

4. わが国以外の先進国の援助動向

本課題に対する先進国の援助動向を調べた。DAC の構成国は現在 22 カ国であるが、金額の大小を勘案して調査対象国としては国自体が地震国としてのアメリカ、カナダ、オーストラリア、ニュージーランドを主体とし、ヨーロッパについてはめぼしい国のみを取り上げた。緊急の、地震を含む災害援助を除いては、ヨーロッパ諸国で、途上国に対して定常的な地震防災や災害復興を援助分野として独立して取り上げている国は限られているからである。調査結果として以下各国の状況を敷衍的に概括する。

4-1 アメリカ

4-1-1 アメリカの政府開発援助 (ODA)

USAID (US Agency for International Development : アメリカ合衆国国際開発庁)

防災に限らず途上国に対する援助は USAID (US Agency for International Development : アメリカ合衆国国際開発庁) を統一的な政府機関として位置づけ、海外の災害援助については DOC (Department of Commerce : アメリカ商務省)、USGS など他の関係政府機関の施策に応じた業務を展開している。

大戦後のアメリカ海外援助の体制は 1947 年のトルーマン大統領命令によるトルコとギリシャに対する軍事的財政的援助にはじまり、1948 年のマーシャルプランを下敷きとして経済協力庁 (ECA) を設立した海外援助法によって本格化し、1951 年には相互保障庁 (MSA) に拡大吸収されている。1953 年には技術協力も主業務に含められ、1954 年には相互保障法の名の下で統一的な機関としての機能を付与されるに至った。しかし、本格的な冷戦化の 1955 年以降は国務省管轄の国際協力庁 (ICA) に置き換えられてその機能や規模が大幅に縮小されてしまう。この反省は海外援助に関する政策として 1960 年のケネディとニクソンの大統領選の争点の一つとなり、ケネディ大統領誕生後の 1961 年 9 月のフルブライト議員提出の法案可決後、その実施機関として 1961 年 11 月には現在の USAID が誕生している (以上は Carlos Villacís 博士の要約: Brief Chronology and Highlight of the History of US Foreign Assistance Activities : 別添資料 1 および Spencer 教授による報告全文 [4-7-2] 参照)。その結果、USAID は既存の ICA が受け持った経済的技術的援助の他に海外開発基金の貸し付け、輸出入銀行の途上国での業務調整、農務省の余剰農産物平和利用配分などの活動を受け持つこととなっている。

近年の USAID は連邦政府内の独立の機関であるが、政策的には国務省 (Secretary of State) の外局として、同省との協議によりアメリカの外交政策の一環を担い、かつ地球規模での持続可能な発展を達成するために戦略的に六つの分野 (1.経済成長と農業の発展、2.人口・健康・栄養、3.環境、4.民主的統治、5.教育・訓練、6.人道援助) を設定し、中長期的な施策と単年度計画を立てている。実務上は地域的には世界をアフリカ、アジアおよび近東、ラテンアメリカおよびカリブ海沿岸、ならび

にヨーロッパおよびユーラシアの 4 部局 (Bureau) に大別して管理している。他に災害や紛争関係を扱う人道対応部門 (Bureau of Humanitarian Response) があって地震防災関連はこの部局の主管となっている。USAID は国防総省その他の殆どの政府機関に加えて国内の各種ボランティア団体、大学、企業、あるいは国際機関と深い連携を保っている。その数はボランティア団体が約 300、企業が約 3500 社である (<http://www.usaid.gov/about/>)。

図 4-1 は USAID の 1998 年度予算の実績であるが (Agency Performance Report : Center for Development Information and Evaluation: Washington. 2000: または http://www.dec.org/pdf_docs/pnaca944.pdf)、USAID は前述のようにアメリカの ODA のほぼ総額を所管しているので日本との比較をするには参考図の日本の ODA 総額が必要であろう。単位は両図とも 100 万米ドルである。

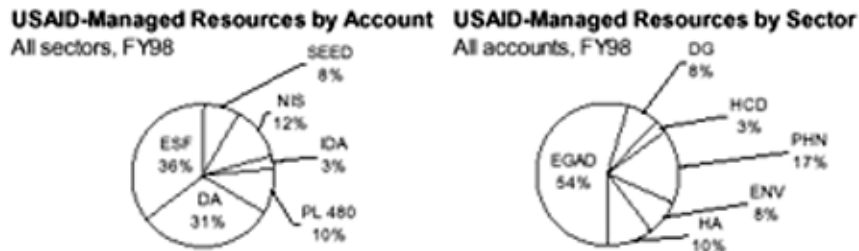
USAID の実績のうち、図 4-1 の 1998 年の例では、人道対応部門の援助総額 (Humanitarian Assistance) としては国際災害援助 (IDA : International Disaster Assistance) として約 1 億 9,000 万米ドルが支出され、アメリカの余剰農産物を利用した援助 (PL480:Public Law 480) として約 5 億米ドル、合計約 6 億 9000 万米ドルが支出されている。この額は日本と同様近年大きな変動はなく、2000 年度は USAID の予算総額は約 75 億米ドル、このうち IDA 予算額は約 2 億米ドルである (<http://www.usaid.gov/pubs/bj2001>)。

図4-1 USAIDの1998年度分野別予算

Figure I.1. Fiscal Year 1998, by Strategic Goal, All Accounts (in Millions)

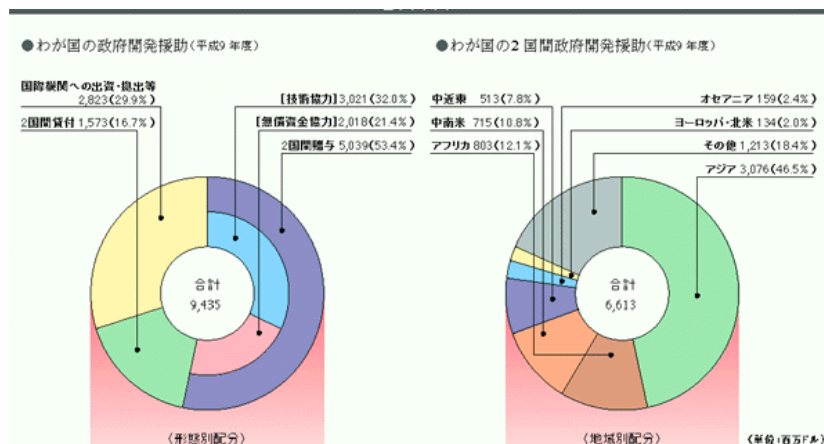
	CSD/DA			Economic Support Fund			SEED			New Independent States			IDA	PL 480	Total
	NOA	CO/R	Total	NOA	CO/R	Total	NOA	CO/R	Total	NOA	CO/R	Total			
Economic Growth and Agricultural Development	414.7	114.0	528.7	1,910.1	64.1	1,974.3	278.5	89.4	368.0	464.7	153.8	618.5		161.7	3,651.2
Democracy and Good Governance	141.9	17.7	159.6	141.0	5.2	146.2	75.5	37.2	112.7	75.0	14.3	89.4			607.8
Human Capacity Development	124.9	16.4	141.3	14.7	1.9	16.6	11.0	4.8	15.8	6.2	0.0	6.3			179.9
Population, Health, and Nutrition	798.5	173.0	971.5	76.1	13.1	89.3	3.4	23.2	26.5	24.8	16.4	41.2			1,128.6
Environment	244.0	46.2	290.2	96.0	73.5	169.5	12.4	2.4	14.7	35.7	19.4	55.1			629.5
Humanitarian Assistance (IDA, PL 480 only)													190.3	501.0	691.9
Total	1,724.0	367.3	2,091.3	2,237.9	157.9	2,395.8	380.8	156.9	537.7	606.5	204.0	810.5	190.3	663.4	6,688.9

Notes:
CSD/DA—Child Survival and Disease/Development Assistance
IDA—International Disaster Assistance
Economic Support Fund includes \$1.2 billion in EGAD cash transfer to Israel.
CSD-NDA was \$550 million.
SEED—Support for East European Democracy
CO/R—Carryover/Recoveries
NOA—New Obligation Authority



出所： http://www.dec.org/pdf_docs/pnaca944.pdf または 1999 Agency Performance Report: Center for Development Information and Evaluation: Washinton.2000

参考：日本の海外援助



出所：国際協力事業団ホームページ <http://www.jica.gov.jp>

OFDA (Office of US Foreign Disaster Assistance : 海外災害援助局)

ここで注意しなければならないのは USAID の国際災害援助すなわち IDA は、人命救助や緊急援助を最優先課題としていること、逆にいえば本調査課題が目的としている中長期的な途上国の防災・災害復興援助には力点が置かれていなかったことである。すなわち、ある国で災害が起こったとき、アメリカ政府としてまずその国に対するアメリカの責任者が基本的対応策を決定したのちに、USAID の下部組織の **OFDA** (Office of US Foreign Disaster Assistance : 海外災害援助局) と当該災害国のアメリカ大使館とが協議して具体的な実施案を立案・実施する。この実施案の中身は緊急災害援助チーム (Disaster Assistance Response Team : DART) の派遣、災害国への直接的なあるいは非政府機関 (NGO) や国連や国際赤十字などの国際機関を通じての資金援助・物資援助などである。

例えば再び国連の統計を 1998 年 10 月のハリケーン Mitch による被害について見てみると各国各機関からの贈与額総計約 6 億 8000 万米ドルの内、アメリカ政府の贈与額総計は約 3 億米ドルとほぼ半分を占めていて、その 8 割は主として OFDA ならびに国防総省 (Department of Defense:DOD) による緊急食料援助と緊急救助活動として提供された費用である (<http://www.reliefweb.int/fts/nd1998/cam981.htm>)。なお、IDA に関しては OFDA の他にもう一つの下部組織として **OTI** (Office of Transition Initiatives) があるが、この組織は主として紛争地域の後処理のために機能することと位置づけられ、例えばコソボ関連では約 1 億 2000 万米ドルの支出がなされている。

DOC (Department of Commerce : アメリカ商務省)

USAID に協力して DOC は主に災害復興面での活動を担当してきた。例えば前項のハリケーン Mitch 被害のあと、1999 年 5 月には、中南米とカリブ海沿岸諸国に対する基幹施設や経済再建のために、アメリカ議会は約 10 億米ドルの追加支出を承認している。具体的には DOC 傘下の 3 政府機関の海洋・大気局 (National Oceanic and Hemisphere Administration: NOAA)、国際貿易局 (International Trade Administration: ITA)、国立技術標準研究所 (National Institute of Standards and Technology: NIST) を介してグアテマラ、エル・サルヴァドル、ホンデュラス、ニカラグアおよびドミニカ共和国などの諸国に対し、1.水理気象学面での予知・早期警戒体制の改善と確立、2.経済活性化の助勢、3.より強い耐災害能力のある住居の建設助成、の各分野で 2 年間の援助計画を実施している (<http://www.doc.gov.rrdi/overview.htm>)。DOC としては従来の復興援助に限定した立場を修正して、将来の災害の低減対策の観点から、1.基幹施設の復興の評価監視、2.災害予知および早期警戒システム、3.災害対策・緊急体制、4.持続的抵抗力のあるコミュニティ、5.経済活性化の 5 分野に力点を置くようになってきている。

USGS (US Geological Survey:アメリカ地質調査局)

USGS の災害面での活動分野は地震・洪水・ハリケーン・大嵐・地滑り・噴火などの自然災害全てに関連しており、極めて広範囲に及んでいるが、大別すれば、1.災害関連の調査と情報の収集、2.被害評価・被害低減・国土管理、3.収集情報の分析と公開、4.関連分野の人材の教育・訓練、5.各地域における防災体制・防災対策の確立の五つの分野となっている。年間の総予算はおおよそ 7 億米ドルの範囲で推移しており (GPRA Consolidated Report, http://www.usgs.gov/budget/gpra/gpra_con.pdf)、

国土の広い国内各州以外にも USAID の協力のもとで、海外の各種の自然災害に対しても同様な活動を展開してきている。大掛かりな計画としては USAID-OFDA と共同で 1986 年以来続けている火山災害援助プログラム (Volcano Disaster Assistance Program: VDAP) でその内容はワークショップや研修コースによって途上国のインフラ整備や緊急体制の確立に寄与している。他の例では USAID のアフリカ局 (USAID's Africa Bureau) と協力して設置されたアフリカ情報普及部 (Africa Data Dissemination Service : ADDS) はアフリカ大陸内の個々の国々について、飢饉の早期警戒システムの一環として設置されたものであるが、観測衛星から得られた画像情報を主体に防災関係を含む現地情報を総合的に収集・分析・公開している (USAID/GHIE Data Page:<http://edcsnw3.cr.usgs.gov/ghai/data.html>)。

以下、アメリカの政府機関で、本調査課題に多少なりとも直接的に関与している省庁を列挙しておく。

FEMA (Federal Emergency Management Agency : 連邦緊急管理庁)

(<http://www.fema.gov/>)

USACE (U.S. ARMY CORPS OF ENGINEERS : アメリカ陸軍工兵隊)

1. Interagency and Intergovernmental Support Program

(<http://www.hq.usace.army.mil/>).

2. Center Of Excellence in Disaster Management and Humanitarian Assistance

(<http://coe-dmha.org/>.)

これら政府機関の、近年の災害援助に対する基本方針は、緊急援助体制の整備・高度化対策と同じ程度に、下記のように災害を未然に防いだり、あるいは、防げなくともその規模をできるだけ少なくする災害低減対策に力点が置かれてきていることである。このことはいったん災害が発生すれば人命の危険はもとよりその経済的損失も無策の場合に比し各段に大きいという明白な事実、有効で実施可能な防災対策があり得るということに関係者が気づいたということであろう。

One of the most important activities of the past year was incorporating the lessons learned from Hurricanes Mitch and George into USAID planning not only for reconstruction but to ensure that the region is better protected and less vulnerable during future hurricane seasons.-----

(IRG-Report, <http://hurricane.info.usaid.gov/reports/prepare.html>)

この具体的な例としては OFDA が主たる基金を拠出して、1995 年から 6 年の計画で実施しているアジア都市防災計画 (Asian Urban Disaster Mitigation Program: AUDMP) に見ることができる。これはモデル都市としてインドネシアのバンドンとネパールのカトマンズを対象として、一連の防災対策を実際に策定・実施して将来の災害を軽減しようとするもので、自身危険度の評価を初め学校や

病院の安全対策などの実務的な項目が含まれている（Rajib Shaw 博士の報告：別添資料 2）。

また、その具体的な方法として政府機関以外の人材や技術を採用して効率的に災害援助策を立案・実施して行こうという態度が見られることである。例えば USAID は 1999 年度の計画の一つとして中央アメリカ防災プロジェクト（Central America Mitigation Initiatives (CAMI)）をスタートさせることとしたが、その具体的な実施内容については非政府機関（NGOs）、他の国際機関など全ての関連機関からの提案を受け付け、目的、実施策、費用、などの各項目ごとに評価点をつけて採否を定めることとしている。このことは総合的な防災対策は一つの固有技術、一つの対策でカバーされるものではなく、多方面のヒト、金、モノといった有効資源の組み合わせで初めて可能となることに気づいたということであろう（http://www.usaid.gov/procurement_bus_opp/procurement/annual_pstate-ments/cami.html）。

4-1-2 アメリカの非政府組織、団体による援助

アメリカで海外の地震防災・災害復興に対応して活動している非政府組織や団体（NGOs）は、政治的・財政的な独立性を保っており、そのために、各組織毎の独自の方針や対象分野、行動要綱に則って、政府機関の及ばない下記のような広い部分を補完している。

- ◆ 災害および防災関連情報の公開と普及
- ◆ 海外の都市或いは地方の行政体の支援
- ◆ 危機管理や災害低減計画の促進や実施
- ◆ 救助活動あるいは緊急対応活動の提供
- ◆ 地域の活性化・持続的発展の助成
- ◆ 健康管理や教育の助勢

前記のようにアメリカの海外援助に関連する NGO は 300 を超えるといわれているので、以下には本調査課題に関連する主な NGO 団体の数例を活動分野ごとに分けて列挙しておく。詳細は併記のホームページもしくは 4-7-2 及び別添資料 1 を参照されたい。

1. 災害および防災関連情報の公開と普及

Volunteers in Technical Assistance (Vita), Disaster Information Center

(<http://www.vita.org>)

途上国への出版物、ネットワーク利用の技術・災害情報提供。最近では衛星情報提供。

2. 都市・地方行政体の支援

International City/County Management Association (ICMA)

(<http://www.icma.org/>)

各都市での市民直結の問題解決のための行政支援組織。40 カ国以上の都市で活動。

3. 危機管理や災害低減計画の促進や実施

GeoHazards International (GHI)

(<http://www.geohaz.org>)

途上国の都市の地震危険度や被害評価および防災体制構築の支援組織。

Disaster Preparedness & Emergency Response Association (DERA)

(<http://www.disasters.org>)

災害対策、緊急支援などの広い分野で活動。1962年創設。研究プロジェクトも支援。

4. 緊急援助活動

International Association of Emergency Managers (IAEM)

(<http://www.miae.com>)

緊急時・災害時の人命救助と財産保護を主たる活動とした非営利組織。

Relief International (RI)

(<http://www.ri.org>)

1999年トルコ地震では40日間以上の医療活動。現在も仮設医療・教育施設で支援。

Association of Contingency Planners (ACP)

(<http://www.acp-international.com>)

5. 地域活性化・持続的発展の助勢

Operation USA

(<http://www.opusa.org>)

20年以上の活動歴。1999年のトルコ、台湾両地震でも緊急物資の贈与と復興支援。

United Way International (UWI)

(<http://unitedwayinternational.org>)

1974年創立の団体で世界的な組織として地域のリーダー達の資質向上を目指す。

Mercy International-USA, Inc. (Mercy or MUSA)

(<http://www.mercyusa.org>)

1986年創立。健康、経済、教育の諸分野での地域の自立化の促進支援。国連の経済社会理事会 (Economic and Social Council: ECOSOC) のコンサルタントの地位にある。

6. 健康・医療支援

AmeriCares

(<http://www.americares.org>)

1982年創設。災害・飢餓・紛争などの被災者に対する緊急医療と健康管理の支援。現在まで累計20億米ドルの供与の実績。

Direct Relief International (DRI)

(<http://www.directrelief.org>)

50年以上にわたって年間約5000万米ドル相当の医療関連の物資や器具を供与。トルコ地震、ハリケーンMitch、コソヴォ紛争などが最近の実績。

International Medical Corps (IMC)

(<http://www.imc-la.com>)

医師や看護婦達により1984年創設。緊急医療と現地の医療関係者の教育・訓練。

Life for Relief and Development

(<http://www.lifeusa.org>)

1993年創設。人道援助、健康管理、教育および社会経済開発など広範囲に活動。毎年数百万米ドル相当の物資援助。

Project HOPE (The People-to-People Health Foundation)

(<http://www.projhope.org>)

健康管理・医療活動を教育活動と共に実践。緊急物資の備蓄配送センターをウィンチェスターに有して、災害発生後数時間以内に必要物資の空輸を可能としている。

7. その他の主たる団体（宗教関係）

Adventist Development and Relief Agency (ADRA)

(<http://www.adra.org>)

Lutheran World Relief (LWR)

(<http://www.lwr.org>)

American Friends Service Committee (AFSC)

(<http://www.afsc.org>)

これら非政府組織の活動は多くが緊急援助に力点が置かれてきたのは政府簡援助の傾向と同様であるが、近年は危機管理の観点から、予想される将来の地震危険度評価、被害評価およびその対策案の策定を支援しようという動きが顕著である。また、各地域の地震防災対策の策定には地震学や地震工学といった学術・技術面のみならず、行政府・市民団体などの関与が不可欠であるとの認識が一般化してきている。その例として、上記の組織の内、GHIは1992年からエクアドルのキトー市を対象として、広範囲な関係者の参加による地震防災プロジェクトを支援し（拙著：キトー地震防災とワークショップについて：震災予防協会地震工学振興会ニュース 134号：1994. 1）、これをパイロットプロジェクトとして、1993年から現在までネパールのカトマンズ地域を対象として地震防災プロジェクトを支援している（Amod Dixit et al: The Kathmandu Valley Earthquake Risk Management Project: An Evaluation: 12th World Conference on Earthquake Engineering: 2000. 1）。

4-1-3 アメリカの地域的国際機関による援助

OAS (Organization of American States:米州機構)

(<http://www.oas.org/>)

OASは1964年創設の機構で当初は北はアメリカ合衆国から南はチリまでの中南米の主要国21カ国でスタートし、以後カナダやカリブ海の小国ベリーズなど14カ国が加わって現在35カ国で構成されている。日本はオブザーバーである。OAS内の組織としては**USDE (Unit of Sustainable Development and Environment:持続開発環境部)**が、水資源管理、気象・海洋管理、エネルギー管理、生物保全などと共に自然災害低減の分野を担っている。定常的なUSDEの予算規模は4000万米ドル強で基本的にはUSAIDなど他の機関との提携業務が大半である。自然災害低減関連の活動は危

険度や被害評価、対策技術の指導あるいはプロジェクトベースでの災害対策の策定などである。近年の支援プロジェクトとしてはカリブ海沿岸諸国の主として地震防災を取り上げた防災プロジェクト（CDMP: Caribbean Disaster Mitigation Project）があるが、これは1993年から1999年まで総額500万米ドルを投じて地震危険度評価、耐震基準策定など六つの成果を目指したものである（Final Evaluation of Caribbean Disaster Mitigation Project（CDMP）：Executive Summary: <http://www.oas.org/en/CDMP/document/ofdaeval.html>）。

PAHO（Pan American Health Organization:汎アメリカ保健機構）

（<http://www.paho.org>）

PAHOの母体は1902年創設の米州保健機構で、国連の組織として世界保健機構（World Health Organization: WHO）創立後、その地域組織も兼ねることとなった関係もあって半ば独立した組織体とも考えられる。加盟国はOAS加盟国と殆ど重なっている。保健関連の活動は自然災害時においても極めて重要であるとの観点から、PAHOは組織内の特別部局として**PED（Program for Emergency Preparedness and Disaster Relief）**を設けている（http://www.paho.org/about_eng.asp）。PEDの主たる活動は加盟諸国に対する、1.災害準備、2.災害対策、3.緊急援助であって、特に、1.については各国での災害関連部署の強化、災害関係者の教育訓練、それに必要な関連資料の配布などに力を置いている。

