del Delegado (S):	Peter Sollis
Cargo:	Sub-Director Regional Zona Sur (P.A.)

Programa de las Naciones Unidas para el Desarrollo (PNUD)

Dirección:	Avenida Central 643, San Isidro, Lima Apartado Postal 4480, Lima
Teléfono:	41-9135
Nombre del Delegado (T):	H. Bittencourt
Cargo:	Residente Representativo

Rotary Club de Lima

Dirección:	Nicolás de Piérola No. 590, 2do. piso, Lima
Teléfono:	312629, 312413, 513694, 221414
Nombre del Delegado (T):	Germán de Caspio (Dr.)
Cargo:	Pro Secretario
Nombre del Delegado (S):	
Cargo:	

Servicio Evangélico Peruano para la Acción Social (SEPAS)

Dirección:	Calle San José 297 Pueblo Libre, Lima.
Teléfono:	317333, 237836, 614259
Nombre del Delegado (T):	Francisco Chang Lay (Ing.)
Cargo:	Director Ejecutivo
Nombre del Delegado (S):	Saul Calle
Cargo:	Director Administrativo

Sociedad Central Japonesa

Dirección:	Avenida Gregorio Escobedo No. 803, Res. San Felipe.
Teléfono:	6115 41
Nombre del Delegado (T):	Shozo Kitsuta
Cargo:	Presidente
Nombre del Delegado (S):	Tadashi Nakada
Cargo:	Secretario Ejecutivo

Union de Obras de Asistencia Social - Hogar Transitorio San Luis

Dirección:	Esperanza No. 250, Miraflores, Lima
Teléfono:	45-40-33
Nombre del Delegado (T):	Elvira Gildemeister de Junge (Sra.)
Cargo:	Presidenta

Nombre del Delegado (S):	Tarcila Cavero de Sanchez (Sra.)
Cargo:	Asistenta Social

Attachment 6

PROGRAMA DE ACTIVIDADES

MISION UNDRO - USAID - OPS - LICR

LUNES 26

09:00	EXPOSICIONES	Realidad Fenomenológica del País Geodinámica Interna Geodinámica Externa Expositor Ing. JORGE LOPEZ
11:00		Infraestructura de Lima Metropolitana Expositor Ing. JOSE KAMIYA

MARTES 27

08:30		Reunión de Trabajo Para establecer los requerimientos
10:30	EXPOSICION	Planificación Presupuestal Expositor Ing. RAUL FLORES
11:30	EXPOSICION	Plan Alfa Centauro Avance - Dificultades - Requerimientos Expositor Arq. LIGIA MONTOYA

MIERCOLES 28

08:30	EXPOSICION	Reunión de Trabajo Sobre el Cuerpo General de Bomberos Voluntarios del Perú
10:30		Atencion Hospitalaria en caso de Emergencia Expositor Dr. A. PERALES M.
11:30		Mesa Redonda Participación de los Miembros del Comité Científico y del Comité - Multisectorial

JUEVES 29

08:30	Reunión de Trabajo - Para establecer prioridades de los requerimientos - General - Salud
10:30	Difusión y Capacitación en Defensa Civil Expositor ROSARIO SANCHEZ V.

VIERNES 30

08:30	Reunión de coordinación con funcionarios del Instituto Nacional de Planificación

Lima, 30 de Enero de 1981

Attachment 7

PEOPLE MET BY THE MISSION

Comité Nacional de Defensa Civil

- Crnl. Carlos Lucar Sanchez
  Sub-Secretario Ejecutivo

- Crnl. Luis Rizo Patrón Passara
  Jefe de la Oficina de Enlace y Cooperación

- Crnl. Arnaldo González Vergara
  Director General de Operaciones

- Crnl. José Fuentes-Paz
  Jefe del Comité de Asesoramiento

- Dr. Augusto Perales Mogrorejo
  Asesor Médico de la Dirección de Planes y Operaciones

- Ing. Raúl Flores Sosa
  Jefe de la Oficina de Planificación

- Ing. José Kamiya Teruya
  Jefe de la División de Operaciones

- Ing. Jorge López Lozana
  Jefe de la División de Estudios Especiales

- Dr. Hector Aguilar Aguilar
  Jefe de la División de Salud

- Arq. Ligia Montoya Martínez
  Sub-Directora de Estudios e Investigación

- T.Crnl. Roberto Moriel Camero
  Director de Capacitación

- Geólogo Jorge López

- Ing. Civil Jorge Villafana

- Arq. Lenkiza Angulo Villareal

- Ing. Industrial Charles Arce Boggiano

- Arq. Enrique Huiza Valverde

- Señores y Señoras Rosendo Mottac, Nestor Teves, Augusto Perales, Marina López Lau, Rocío López Vera, Carlos Villavicencio, Betsabé Rivera, Manuel Moré, Victor Murillo.

Instituto Geofísico Peruano

- M. Casaverde
  Director Técnico

Ministerio de Salud

- Dr. Mario Espinoza,
  Director I.S.O.

- Dr. Tomas Urueta,
  Asistente de Dirección

- Dr. Ernesto Pinto Bazurco,
  Asesor Sup. Principal

- Dr. Juan Bianchi,
  Director I.P.S.S.

- Dr. Carlos Giles,
  Coordinador

- Dr. Diego Gonzáles
  Coordinador

- Dr. José Petrlik
  Asesor

Instituto Nacional de Planificación

- Dr. Eduardo Sal y Rosas Freyre

- Ing. Carlos Alcazar

Other Ministries or Government Agencies

- J. Luis Garaycochea
  Ministerio de Relaciones Exteriores

- Ing. E. Fernandez
  INGEMMET

- Ing. J. Maita
  INGEMMET

- Ing. José Veliz
  INGEMMET

- Ing. Oscar Palacios
  INGEMMET

- Ing. Juan Vidal
  Director Adjunto, Plan Lima

- Ing. Eduardo Guerrero Ocello
  ONAA

- Ing. Meriberto Yupanqui
  SENAMHI

- Ing. Mario Sarabian
  MVC

- Ing. Guillermo Almeyda Matías
  UNA - La Molina

- Ing. César Vargas Faucheux
  DHNM

- Alberto Guzman
  Ministerio de Agricultura

- Antonio Fortuna
  MITI

- T.Crnl. Alejandro Ballón
  Ministerio de Guerra

- María Elena León
  Bienestar Social

- Julio Peralta
  SEPAS

- Carlos Cannia
  Bombero Voluntarios

University

- Ing. Julio Kuroiwa

Peruvian Red Cross

- Augusto del Solar Gamarra
  Presidente

- Francisco Filomeno G.
  Secretario General

- Mario Sanchez Garay
  Vice-Presidente

- Israel Korngold
  Director de Desastres

- Justo Oré Arroyo
  Sub-Director de Socorrismo

- Jenny Arbulu de Gendreau
  Directora de Auxiliares Voluntarios

- Emilio Fetzer
  Tesorero

- Roberto Colombo
  Secretario de Actas

- Jorge Dávila
  Director de la Cruz Roja de la Juventud

- José Romero Díaz
  Director de Relaciones Públicas

Voluntary Agencies

- Enrique León
  Caritas

- William H. Jenson
  Director, SAWS/OFASA

- Edwin Montenegro
  SAWS/OFASA

USAID/Lima

- Ing. Ediberto Alarcón
  Coordinador de Defensa Civil

United Nations:

UNDP: Helio Bittencourt
  Representante Residente

Dino A. Sette
  Asesor, Programa Mundial de Alimentos

Margarita Prado

OPS/OMS: Dr. Norberto Martínez