アメリカを中心とする地域的な国際機関としては、他に米州開発銀行（Inter American Development Bank : IDB）があり、IDBも本調査課題に関連する活動を間接的に方針として掲げているようである。すなわち、1999年6月のグアテマラでのOAS年次総会において、これらOAS、PAHO、IADBの三つの組織から構成される米州自然災害低減委員会（Inter-American Committee on Natural Disaster Reduction : IACNDR）が設置されることが決定され、その中でワーキンググループとして人道援助関係をPAHO、資金・保険関係をIDB、各国の危険度や対策評価をOASが受け持つて今後活動することが議決されている（Annual Report of the Secretary General of OAS, 1999~2000, <http://www.cidi.oas.org/SGannualrep99.asp>）。

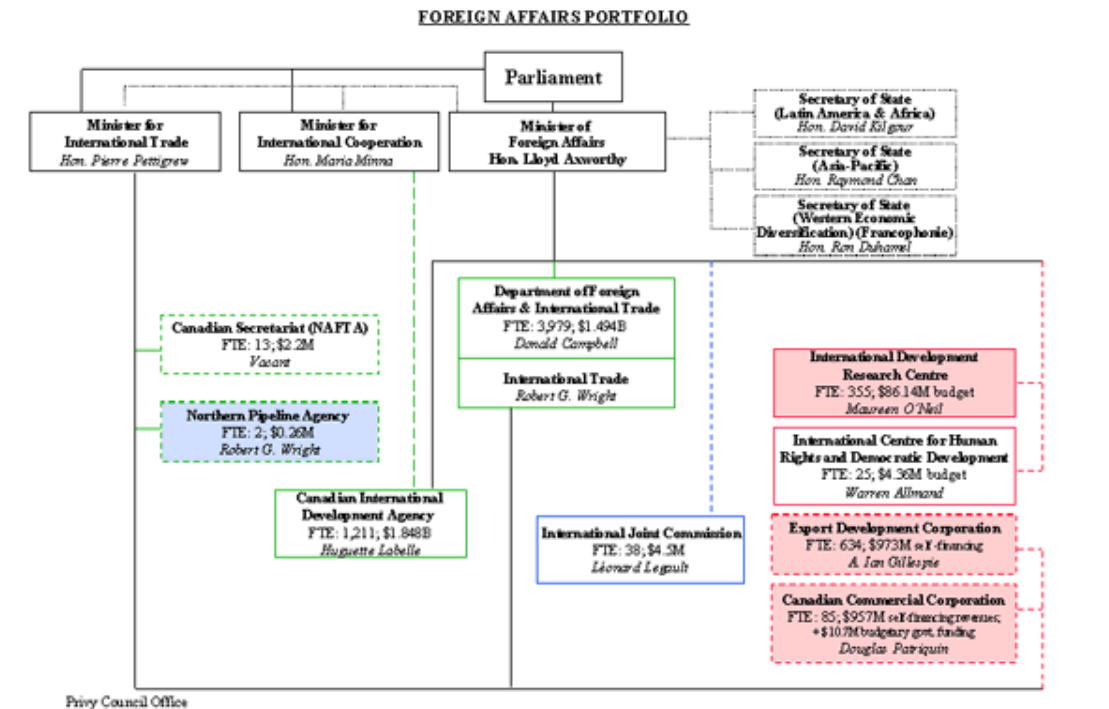
4-2 カナダ

4-2-1 カナダのODA

カナダの政府開発援助（ODA）もアメリカと同様にCIDA（Canadian International Development Agency:カナダ国際開発庁）を主官庁としている。アメリカや日本と異なるのは図4-2のように内閣の下で外務省（Department of Foreign Affairs and International Trade : DFAIT。正式には外務および国際貿易省：<http://www.dfait-maeci.gc.ca/>）があり、この省が3人の主務大臣を配してそれぞれが独立の官庁となっていることである。政府の報告書によれば、ODAはIAE（International Assistance Envelop:国際援助勘定）と称されており、そのほぼ8割弱がCIDA主管として割り当てられている。残りは世界銀行や国際通貨基金を通じての国際援助資金でこの主管官庁はカナダ政府内で

は DOF (Department of Finance:財務省) および DFAIT のほかの省庁である (A Report on Plans and priorities: http://www.acdi-cida.gc.ca/cada_ind.nsf)。

図 4-2 1999 年度のカナダ政府援助額と主管官庁



出所：<http://www.gc.ca/howgoc/canmin/porteng/sld009.html>

CIDA (Canadian International Development Agency:カナダ国際開発庁)

(<http://www.acdi-cida.gc.ca/>)

CIDA はカナダの ODA の基本方針をそのまま受けて、その活動の基本方針を 1. 基本的な生活条件：basic human needs (education, nutrition, health care)、2. 機会均等：opportunities for women、3. 社会資本サービス：infrastructure services、4. 人権・民主・良い統治：human rights, democracy and good governance、5. 私企業発展：private sector development、6. 環境：environment の六つの分野と設定している (Development at a glance：http://www.acdi-cida.gc.ca/cida_ind.nsf/vall/)。したがって、本調査課題を特に取り上げた中長期的な計画は見当たらず、また、カナダの ODA 総額約 20 億カナダドル (円換算で約 1400 億円、為替レートは 2000 年 10 月現在で 1 カナダドル約 70 円) という予算規模からも、自然災害と復興に対する援助は緊急的な援助に限られている。すなわち CIDA は 1999 年にはコロンビア地震に始まり、トルコ地震、台湾地震、インドのサイクロン、ヴェトナムの洪水、ヴェネズエラの洪水などに対して各種の援助を実施し、過去 5 年間に遡れば地震・洪水・強風 (ハリケーン、サイクロン、台風)、森林火災など途上国の自然災害に対して、数万カナダドルから数百万カナダドルの単位で、平均的には年間 6 件の災害支出を実施している (News Release 1996~1999:<http://www.acdi-cida.gc.ca/cida.ind.nsf>)。

4-2-2 カナダの非政府組織 (NGO)、団体

上記の CIDA の活動で注目すべきはカナダ政府と途上国との二国間援助のかなりの部分が CIDA の財政援助の下に、非政府機関や企業を含む諸団体、教育・研究機関などが多数の援助計画を立案・実施していることであろう。ただし、アメリカと違って、本調査課題の防災と復興に特化して活動しているカナダの非政府組織 (NGO) や団体は調査の範囲 (CIDA Partner web site, http://www.acdi-cida.gc.ca/cida_ind.nsf/) では見当たらない。これは、カナダが自国内に地震の被害経験を殆ど持たず、研究面・実務面での関係者が極めて少ないからであろう。以下、調査の範囲で多少とも関連している幾つかの団体を列挙しておく。

Adventist Development and Relief Agency (ADRA Canada)

(<http://www.adra.ca>)

宗教団体が母体の世界的な組織のカナダ支部で、年間支出額は 350 万カナダドル。約 3 割が災害関連に支出されている (ADRA Annual Report: <http://www.adra.ca/>)。

Association of Universities and Colleges of Canada (AUCC)

(<http://www.aucc.ca>)

92 の大学から構成され、海外援助も実施。CIDA と共同で 5 年で 250 万カナダドルの複数の教育・保健関連計画を実施 (http://www.aucc.ca/en/international/upcd_projects.html)。

CARE Canada (CARE)

(<http://www.care.ca/>)

第 2 次大戦後創設された、ベルギーに本部 (Care-International: <http://www.care-international.org>) を持つ世界的な組織のカナダ支部。紛争地帯への援助が主体で、緊急センターを有し、コソヴォ、エチオピア、バングラディッシュなどの紛争処理や緊急援助支援。

さらに注目すべきは、下記のように ODA 総額の大半がカナダ国内の雇用や契約・購買あるいは途上国との取引などのリターンとなって、カナダ国民にも利益をもたらしていることを公言していることであろう。

CIDA works in partnership with all elements of Canadian society, including the business community, non-governmental organizations (NGOs), professional associations, co-operatives, educational institutions and international agencies. Developing countries are also essential partners. The benefits work both ways. Consider that: 70 cents of every official development assistance dollar is returned to Canada through jobs and the purchase of our goods and services. The jobs of more than 30,000 Canadians are sustained by our aid program. The 2,000 Canadian businesses receiving aid-related contracts are making connections with some of the world's

fastest-growing markets. 50 Canadian universities and 60 colleges benefit from aid-related contracts. The return on investment, through the Industrial Co-operation Program (managed by CIDA), is more than 5 to 1 in Canada, and nearly 12 to 1 in the developing countries. (Our Partners in Development :<http://www.acdi-cida.gc.ca/partnr-e.htm>)

4-3 オーストラリア

4-3-1 オーストラリアのODAと政府組織

オーストラリアも10年ほど前までは、カナダと同様、海外の自然災害に関しては緊急援助を専らとしてきたようであるが、1989年からの国際防災旬年（International Decade for Disaster Reduction : IDNDR）を契機として本調査課題に即した活動を官民が一体となって実施している（Rynn博士の報告：別添資料3）。オーストラリアのODAもカナダと同様、外務・海外貿易省（DFAT : Department of Foreign Affairs and Trade）の独立法人としてのAusAID（Australian Agency for International Development : オーストラリア国際開発庁）が殆どの支出を主管している。近年の予算規模は図4-3のように概ね15億オーストラリアドル（2000年10月の為替レートは1オーストラリアドル約57円、約0.52米ドル）で、微増を続け、国内総生産額とODA予算額の比は0.25である。

図4-3 AusAIDの予算規模

	1997-98 Actual (\$'000)	1998-99 Budget and Additional Estimates (\$'000)	1998-99 Actual (\$'000)
Budgetary (Cash) Basis			
Appropriations			
Running costs	58 095	63 628	60 411
Other program costs (excluding running costs)	1 300 369	1 323 439	1 343 382
Total appropriations	1 358 464	1 387 067	1 403 793
Less adjustments	236 984	232 564	234 372
Total outlays	1 121 480	1 154 503	1 169 421
Accrual Basis			
Net cost of service delivery	54 094	NA	62 573
Other program costs (excluding service delivery)	1 024 098	NA	1 276 442
Total costs	1 078 192	NA	1 339 015
Program revenues	5 368	NA	2 708
Total (allocated) assets	146 085	NA	238 226
Total (allocated) liabilities	1 516 891	NA	1 403 133
Staff years (actual)	525	577	580

出所 : Annual Report : http://www.dfat.gov.au/dept/annual_reports/97_98/dfat9798.pdf

なお、Rynn 博士の報告によれば AusAID は ODA 資金の拠出を受け持つが、防災や災害復興関連の援助計画の遂行は AusAID に協力する形で国防省（Department of Defense: DOD:<http://www.defence.gov.au/index.html>）とその傘下の緊急管理部（Emergency Management Australia: EMA<http://www.ema.gov.au/>）、あるいは産業・科学省（Department of Industry, Science Resource:ISR）の傘下部門としてのオーストラリア地質調査機構（Australian Geological Survey Organization: AGSO: <http://www.isr.gov.au/>）が担当している。

AusAID（Australian Agency for International Development：国際開発庁）

(<http://www.ausaid.gov.au/about/>)

AusAID は二国間あるいは複数国に対する援助機関で前記の図 4-3 に示すような予算と 500 人のスタッフを有している。援助の基本的な目標は、わが国の ODA 白書に相当する、AusAID 長官によるオーストラリア議会宛での 1997 度年次報告書（Better Aid for Better Future: <http://www.ausaid.gov.au/publication/pdf/parlrep.pdf>）によれば、1.保健、2.教育、3.地域開発、4.統治、5.社会資本となっている。地域的には日本に比してその活動は南太平洋地域と東南アジアを主体としたものとなっている。このうち、防災や災害復興を含む人道的・緊急援助には 2000 年度は総額約 100 万オーストラリアドルを割り当てている。特記すべきはこの中に旧インドネシア領の東チモールにおける紛争関連の支出があることで、政府としての姿勢が垣間見られる（<http://www.ausaid.gov.au/human/default.cfm>）。

AGSO（Australian Geological Survey Organization：オーストラリア地質調査機構）

(<http://www.agso.gov.au/>)

AGSO は ISR の下部組織で基本的にはオーストラリア国内を対象とする調査研究機関で、470 人、年間約 8000 万オーストラリアドルの規模と予算で、石油・海洋部門、鉱山部門と災害部門を有している（http://www.isr.gov.au/department/annualreport98_99/pdf/21AGSO.pdf）。AGSO の自然災害部門では防災関連の海外支援計画として（South Pacific Applied Geoscience Commission：SOPAC）を設立して地質情報システム GIS（Geophysical Information System）を用いた各種の災害の危険度評価・分析関連の活動を実施している。対象の都市は Lae (PNG)、Honiara (Solomon Islands)、Port Vila and Luganville (Vanuatu)、Suva and Nadi (Fiji)、Nuku'alofa (Tonga) および Apia (Samoa) の 8 都市・地区である（<http://www.agso.gov.au/geohazards/grm/aboutgrm.html>）。

4-3-2 オーストラリアの非政府組織（NGO）、団体

本調査課題に関連するオーストラリアの非政府組織や団体を下記に列挙する。これらの多くは既出のアメリカやカナダの項で記述した国際的な団体のオーストラリア支部ともいうべきものである。ただし、特記すべきことは本調査課題に限らず、オーストラリアでは海外援助に対してこれらの大小あわせて百近くの NGO が実務面のみならず資金面でも大きく寄与していることで、最近の実績では約 1 億オーストラリアドルが NGO から提供されているという報告がなされている（<http://www.ausaid>）。

gov.au/publications/pubout.cfm)。

ADRA (4-1-2、4-2-2 参照、アメリカ、カナダの各項で既出)

ACFOA (Australian Council for Overseas Aid)

(<http://www.acfoa.asn.au/>)

ARCS&IFRC

(<http://www.redcross.org.au/>) & (<http://www.ifrc.org/>)

CAA (Community Aid Abroad)

(<http://www.caa.org.au/index.html>)

CARE (Care Australia, アメリカ AmeriCare 参照)

MSF (Medicins sans Frontiers,Australia)

(<http://www.msf.org/>)

NCCA (National Council of Churches, Australia)

(<http://www.nccusa.org/>)

RI (Rotary International)

(<http://www.rotary.org/>)

SAA (SalvationArmy)

(<http://www.salvationarmy.org/webdispo.nsf/Aus/>)

CMA (Catholic Mission Australia)

(<http://www.CatholicMission.org.au/prof.htm>)

WVA (World Vision Australia)

(<http://www.worldvision.com.au/>)

CERA (Center for Earthquake Research in Australia)

上記の諸団体の活動が主として紛争処理を含む災害の緊急援助に力点が置かれていたことはアメリカやカナダの場合と同様であるが、1989 年からの IDNDR を契機として事前の防災対策に対しても支援活動を展開してきている（例えば Final Report of the Australian Disaster Conference 1999-Disaster Prevention for the 21st Century- : Canberra 1-3 1999 : <http://www.ema.gov.au/fs-virtuallib.html>）。オーストラリアでは前記の SOPAC もその一例である。逆にいえば IDNDR が発足したことで、自然災害に対しては事前の対策が重要であるという認識が世界的に共通の認識となったということであろう。

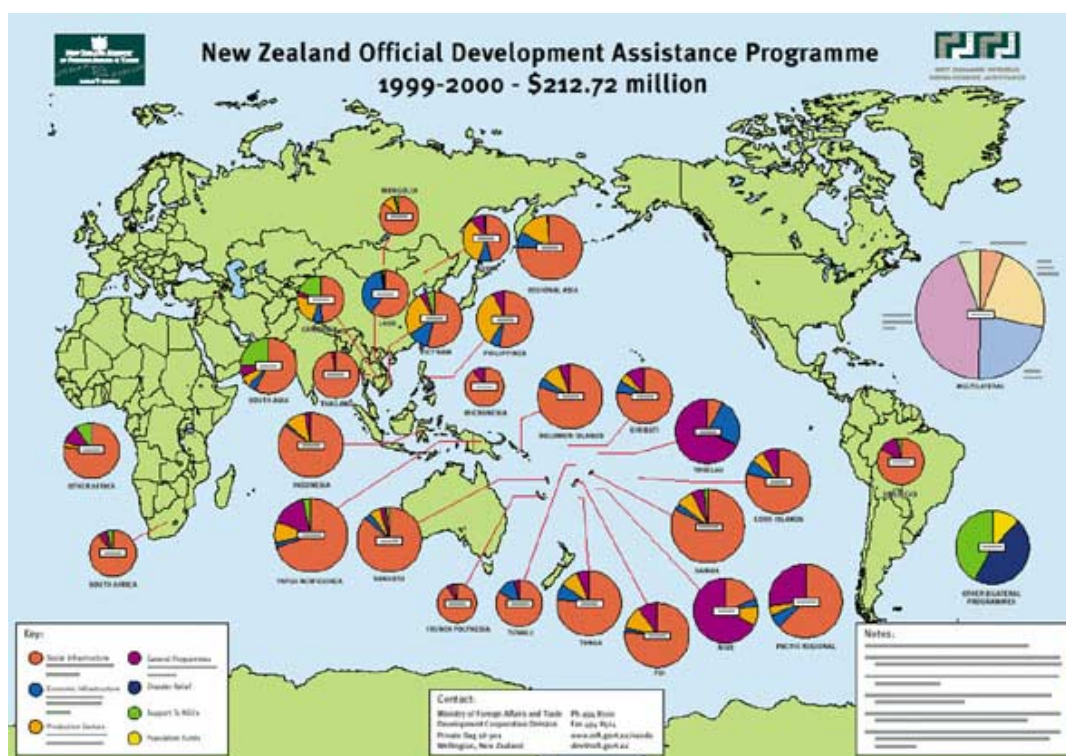
ただし、日本に比べ地震学、地震工学関連の関係者（研究者・実務者）の数が限られていて、支援の内容も地域的期間的に限られたものとならざるを得ない。オーストラリアではある地域なりある目的なりで防災関連の援助計画が立てられる場合は関連委員会が構成されるのが普通の形式である。また地震関連の非政府組織の専門組織としては CERA のみである。CERA はブリスベンとニューカッスルを根拠として活動している地震や津波などの災害危険度評価を専門とする非営利団体で、フィジー、トンガなどの太平洋諸島の防災対策の指導に従事したり AusAID、EMA その他の機関に協力して数多くの

地震防災関連のプロジェクトに参加している。その詳細は Rynn 博士の別添資料 3 に詳しい。

4-4 ニュージーランド

人口が 700 万程度で、財政規模がここ数年 380 億ニュージーランドドル程度（日本円で約 1 兆 5000 億円：為替レートは 1 ニュージーランドドル約 43 円）で推移している（<http://www.treasury.govt.nz/budgets/archive.asp>）ニュージーランドの ODA の総額を日本と比較することあまり意味はないが、近年のニュージーランドの ODA 総額とその対象国を示したのが図 4-4（<http://www.mft.govt.nz/nzoda/nzoda.html>）である。すなわちその総額は 2.1 億ニュージーランドドル、日本円にして約 80 億円強である。カナダやオーストラリアと同様に政府組織としては外務・貿易省（Ministry of Foreign Affairs and Trade: MFAT）傘下の海外援助庁（New Zealand Overseas Development Assistance: **NZODA**）が主管している。また、緊急援助には国防省（Department of Defense : DF）も対応している。

図 4-4 ニュージーランドの海外援助総額とその地域別配分



出所：<http://www.mft.govt.nz/nzoda/pub.html#annrev>

中長期的な防災関連の援助には、実務的には地質および原子力研究所（Institute of Geological and Nuclear Science : **IGNS**）が各種の防災関連の援助計画の立案や相談にあずかっている（Annual Report of IGS: <http://www.gns.cr.nz/images/igns.pdf>）。ただし、地震防災あるいは震災復興へ割り当てる予算が限られた規模ではオーストラリアと同様にその活動は地域的にも取り扱う範囲も限定せざるを得ない。例えばフィジーのスヴァ市を対象とした地震防災のためのパイロット計画（Suva

Earthquake Risk Management Scenario Pilot Project : SERMP) やインドの電力関連の地震危険度調査あるいは香港の建物の自身危険度調査などを小規模ながら実施してきている。

非政府機関や団体の数も限られているが、基金の面では RC (Red Cross)、WV (World Vision)、SA (Salvation Army) などの世界的な組織のニュージーランド支部の協力を得て、地震関連の援助として、大半は緊急援助であるが、ニュージーランド全体で、1995 年以来総額で 1000 万ニュージーランドドル近い援助を実施してきている。この中にはニュージーランドを拠点とする非政府団体として宗教系の Caritas (<http://www.caritas.org.nz>) が著名で、例えば 1998 年 7 月のパプアニューギニアの津波被害には 50 万ニュージーランドドル、1999 年のコロンビアとトルコの地震では合計 3 万 4000 ニュージーランドドルの援助金を支出している。(以上詳細は Rynn 博士の別添資料 3 参照)

4-5 ヨーロッパ諸国

4-5-1 ヨーロッパ諸国の海外援助

ヨーロッパでの DAC 加盟国はアルファベット順にオーストリア、ベルギー、デンマーク、フィンランド、フランス、ドイツ、ギリシャ、アイルランド、イタリア、ルクセンブルク、オランダ、ノルウェー、ポルトガル、スペイン、スウェーデン、スイスおよびイギリスであるが、このうち一般的に地震国といわれるのはギリシャ、イタリア、スペインだけである。既出の DAC 資料から日米を含め

表 4-1 DAC 諸国の ODA 総額の推移 (単位 : US\$ millions ドル)

	1996	1997	1998
AUSTRALIA	1 074	1 061	960
AUSTRIA	557	527	456
BELGIUM	913	764	883
CANADA	1 795	2 045	1 691
DENMARK	1 772	1 637	1 704
FINLAND	408	379	396
FRANCE	7 451	6 307	5 742
GERMANY	7 601	5 857	5 581
IRELAND	179	187	199
ITALY	2 416	1 266	2 278
JAPAN	9 439	9 358	10 640
LUXEMBOURG	82	95	112
NETHERLANDS	3 246	2 947	3 042
NEW ZEALAND	122	154	130
NORWAY	1 311	1 306	1 321
PORTUGAL	218	250	259
SPAIN	1 251	1 234	1 376
SWEDEN	1 999	1 731	1 573
SWITZERLAND	1 026	911	898
UNITED KINGDOM	3 199	3 433	3 864
UNITED STATES	9 377	6 878	8 786
TOTAL DAC	55 438	48 324	51 888

全ての DAC 諸国の近年の ODA 総額の推移を下記に示しておく。

表 4-1 の ODA 総額は既述のように無償・有償あるいは技術協力などの面での全ての支出を含んでいて、これをブレイクダウンして人道的援助、さらには自然災害に対する緊急援助額、あるいは中長期的防災対策援助と細分化することは（不可能ではないが）難しいので地震災害については OCHA などの資料に頼らざるを得ない。特にヨーロッパ地域での地震被害は皮肉なことに 1963 年のスコピエ地震、1977 年のルーマニア地震、1979 年のモンテネグロ地震など非 DAC 加盟国あるいは非援助国に起こっていて、1999 年のギリシャ地震だけが先進国での地震である。ちなみに同年 2 月にはスペインでも小規模ながら地震が起こっている（別添資料 3 の世界の地震参照）。地震被害の頻度が少ないために、1999 年のトルコ地震に対する緊急援助関連を除けば、ヨーロッパの DAC 諸国で地震防災や震災復興の援助計画を特に中長期的なプログラムとして取り上げている国はない。地震以外の自然災害、国際紛争など、人道的な立場での海外援助には多数の例があつて、例えば既述のハリケーン Mitch の被害後の復旧に対して、スウェーデンはニカラグア、ホンデュラス、グアテマラなどでの道路や橋梁に対して財政面での復旧援助を実施している（Reconstruction:<http://www.sida.se/Sida/jsp/Crosslink.jsp/d,401/a,4830>）。

これは緊急援助の範疇での援助で同じスウェーデンについていえば、中長期的なプログラムによる援助額は全体の ODA の 12%程度という報告も瞥見される（Summary Report:<http://www.sida.se/Sida/jsp/Crosslink.jsp/d,410/a,3638>）。

表 4-1 のヨーロッパ諸国のうち、5 億米ドル以上と限定して援助額の大きな国の関連する政府機関を列挙すれば下記のとおりである。いずれの国も国際援助に関する基本方針として貧困、教育、児童、保健など中長期的な世界共通の課題に対する取り組みを全て共通の理念として掲げており、そのための諸組織として完備した体制を有していることを謳っている。特記すべきことはノルウェー、スウェーデンなどの ODA 総額が国民総生産額（Gross National Product : GNP）の 0.8~0.9%を占めていて、国連が目標としている数値の 0.7%を大幅に超えていることであろう（例えば The 2000 Development Aid Budget: <http://odin.dep.no/ud/engelsk/publ/veiledninger/032091-990259/index-dok000-b-n-a.html>）。

以下は精粗はあるが、ホームページには海外援助白書に相当する文献がほとんど開示されているので可能な限りそのアドレスも示したものである。スペイン以外は英語で併記されているものが多い。

イギリス：国際開発省（Department for International Development）

（<http://www.dfid.gov.uk/index.html>）

イタリア：イタリア外務省（Ministero degli Affari Esteri）

（<http://www.esteri.it/eng/foreignpol/coop/index.htm>）

ベルギー：ベルギー外務・海外貿易・国際協力省

（Ministry of Foreign Affairs, Foreign Trade and International Cooperation）

（<http://www.belgium.fgov.be/>）（http://diplobel.fgov.be/default_en.htm）

オランダ：オランダ外務省（Ministerie van Buitenlandse Zaken）

（<http://www.minbuza.nl/ebglisch/menu.asp?Key=257572&Pad=>）

ドイツ：ドイツ連邦経済協力省

(Federal Ministry for Economic Cooperation and Development)

(<http://www.bmz.de>)

フランス：フランス開発庁 (Agence Française de Développement)

([http://WWW.afd.fr/english/publications/rapports annuels 1.cfm](http://WWW.afd.fr/english/publications/rapports%20annuels%201.cfm) : 1997 Annual Report)

スイス：スイス開発協力庁 (Swiss Agency for Development and Cooperation)

(<http://www.deza.admin.ch>,http://194.230.65.134/dezaweb2/frame_ie.as)

スウェーデン：スウェーデン国際協力庁

(SIDA: Swedish International Development Cooperation Agency)

(<http://www.sida.se/Sida/jsp/Crosslink.jsp/d,107>)

スペイン：スペイン国際協力庁 (AECI: Agencia Española de Cooperación Internacional)

(<http://www.aeci.es/Default.asp>)

ノルウェー：ノルウェー国際開発庁 (NORAD: Norwegian Agency for Development)

(<http://odin.dep.no/ud/engelsk/publ/veiledninger/032091-990259/index-dok000-b-n-a.html>)

このうち、ドイツの代表的な国際援助組織を官民あわせて列挙すれば下記のとおりである。日本語の呼称は便宜上その組織の役割から仮につけたものである。

BMZ：ドイツ連邦経済協力省 (Federal Ministry for Economic Cooperation and Development)

(<http://www.bmz.de>)

GTZ：ドイツ技術協力公社 (German Agency For Technical Cooperation)

(<http://www.gtz.de>)

RLC：ドイツ復興金融公庫 (Reconstruction Loan Corporation)

(<http://www.kfw.de>)

DSE：ドイツ国際開発基金 (German Foundation for International Development)

(<http://www.dse.de>)

DED：(GERMAN VOLUNTEER SERVICE)

(<http://www.ded.de>)

CDG：(CARL DUISBERG SOCIETY)

(<http://www.cdg.de>)

DWHH：(GERMAN AGROACTION)

(<http://members.aol.com/iagdwh/index.htm>)

BREAD FOR THE WORLD

(<http://www.brot-fuer-die-welt.de/>)

CARITAS

(<http://www.caritas.de>)

DRK：(GERMAN RED CROSS)

(<http://www.rotkreuz.de>)

MEDICO INTERNATIONAL

(<http://www.medico-international.de/>)

MISEREOR : (Catholic Relief Agency)

(<http://www.misereor.de>)

THW : (TECHNICAL DISASTER RELIEF AGENCY)

(<http://www.thw.org>)

4-5-2 ヨーロッパ DAC 諸国の防災あるいは復興関連の援助

以上のヨーロッパ DAC 諸国が周辺のアルバニア、ブルガリア、ボスニア・ヘルツェゴヴィナ、クロアチア、マケドニア、モルドヴァ、ユーゴスラヴィア連邦、ルーマニアあるいはスロヴェニアといった旧東欧の途上国を対象とした国際援助の分野に地震防災あるいはその復興に関する組織的あるいは中長期的な項目を組み込んだ例は見当たらない。ヨーロッパの周辺途上国に対して何故援助プログラムが組まれないか？ その第 1 の理由としては、1999 年のトルコ地震を除き、近年に大きな地震被害を経験していないことが容易に予想される。20 年以上前のスコピエ、ルーマニアなどの地震被害に対しては、冷戦下にもかかわらず、これら DAC 諸国は二国間援助あるいは国際機関を介しての援助を通じて、将来のための防災対策を立案したり、それに基づいた復興計画を実施したのはすでに日本の例で見たとおりである。

第 2 の理由としては、ソヴィエト連邦崩壊後の、これら途上国の政治的・経済的危機によって、地震防災といった中長期的な援助項目がほかのより優先度が高いと思われる項目を含む環境分野（環境汚染、水資源管理、環境保全など）、社会経済分野（教育・市場経済・人権と民主化体制）などへシフトしたことである。第 3 の理由としてはスコピエ地震以来ヨーロッパ周辺の途上国がアルバニアを除き、各種の研究機関や大学の活動によって耐震関連の基準や防災体制を曲がりなりにも構築してきたと言う事実である。その状況は例えば、4 年に一度開催される世界地震工学会議の発表論文集（The Proceedings of the World Conference on Earthquake Engineering: 1973, Rome-Italy: 1977, New Dehli-India: 1980, Istanbul-Turkey: 1984, San-Francisco-USA: 1998, Tokyo-Japan: 1992, Madrid-Spain, 1996, Acapulco-Mexico, 2000, Auckland-New Zealand）でうかがうことができる。

アジア、アフリカ、中南米などに対しては、防災という特化したテーマで援助計画を立てることは関連の専門家が少ないという理由だけでも DAC 諸国には無理があろう。

ただし、関連援助がゼロという訳ではなく、財政的なあるいは物質的な援助に代わって、地震学や地震工学の学術面で研修コース形式での援助が続けられてはいる。例えばオランダの援助による「耐震設計・耐震構造に関する国際研修」コースやドイツの援助による「地震学・地震データ処理・地震危険度評価の国際研修」コースなどは途上国の学生や研究者・技術者を対象としたもので前者はスコピエ大学で 19 年来継続して、二国間援助の形式で続けられている。また、後者は IDNDR を契機としてはじめられた研修コースである。これらの援助のほとんどは先進国と途上国の研究・教育機関同士の共同プログラムの形式であってそれなりに各種の問題（例えば途上国の政府の許認可の制約、研修機関

の能力など)を有しているようである。

4-5-3 EUおよびNATOの援助

以上のヨーロッパ諸国の各国別の援助は各国の独自の理念に基づくものであるが、ヨーロッパの特殊性として、その他に欧州連合 (European Union) の枠組みの中での欧州委員会 (European Commission) や欧州理事会 (Council of Europe) あるいは北大西洋条約機構 (North Atlantic Treaty Organization: NATO。 <http://www.nato.int/>) 中の「平和のための協力」 (Partnerships for Peace : Pfp) 協定 (<http://www.nato.int/docu/facts/2000/pfp-enh.htm>) などの組織の条約 (Treaty) や協定 (Agreement) に基づく援助を、各国で単独あるいは多くの国と協力して実施しようとするものも多い (このことは南米大陸でも例えば OAS のような地域組織があることを見てきたが、この場合の資金拠出国はアメリカ、カナダなど限られた国であることが異なっている)。

これらの各種の協定のうち、自然および人工災害に対しては 1987 年のモンテ・カルロのヨーロッパ首脳会議において EURO-OPA Major Hazards Agreement が結ばれ、1997 年にはその見直しが行われている (<http://europa.eu.int/>)。この協定は災害に対するヨーロッパ諸国の協力体制の構築を目指したもので各国の事情を考慮して (Open Partial Agreement : OPA) となっている。すなわち Open は加盟国以外のヨーロッパ諸国にも参加を呼びかけていること、Partial は関心ある加盟国のみで構成するという意味である。具体的な実施項目は地震関連では、1.各国での防災センターの設立とそのネットワーク化、2.情報交換、3.教育訓練、4.目的別プログラム (例えば警戒システム) の実施などが盛り込まれている (以上ヨーロッパ関連については Zoran Milutinovic 教授の資料 4 に多くを負っている)。

4-6 国際機関の援助

4-6-1 多くの国際会議

ここでの国際機関は国連傘下の各種の補助機関 (例えば OCHA) や、国連と連携して活動する専門機関 (例えば UNESCO) を意味する。地震防災や震災復興に関する国際機関の途上国への援助としては、UNESCO などによる例を日本の援助の項で触れたが、中長期的なものの実施例は限られていたことは前述のとおりである。国連の機構や財政状況に触れることは本調査の範囲外であるが、会議のみ多くて具体的な施策の実施が少ないのは多くの識者の指摘しているところで、IDNDR についても具体的な活動は各国の実施に委ねられていたのが実情である。このことについては、1989年に国連総会で IDNDR の設置が決議された後、5年後の中間年の 1994年に、日本政府がホスト役となって、この実施状況を検討するために世界の政府首脳・各国の IDNDR 関係組織代表その他多くの関係者を集めて、World Conference on Natural Disaster Reduction-A Safer World for the 21st Century いわゆる横浜サミットを開催したことについて触れておく。この横浜サミットに対するガリ国連事務総長 (当時) のメッセージの表題は The United Nations Mobilize People around the World to Reduce

the Impact of Natural Disasters であり、この表題自身から、発足後 5 年を経てもなお、世界的にも地域的にもあるいは各国においても実効性のある自然災害低減策が確立されていないことがうかがえる (Stop Disasters: Newsletter of IDNDR: Number 17/January~February:IDNDR Secretariat 発行)。

日本では横浜サミットの前にも地震防災に関する国際会議がシンポジウムやワークショップを含めれば数多く開かれ、1991 年には新装なった東京都庁舎で日本 IDNDR 推進本部 (本部長: 内閣総理大臣) と東京都の主催で IDNDR Summit Conference on Earthquake and Natural Disaster Countermeasures いわゆる国際地震サミットが開催されている。多分にお祭り気分の会議で実りの少ないものであったというのが、参加した筆者の感想である。また 1992 年には研究者や技術者を対象として建設省建築研究所の主催で IDNDR International Symposium on Earthquake Disaster Technology が開催されている。

なお、地震防災に関して特記すべき国際的な援助・啓蒙活動として WSSI (World Seismic Safety Initiative) の動きを挙げておく必要がある。この組織は 1993 年に IAEE の下部組織として主として地震工学の研究者によって奉仕的に構成されたもので、そのモットーは、“会議よりは行動を”であり、多くの途上国に自ら出かけてはその国の首脳や実力者との会合を重ねて防災意識の涵養や高揚に尽力している (Seismic Risk Management for Countries of the Asia Pacific Region: Proceedings of the 2nd WSSI Workshop: INCEDE Report-1999-02, Oct. 1999, University of Tokyo)。

4-6-2 RADIUS—国連の援助による都市の防災対策の確立

IDNDR が会議ばかりであるという反省からか国連の IDNDR 事務局は 1996 年から 1999 年にかけて RADIUS 計画を立案遂行し、その成果が大変効果あるものと、第三者によっても公正に評価されているので、ここで簡単に国連 (在ジュネーブ) の正式報告書からその内容を抜粋しておく。

(RADIUS: United Nations Initiative towards Earthquake Safe Cities: UN ISDR 事務局発行、2000.9: <http://www.unisdr.org>)

この計画の具体的な目的は下記の 4 点である。

1. 世界の 9 都市でのケーススタディとして、都市自らが地震被害のシナリオを作成し、それに基づいて行動計画 (アクションプラン) を策定する。
2. ケーススタディに基づいて世界中のどの都市でも活用できるような地震対策のための実用的なツールを開発する。
3. 世界の都市での地震被害リスク比較の調査研究を促進する。
4. 地震対策に関する都市レベルでのネットワークを構築し、情報交換を促進する。

ケーススタディ都市としては 58 カ国からの応募があり、国連からの委託専門家の各種調査を基に最終的にアジア地域から中国のジゴン、インドネシアのバンドン、ウズベキスタンのタシケント、中南米地域からはメキシコのティファナ、エクアドルのグァヤキル、チリのアントファガスタ、アフリカ・中近東・東欧地域からはエチオピアのアディス・アベバ、トルコのイズミール、マケドニアのスコピエが選ばれた。これらの都市は地震対策に意欲はあるものの資金的・技術的には外部からの援

助が必要なため事務局から1都市あたり5万米ドルまたは2万米ドルが提供された。

ケーススタディの狙いはシナリオやプランの策定のプロセス中に下記の項目を実施することでもあった。

1. 地震の危険性に対する市民および政策決定者の意識の向上
2. 当該都市への適切な技術の移転
3. 地震防災対策を策定・実施するための仕組みの構築
4. 市民の関係組織、行政と研究機関の広範な協力の促進
5. 他の都市との世界的な規模での交流の促進

この狙いのため、事務局は計画の最終責任者は市の責任者すなわち市長もしくはその任命者とし、計画の管理・技術支援のため、各地域を担当する国際研究機関を選定し、委嘱した。また各地域に地域アドバイザーを委嘱・配置した。各都市ではRADIUS実行委員会が組織されて各種の作業を進め、国連の委嘱機関や委嘱アドバイザーとの数回の現地協議、ワークショップ、日常的な電子メール主体の通信などにより適宜その進捗や内容が照査された。シナリオの作成終了時、対策案策定終了時には報道関係者を含む市民の多くが集まった報告検討会がほとんどの都市で開催され、最終的に2年余のプロジェクトとして意義ある成果が市民自らのものとして論議された。

ケーススタディのほかに、実用的なツールとして被害評価のコンピュータソフトが開発され、また世界の都市の地震被害リスク調査も実施されて、これに応じた各都市間の諸機関や個人の情報交換も活発化した。これらの成果は有形の成果として国連から無償で世界に提供されている。

4-7 海外の協力者からの報告

本調査に関して海外からの協力を得たうち、アメリカの状況については、Carlos Villacís 博士からの報告のうちアメリカの ODA 関連法案についてのみ掲載することとし、ノートルダム大学の B. F. Spenser Jr. 教授の報告が網羅的なのでこれを全文、原文のまま掲載することとした。Villacís 博士の報告の全文と Rajib Shaw 博士の報告は別添資料としている。

オーストラリアとニュージーランドに関する Jack Rynn 博士の報告、Zolan Miltinovic 教授からのヨーロッパ諸国に関する報告も本文のみとし、別添資料として表や添付資料を掲載しておく。

4-7-1 Carlos Villacís 博士からの報告 (抜粋) :

Brief Chronology and Highlights of the History of U.S. Foreign Assistance Activities

1947

The Truman Administration wins approval of the U.S. Congress for military and economic assistance to Greece and Turkey.

Secretary of State George C. Marshall proposes the outlines of what became known as the Marshall Plan at a speech at Harvard University.

1948

The U.S. Congress enacts the Foreign Assistance Act of 1948 authorizing the 4-year Marshall Plan and the establishment of the Economic Cooperation Agency (ECA).

1951

Mutual Security Act of 1951 passed by U.S. Congress. The ECA was abolished and replaced with the Mutual Security Agency (MSA).

1953

The Foreign Operations Administration replaces the Mutual Security Administration and the Technical Cooperation Administration.

1954

The Mutual Security Act was passed to revise and consolidate all previous foreign assistance legislation. It was the first single piece of legislation to underlay the entire foreign assistance program.

1955

The International Cooperation Agency (ICA) replaces the Foreign Operations Administration. The ICA is less powerful from its beginning because of being placed under the direct authority of the Department of State. The ICA lost many of the authorities and programs its predecessor agencies had held.

1957

Two studies sponsored by the Foreign Relations Committee of the U.S. Senate which deal with the U.S. foreign assistance program: “Administrative Aspects of the U.S. Foreign Assistance Programs” (Brookings Institute) and “Agricultural Surplus Disposal and Foreign Aid (National Planning Association).”

1959

The Draper Committee Report, “Economic Assistance Programs and Activities,” recommends a unified economic/technical assistance agency outside the Department of State; long-range planning on a country-by-country basis; more decentralization to the field; and foreign policy direction and coordination of military, economic and agricultural activities by the Department of State.

Stanford Research Institute suggests founding an Office of Research and Development for Underdeveloped Areas.

Dean Harlan Cleveland of the Maxwell Graduate School of Syracuse University, future assistant secretary of State under President Kennedy, writes “Operational Aspects of U.S. Foreign Policy,” which suggests strengthening the role of Ambassadors and including the ICA in the U.S. Foreign Service.

Before the 1960 Elections

U.S. Senate Foreign Relations Committee sponsors another Brookings Institution report entitled “The Formulation and Administration of U.S. Foreign Policy,” which recommends a foreign assistance department with Cabinet-level status.

Foreign assistance policy becomes an issue in the Kennedy-Nixon presidential race.

The Mutual Security Act of 1960 passes; Senator Fulbright includes Section 604, calling for investigation and findings on the existing structure of foreign assistance, and asks the President to look into the idea of a Point IV Youth Corps.

Act of Bogota enacted; becomes the basis for the Alliance for Progress and highlights the concept of self-help in development assistance.

After the 1960 Elections

The President's Bureau of the Budget (predecessor to the Office of Management and Budget) produces a report known as the "604 Study," which partially answers the requirements of the Mutual Security Act of 1960 and provided a detailed description of the existing foreign aid programs and suggested three sets of alternative organizational arrangements.

A Ford Foundation Paper, "A Suggested Regional Approach to the Administration of U.S. Assistance to Underdeveloped Countries," suggests the consolidation of foreign assistance within the Department of State with an undersecretary responsible for the program the decentralization of foreign assistance to regional units and field missions to adapt aid to distinctive needs, country-by-country.

The "Orbit Paper" produced with the ICA recommends an independent department with cabinet status and the consolidation of the Development Loan Fund, the Export-Import Bank, the ICA, along with greater authority over the Food for Peace program. It calls for a single, strong field organization and planning on a regional (as opposed to a functional or procedural) basis.

1961

John F. Kennedy's first State of the Union Address calls for the establishment of a new, more effective program with greater flexibility for short-term emergencies, more commitment to long-term development; new attention to education at all levels; greater emphasis on recipient nations' role through public administration, taxes, and social justice; orderly planning for national and regional development.

Secretary George Ball's task-force for the reorganization of foreign assistance delivers "Growth to Freedom" memorandum to the President entitled "Plans for the Reorganization of Foreign Assistance, the Decade of Development." The memorandum outlines the deficiencies of the foreign aid programs and conceptual requirements for a new program. In March, President Kennedy sends to Congress a message outlining changes in the foreign assistance programs.

A bill entitled "Act for International Development" is introduced in the U.S. Senate by Senator William Fulbright. The bill passes Congress on September 4. In November, President Kennedy establishes the U.S. Agency for International Development as the executor of U.S. foreign assistance programs.

4-7-2 B.F. Spencer, Jr.教授からの報告 (全文)

以下はビル・スペンサー教授からの報告の全文である。

The United States Federal Government feels that natural disaster reduction is not a domestic matter alone, but rather an international challenge for the United States. For many nations of the world, a single natural disaster can significantly reduce that year's gross national product; in a number of regions, these events recur so frequently that they strain the social fabric, not just the economic growth. The resulting unrest contributes significantly to global geopolitical instability. As a world leader, the United States cannot afford to focus its efforts on disaster reduction on a domestic scale only; it must continue to take a global approach.

The U.S. Agency for International Development is the U.S. federal government agency that implements America's foreign economic and humanitarian assistance programs. Within USAID, the Office of Foreign Disaster Assistance (OFDA) currently has the responsibility for U.S. Government response to international disasters.

U.S. Agency for International Development

USAID's history goes back to the Marshall Plan reconstruction of Europe after World War II and the Truman Administration's Point Four Program. In 1961, President John F. Kennedy signed the Foreign Assistance Act into law and created by executive order USAID. Since that time, USAID has been the principal U.S. agency to extend assistance to countries recovering from disaster, trying to escape poverty, and engaging in democratic reforms.

USAID is an independent government agency that receives overall foreign policy guidance from the Secretary of State. Pursuant to Section 493 of the Foreign Assistance Act of 1961, as amended, the President has designated the USAID Administrator as his Special Coordinator for International Disaster Assistance. USAID works closely with the Departments of State and Defense, other federal agencies, and the private sector to coordinate American relief efforts. For urgent disaster situations, 24-hour coverage is provided by staff to ensure the transmission of accurate information across different agencies, and between the disaster area and important response centers. Satellite communication equipment augments USAID's ability to carefully target emergency assistance and to coordinate with donors and other U.S. Government and non governmental agencies.

The agency works in six principle areas crucial to achieving both sustainable development and advancing U.S. foreign policy objectives: Economic growth and agricultural development; population; health and nutrition; environment; democracy and governance; and humanitarian assistance. Assistance is provided to four regions of the world: Sub-Saharan Africa, Asia and the Near East, Latin America and the Caribbean, and Europe and Eurasia. With headquarters in

Washington, D.C., USAID’s strength is its field offices around the world. USAID works in close partnership with private voluntary organizations, indigenous organizations, universities, American businesses, international agencies, other governments, and other U.S. government agencies. USAID has working relationships with more than 3,500 American companies and over 300 U.S.-based private voluntary organizations.

USAID’s Disaster Relief program objectives are to: (1) meet the critical needs of targeted vulnerable groups in emergency situations; and (2) increase adoption of mitigation measures in countries at risk of natural disasters. To accomplish these objectives, USAID has a well-established management structure and disaster relief experts who can draw on public and private sector resources to respond within 24 to 72 hours after a disaster. USAID fields assessment teams to identify needs and provides disaster assistance response teams (DARTs) to facilitate communication and coordinate appropriate emergency responses. USAID also provides communication support equipment, search and rescue teams, medical assistance, shelter, food, and potable water.

In FY 1999, USAID, through the Office of U.S. Foreign Disaster Assistance obligated nearly \$293 million in response to disasters. USAID responded to a total of 66 declared disasters from Albania to Vietnam in FY 1999. Among the disasters were 17 floods, 2 epidemics, 10 cyclones or hurricanes, and 6 earthquakes.

Office of Foreign Disaster Assistance (OFDA)

OFDA is the office within USAID responsible for providing non-food, humanitarian assistance in response to international crises and disasters. The USAID Administrator is designated as the President’s Special Coordinator for International Disaster Assistance and OFDA assists in the coordination of this assistance. OFDA is a part of the Bureau for Humanitarian Response (BHR), along with the Office of Food For Peace (BHR/FFP), the Office of Transition Initiatives (BHR/OTI), the Office of Private and Voluntary Cooperation (BHR/PVC), and the Office of American Schools and Hospitals Abroad (BHR/ASHA) (see Table 1)

Table 1: Bureau for Humanitarian Response within USAID
Assistant Administrator for BHR (AA/BHR)
Office of American Schools & Hospitals Abroad (BHR/ASHA)
Office of Food for Peace (BHR/FFP)
<ul style="list-style-type: none"> • Development Program Division (BHR/FFP/DP) • Emergency Relief Division (BHR/FFP/ER) • Program Operations Division (BHR/FFP/POD)
Office of Foreign Disaster Assistance (BHR/OFDA)
<ul style="list-style-type: none"> • Disaster Response and Mitigation Division (BHR/OFDA/DRM) • Operations Division (BHR/OFDA/OPS) • Program Support Division (BHR/OFDA/PS)
Office of Transition Initiatives (BHR/OTI)

Office of Program, Policy and Management (BHR/PPM)

- The Director's Team
- Acquisition, Finance, and Budget Team
- Management and Administration Team
- Program Planning, Support, and Evaluation Team

Office of Private and Voluntary Cooperation (BHR/PVC)

- Matching Grant Division (BHR/PVC/MGD)
- Information and Program Support Division (BHR/PVC/IPS)

BHR/OFDA is organized into three divisions, under the management of the Office of the Director. The Disaster Response and Mitigation (DRM) division is responsible for the aid given in response to disasters and crises that occur overseas and the mitigation assistance that is provided to prevent or reduce the impacts of disasters on the people and economic infrastructure in foreign countries. The Operation Support (OS) division provides the necessary technical and logistical support to the office and its programs and personnel overseas. The Program Support (PS) division administers the office's financial and accounting systems which allow for rapid disbursement of funds in order to respond quickly to disasters. BHR/OFDA also maintains a staff of field personnel stationed in critical countries to monitor both disaster response and mitigation activities.

OFDA has a continuing link with the Joint U.S./Japan Panel on Wind and Seismic Effects through the National Institute of Standards and Technology (see Table 2) and has supported the Board on Natural Disasters of the National Academy of Sciences.

Table 2: National Institute of Standards and Technology (U.S. Department of Commerce)

Mission: The National Institute of Standards and Technology's Building and Fire Research Laboratory is dedicated to improving the life-cycle quality of constructed facilities. Its performance prediction and measurement technologies enhance the competitiveness of U.S. industry and public safety. The laboratory studies structural, mechanical, and environmental engineering, fire science and fire safety engineering, building materials, and computer-integrated construction practices.

Activities:

- Performs problem-focused research and development to improve practices, standards, and codes for new and existing buildings and lifelines to reduce loss from earthquakes, extreme winds, and fire.
- Identifies mechanisms of failure and establishes criteria to ensure structural safety.
- Develops technical criteria and methods to strengthen and repair buildings and lifelines.
- Develops methods to predict the behavior of fire and smoke and to enable high performance of fire detection and suppression systems.

OFDA/DRM works with numerous regional institutions, such as the Organization of American States, the Pan American Health Organization, the Asian Institute of Technology's Disaster Preparedness Center, and the World Environmental Center on training and educational programs. These programs have resulted in major improvements in the ability of countries in the Latin

American and Caribbean region and in the Asian and South Pacific regions to manage disaster response and decrease the social and economic impact of natural disasters within their countries, directly supporting the goals of the U.N.'s International Decade for Natural Disaster Reduction (IDNDR).

BHR/OFDA provides humanitarian assistance in response to a declaration of a foreign disaster made by the U.S. Ambassador or the U.S. Department of State. Once an event or situation is determined to require U.S. Government (USG) assistance, BHR/OFDA can immediately provide up to \$25,000 to the U.S. Embassy or USAID Mission to purchase relief supplies locally or give a contribution to a relief organization in the affected country. BHR/OFDA can also send its own relief commodities, such as plastic sheeting, tents, and water purification units, from one of its four stockpiles located in Italy, Guam, Panama, and Maryland. Increasingly, BHR/OFDA deploys short or long-term field personnel to countries where disasters are occurring or threaten to occur, and in some cases, dispatches a Disaster Assistance Response Team (DART).

The largest percentage of BHR/OFDA's assistance goes to relief and rehabilitation project grants managed by Private Voluntary Organizations (PVOs), Non-Governmental Organizations (NGOs) and International Organizations (IOs). Relief projects include airlifting relief supplies to affected populations in remote locations, managing primary health care and supplementary feeding centers, and providing shelter materials to disaster evacuees and displaced persons. A rehabilitation project might immunize dislocated populations against disease, provide seeds and tools to farmers who have been affected by disasters, or drill wells or rehabilitate water systems in drought-stricken countries. BHR/OFDA carefully monitors the organizations implementing these projects to ensure that resources are used wisely and to determine if the project needs to be adapted to changing conditions. The goal of each project is to meet the humanitarian needs of the affected population, with the aim of returning the population to self sufficiency.

The "notwithstanding" clause of Section 491 of the Foreign Assistance Act of 1961 states that no statutory or regulatory requirements shall restrict BHR/OFDA's ability to respond to the needs of disaster victims in a timely fashion. BHR/OFDA follows the standard USAID procedures for routine procurements, but utilizes expedited or modified procedures when necessary to achieve its disaster response objectives. The first principle in disaster response accountability is to ensure that appropriate assistance gets to the neediest victims in time to minimize death and suffering. Procurement and accounting procedures may be expedited, but must include effective systems of internal control.

Not all of BHR/OFDA's assistance goes to providing aid in response to disasters. BHR/OFDA's mitigation staff oversees a portfolio of projects designed to reduce the impact of disasters on victims and economic assets in disaster-prone countries. Over the last several years, BHR/OFDA has invested in a number of programs in partnership with the U.S. Geological Survey (USGS), the Pan American Health Organization (PAHO), the Asian Disaster Preparedness Center, the World

Environment Center, and other offices within USAID. These programs not only enhance a country's capacity to manage its own disasters and hazards, but also promote the transfer of technology, goods, and services between the U.S. and the host country. BHR/OFDA mitigation-related programs range from investing in drought early warning systems that can possibly head off a famine to training local relief workers to manage the response to a disaster more effectively. BHR/OFDA is increasingly investing in programs designed to prevent, mitigate, prepare, and plan for complex emergencies, which are more the result of human actions than of acts of nature.

In adherence to a Congressional recommendation, OFDA is expanding its search and rescue capacity to include two West Coast-based search and rescue teams. This expansion is expected to enhance the overall effectiveness of the search and rescue effort within the Pacific and Asia regions.

Table 3 provides a summary of the budget for international disaster assistance provided by USAID. The FY 2001 request includes \$165 million for disaster relief and mitigation activities and \$55 million for innovative, post-crisis transition initiatives. The first priority in utilizing International Disaster Assistance resources will be given to life-saving, emergency assistance.

Table 3: OFDA Budget for International Disaster Assistance

Program Summary (In Thousands of Dollars)				
	FY 1998 Actual	FY 1999 Actual	FY 2000 Estimated	FY 2001 Request
Office of U.S. Foreign Disaster Assistance Supplement	160,298	160,000 178,038	152,014*	165,000
Office of Transition Initiatives Supplement	30,000	40,000 10,000	50,000	55,000
Total	190,298	388,038	202,014	220,000

The U.S. government has contributed approximately \$11 million in goods, services, and economic assistance in response to the Turkey earthquake, \$4.4 million of which was provided by OFDA during FY 1999. Table 4 a list of non-profit organizations that are providing assistance either directly or through affiliated organizations to the victims of the Turkey earthquake.

Table 4: Non-Profit Organizations Providing Assistance to Victims of the Turkey Earthquake.

Adventist Development and Relief Agency (ADRA) Turkey Earthquake Relief Fund 12501 Old Columbia Pike Silver Spring, MD 20904 Tel: 1-800-424-2372 www.adra.org	Interchurch Medical Assistance, Inc. ACT Turkey Initiative P.O. Box 429, College Avenue New Windsor, MD 21776 410-635-8720 www.interchurch.org
American Friends Service Committee (AFSC) Turkey Earthquake Fund, 1501 Cherry Street Philadelphia, PA 19102 Tel: 1-888-588-2372. www.afsc.org	International Orthodox Christian Charities (IOCC) Turkey Earthquake Relief P.O. Box 630225 Baltimore, MD 21263 Tel: 1-877-803 IOCC (4622) www.iocc.org
American Jewish Joint Distribution Committee (JDC) Turkey Earthquake Relief 711 Third Avenue, 10th Floor, New York, NY 10017 Tel: (212) 885-0832 or (212) 885-0889 www.jdc.org	Latter-day Saint Charities Seventh Floor 50 E. North Temple St. Salt Lake City, Utah 84150 Telephone: 1-801-240-1201
American Jewish World Service Turkish Earthquake Relief Fund 989 Avenue of the Americas 10th Floor New York, NY 10018 Tel: 212-736-2597 or 1-800-889-7146 www.ajws.org	Lutheran World Relief Turkey Earthquake Fund PO Box 17061 Baltimore, MD 21298-9832 Tel: 1-800-LWR-LWR2 www.lwr.org
American Red Cross International Response Fund PO BOX 37243 Washington, D.C. 20013 Tel: 1-800-HELP-NOW Spanish: 1-800-257-7575 www.redcross.org/news	MAP International Turkey Relief Fund 2200 Glynco Parkway PO Box 215000 Brunswick, GA 31521-5000 Tel: 1-800-225-8550 http://www.map.org
Baptist World Aid 6733 Curran Street McLean, VA, 22101, USA Tel: 703 790 8980 www.bwanet.org/bwaid/	Mercy Corps International Turkey Relief Fund, P.O. Box 9 Portland, OR 97207 Tel: 1-800-292-3355 x25 www.mercycorps.org
Brother's Brother Foundation/Turkey 1501 Reedsdale Street, Suite 3005 Pittsburgh, PA 15233-2341 Tel: (412) 321-3160 www.brothersbrother.com	Operation USA Turkey Earthquake Fund 8320 Melrose Ave, Suite 200 Los Angeles, CA 90069 Tel: 1-800-678-7255 www.opusa.org
Catholic Medical Mission Board (CMMB) 10 W. 17th St. New York, NY 10011 Tel: 1-800-678-5659 www.cmmb.org	Presbyterian Disaster Assistance Turkey Relief 100 Witherspoon Street Louisville, KY 40202-1396 Tel: 1-800-872-3283 or (502) 569-5839 www.pda.pcusa.org

Catholic Relief Services Turkish Earthquake Fund PO Box 17090 Baltimore, MD 21203-7090 Tel: 1-800-736-3467 www.catholicrelief.org	Project HOPE 255 Carter Hall Lane Millwood, VA 22646-0255 1-800-544-HOPE (4673) www.projhope.org
Christian Reformed World Relief Committee (CRWRC) Turkey Earthquake Response CRWRC, 2850 Kalamazoo Ave SE, Grand Rapids, MI 49560 Tel: 1-800-55-CRWRC www.crwrc.org	Relief International Relief International Operations 11965 Venice Blvd., Suite 405 Los Angeles, CA 90066 Tel: (310) 572-7770 www.ri.org
Church World Services 28606 Phillips Street PO Box 968 Elkhart, IN 46515 Tel: 1-800-297-1516, ext. 222 www.churchworldservice.org	The Salvation Army World Service 615 Slaters Lane, Alexandria, VA 22313 Tel: (703)684-5528 www.interaction.org/members/sawso.html
Direct Relief International 27 South La Patera Lane Santa Barbara, CA 93117-3251 Tel: 1-800-676-1638 www.directrelief.org	Samaritan's Purse P.O. Box 3000 Boone, NC 28607 phone: (828) 262-1980 fax: (828) 266-1053 e-mail: usa@samaritan.org
Doctors of the World 375 West Broadway New York, New York 10012 Tel: 1-888-817-4357 www.doctorsoftheworld.org	Save the Children Federation 54 Wilton Road Westport, CT 06880 Tel: 1-800-243-5075 www.savethechildren.org
Doctors Without Borders/MSF 6 East 39th Street, 8th Fl. New York, NY 10016 Tel: 1-888-392-0392 www.dwb.org	United Methodist Committee on Relief (UMCOR) Turkey Earthquake Fund 475 Riverside Drive Room 330 New York, NY 10115 Tel: 1-800-554-8583 http://gbgm-umc.org/units/umcor
Episcopal Church, Presiding Bishop's Fund for World Relief Turkey Earthquake Relief PO Box 12043 Newark, New Jersey 07101 Tel: 1-800-334-7626 ext. 5129	U.S. Committee for UNICEF Dept. 1175N P.O. Box 97295 Washington, DC 20090-7295 Tel: 1-800-FOR-KIDS www.unicefusa.org
Food for the Hungry International Turkey Fund 7729 East Greenway Road Scottsdale, AZ 85260 Tel: 1-800-2-HUNGER www.fh.org	United Way International Turkey Earthquake Relief 701 North Fairfax Street Alexandria, Virginia 22314 Tel: (703) 519-0092 uwi@unitedway.org www.unitedway.org/turkey.html
Heart to Heart International Turkey Relief 401 South Clairborn., Suite 302 Olathe, KS 66062 Tel: 1-800-764-5220 www.hearttoheart.org	World Concern Turkey Earthquake Relief Fund 19303 Fremont Ave. North. Seattle, WA 98133 Tel: 1-800-755-5022 www.worldconcern.org
International Aid 17011 W. Hickory St. Spring Lake, MI 49456 Tel: 1-800-251-2502 www.internationalaid.org	World Relief PO Box WRC Dept. 3 Wheaton, IL 60189 Tel: 1-800-535-5433 www.wr.org
	World Vision Turkey Relief Effort World Vision PO Box 9716 Federal Way, WA 98063 1-888-56CHILD (1-888-562-4453) www.worldvision.org

In response to the Taiwan earthquake, OFDA spent \$1.4 million. Table 5 provides a list of private, non-profit agencies that had operations on the ground in Taiwan, or that channeled contributions through local counterpart agencies.

Table 5: Non-Profit Organizations Providing Assistance to Victims of the Taiwan Earthquake.

Adventist Development and Relief Agency (ADRA) Taiwan Earthquake Relief Fund 12501 Old Columbia Pike Silver Spring, MD 20904 Tel: 1-800-424-2372 www.adra.org	The Salvation Army World Service Office Taiwan Relief 615 Slaters Lane, Alexandria, VA 22313 Tel: (703)684-5528
American Jewish World Service 989 Avenue of the Americas 10th floor New York, NY 10018 1-800-889-7146 www.ajws.org	Samaritan's Purse P.O. Box 3000 Boone, NC 28607 phone: (828) 262-1980 fax: (828) 266-1053 www.samaritan.org e-mail: usa@samaritan.org
American Red Cross International Response Fund/Taiwan Earthquake PO BOX 37243 Washington, D.C. 20013 Tel: 1-800-HELP-NOW Spanish: 1-800-257-7575 www.redcross.org/news	United Methodist Committee on Relief (UMCOR) 475 Riverside Dr., Room 330, New York, NY 10115. Tel: (800)554-8583 Taiwan Earthquake Fund www.gbgm-umc.org/units/umcor
Mercy Corps International Dept. NR, PO Box 2669 Portland, OR 97208-2669 Tel: 1-888-556-3729 www.mercycorps.org	World Relief Dept. 3 P.O. Box WRC Wheaton, IL 60189 Tel: 800 535-5433 www.worldrelief.org
Operation USA 8320 Melrose Ave, Suite 200 Los Angeles, CA 90069 Tel: 1-800-678-7255 www.opusa.org	World Vision PO Box 9716 Federal Way, WA 98063 1-888-562-4453 www.worldvision.org

OTHER U.S. GOVERNMENT OFFICES THAT PROVIDE FOREIGN HUMANITARIAN ASSISTANCE

BHR/OFDA is not the only office within the USG that provides humanitarian aid to foreign countries. BHR/FFP is responsible for administering the USG's foreign food aid programs, under U.S. Public Law (P.L.) 480 Title II and III. Title II emergency food aid programs are targeted to vulnerable populations suffering from food insecurity as a result of natural disasters, civil conflict, or other crises. Title II emergency food aid is provided without repayment requirements, whereas Title III food aid is provided as a bilateral loan program to countries in need of assistance. BHR/OTI is the office within USAID responsible for providing assistance to countries that are in a stage of transition from crisis to recovery. Its assistance is designed to facilitate the transition to peace and democracy by aiding in the demobilization of combatants or developing democratic governance structures within the country. Other parts of USAID, such as the geographic bureaus, provide foreign development aid, which often complements humanitarian relief programs or can be regarded as disaster rehabilitation assistance. Countries where sustainable development has been accomplished are less likely to require massive USG humanitarian assistance.

Three of the biggest providers of USG humanitarian assistance are the U.S. Department of Agriculture (USDA), the U.S. Department of State's Bureau for Population, Refugees and Migration (State/PRM) and U.S. Department of Defense's Office of Peacekeeping and Humanitarian Affairs (DOD/PK/HA). USDA works closely with BHR/FFP in allocating surplus food commodities to developing countries, under the Section 416(b) program of the Agricultural Act of 1949. This food aid is often used for emergency feeding programs in countries experiencing

food shortages due to drought or civil strife. State/PRM provides multilateral grants to international relief organizations in response to refugee emergency appeals and contributes to the regular program budgets of organizations such as the U.N. High Commissioner for Refugees (UNHCR). DOD/PK/HA coordinates the utilization of DOD assets for humanitarian assistance overseas. In FY 1998, DOD provided humanitarian assistance in China, Indonesia, Sierra Leone, Vietnam, and the Ukraine. In addition, DOD works closely with OFDA and the U.S. Department of State to coordinate the Denton Program, a USG program that transports humanitarian goods on a space available basis using U.S. military transportation. The U.S. Geological Survey (USGS), the Centers for Disease Control and Prevention (CDC), the U.S. Forest Service (USFS), and the Environmental Protection Agency (EPA) can provide technical assistance in response to disasters and potential hazards overseas.

Although the US Geological Survey (USGS) (see Table6) does not provide disaster assistance, Public Law 101-614 calls for the United States Geological Survey to take the lead in organizing worldwide post earthquake investigations. Earthquake Engineering Research Institute (EERI) and American Society of Civil Engineers also participate under PL 101-614. The US-Japan Panel on Wind and Seismic Effects cooperate on post earthquake investigations as part of a long standing agreement.)

Table 6: U.S. Geological Survey, Department of the Interior
<p>Mission: The U.S. Geological Survey conducts research, transfers technology to end users, and fosters the adoption and implementation of public policies and professional practices to reduce losses from earthquakes, volcanic eruptions, landslides, ground subsidence, geomagnetic storms, floods, droughts, wildfires and biological hazards in the United States and abroad.</p> <p>Activities:</p> <ul style="list-style-type: none"> • Conducts basic research on geologic and geophysical hazards (earthquakes, volcanoes, landslides, ground subsidence, and geomagnetic storms), hydrologic hazards (floods and droughts), and biological hazards (including land cover characteristics for fire-fuel assessments and disease in natural populations). • Performs hazard and risk assessments on national, international, regional, urban, and local scales. • Develops monitoring networks and geographic information systems. • Transfers the technology needed to enhance professional skills and to expand the technical capacity for mitigation, preparedness, emergency response, and recovery. • Organizes and conducts post-disaster investigations.

The US-Japan High Level Forum on Earthquake Policy, established in 1997, collaborates in four areas: a) loss estimation, b) real time warning systems, c) the response and recovery period, and d) technology transfer to developing countries. FEMA has the lead role (see Table7).

Table 7: Federal Emergency Management Agency

Mission: The Federal Emergency Management Agency (FEMA) provides leadership and support to reduce the loss of life and property and to protect our institutions from all types of hazards through a comprehensive, risk-based, all-hazards emergency management program of mitigation, preparedness, response, and recovery.

Activities:

- Provides continuing financial and technical assistance to State and local governments for natural hazard reduction activities.
- Provides post-event grants to State and local governments, after Presidentially declared disasters, for identification of hazards and risks and implementation of hazard mitigation measures.
- Prepares and disseminates information on hazard-resistant building codes and practices.
- Prepares and executes training, education, and public awareness programs in natural hazard reduction.
- Plans and coordinates activities of the National Earthquake Hazards Reduction Program and the National Hurricane Program.
- Coordinates and leads a unified national program for floodplain management.
- Administers the National Flood Insurance Program, including hazard identification, risk assessment, implementation of loss reduction measures, and provision of flood insurance.
- Develops and coordinates the execution of Federal response and recovery plans for disasters.

Finally, these topics will be part of ASCE’s World Congress on Disaster Reduction to be convened in Washington, D. C., on August 19-24, 2001. See Appendices II and III.

American Red Cross

The American Red Cross, a humanitarian organization led by volunteers and guided by its Congressional Charter and the Fundamental Principles of the International Red Cross Movement, will provide relief to victims of disasters and help people prevent, prepare for, and respond to emergencies. There is more than a century of tradition behind the Red Cross emblem as a symbol of humanitarian protection.

While Dunant’s vision was spreading in Europe, the civil war was raging in the United States. Clara Barton went to the battlefield to help care for the wounded. After the war, she went to Europe where she learned of the Red Cross Movement. Upon returning home, she worked to persuade the government to sign the Geneva Conventions.

In 1863 an international conference met in Geneva to try and find means of remedying the ineffectiveness of the care of the wounded on battlefields. One of the recommendations called for volunteer medical personnel of all countries to wear an easily recognized sign: a white armlet with a red cross, sometimes referred to as the “Geneva Cross”.

An international treaty known as the Geneva Convention was signed on August 22, 1864, by the representatives of twelve countries. It established the fundamental principle that “wounded

or sick combatants, to whatever nation they may belong, shall be collected and cared for.” It adopted the Red Cross emblem as the international symbol to identify personnel, material and facilities used to care for the sick and wounded in times of armed conflict. By the terms of the treaty, persons and facilities bearing the symbol are protected from attack.

On May 21, 1881, Barton founded the American Association of the Red Cross. Later, the first chapter was established in Dansville, NY. The next year, the US Senate ratified the Geneva Conventions, allowing America to become the 32nd nation to support the international treaty. In 1900, following years of volunteer service by Barton, the US Congress granted the American Red Cross a charter, making the volunteer organization responsible for providing services to members of the US Armed Forces and relief to disaster victims at home and abroad.

Over the years the protection of the original Geneva Convention has been extended beyond the battlefield to include the shipwrecked, the prisoners of war, and the civilian populations affected by armed conflict.

The International Red Cross and Red Crescent Movement is rushing technical expertise, disaster relief supplies and financial assistance in response to the devastating earthquake which occurred in Turkey early Tuesday morning local time. In support of Red Cross and Red Crescent disaster relief efforts to the earthquake victims in Turkey, the American Red Cross has committed more than \$1 million.

The American Red Cross’ support for the Turkey earthquake included an initial commitment of \$25,000 to the Turkish Red Crescent Society and \$925,000 to the International Federation of the Red Cross and Red Crescent Societies for disaster relief efforts. The American Red Cross sent four members of its International Emergency Response Unit to Turkey to assist the Turkish Red Crescent Society in their relief efforts for victims of the devastating pre-dawn earthquake. Other support includes a commitment of approximately \$3,000 to the Bulgarian Red Cross for their search and rescue efforts in Turkey. The American Red Cross will also provide \$93,020 in comfort kits and high-protein biscuits to aid the victims of this earthquake. The comfort kits include enough personal hygiene items to sustain victims for at least two days. In addition, the American Red Cross is working with the Turkish Red Crescent Society to assist with Family Link needs, setting up communications in Turkey between families and their loved ones separated by yesterday’s earthquake.

The American Red Cross donated \$100,000 to relief operations for the Taiwan earthquake.

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Appendix II: BLUEPRINTS FOR CHANGE—July 29, 2000 DRAFT

“Blueprints for Change” will be used as a global rallying point during the 1ST World Congress on Disaster Reduction, which is planned for Washington, D. C., on August 19-25, 2001. ASCE’s Council on Natural Disaster Reduction (CNDR) is providing leadership for the Congress, in cooperation with a global Congress Directorate of over 1,000 organizations. The Congress will call for a concerted worldwide effort to integrate and accelerate all processes, networking, and technologies related to: 1) sustainability of the built environment to natural and environmental hazards, and 2) disaster technical assistance.

Goal: The goal is to collect 10,000 disaster photographs and to produce and disseminate a series of interrelated authoritative documents (e.g., monographs and companion CD-ROM) that will be called “**Blueprints for Change.**” The “Blueprints for change” will underpin the two overarching themes of the 1ST World Congress: 1) sustainability, and 2) disaster technical assistance, and will form the basis for implementing projects having a common agenda to be conducted simultaneously in all geographic regions of the world during the next five years. Each monograph (and companion CD-ROM) will be updated at the end of this period to include new knowledge and the accomplishments of each regional project. They will be prepared for dissemination via the Internet and in conjunction with the 2ND World Congress on Disaster Reduction being planned for 2005.

Objectives: Each initial “Blueprint” will be unveiled along with the disaster photographs at the 1ST World Congress on Disaster Reduction. The Blueprints will serve as the starting point for global collaboration. Each will contain a comprehensive overview of the topic, an annotated outline of the subtopics that need additional development, a framework for building on existing information systems to create linked knowledge—people databases, and ideas for regional projects to close “gaps in knowledge” and “gaps in implementation.” All of the “Blueprints for Change” will be available for dialogue in designated sessions of the 1ST World Congress in 2001 as well as via the

Internet. Individuals and organizations will be provided with opportunities to “sign up” to contribute to regional projects on each topic at the Congress and via the Internet. Appendices, one for each regional project created at the Congress, will be established as a “place holder” for subsequent contributions on each topic.

To summarize, the “Blueprints for Change” represent a new product stream, which is comprised of two sets of monographs (and companion CD-ROM). These monographs will provide a comprehensive treatment of a set of interrelated topics, which can provide a “seedbed” for new regional conferences, new publications, and new centers of excellence on sustainability and disaster technical assistance. They are separated in time by four years, as noted below:

1. The initial set of monographs” to be presented in 2001 at the 1ST World Congress, will be used to launch a series of “global works in progress.”
2. The final set of monographs will bring the “global work in progress” to a close. The finished product will be available at the 2ND World Congress in 2005.

The topics being considered at this time under the two overarching themes of sustainability and disaster technical assistance are listed below in the table:

STRATEGIC GOAL	SUGGESTEDBLUEPRINTS FOR CHANGE
1. LIVING WITH THE POTENTIAL FOR NATURAL AND ENVIRONMENTAL DISASTERS	Public Awareness and Public Education on the Sustainability the Local Community Emergency Management Disaster Scenarios Based on Maps of the Potential Disaster Agents of Natural Hazards Loss Estimation Real Time and Near-Real Time Information Non-Structural Measures Business/Government Contingency Planning Business/Government Recovery Planning Roles for NGO's in Disaster Reduction
2. BUILDING TO WITHSTAND NATURAL AND ENVIRONMENTAL DISASTERS	Integrated Risk of Civil and Environmental Infrastructure The Ten Most Wanted Solutions for Communities at Risk to Natural Hazards Hazard Zonation, a Policy Tool for Building to Withstand Natural Hazards Codes and Standards Sustainable Infrastructure (lifelines performing the functions of supply, disposal, transportation, and communication) Sustainable Schools and Hospitals
LEARNING AND SHARING NEW KNOWLEDGE FROM NATURAL AND ENVIRONMENTAL DISASTERS	Post-Disaster Studies: Laboratories for Learning Understanding the Interface between Natural and Environmental Hazards The Economics of Reducing Social and Physical Vulnerability Sharing New and Emerging Technologies for Sustainability and Disaster Technical Assistance

Appendix III:ANNOUNCING THE FIRST WORLD CONGRESS ON DISASTER REDUCTION

Marriott Wardman Hotel, Washington, D. C.; August 19-24, 2001

[Contacts: Walter Hays, American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191, 703 295-6054, whays@asce.org and Michael Cassaro, ASCE Council on Natural Disaster Reduction, macass @aye.net and Hilary Inyang, General Chairman, Hilary_Inyang @uml.edu and Riley Chung, Programs, rchung @ erols.com and Oliver Davidson, Public-Private Partners, pripubpart@aol.com and George Housner, Honorary Chairman, ghousner@eerl.caltech.edu]

INVITATION: ASCE's Council on Natural Disaster Reduction (CNDR) and the public- and private-sector organizations forming the Congress Directorate are pleased to announce the 1ST World Congress on Disaster Reduction and to invite you to consider becoming a member of the Congress Directorate. We are seeking a wide range of expertise and organizational participation for the Directorate, which is expected to be comprised of representatives of over 1,000 national and international organizations. As a member of the Directorate, you will have opportunities to contribute to the realization of our goals and objectives and the development and implementation of timely and effective strategies for ongoing projects that will advance sustainability of the built environment and improve the entire continuum of disaster technical assistance.

OVERALL GOAL: The goal of the Congress is depicted by the Banyan tree, which is continually **“putting down new roots in order to grow bigger and stronger.”** The Banyan tree is a metaphor for the worldwide paradigm shift in sustainability and disaster technical assistance, the two overarching themes of the Congress, which will enable every community to move toward sustainable urban development in the face of natural and technological hazards.

GOALS: The goals of the 1ST World Congress are to: 1) serve as a global rallying point, providing new opportunities for ongoing national and international projects designed to build technical and political capacity, forge multinational networks, and serve as a basis for new product streams that will benefit all nations, 2) effect a major paradigm shift for disaster reduction in all disciplines, public- and private-sectors, communities, and nations, and 3) institutionalize the Congress on Disaster Reduction as a recurring event every four years.

OBJECTIVES: The Congress is an integrating mechanism having five interlocking objectives:

- **Create Alliances**, or networks of cooperating organizations, for the worldwide support of research and development capacity that are linked to human capital development;
- Develop a **realistic “road map” for the future**, containing **“Blueprints for Change”** for a

worldwide paradigm shift on disaster reduction;

- Accelerate innovative **development of databases, technology, and resources for sharing and transferring technology**, as needed by both the public and the private sectors, to close “gaps in knowledge” and “gaps in implementation;” focusing on every community and every country where social and physical vulnerability are perceived to be unacceptably high;
- **Identify potential regional projects** and help to generate public and private sector support for them, integrating scientific research and research applications that can have a meaningful role in addressing social vulnerability;
- **Establish Science and Technology Centers of Excellence** having the capacity to develop science-based and community-based solutions to specific urgent problems.

STRATEGIES: The Congress will be implemented on a fast track by building on past accomplishments and capitalizing on new initiatives, collectively represented by activities such as the following:

- The IDNDR legacy,
- The PPP-2000 legacy,
- Project Impact,
- The World Bank Initiative, “ProVention Consortium,”
- The United Nations Disaster Reduction Strategy (ISDR).

Bill Anderson suggests getting a copy of the OFDA’s annual report. A contact is Joe Ponte (jponte@usaid.gov).

Bob Hamilton suggested contacting Jean Weaver at USGS (jweaver@usgs.gov) and Ken Deutsch (deutschk@redcross.org) at the Red Cross.

4 – 7 – 3 Jack Rynn 博士からの報告 (本文)

全文を引用したが、スペースの関係で文中の TABLE は省略している(別添資料 3 参照)。

1. TERMS OF REFERENCE

This Report provides a Literature Survey of information available on Governmental and Non-Governmental aid in the fields of “Earthquake Disaster Mitigation” and “Post Earthquake Disaster Recovery” by organisations in Australia and New Zealand provided to Developing Countries which have suffered from the damaging effects of earthquakes (and, where applicable, associated tsunami) during the last five years 1995-2000.

The Survey comprises four Tasks:

TASK A: Prepare list of organisations engaged in the activities of “Earthquake Disaster

Mitigation” and “Post Earthquake Disaster Recovery” for Developing Countries.

TASK B: Prepare a list of these activities in terms of aid provided by governmental agencies and non-government organisations for Australia and New Zealand.

TASK C: Prepare a list of documents, and collect copies where available, published by such agencies and organisations in reference to the listed activities.

TASK D: Prepare a Summary, based on the analysis of the documents in TASK B, on the present status and possible future trends of such agencies and organisations, to include personal comments and recommendations where appropriate.

2. CONDITIONS FOR DATABASE

This Literature Survey has been undertaken in terms of the strict conditions of:

- (a) Consideration for the natural disaster of EARTHQUAKE only, to include, where applicable, associated devastating TSUNAMI;
- (b) Period of the study from July 1995 through June 2000 (5 years);
- (c) Activities to include both:
 - (i) earthquake disaster mitigation
 - (ii) post-earthquake disaster recovery (also referred to as disaster response and humanitarian relief)
- (d) Information for AUSTRALIA and NEW ZEALAND only for their respective Government Agencies and Non-Government Organisations;
- (e) The Report is to exclude academic pursuits (such as university programs and/or projects and instrumentation programs).

In respect of the Terms of Reference, EXCLUSIONS for this Report include all academic and fundamental research projects (by academic institutions), consultancies by private/commercial companies and reconnaissance reports of visits to devastated earthquake areas (as conducted by New Zealand Government agencies and specialist personnel).

3. INVOLVEMENT OF AUSTRALIA AND NEW ZEALAND ORGANISATIONS IN EARTHQUAKE AID TO DEVELOPING COUNTRIES : JULY 1995 THROUGH JUNE 2000

The involvement of Australia and New Zealand organisations in earthquake disaster activities over the last five years has been primarily directed towards response to the post-disaster situation, in terms of humanitarian overseas (international) assistance through immediate

response, relief aid, recovery and reconstruction efforts. The financial support has been provided by both the national governments (as aid donors) and broad community donations through the many non-government humanitarian and charitable organisations.

Earthquake disaster mitigation programs essentially began as a result of the UN IDNDR initiative during the last decade. The significant activities for Developing Countries have taken place primarily in the South Pacific Region for the small island developing states of the Pacific Island Countries and in South East Asia and the Asian Sub-Continent.

For **Australia**, there has been a long-standing, practical international development program in these regions, through the Australian Government's Australian Agency for International Development (AusAID) (formerly the Australian International Development and Assistance Bureau – AIDAB of the Department of Foreign Affairs and Trade. Their actions, through both bilateral and multilateral donor programs, cover the entire globe. Since 1990, the beginning of IDNDR, the concerned effort has been directed to the South Pacific Region (EMA, 1994, 1999). Non-government organisations, which operate through both Australian Government grants and significant community donations, are also a major player in the response to devastating earthquakes. Recently, private organisations which are specific project-driven (as consultancies) have extended the Australian efforts (for example: Rynn, 2000).

For **New Zealand**, a similar effort to Australia is in operation. The Government, through the New Zealand Development Assistance (NZODA) of the Ministry of Foreign Affairs and Trade, is the major donor in all regions of the world. Non-government organisations play a vital role in humanitarian relief and aid.

Mention should be made, in general terms, of the increasing private sector involvement in pre- and post- earthquake potential disaster areas. [*Note: this element is not detailed in this Report in keeping with the Terms of Reference.*] In response to World Bank and Asian Development Bank initiatives, expertise in earthquake mitigation is being provided through consultancies, primarily engineering projects, based on international tenders for design and consulting studies in developing countries. This relates to both earthquake resistant design and construction of buildings and infrastructure (pre-earthquake) and reconstruction and renewal of devastated areas (post-earthquake: for example following the 17 August 1999 Turkey (Ismir) earthquake). In respect of earthquake mitigation, New Zealand (through the Ministry for Emergency management) is included in disaster relief and other specific projects such as The Earthquake and Tsunami Disaster Mitigation Technologies and its Integration for the Asia-Pacific Region (EqTAP). Several Australian and New Zealand universities have been involved with specific academic/research projects in the earth sciences, engineering and the humanities.

It is noted that there are many cases of long-term involvement in rehabilitation of affected communities and reconstruction of the affected built environment (buildings and infrastructure) by many of both the Government agencies and Non-Government Organisations in Australia and

New Zealand. For several Non-Government Organisations, their operations in humanitarian aid are controlled through their international or major regional headquarters.

These Australian and New Zealand organisations involved in all phases of earthquake disasters are listed in **TABLE 1**.

4. EARTHQUAKE DISASTER MITIGATION

The efforts of both Australia and New Zealand in earthquake disaster mitigation for Developing Countries through the five years 1995-2000 were essentially based upon the United Nations International Disaster for Natural Disaster Reduction (IDNDR) program for 1990-2000 in terms of its goals, targets and themes as guidance for the respective national IDNDR committees.

Details of earthquake disaster mitigation activities for Australia and New Zealand in Developing Countries for the period July 1995 through June 2000 are given in **TABLE 2**.

4.1 For Australia

The Australian Government facilitated and funded projects in the Pacific Island Countries, through EMA (Australian IDNDR Coordination Committee) and AusAID (UNDP-SPO, 2000). These were undertaken by the private consultant Centre for Earthquake Research in Australia (CERA) in Fiji (“Suva Earthquake Risk Management Scenario Pilot Project” SERMP; CERA; 1997, a and b), and the Government agency Australian Geological Survey Organisation AGSO) in collaboration with the South Pacific Applied Geoscience Commission (SOPAC) for the region in earthquake hazard (Shorten et al, 1999) and in geographic information systems (GIS (Granger, 1999). A cooperative program between the International Association for Earthquake Engineering (IAEE) “World Seismic Safety Initiative” (WSSI) and CERA considered earthquake risk assessment (earthquake hazard and vulnerability) and mitigation measures for The City of Suva, Fiji.

Through the Rotary International’s Rotary Foundation Grant, CERA undertook a feasibility study for earthquake and tsunami mitigation for the Kingdom of Tonga in 1998 (Rynn, 1998).

As part of the UN IDNDR RADIUS program (UNOCHA,2000), CERA was involved through Dr. J. Rynn as one of the Regional Advisors for Asia in the cities of Zigong (China), Bandung (Indonesia) and Tashkent (Uzbekistan) in their earthquake scenario and action plan projects. This also involved participation in the RADIUS Symposium held in Tijuana, Mexico, in October 1999.

4.2 For New Zealand

The Institute of Geological and Nuclear Sciences (IGNS), a New Zealand Government Crown Research Institute, was a partner with CERA and the Government of the Republic of Fiji and the UNDHA-SPPO (through their “South Pacific Disaster Reduction Programme” SPDRP) in the earthquake and tsunami mitigation project for the City of Suva, Fiji (CERA, 1997a). Currently, IGNS are also involved in mitigation projects in India and Hong Kong.

The private organisation, Earthquake Hazard Centre (EHC), undertakes dissemination of earthquake information to many developing countries of the world. This represents an information exchange program, unique in the world today.

New Zealand also sends “Reconnaissance Teams” to major devastated earthquake areas to obtain information on the damage and response. This is essentially used for their own (New Zealand) internal purposes (*not detailed in this Report*).

4.3 Tsunami Mitigation

Although devastating tsunamis have a low frequency of occurrence in the developing nations of the Pacific, some efforts have been made during IDNDR to address tsunami mitigation. The SERMP considered “tsunami” because of the devastating 4 September 1953 Suva earthquake and associated local tsunami (CERA, 1997, a and b). In the aftermath of the 17 July 1998 Aitape/Sissano (Papua New Guinea) tsunami, many multinational scientific studies are in progress to obtain multi-disciplinary information. The intention of these studies is to provide necessary information for tsunami mitigation strategies and measures to reduce losses in potential future tsunamis in Pacific Island Countries, and indeed for other tsunami-prone nations in other parts of the world.

5. DEVASTATING EARTHQUAKES IN DEVELOPING COUNTRIES : JULY 1995 THROUGH JUNE 2000

Relevant devastating earthquakes that occurred in Developing Countries in the five year period July 1995 through June 2000 are listed in **TABLE 3**. This information was obtained from the US Geological Survey - National Earthquake Information Center (USGS-NEIC) annual “Significant Earthquakes of the World” files for each of the years 1995, 1996, 1997, 1998, 1999, 2000.

The selection of these earthquakes was based on the following criteria:

1. human death toll of more than 50-100 persons
2. considerable number of persons infirmed

3. major devastation to buildings and infrastructure
4. very large earthquake with moment magnitude MW >7.0
5. other earthquakes where Australia and/or New Zealand provided humanitarian aid in response.

A brief summary of humanitarian aid provided in the post-earthquake disaster response— including financial support, rescue aid, relief supplies and materials — by Australia and/or New Zealand (both Government and Non-Government Organisations) for each specific earthquake is also given in TABLE 3. Note is made where no aid was given for specific earthquake disasters.

6. POST-EARTHQUAKE DISASTER RECOVERY : HUMANITARIAN AID

Details of humanitarian aid provided by Australia and New Zealand for those devastating earthquakes in Developing Countries, as selected for Section 5, is given in **TABLE 4**.

The information was kindly supplied by those organisations as noted in each item in TABLE 4. Monetary values are given in local currencies (contemporary dollars) for Australia (AUD\$) and New Zealand (NZ\$), respectively. Where monetary values were not available, N/S (“Non Specified”) is noted. Where details of the aid and/or relief supplied are not available, “Earthquake Relief” is noted.

6.1 UNDAC Missions

For several major events, the UN Office for Coordination of Humanitarian Affairs (UNOCHA) dispatched UNDAC Missions (United Nations Disaster Assessment and Coordination Teams), as noted in TABLE 4. In those cases noted, Australia provided representatives to the particular UNDAC Team, with funding for AusAID.

7. AVAILABLE DOCUMENTATION

Where known, documents relevant to Earthquake Disaster Mitigation and Post-Earthquake Disaster Recovery for Australia and New Zealand organisations, with reference to TABLES 2 and 4 respectively, are given in Section 7.1 SELECTED REFERENCES following. It is noted that very little documentation is available for the post-earthquake humanitarian aid for either Government Agencies or Non-Government Organisations for both countries. Such information is usually in terms of their private files which only list the earthquakes monetary contribution and a brief description of the aid. Several of the UNDAC Mission Reports could not be obtained or are still in preparation.

7.1 SELECTED REFERENCES

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United Nations Development Programme - South Pacific Office (UNDP-SPO), 2000: “Natural Disaster Reduction in Pacific Island Countries”, Final Report for the Pacific Regional International Decade for Natural Disaster Reduction (IDNDR) 1999-2000 (Compiled by J. Rynn, J. Chung, A. Kaloumaira and A. Planitz), September 2000.

United Nations Office for Coordination of Humanitarian Affairs (UNOCHA), 2000: Final Report for the “RADIUS” Initiative. UNOCHA Publication, Geneva, Switzerland (in preparation).

8. SUMMARY ANALYSIS

This section represents a brief analytical summary of the earthquake activities of the developed nations of Australia and New Zealand in their efforts to alleviate some of the distress caused by earthquake disasters in Developing Countries of the world.

NOTE: The comments expressed in this section are those of the author alone, and as such do NOT necessarily reflect the policies of the Governments or Non-Government Organisations of Australia and New Zealand.

8.1 Present Status (up till June 2000)

The actions of the relevant Government agencies and Non-Government Organisations of both Australia and New Zealand have been committed to assisting Developing Countries at times of devastating earthquakes. This has been both Government policy and the humanitarian approach of many committed Non-Government organisations (Refer to TABLE 4). It is noted that most Non-Government Organisations are parts of international bodies. There has been no discrimination to Developing Countries. Assistance has been willing and immediate, irrespective of the cultural, political or religious situations.

Humanitarian aid, in many forms including financial, material, transport, medical and personnel, has been a policy of the people of Australia and New Zealand for many decades. A significant part of such aid has come directly from the people through community donations to charitable groups. As time has progressed, and the scale of earthquake disasters has increased, the contributions to aid have also increased. Post-disaster situations and the plight of the affected population are today a well-known fact in the minds of the people.

The aspect of earthquake mitigation (pre-earthquake) has only begun to be addressed during the last decade (1990-2000). This is purely a result of the UN International Decade for National Disaster Reduction (IDNDR). However, the impetus is seen to be increasing as we enter the 21st century. This discipline is most significant as it integrates the technical aspects (earth science and engineering) with the humanitarian aspects.

Both Australia and New Zealand are proud to be a recognised part of the international community of Developed Countries who are both sharing and giving their expertise and aid to Developing Countries.

8.2 Future Trends

It is most evident that the world's population is increasing rapidly and, in concert with this, there will be ever-expanding built environment. Consequently, the potential for earthquake and tsunami losses will dramatically increase. As is witnessed today, most of the population of the world and its economic activities are being located in urban areas. Development is also increasing in the coastal areas. The majority of this growth and expansion is occurring in the developing world. It is these communities that have been, and will continue to be, those most affected and those least equipped to cope with disaster.

The developed nations of Australia and New Zealand must heed the call to continue to increase their humanitarian aid activities to Developing Countries in this 21st century. Government policy and community aid groups are certainly taking up this challenge, particularly in humanitarian aid in response to earthquake disasters.

There is also a definite approach being made in earthquake mitigation. In both Australia and New Zealand, the activities of the private sector (usually through projects and/or consultancies) is clearly on the increase. This will ensure a wider expertise is made available to Developing Countries. One example of this, of particular relevance to Developing Countries to Australia and New Zealand, is the involvement of Governments, Non-Government Organisations and the private sector, is in the South Pacific Region. The small island developing states of the Pacific Island Countries have begun to consider the local, regional and international resources available to actively pursue earthquake mitigation strategies and measures (Kaloumaira, 1999; Rynn, 2000; SOPAC, 2000). It is anticipated that other examples globally will eventuate.

This must be a proactive approach—totally accepted by all involved in Australia and New Zealand. It is in accord with the goals of the UN International Strategy for Disaster Reduction (ISDR) wherein the motivation is by the importance of shifting from a culture of reaction to the earthquake hazard to one of risk management and prevention to reduce potential losses.

4-7-4 Zoran Milutinovic 教授からの報告 (本文)

スペースの関係で文中の Appendix は割愛している (別添資料 4 参照)。

1. Coverage

The report is focused on Governmental and/or Non-Governmental Aid in the field of Earthquake Disaster Mitigation and Post Earthquake Disaster Recovery to 'Developing Countries from the region' provided by the Organizations from European DAC Countries, i.e., Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

Under the term 'Developing Countries from the Region' considered are South European Developing countries: 1) Albania; 2) Bulgaria; 3) Bosnia and Herzegovina; 4) Croatia; 5) FR Yugoslavia /Serbia and Montenegro/; 6) Macedonia; 7) Moldova; 8) Romania; and, 9) Slovenia; i.e. only seismic prone countries or countries that might be affected by strong trans-border earthquake action. In other developing countries of Europe (Hungary, Czech Republic, Slovakia, Poland, Latvia, Lithuania, Estonia, etc.) earthquake do not pose a major environmental hazard and, consequently no great attention is focused to this phenomenon.

Other European seismic prone countries are either DAC countries (Greece, Italy, France, Spain and Portugal) or developing OECD countries (Turkey).

2. Terminology

Mitigation: Medium- to long-term actions that consider specific programs intended to reduce the effects of disaster on nation or community. The widely used definition defines mitigation as "Measures aimed at reducing the impact of an environmental (natural or man-made) disaster on a nation or community".

Mitigation activities are broadly classified into structural and non-structural mitigation measures. The typical non-structural mitigation measures are: 1) Development/Improvement of legal framework; 2) Incentives/Government grants or subsidies aimed at promoting mitigation measures, technical assistance, insurance benefits, etc./; 3) Training and education; 4) Public awareness; 5) Institution building; 6) Development/Installation of warning systems; etc. The typical structural mitigation measures are: 1) Construction of structures to resist the forces generated by environmental hazards; and, 2) Strengthen existing structures to render them more resistant against the environmental hazard forces; developed based on 1) adequate site planning; 2) assessment of forces created by the potential environmental hazards; 3) the planning and analysis of structural measures to resist such forces; 4) the design and proper detailing of

structural components; 5) construction with suitable materials; and, 6) good workmanship under adequate supervision.

Recovery: Recovery is the process by which communities and the nation are assisted in returning to their proper level of functioning following a disaster. The recovery process can be very protracted, possibly taking 5-10 years or even more. Three main categories of activities are normally regarded as coming within the Recovery segment, i.e.: 1) Restoration; 2) Rehabilitation; and, 3) Reconstruction.

Typical activities include: 1) Restoration of essential services; 2) Restoration of repairable homes and other buildings/installations; 3) Provision of temporary housing; 4) Measures to assist the physical and psychological rehabilitation of persons who have suffered from the effects of disaster; and 5) Long-term measures of reconstruction, including the replacement of buildings and infrastructure which have been destroyed by the disaster.

3. General Conclusion

There is no systematic and consistent aid or cooperative links on bilateral or multilateral basis in the field of Earthquake Disaster Mitigation and Post Earthquake Disaster Recovery between the European DAC Member Countries and the Developing Countries from the Region.

The reason for such a situation is primarily found in the following:

No one from the developing countries in the region was recently affected by a strong to catastrophic earthquake. Consequently, there is no ongoing recovery program, as well as the needs for establishment or continuation of such, in the region that requires any kind of international assistance (Turkey excluded). The major earthquakes taking place in the region were in 1963 (Skopje, SFR Yugoslavia), 1977 (Vrancea, Romania) and 1979 (Montenegro, SFR Yugoslavia) earthquakes. All of them required extensive international assistance, which was provided either on bilateral basis or through involvement of adequate UN agencies. The other earthquakes (Italy, Greece, SFR Yugoslavia, Romania; and recently Italy, Macedonia and Greece) were managed nationally.

The deteriorated economic conditions in developing countries from the region alleviated the attention from financing and implementation of medium- to long-term earthquake mitigation measures to more vital problems in economic and social domain. Consequently, the larger scale cooperative programs on bilateral financing basis, even if they were possible or offered, would be very difficult for realization over the last decade.

The attention of developed countries (DAC countries included) and of the international financial institutions (EBRD, IMF, World Bank) is much more focused on other environmental problems of developing countries (technological pollution, water resources management, clean production, and other ecological problems), and on problems from socio-economic domain (education, public

information, civic rights and institutions, economy restructuring, free market economy, etc), than on the earthquake phenomena and related problems.

Due to existing legislation for seismic resistant design of building structures, as well as proper analytical and design techniques used for construction of engineering facilities (Albania excluded), the structural mitigation was adequately implemented in Developing countries in the region over past several decades (since 1965 in Macedonia and other countries emerging from former SFR Yugoslavia). Moreover, the countries (Albania excluded) developed specialized, governmental or semi-governmental institutions that have permanently been in charge for development and transfer of adequate know-how, and offices for monitoring and inspection of such construction activities at all stages of their development. Consequently, no substantial international aid in these fields (legislation and know-how – to certain extent) was indispensable.

4. Existing Modes of Cooperation

The primary cooperative efforts between the European DAC Member Countries and the Developing Countries from the region and the other developing countries are in the domain of non-structural mitigation; i.e., training of students, young researchers, professionals and/or scientists in the field of seismology and earthquake engineering. They are organized as:

Bilaterally sponsored courses (For example the “International Twelve-week Course on Aseismic Design and Construction” held in Skopje, Republic of Macedonia; sponsored bilaterally by the Government of The Netherlands and the Government of Republic of Macedonia – which unfortunately, after 19 years of existence, will terminate by the end of year of 2000); or,

Courses or Summer Schools organized as a contribution to IDNDR (The most prominent course of such kind is the “International Training Course on Seismology, Seismic Data Analysis, Hazard Assessment and Risk Mitigation ” held annually in Geoforschungs Zentrum (GFZ) Postdam/Berlin as a major German contribution to the UN IDNDR).

The other, presently used mode of bilateral or multilateral cooperation is cooperation initiated between interested certain academic research groups and/or institutions. These initiatives, if approved, are usually jointly financed by National Science Foundation(s), Ministry(ies) of Science (like in Macedonia), or some institution of adequate rank. The type of the budgetary umbrella depends on the organization of the country.

The typical, and the largest, example of an ongoing activity of such kind is a program on “Strong Earthquakes: A Challenge for Geosciences and Civil Engineering; <http://www-sfb461.physik.uni-karlsruhe.de/>” executed by the Geophysical Institute (Collaborative Research Center /CRC/ 461 of SFB, Germany), Karlsruhe University, Germany in cooperation with the Department of Civil Engineering, University of Bucharest, Romania.

There is a similar example in Macedonia, but of substantially smaller scale. This three year activity focused on “Seismic Monitoring of the Vardar Seismic Zone in Republic of Macedonia” is established as a cooperation between the Institute of Earthquake Engineering and Engineering Seismology, (IZIIS), University “St. Cyril and Methodius” , Skopje, the Seismological Observatory, Skopje (Faculty of Natural Sciences, University “St. Cyril and Methodius” and the Royal Observatory of Belgium (ROB), Brussels.

There are other examples of this category of cooperation in the region. However, they are incidental and depend on the skillfulness of the initiators to attract their ministries for: 1) Spending a part of national budget for problems pertinent to the territory of developing country (ies); and, 2) Convince the ministry [or adequate institution] of developing country to spend a part of the budget [which usually is under severe restrictions] for a problem that may be out of the present priority of the country.

The other forms of cooperation between the developed European countries and the developing countries are within the frame of official European and Euro-Atlantic institutions:

European Commission;
Council of Europe; and,
NATO.

Although they are other opportunities for such cooperation, and the other institutional umbrellas as well, listed three are the most familiar to the author of this report. However, all others fall in the mechanism of one or the other of the listed.

European Commission and NATO cooperative frame offers “project” basis support. The frame considers cooperation between the institutions (or research groups), or consortium of institutions, from eligible developing (or CIS) countries and the countries being associated under the European Union or NATO pact. However, since several years ago, actually the Marmara sea earthquake of 1999, seismic issues were out of significant priority, which was placed dominantly on other environmental and socio-economic issues. Since then, there is an incentive to strengthen the seismic issues, and the following two proposals (known to the author) are under the final stage of preparation:

An Advanced Approach to Earthquake Risk Scenarios with Application to Different European Towns (RISK-UE) (France, Spain, Italy, Greece, Macedonia, Bulgaria, Romania; Coordinator: BRGM-France) to be financed by European Commission (Directorate D.I – Preserving the Ecosystem) and partially by institutions from participating countries; and,

NATO, SfP (Science for Peace) program, under which a large scale program in the field of Earthquake Engineering is under preparation (Turkey, Greece, Macedonia, ...) with a great chance to become operational in the next budget cycle. However, launching of these programs is strongly dependant on the priorities of the budgetary agency, research interest and priorities of institutions involved and their capability and compliancy for caring out such

an activity.

A completely different mechanism of cooperation between developed and developing countries is lounged under Council's of Europe Open Partial Agreement on the Prevention of, Protection Against, and Organization of Relief in Major Natural and Technological Disasters (EUR-OPA Major Hazard Agreement). The Agreement is Open because 'States not members of the Council of Europe and the European Communities may join the group with the unanimous agreement of the member states of the group' and Partial because 'Any member state of the Council of Europe may join this group at any time by notification addressed to the Secretary General of the Council of Europe'. List of EUR-OPA member countries is enclosed in Annex to this report.

The purpose of this agreement is to promote closer cooperation among member states on preventing and responding to natural and technological disasters. Work is directed to policy making and scientific and technical coordination, including development of early warning systems and a significant number of research centers. It should be noted that not all EU Member States are parties to this agreement.

There are three levels of action within the EUR-OPA MHA Agreement:

The political level with the periodical meetings of the Ministers of the Agreement and of the Committee of Permanent Correspondents which determine the cooperation policy corresponding to the objectives;

The scientific and technical level with: 1) the European Warning System; 2) the European Advisory Evaluation Committee for Earthquake Prediction; and, 3) the network of Specialized European and Euro-Mediterranean Centers of the Agreement (Annex B);

The specific programs whose characteristics differ in relation to the activities of the first two levels in that they can call upon voluntary financial contribution.

One of the focal points of the MHA Agreement is the quest for ensuring a direct interest and participation of the member states by fostering the creation of European and Euro-Mediterranean Centers. These structures (Annex B) facilitate a concrete contribution from the different partners, with common objectives, through the implementation of European programs.

Until the end of 2001, the Revised Medium Term Plan 1997-2001 (Annex C), adopted on 7th Ministerial Session of the EUR-OPA Major Hazards Agreement held in Monte-Carlo (24-25 November 1997) sets up the priorities of EUR-OPA MHA Agreement.

While not established to provide the direct aid to developing countries in field of mitigation and management of natural and man-made disasters, the EUR-OPA MHA Agreement provides excellent rationales for long-term cooperation and transfer of know-how among the member countries.

5. Future Trends

Unless the major earthquake affects some of the developing country from the region, it is not expected that the future trends will deviate from the present situation. The cooperation will continue along the described lines, i.e.:

Cooperation among institutions and/or academic research groups under the umbrella of adequate ministry or national science foundation;

Cooperation at project level under the umbrella of well established European or Euro-Atlantic institutions (European Commission, NATO, etc.);

Long-term cooperation under politically established agreements, such as EUR-OPA MHA Agreement; and,

Bilateral or multilateral cooperative efforts in the field of training as well as trainings provides under the auspices of some UN agency in charge.

On European scale, the earthquake related research disaggregated over the last decade. The last large-scale project integrating the cooperative efforts of Mediterranean countries (SEISMED) terminated in late 80's. Although it was executed under the UN umbrella, it was made possible by substantial input of the Government of Italy. Since then, no catalyst of such kind was launched to tie the European research capabilities for defining the strategic development issues of common interest. Considering that the seismicity of Europe is concentrated in the developing countries located in the Mediterranean basin, including Bulgaria and Romania, and the eroded economic potential of these developing countries, the situation cannot be improved without substantial external inputs.

Note: Following the Marmara Earthquake of 1999, the overall cooperation policy and priorities for Turkey are reconsidered, i.e., intensified. For this a though study shall be made based on the relevant data provided by the Government of Turkey as well as the national [Turkey] institutions in charge.

4-8 地震防災・災害復興に関する先進国の援助動向の総括

以上の調査結果は大略下記の 5 項目に総括されよう。

1. 日本を含めアメリカ、カナダ、オーストラリア、ニュージーランドと、環太平洋地震帯に位置する先進諸国では地震という特定の自然災害に対する関心がそれなりに高い。ヨーロッパ諸国はかつてはそれなりの関心があったが、近年は低下していた。
2. 1989年のIDNDR（国際防災旬年）の開始までは、あるいは過去5年ほど前までは、その援助は地震発生後の緊急援助や復興援助に限られていて、中長期的な観点で、地域なり各国・各都市の地

震防災に対する援助を実施してきた例は、日本を除いては数少ない。

3. 近年、特にアメリカにおいて危機管理の観点・費用効果の観点の両面から危険度評価や被害評価あるいはその事前対策などの重要性が認識されてきた。最適な防災対策は最適な災害復興に結びつくからである。日本が主体となって、国連の名の下に実施された RADIUS 計画はその意味で評価が高い。
4. ヨーロッパでも、研究・教育に限定されてはいるが、中長期的な観点で防災対策を国際機関の傘の下で援助していこうという動きが見られる。
5. 各国での政府機関と非政府組織の NGO や企業・非営利団体 (NPO) の結びつきは本調査課題に限らず一般的に極めて緊密な関係にある。日本では制度上、国民性など諸般の事情で、本調査課題に対応する NGO、NPO は現時点では少ない。

5. 本調査研究課題の調査結果の総括と将来への提言

以上のように、地震防災と災害復興に関する中長期的な海外援助の状況と将来の動向を調査検討してきた。調査結果は下記のように要約されよう。

すなわち、現在までの状況をあえて簡潔に要約すれば、

1. わが国は 1970 年代の後半からの経済発展と共に、二国間援助、あるいは国際機関を通じての援助を、質量ともに他国に抜きん出て実施してきている。
2. しかし、もとより、この援助が途上国全てに行き渡るものではなく、依然として多くの国において、その国の防災をあずかる国家機関、重要研究機関ですら、不十分な資源（ヒト、金、モノ）の不足を愁うる状態にある。また途上国では防災対策を市民と共に完備していこうという意識が欠如しているという社会体制上の問題も抱えている。
3. わが国以外の先進国の援助の状況は、多くの場合、地震に対しては緊急援助のみを想定した援助体制であったり、地震防災に関する研究面・研修面のみの限られた分野になっていた。

しかし、過去 10 年ほど前から、上記の状況は下記のように変化しつつあるのが認められた。

1. 1989 年の IDNDR の発足を契機として、最初は徐々に最近急速に、防災対策に対する援助が緊急援助と同様に重要視されるようになってきた。防災対策に対する援助が中長期的に途上国の自助努力を涵養し高揚し、結果的に費用対効果、人材育成効果、市民意識啓蒙などの大きな利点が認識されてきたためである。
2. アメリカのノースリッジ地震、日本の阪神淡路地震あるいは中南米のハリケーン Mitch などの経験で、防災には危険度評価、被害評価および被害対策などの科学技術と同様に早期警戒・避難などの危機管理システムの確立が必要であることが認識された。また一般市民に対する広報・教育・普及などの重要性が認識されてきた。そのため、防災とはいえ、援助する関係分野の範囲が広まってきた。
3. そのため、援助組織として国の関係機関だけでなく、NGO、NPO あるいは企業の関与が広まり、多くの先進国では ODA の遂行のためにも、これら NGO、NPO あるいは企業をパートナーと呼んで、積極的に援助活動への参加を求めようになった。国連に代表される国際機関も同様である（日本ではその数は極めて少なく、国としてもこれら非政府組織等に対する認識はまだ必ずしも高くない）。

以上を考慮して極めて抽象的ではあるが、開発途上国における地震防災・災害復興のための援助として、わが国は下記の 2 大項目をさらに継続増加することを提言する。

- ◆ 必要なインフラストラクチャ（地震学、地震工学など理工学面での諸施設・諸機材、関連する諸施設・諸機材）の建設に対しての財政的援助

- ◆ 必要な危機管理システム（耐震基準、危機管理体制、広報・教育・普及など）の確立に対しての財政的・人的援助

これらの項目の継続と増加の理由は、一言でいえば途上国ではまだまだ不十分であるということに尽きる。

ただし、限られた予算と人員を考えると、下記のような優先度や付属条件をつけることが必要であろう。

- ◆ 地域的にはアジア地域を優先するが、例えば地震観測に対するインフラの建設を援助する場合、全世界的なネットワーク化を視野に入れて費用対効果を高めること。
- ◆ 地震防災が広範囲な分野の関係者を含んでいることを考えると、いわゆるプロジェクト方式の技術協力が、現時点では効果が大きく当該国内での認識度も高いことを考慮すべきである。ただし、相応の費用を要することを考慮すべきである。
- ◆ 一方で、例えば RADIUS で実施したようなケーススタディを JICA の名前で実施することも自助努力の意識の助成という観点と、比較的低廉な費用で可能であるという面で考慮すべきである。
- ◆ 援助の実施機関として現在は JICA が全てを管理しているが、JICA に代わって案件の発掘から計画の立案あるいは実施までを行う非政府組織の活用を考慮すべきである。
- ◆ 現行のわが国内での研修コースは既に必要な体制が確立されているので、さらに継続されるべきである。ただし研修内容は途上国の発展度合いに応じたものとして常に改良を加えるべきである。
- ◆ 国連あるいはその他の国際機関の提言で本調査研究課題に関して何らかの援助計画が発議された場合、わが国としての関与を慎重に考慮すること。

上記の諸条件のうち、最後の項はわが国が本調査課題である地震防災・災害復興に関してどの国よりも大きく、どの国よりも進んだ援助を実施してきた経験から主張することであることをあえて付言する。

別添資料：海外の協力者からの報告

本文中に全文を引用したスペンサー教授の報告を除き、Carlos Villacís 博士の報告全文、Rajib Shaw 博士の報告全文、リン博士の各表、Zoran Milutinovic 教授の添付資料を別添資料として次ページ以下に添付した。

他に、本調査のための資料として建設省建築研究所所有の過去の地震学、地震工学研修生のリスト、新たに作成した途上国からの第12回世界地震工学会議（2000年1月、ニュージーランド、オークランド市）参加者リストと途上国からの RADIUS 国際シンポジウム参加者リストがある。これらのリストは途上国の人材のデータベースとして有用なものと思われるが、量的な制約から割愛した。

FOREIGN EARTHQUAKE DISASTER ASSISTANCE IN THE UNITED STATES

by Carlos A. Villacís, GeoHazards International

SUMMARY

Earthquakes have long been feared as one of nature's most damaging hazards. Earthquakes continue to remind us that nature still can strike without warning and, after only a few seconds, leave casualties and damage in their wake. Therefore, it is important that each person and community take appropriate actions to protect lives and property.

While very significant progress has been made in industrialized countries to reduce the number of deaths caused by earthquakes, earthquake risk is large and growing for people in cities of developing countries. In the last century, four of every five deaths caused by earthquakes occurred in developing countries. Of the people living in earthquake-threatened cities in 1950, two of every three were in developing countries; in the year 2000, nine of every ten are in developing countries.

Although maybe the most important among the effects of an earthquake, loss of lives is not the only loss caused by the disaster. In developing countries, due to the intrinsic weakness of their economies, financial losses caused by earthquakes can have a terrible impact on the normal development process of a whole nation. In 1986, for example, a relatively small (magnitude 5.4) earthquake caused fifteen hundred deaths, ten thousand serious injuries, and damaged one quarter of all homes in San Salvador, El Salvador. The earthquake also caused losses equivalent to 31% of the country's GNP for that year, making it a disaster of national proportions. San Salvador is the political and economic capital of El Salvador. Approximately 50-60% of the country's population live in the metropolitan area of San Salvador.

Earthquakes can also have a huge social impact caused by, among other things, increase of unemployment, relocation of people, and relocation or disappearance of production centers and economic activities. Earthquakes can bring political disruption, too. The 1972 Managua earthquake, for example, is credited with accelerating the political process that culminated in the eviction of dictator Anastasio Somoza. Finally, earthquakes can also cause loss of cultural heritage that may be extremely valuable not only for local people but also for the entire mankind.

In a world where international interdependency grows day by day and global interaction becomes more and more important, it is clear that industrialized nations should assume an active role in assisting less developed countries in improving their preparedness for earthquakes or any other disaster. This assistance, however, should be focused in helping developing nations become self-sufficient and able to manage and reduce their risk. All disaster mitigation and risk management activities should be designed, coordinated, and carried out to promote, and eventually ensure, sustainable development in the nations where they are implemented.

The United States assists developing countries to improve their disaster preparedness through the international disaster assistance program of the US Government as well as through the activities and programs carried out by a number of non-governmental organizations, NGOs.

The international disaster assistance program of the United States provides relief, rehabilitation and reconstruction assistance to victims of natural and manmade disasters. The fiscal-year-2001 budget request for the program is \$220 million. These resources will be used to respond to emergency relief needs and for disaster prevention, mitigation and preparedness activities. They will also finance activities of the Office of Transition Initiatives, begun in 1994, which focuses on the special needs of countries emerging from crises caused by political and ethnic conflict.

The US Government's foreign disaster assistance is coordinated by the US Agency for International Development (USAID) through its Office for Foreign Disaster Assistance (OFDA). Other government agencies, such as the Department of Commerce (DOC), the Federal Emergency Management Agency (FEMA), and the US Geological Service (USGS), have also had an active participation in foreign disaster mitigation programs usually implemented under the management of the USAID. The US Army has also been active in foreign disaster assistance initiatives through, mainly, its Corps of Engineers. The programs, activities, and interaction of these government organizations are explained in detail in the next sections.

Non-governmental organizations (NGOs) have also played an important role in disaster assistance, relief, and risk reduction initiatives implemented in developing countries. Because NGOs are, in general, not allied with any government, political or financial body, they are free to fill gaps left by government organizations with specific philosophies, interests, and agendas. NGOs lend assistance in several fields, such as providing and disseminating disaster and disaster mitigation information, coordinating the efforts of cities and local governments, promoting and implementing risk management and disaster mitigation programs, offering relief and emergency response assistance, supporting sustainable development, and providing health care assistance and education. A list of several organizations in each of the fields mentioned above is presented in the next sections. The list also includes NGOs set up and managed by religious groups as well as organizations whose activities are country or region specific. It has to be noted that this list, although trying to be comprehensive in terms of field of work, does not pretend to be complete. That is not the purpose of this report. There are many other NGOs working on foreign disaster assistance that are not included in this list.

The United States is also the place where many international organizations working actively on international disaster assistance have their headquarters or coordinate their activities. In this report, the activities of the Organization of American States (OAS), the Pan-American Health Organization (PAHO) and the American Red Cross are presented as examples of international organizations based in the US but whose activities benefit and promote sustainable development

of less developed nations.

Finally, a Brief Chronology and Highlights of the History of U.S. Foreign Assistance Activities is presented in an Appendix to illustrate the process followed by the US government to achieve its current level of participation in assisting developing countries to reduce the effects and impact of natural and man made disasters.

To conclude, it has to be mentioned that, in recent years, there has been an important change in the focus of foreign disaster assistance. During most of the history of foreign disaster assistance, the main activity, in which most of the resources were spent, was the provision of relief immediately after the disaster. Foreign assistance concentrated mainly in rescue activities and emergency response. Training and collaboration programs were designed to increase emergency response capabilities.

Recent experiences have shown, however, that prevention and mitigation activities implemented before the disaster occurs are much more cost-effective than emergency response activities. Moreover, prevention and mitigation are crucial to protect the development process of developing countries and to reduce the suffering and losses caused by the disasters. NGOs have been much faster and active in moving from relief programs to prevention activities. Although at a much slower pace, US foreign disaster assistance policies are moving in the same direction. It has to be understood that only an integrated approach to humanitarian assistance—including emergency relief, prevention and proper and planned recovery and reconstruction—will reduce suffering and the need for future aid.

THE NEED FOR FOREIGN DISASTER ASSISTANCE (ACCORDING TO THE US AGENCY FOR INTERNATIONAL DEVELOPMENT, USAID)

The number and intensity of disasters have been rising. Complex emergencies—those involving political and military conflict—are a major contributor to these trends. Although these conflicts fluctuate in intensity, their resolution is very difficult, and relief assistance can be necessary to meet emergency needs of civilian populations for long periods. Over 50% of assistance to complex emergencies goes to African countries. Large populations in Angola, Bosnia, Liberia, Somalia, Rwanda, Burundi and Sudan continue to require assistance to survive.

Parallel to increases in the number of persons affected by complex emergencies, rapid population growth, coupled with inadequate infrastructure support systems in many developing countries, increases the number of people vulnerable to natural hazards such as earthquakes and hurricanes. Urban areas are expanding, with unsafe habitation in many shanty areas and slums. Population pressures also force people to move onto marginally viable and unsafe lands where natural hazards have disastrous impact.

There are three important principles that guide USAID's humanitarian assistance:

1. The emergency response, which focuses on saving lives and reducing suffering, can simultaneously assist the return to sustainable development by supporting local capabilities, providing safety nets, and strengthening human capacity.
2. Prevention and mitigation of the effects of disasters must be built into response programs.
3. Timely, effective assistance to countries emerging from crisis can make the difference between a successful or failed transition.

US GOVERNMENT ASSISTANCE

A Brief History of Foreign Assistance

Source:<http://www.usaid.gov/about/usaidhist.html> See annex for a more detailed chronology.

On September 4, 1961, the Congress passed the Foreign Assistance Act, which reorganized the U.S. foreign assistance programs including separating military and non-military aid. The Act mandated the creation of the U.S. Agency for International Development (USAID), which President John F. Kennedy established by executive order on November 3, 1961.

USAID became the first U.S. foreign assistance organization whose primary emphasis was on long-range economic and social development assistance efforts. Freed from political and military functions that plagued its predecessor organizations, USAID was able to offer direct support to the developing nations of the world.

The agency unified already existing U.S. aid efforts, combining the economic and technical assistance operations of the International Cooperation Agency, the loan activities of the Development Loan Fund, the local currency functions of the Export-Import Bank, and the agricultural surplus distribution activities of the Food for Peace program of the Department of Agriculture.

THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)

(Source:<http://www.usaid.gov/about/>)

The U.S. Agency for International Development is the U.S. federal government agency that implements America's foreign economic and humanitarian assistance programs. USAID's history goes back to the Marshall Plan reconstruction of Europe after World War Two and the Truman Administration's Point Four Program. In 1961, President John F. Kennedy signed the Foreign Assistance Act into law and created by executive order USAID. Since that time, USAID has been the principal U.S. agency to extend assistance to countries recovering from disaster, trying to escape poverty, and engaging in democratic reforms. USAID is an independent federal government agency that receives overall foreign policy guidance from the Secretary of State. The

agency works in six principal areas crucial to achieving both sustainable development and advancing U.S. foreign policy objectives:

- Economic growth and agricultural development;
- Population, health and nutrition;
- Environment;
- Democracy and governance;
- Education and training, and;
- Humanitarian assistance.

The agency provides assistance in four regions of the world:

- Sub-Saharan Africa;
- Asia and the Near East;
- Latin America and the Caribbean, and;
- Europe and Eurasia.

With headquarters in Washington, D.C., USAID's strength is its field offices around the world. USAID works in close partnership with private voluntary organizations, indigenous , universities, American businesses, international agencies, other governments, and U.S. government agencies. USAID has working relationships with more that 3,500 companies and over 300 U.S.-based private voluntary organizations.

SUMMARY OF USAID FISCAL YEAR 2001 BUDGET

(Source: <http://www.usaid.gov/pubs/bj2001/>)

For Fiscal Year 2001, the President is requesting appropriations of \$7,506,000,000 in discretionary funds for USAID-administered programs, including those jointly administered with the State Department. The FY 2001 USAID request includes funding for the Child Survival and Disease Programs Fund (CSD), Development Assistance (DA), the Development Fund for Africa, the Economic Support Fund (ESF), Support for East European Democracy (SEED), and Assistance for the Independent States of the former Soviet Union (Freedom Support Act or FSA).

Budget for International Disaster Assistance

	FY 2000 Appropriation	FY 2001 Request
Budget Level	202,014,000	220,000,000

USAID requests \$220 million for this program, which includes \$165 million for disaster relief managed by the U.S. Office of Foreign Disaster Assistance (OFDA) and \$55 million for transition assistance programs managed by the Office of Transition Initiatives (OTI). First priority in utilizing International Disaster Assistance (IDA) resources will be given to life-saving, emergency

assistance.

Disaster assistance funds are used to improve the capacity of foreign nations to prepare and plan for disasters, mitigate their effect, and teach prevention techniques that increase the skills available locally to respond when disaster strikes. OFDA also fields disaster assistance response teams (DARTs); for example, after Hurricane Mitch, USAID established a DART to coordinate the entire \$300 million U.S. Government relief effort. In Kosovo, \$117 million provided food, shelter, water, sanitation and health services to hundreds of thousands.

OTI funds underwrite transition efforts for countries emerging from complex crises. OTI activities focus on special post-crisis needs not addressed by either emergency relief or long-term development programs. This includes support for demobilization and reintroduction of ex combatants into civilian society; support for justice initiatives including war crimes tribunals; landmine awareness and removal; and community self-help projects that reduce tensions and promote democratic processes and conflict resolution within communities. These efforts are designed to help nations return to the path of sustainable development, prevent crises from becoming more impacted, and minimize the need for future, ongoing humanitarian and disaster relief.

USAID's Role

The President has designated the USAID Administrator as his Special Coordinator for Disaster Assistance. USAID has a well-established management structure and disaster relief expertise which draw on public and private sector resources to enable a response within 24 to 72 hours after a disaster. USAID works closely with the Department of State and the Department of Defense to coordinate American relief efforts. USAID also collaborates closely with other assistance providers in the international community, to coordinate programs and to share the burden of relief costs. U.S. private voluntary organizations (PVOs) are critically important partners and play an essential role in raising resources, providing assistance, and implementing programs. USAID's partnerships with U.S. PVOs and nongovernmental organizations, United Nations agencies and other donors include support for mechanisms to facilitate the exchange of information among international partners and to prevent duplicative efforts.

In 1996, for example, USAID responded to 22 floods, 3 epidemics, 3 cyclones, 6 earthquakes, 2 droughts, 3 typhoons, 2 tornados, 2 winter emergencies, a fire, a mudslide, a terrorist attack and a volcanic eruption in countries around the globe. USAID responded to numerous complex emergencies as well, such as those in Sudan, Rwanda and Bosnia-Herzegovina. In Bosnia-Herzegovina, World Health Organization surveys show that USAID programs there have contributed to the avoidance of mass starvation through targeted food aid and support for local coping mechanisms.

International Disaster Assistance: the Office of U.S. Foreign Disaster Assistance (OFDA)

Contact information:

Ronald Reagan Building, Room 8.06A,
1300 Pennsylvania Avenue, Washington D.C., 20523.
Tel: (202) 661-9314; fax: (202) 347-0315;
WWW: <http://www.usaid.gov/ofda/>

When disasters strike in foreign countries, the response within USAID is led by the Office of U.S. Foreign Disaster Assistance (OFDA), which is a part of the Bureau for Humanitarian Response (BHR). When a disaster occurs, U.S. representatives to that country determine if there is a need and desire for U.S. assistance. If U.S. assistance is requested, OFDA and the U.S. Embassy and USAID Mission in the affected country determine what OFDA assets are best suited for the specific disaster. OFDA can respond to disasters through grants to the embassy in the affected country, through grants to non-governmental and international organizations working with affected people (such as the United Nations and the International Committee of the Red Cross), and by fielding a team to the affected country to assess the situation and work with relief personnel in the field. OFDA also maintains stockpiles of relief commodities such as plastic sheeting, tents, and water purification units, which it can provide quickly when needed.

In order to reduce the impact of disasters when they strike, OFDA also sponsors development of early warning system technology and in-country and international training programs designed to strengthen the ability of foreign governments to rely on their own resources.

The Office of US Foreign Disaster Assistance identifies two principal strategic objectives to guide OFDA's programs worldwide. The first objective, *Critical Needs Met of Targeted Vulnerable Groups in Emergency Situations*, aims to strengthen OFDA's own ability to respond to immediate relief needs. The second objective, *Increased Adoption of Mitigation Measures in Countries at Risk of Natural and Man-made Disasters*, emphasizes the development of capacities of national governments and OFDA to prevent and prepare for disaster impacts. (IRG report, 2000)

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

500 C Street, S.W.,
Washington, DC 20472
WWW: <http://www.fema.gov>

The Federal Emergency Management Agency, FEMA, is an independent agency of the federal

government, reporting to the President. Since its founding in 1979, FEMA's mission has been to reduce loss of life and property and protect the US's critical infrastructure from all types of hazards through a comprehensive, risk-based, emergency management program of mitigation, preparedness, response and recovery. Regarding earthquakes, FEMA's work and assistance is based on the principle that although earthquakes cannot be prevented, current science and engineering provide tools that can be used to reduce their damage. Science can now identify, with considerable accuracy, where earthquakes are likely to occur and what forces they will generate. Engineering provides design and construction techniques so that buildings and other structures that can survive the tremendous forces of earthquakes.

FEMA's Earthquake Program has four basic goals directly related to the mitigation of hazards caused by earthquake. They are to:

- Promote Understanding of Earthquakes and Their Effects
- Work to Better Identify Earthquake Risk
- Improve Earthquake-Resistant Design and Construction Techniques
- Encourage the use of Earthquake-Safe Policies and Planning Practices

When assisting foreign countries or regions, usually in close collaboration with OFDA, FEMA bases its activities on the emergency management system used in the United States, modifying it to reflect country-specific administrative and management structures.

DEPARTMENT OF COMMERCE. Relief, Reconstruction, and Development Initiatives.

(Source: <http://www.doc.gov/rrdi/overview.htm>)

In foreign disaster assistant activities, the Department of Commerce (DOC) works closely with other U.S. government agencies, including the U.S. Agency for International Development, which provides agency oversight for the U.S. government's foreign assistance initiatives. The DOC is usually involved in reconstruction activities. For these initiatives, the DOC proposes to work in five areas of hazard reduction: gauging and monitoring infrastructure reconstruction; forecasting and early warning systems; disaster preparedness and response; sustainable and resilient communities; and economic revitalization. (IRG Report, 2000) The DOC has been closely involved, for example, in reconstruction initiatives in Central America after the devastation brought by Hurricane Mitch. Responding to the Administration's request for emergency aid, in May 1999 Congress approved nearly \$1 billion in emergency supplemental funding for Central America and the Caribbean to help these devastated regions rebuild their infrastructure and economies.

Relying on the resources of three of its bureaus—the National Oceanic and Atmospheric Administration (NOAA), the International Trade Administration (ITA), and the National Institute of Standards and Technology—the Department of Commerce has begun a two-year

initiative to assist Guatemala, El Salvador, Honduras, Nicaragua, and the Dominican Republic in the following areas:

- Improving and developing much-needed hydro-meteorological forecasting and early warning systems and promoting sustainable uses of natural resources;
- Encouraging and supporting economic revitalization; and
- Assisting with the construction of stronger, more disaster-resilient housing

US GEOLOGICAL SURVEY (USGS)

A bureau of the U.S. Department of the Interior

WWW: <http://www.usgs.gov/>

The USGS's implementation plans for activities in support of disaster prone areas include five areas of assistance: expanded access to basic data and information; damage assessment, hazard mitigation, and management of natural resources; development and distribution of integrated data products; training and capacity building; and development of regional strategies for mitigation, preparedness, and response to natural hazards.

In collaboration with USAID, the USGS has been actively involved in emergency response and disaster mitigation programs in several countries and for different natural hazards. One example of USGS's participation in foreign disaster assistance is the Volcano Disaster Assistance Program (VDAP). This program was jointly developed in 1986 by the U.S. Geological Survey (USGS) and the U.S. Office of Foreign Disaster Assistance (OFDA) to assist developing countries in mitigating volcanic crises. VDAP's mission is to mitigate volcanic hazards by rapid response to volcano unrest and developing crises, and by building infrastructure in developing countries through international workshops and training courses. Over the years, VDAP has proven to be a cost-effective means to save lives and mitigate volcanic hazards.

U.S. ARMY CORPS OF ENGINEERS (USACE)

Directorate of Civil Works, Readiness Branch, CECW-OE

20 Massachusetts Avenue, N.W.,

Washington, DC 20314

Tel: (202) 761-0409

WWW: <http://www.hq.usace.army.mil>.

CENTER OF EXCELLENCE IN DISASTER MANAGEMENT AND HUMANITARIAN ASSISTANCE

Tripler Army Medical Center

1 Jarrett-White Road (MCPA-DM),

Tripler AMC, HI 96859-5000

Tel: (808) 433-7035; fax: (808) 433-1757

WWW: <http://coe-dmha.org>.

NON-GOVERNMENTAL ASSISTANCE

Non-governmental organizations (NGOs) have played an important role in disaster assistance, relief, and risk reduction initiatives implemented in developing countries. Because NGOs are, in general, not allied with any government, political or financial body, they are free to fill gaps left by government organizations with specific philosophies, interests, and agendas.

NGOs lend assistance in several fields:

- providing and disseminating disaster and disaster mitigation information,
- coordinating the efforts of cities and local governments,
- promoting and implementing risk management and disaster mitigation programs,
- offering relief and emergency response assistance,
- supporting sustainable development, and
- providing health care assistance and education.

A list of several organizations in each of the fields mentioned above is presented in the next sections. The list also includes NGOs set up and managed by religious groups as well as organizations whose activities are country or region specific. It has to be noted that this list, although trying to be comprehensive in terms of field of work, does not pretend to be complete.

DISASTER AND DISASTER MITIGATION INFORMATION CENTERS

Volunteers In Technical Assistance (Vita), Disaster Information Center

1600 Wilson Boulevard, Suite 500,

Arlington, VA 22209.

Tel: (703) 276-1800; fax: (703) 243-1865

WWW: <http://www.vita.org>.

For the past four decades, VITA has defined its mission as empowering the poor in developing countries to manage their own development. VITA has sought to achieve this objective by

providing developing countries with the technical information that enables them to feed their young, minister to community health needs, increase the productivity of their businesses, generate steadier and higher incomes, and preserve their country's natural resource—in essence, information that has improved the quality of lives. VITA disseminates information using publications, and electronic mail system, and bulletin board network, an electronic newsletter, and a disaster information service. VITA's most recent additions to its information dissemination techniques are the communications technologies of digital radio networks and a low-earth orbiting satellite system, VITAsat.

CITIES AND LOCAL GOVERNMENTS PROGRAMS

International City/County Management Association (ICMA)

777 North Capitol Street, N.E., Suite 500,
Washington, DC 20002-4201
Tel: (202) 962-3680; fax: (202) 962-3500;
WWW: <http://www.icma.org>.

Around the world, nations are turning to local government as the most efficient and effective way to meet the challenges that face citizens. ICMA, through its work with USAID, has established itself as an organization with an active and skilled membership that is uniquely prepared to help.

Numerous United States agencies and international organizations have awarded ICMA contracts, grants, and cooperative agreements to produce practical solutions for increasingly complex urban issues in more than 40 countries around the world. ICMA is a registered Private Voluntary Organization with the U.S. Agency for International Development.

US cities, working through ICMA's International Resource Cities Program (IRCP), have partnered with over 30 different cities in Bulgaria, India, South Africa, Vietnam, Serbia, Nigeria, Guatemala, Paraguay, Zimbabwe, Russia, Swaziland, Jordan, Mexico, Kazakhstan, Kyrgyzstan, El Salvador, Montenegro, and Indonesia.

RISK MANAGEMENT AND DISASTER MITIGATION

GeoHazards International (GHI)

200 Town & Country Vlg.
Palo Alto, CA 94301
Tel: (650) 614 9050; Fax: (650) 614 9051
WWW: <http://www.geohaz.org>

GeoHazards International (GHI) was established in 1993 as a non-profit organization in the U.S.A., with the mission to reduce death and suffering caused by earthquakes in the world's most vulnerable communities. The Board of Trustees of GHI is comprised of earthquake specialists with strong ties to academic, business, and government sectors of the United States and Japan. GHI is classified as a public charitable [501(c)(3)] organization with the U.S. Internal Revenue Service.

Since 1992, GHI has helped develop earthquake risk management programs in Quito (with some USAID funding), Kathmandu (with partial OFDA support), and Tijuana, Guayaquil, and Antofagasta (with UN support). In particular, GHI has conducted the following activities in all or some of these cities:

- Assessed urban earthquake risk
- Helped create and establish local earthquake risk management organizations
- Raised awareness of earthquake risk and how to manage it
- Developed risk management Action Plans
- Surveyed the vulnerability of public schools
- Conducted demonstration retrofit projects
- Established a national Earthquake Safety Day

Disaster Preparedness & Emergency Response Association (DERA)

P.O. Box 280795,

Lakewood, CO 80228;

Tel: (970) 532-3362; fax: (970) 532-2979

WWW: <http://www.disasters.org>.

The Disaster Preparedness and Emergency Response Association, International (DERA) was founded in 1962 to assist communities worldwide in disaster preparedness, response and recovery, and to serve as a professional association linking professionals, volunteers, and organizations active in all phases of emergency preparedness and management. DERA helps disaster victims by improving communications and logistics, reducing risks and mitigating hazards, conducting community preparedness workshops, and by sponsoring preparedness and response projects. For example, DERA sponsors a school awards program that encourages students to study the effects of disasters and conduct projects to reduce hazards and improve community preparedness. Additionally, DERA sponsors research projects and the publication of emergency management guides, case studies, technical assessments, and preparedness materials.

EMERGENCY RESPONSE

International Association of Emergency Managers (IAEM)

(formerly National Coordinating Council on Emergency Management)

111 Park Place,

Falls Church, VA 22046-4513.

Tel: (703) 538-1795; fax: (703) 241-5603;

WWW: <http://www.iaem.com>

The International Association of Emergency Managers (IAEM) is a non-profit educational organization dedicated to promoting the goals of saving lives and protecting property during emergencies and disasters.

Relief International (RI)

11965 Venice Blvd., Suite 405,

Los Angeles, CA 90066

Tel: (310) 572-7770; fax: (310) 572-7790

WWW: <http://www.ri.org/>

Relief International (RI) is a humanitarian non-profit agency that provides emergency relief, rehabilitation, development assistance and program services to vulnerable communities worldwide. RI is solely dedicated to reducing human suffering and is non-political and non-sectarian in its mission. After the Turkey earthquake of 1999, for example, RI dispatched 3 successive relief teams over a 40- day period that conducted over 5,560 clinical treatments. Currently, RI is working on building up to 10 prefabricated structures to serve as temporary clinics and schools in the earthquake region to assist those who are without services as a result of the earthquakes.

Association Of Contingency Planners (ACP)

7044 S. 13th Street,

Oak Creek, WI 53154.

Tel: (801) 553-1010

WWW: <http://www.acp-international.com>.

EMPOWERMENT AND SUSTAINABLE DEVELOPMENT

Operation USA

8320 Melrose Ave., Suite 200

Los Angeles, CA 90069

Tel: (323) 658 8876; fax: (323) 653 7846

WWW: <http://www.opusa.org>

At Operation USA the primary focus has always been the well-being of children. For twenty years it has responded to international disasters with immediate humanitarian aid and long term development projects. Communities both in the United States and abroad have received support in addressing problems relating to natural and manmade disasters and chronic poverty through the creation of sustainable health, nutrition and disaster response programs. The organization provides essential materials, training, advocacy and financial support for such programs. As an example of this organization's assistance during earthquake disasters, it can be mentioned that Operation USA responded to both the Turkish earthquakes and the earthquake in Taiwan with emergency supplies, recovery equipment and a commitment to long term community rebuilding.

United Way International (UWI)

701 North Fairfax Street

Alexandria, Virginia 22314-2045

Tel: (703) 519 0092; fax: (703) 519 0097

WWW: <http://www.unitedwayinternational.org>

United Way International (UWI) is an independent not-for-profit organization whose purpose is to strengthen communities around the world by mobilizing local leaders to organize professionally managed charitable efforts that identify and sustain local human needs. United Way International, created in 1974 to respond to requests for assistance from the international United Way community and other community-wide fund-raising organizations, assists communities outside the U.S. in forming new United Way organizations or improving existing ones.

Mercy International-U.S.A., Inc. (Mercy or MI-USA)

44450 Pinetree Drive Suite 201

Plymouth, Michigan 48170-3869

Tel: (734) 454 0011; fax: (734) 454-0303

WWW: <http://www.mercyusa.org>

Founded in 1986, Mercy-USA for Aid and Development, Inc. (MUSA), formerly Mercy International-USA, Inc., is a non-profit relief and development organization dedicated to alleviating human suffering and supporting individuals and their communities in their efforts to become more self-sufficient. MUSA's projects focus on improving health and promoting economic and educational growth around the world. MUSA is registered with the United States Agency for International Development (USAID) and has Consultative status with the United Nations Economic and Social Council (ECOSOC)

HEALTH CARE

AmeriCares

161 Cherry Street

New Canaan, CT 06840

Tel: (203) 486 4357; fax: (203) 966 6028

WWW: <http://www.americares.org>

AmeriCares is a private non-profit disaster relief and humanitarian aid organization that provides immediate response to emergency medical needs—and supports long-term healthcare programs - for people around the world, irrespective of race, creed, or political persuasion. Since its inception in 1982, AmeriCares has responded with emergency medicines, medical supplies, and nutritional items to victims of disasters, famine and war. To date, AmeriCares has provided more than \$2 billion in relief supplies to over 130 countries worldwide, including the United States.

Direct Relief International (DRI)

27 South La Patera Lane

Santa Barbara, CA 93117

Tel: (805) 964 4767; fax: (805) 681-4838

WWW: <http://www.directrelief.org>

Direct Relief is a non-profit medical assistance organization based in Santa Barbara, California. For more than fifty years, DRI has been sending shipments of medical supplies and equipment worldwide to help the victims of civil unrest, natural disasters and chronic poverty. Direct Relief ships more than \$50 million dollars a year (wholesale value) in medical and pharmaceutical goods. DRI has sent medical assistance to 150 countries, including various areas of the United States. The most extensive recent programs have involved aid to earthquake victims in Turkey, to the Central American communities devastated by 1998's Hurricane Mitch, and to the Kosovo

refugees in Albania and Macedonia.

International Medical Corps (IMC)

11500 W. Olympic Blvd., Suite 506

Los Angeles, CA 90064

Tel: (310) 826 7800; fax: (310) 442-6622

WWW: <http://www.imc-la.com>

International Medical Corps is a global humanitarian non-profit organization dedicated to saving lives and relieving suffering through health care training and relief programs. Established in 1984 by volunteer United States doctors and nurses, IMC is a private, voluntary, nonpolitical, nonsectarian organization. Its mission is to improve the quality of life through health interventions and related activities that build local capacity in areas worldwide where few organizations dare to serve. By offering training and health care to local populations and medical assistance to people at highest risk, and with the flexibility to respond rapidly to emergency situations, IMC rehabilitates devastated health care systems and helps bring them back to self-reliance.

Life for Relief & Development

17300 West 10 Mile Rd

Southfield, MI 48075

Tel: (248) 424 7493; fax: (248) 424-8325

WWW: <http://www.lifeusa.org>

Life for Relief and Development (formerly International Relief Association) is a nonprofit organization founded in 1993. Life for Relief and Development is dedicated to alleviating human suffering around the world regardless of race, color or cultural background. This global organization strives to offer humanitarian, health, educational, social and economic services to victims of natural disasters, wars, hunger and more through a variety of programs. Since its inception, Life has offered services and assistance to hundreds of thousands. It also provides millions of dollars worth of much needed medicines and medical equipment annually to those in areas deprived of medical attention. Life is also involved in building, renovating and administering many schools and rehabilitation centers.

Project HOPE (The People-to-People Health Foundation)

255 Carter Hall Ln

Millwood, Va. 22646

Tel: (540) 837 2100; fax: (540) 837 1813

WWW: www.projhope.org

It is Project HOPE's mission to achieve sustainable advances in health care around the world by implementing health education programs, conducting health policy research, and providing humanitarian assistance in areas of need, thereby enhancing social and economic development and contributing to human dignity. Storms, floods, earthquakes, volcanoes and man-made disasters often require a rapid and effective response to the medical needs of affected populations. Project HOPE maintains a basic palletized emergency response module in its Distribution Center, located in Winchester, Virginia. The module contains such items as antibiotics, IV fluids and injectables, bandages and surgical knives and supplies. Within hours, this disaster assistance pack can be loaded aboard an aircraft for immediate dispatch to the site of an emergency, virtually anywhere in the world.

RELIGIOUS GROUPS

Adventist Development and Relief Agency (ADRA)

12501 Old Columbia Pike

Silver Spring, MD 20904

Tel: (301) 680 6380; fax: (301) 680 6370

WWW: <http://www.adra.org>

Lutheran World Relief (LWR)

700 Light Street

Baltimore, MD 21230

Tel: (410) 230 2800; fax: (410) 230 2882

WWW: <http://www.lwr.org/>

American Friends Service Committee (AFSC)

1501 Cherry St.

Philadelphia, PA 19102

Tel: (215) 241 7000; fax: (215) 241 7275

WWW: <http://www.afsc.org/>

COUNTRY OR REGION SPECIFIC

American-Nicaraguan Foundation (ANF)

848 Brickell Ave.

Miami, FL 33131

Tel:(281) 364 7665; fax: (281) 364 1040

E-mail: anfusa@aol.com

INTERNATIONAL ORGANIZATIONS

Organization of American States (OAS)

Unit of Sustainable Development and Environment,

Natural Hazards Project

1889 F Street, N.W., Washington, DC 20006

Tel: (202) 458 6295; fax: (202) 458 3560

WWW: <http://www.oas.org/>

The Unit for Sustainable Development and Environment (USDE) is the principal technical arm of the OAS General Secretariat for responding to the needs of member states on issues relating to sustainable development within an economic development context. Technical issues addressed by the USDE include trans-boundary management of water resources, reduction of vulnerability to natural hazards, public participation in decision-making, climate change/sea-level rise, coastal-zone management, renewable energy planning, and biodiversity.

Formed in 1963, the Unit has evolved from one dealing with natural resource surveys on a national scale, to the group whose principal charge is to follow up on the mandates of the UNCED-Agenda 21 and those emanating from the Bolivia Summit of the Americas on Sustainable Development. The Unit currently manages a portfolio of US\$44 million, primarily from externally generated funds, with staff based at headquarters in Washington, D.C., and with field-based consultants. One of the principal roles of the Unit is to assist member states of the OAS in the preparation of projects for loan consideration by bilateral and multilateral agencies and other interested non-governmental, academic, and research organizations.

Natural Hazards

Since 1983 the Unit for Sustainable Development and Environment (USDE) has been providing technical support to reduce vulnerability to natural hazards and thus avoid disasters or mitigate their effects. Its activities — assistance with policy formulation, hazard and vulnerability assessments, training in disaster mitigation techniques, and formulation of mitigation measures

for development investment projects—are generally carried out as part of ongoing technical cooperation programs with collaborating national and regional institutions. The USDE has also undertaken a series of sector-specific vulnerability reduction studies at a national level for agriculture, education, energy, transportation, trade corridors, tourism, and urban lifelines, with collaboration from the World Bank, IDB, Caribbean Development Bank, the UNDP and other UN specialized agencies, and bilateral donors, such as USAID's support for the Caribbean Disaster Mitigation Project (CDMP) and the Post-Georges Disaster Mitigation (PGDM) project.

Pan American Health Organization (PAHO)

525 23rd Street, N.W.,

Washington, DC 20037

Tel: (202) 974-3520; fax: (202) 775-4578

WWW: <http://www.paho.org/english/ped/pedhome.htm>.

PAHO's assistance in foreign disaster preparedness, disaster mitigation, and disaster response is conducted through its Emergency Preparedness and Disaster Relief Coordination Program. The program includes the following main activities:

Disaster Preparedness

Institutional strengthening supports the creation and enhancement of disaster programs in the Ministries of Health and promotes coordination with other sectors involved in disaster reduction.

Training, in the form of several hundred courses and workshops in all aspects of disaster management, benefits thousands of disaster professionals each year. In addition, PAHO encourages universities throughout the region to incorporate a formal disaster curriculum.

Preparation and distribution of training materials is a cornerstone of the Program, and over the last 20 years, PAHO has produced an enormous body of technical material (publications, slide and video programs). Print copies are available free of charge to disaster institutions in the Member Countries and electronic copies are on the Internet for worldwide access.

Disaster Mitigation

Investing in preparedness can be futile if, when a disaster occurs, a hospital or health center collapses at exactly the moment they are most needed. Mitigation measures can't stop a disaster from occurring, but they can reduce its impact. PAHO works at the highest level in the Member Countries to ensure that disaster mitigation becomes an integral part of national disaster reduction programs.

Disaster Response

When disaster strikes, PAHO works with the affected country to identify and assess needs and damages in the health sector, including water and sanitation systems; set up an

epidemiological surveillance system; monitor drinking water quality; mobilize aid from the international donor community; and manage donated relief supplies. PAHO captures and publishes the most important lessons learned in these situations to improve disaster management in the future.

American Red Cross (ARC)

National Headquarters

Disaster Services Department

8111 Gatehouse Road, Second Floor

Falls Church, VA 22042.

Tel: (703) 206-8672; fax: (703) 206-8835

WWW: <http://www.redcross.org>.

ANNEX

Brief Chronology and Highlights of the History of U.S. Foreign Assistance Activities

1947

The Truman Administration wins approval of the U.S. Congress for military and economic assistance to Greece and Turkey.

Secretary of State George C. Marshall proposes the outlines of what became known as the Marshall Plan at a speech at Harvard University.

1948

The U.S. Congress enacts the Foreign Assistance Act of 1948 authorizing the 4-year Marshall Plan and the establishment of the Economic Cooperation Agency (ECA).

1951

Mutual Security Act of 1951 passed by U.S. Congress. The ECA was abolished and replaced with the Mutual Security Agency (MSA).

1953

The Foreign Operations Administration replaces the Mutual Security Administration and the Technical Cooperation Administration.

1954

The Mutual Security Act was passed to revise and consolidate all previous foreign assistance

legislation. It was the first single piece of legislation to underlay the entire foreign assistance program.

1955

The International Cooperation Agency (ICA) replaces the Foreign Operations Administration. The ICA is less powerful from its beginning because of being placed under the direct authority of the Department of State. The ICA lost many of the authorities and programs its predecessor agencies had held.

1957

Two studies sponsored by the Foreign Relations Committee of the U.S. Senate which deal with the U.S. foreign assistance program: “Administrative Aspects of the U.S. Foreign Assistance Programs” (Brookings Institute) and “Agricultural Surplus Disposal and Foreign Aid (National Planning Association).”

1959

The Draper Committee Report, “Economic Assistance Programs and Activities,” recommends a unified economic/technical assistance agency outside the Department of State; long-range planning on a country-by-country basis; more decentralization to the field; and foreign policy direction and coordination of military, economic and agricultural activities by the Department of State. Stanford Research Institute suggests founding an Office of Research and Development for Underdeveloped Areas. Dean Harlan Cleveland of the Maxwell Graduate School of Syracuse University, future assistant secretary of State under President Kennedy, writes “Operational Aspects of U.S. Foreign Policy,” which suggests strengthening the role of Ambassadors and including the ICA in the U.S. Foreign Service.

Before the 1960 Elections

U.S. Senate Foreign Relations Committee sponsors another Brookings Institution report entitled “The Formulation and Administration of U.S. Foreign Policy,” which recommends a foreign assistance department with Cabinet-level status. Foreign assistance policy becomes an issue in the Kennedy-Nixon presidential race. The Mutual Security Act of 1960 passes; Senator Fulbright includes section 604, calling for investigation and findings on the existing structure of foreign assistance, and asks the president to look into the idea of a Point IV Youth Corps. Act of Bogota enacted; becomes the basis for the Alliance for Progress and highlights the concept of self-help in development assistance.

After the 1960 Elections

The President's Bureau of the Budget (predecessor to the Office of Management and Budget) produces a report known as the "604 Study," which partially answers the requirements of the Mutual Security Act of 1960 and provided a detailed description of the existing foreign aid programs and suggested three sets of alternative organizational arrangements. A Ford Foundation paper, "A Suggested Regional Approach to the Administration of U.S. Assistance to Underdeveloped Countries," suggests the consolidation of foreign assistance within the Department of State with an undersecretary responsible for the program the decentralization of foreign assistance to regional units and field missions to adapt aid to distinctive needs, country-by-country. The "Orbit Paper" produced with the ICA recommends an independent department with cabinet status and the consolidation of the Development Loan Fund, the Export-Import Bank, the ICA, along with greater authority over the Food for Peace program. It calls for a single, strong field organization and planning on a regional (as opposed to a functional or procedural) basis.

1961

John F. Kennedy's first State of the Union Address calls for the establishment of a new, more effective program with greater flexibility for short-term emergencies, more commitment to long-term development; new attention to education at all levels; greater emphasis on recipient nations' role through public administration, taxes, and social justice; orderly planning for national and regional development. Secretary George Ball's task-force for the reorganization of foreign assistance delivers "Growth to Freedom" memorandum to the President entitled "Plans for the Reorganization of Foreign Assistance, the Decade of Development." The memorandum outlines the deficiencies of the foreign aid programs and conceptual requirements for a new program. In March, President Kennedy sends to Congress a message outlining changes in the foreign assistance programs. A bill entitled "Act for International Development" is introduced in the U.S. Senate by Senator William Fulbright. The bill passes Congress on September 4. In November, President Kennedy establishes the U.S. Agency for International Development as the executor of U.S. foreign assistance programs.

U.S. Government Assisted Projects in the Field of Earthquake by Rajib Shaw

1) Policy and Mandate

The U.S. Agency for International Development/Bureau for Humanitarian Response/Office of Foreign Disaster Assistance (OFDA) has the responsibility to provide foreign disaster assistance and to coordinate the U.S. Government's (USG) response to disasters abroad. The authority to provide and coordinate USG foreign disaster assistance comes from the Foreign Assistance Act of 1961, as amended. OFDA's mandate is to save lives, alleviate suffering, and reduce the economic impact of disasters. OFDA does so by:

Providing rapid, appropriate response to requests for assistance.

Providing sufficient warning of natural events that cause disasters.

Fostering self-sufficiency among disaster-prone nations by helping them achieve some measure of preparedness.

Enhancing recovery from disasters through rehabilitation programs.

OFDA carries out these responsibilities in coordination with the government of the affected country, other donor governments, international organizations, UN relief agencies, and private voluntary and nongovernmental organizations. The primary responsibility for disaster relief rests with the government of the affected country. OFDA responds only when the U.S. Chief of Mission in an affected country has declared a disaster based on the following criteria:

The magnitude of the disaster exceeds the affected country's capacity to respond.

The affected country has requested or will accept USG assistance.

It is in the interest of the USG to provide assistance.

OFDA's assistance is intended to supplement and support, not replace, the efforts of the government of the affected country. It is the responsibility of the U.S. Chief of Mission to make certain that USG assistance is appropriate and based on priority humanitarian needs. To ensure that the response is appropriate, timely, and cost effective, OFDA provides technical assistance through damage and needs assessments. That initial technical assistance may come in the form of an OFDA Assessment Team whose objectives are to:

Assess the scope of the disaster's damage.

Assess the initial needs of victims.

Report to the Chief of Mission and OFDA headquarters in Washington (OFDA/W) on the situation and needs.

Recommend follow-up USG relief actions, if any.

Assessment Team findings and recommendations must be clear, concise, timely, practical, and operational. They become the blueprints for USG decision making and planning for disaster response activities.

Disaster relief that OFDA furnishes may take the form of OFDA relief commodities, services, transportation support, or grants to relief organizations.

If a more rapid or continuous response is necessary, OFDA will deploy a Disaster Assistance Response Team (DART), which provides specialists trained in a variety of disaster relief skills to assist the U.S. Chief of Mission and the USAID Mission (if present) with the management of the USG response to a disaster. As with an Assessment Team, DARTs continue to assess and report on the disaster situation and recommend follow-up actions. But DARTs also:

Provide an operational presence on the ground capable of carrying out sustained response activities.

Develop and, upon approval, implement OFDA's field response strategy based on the DART mission objectives.

Coordinate the movement and consignment of USG relief commodities.

Coordinate USG relief efforts with the affected country, other donor countries, relief organizations and, when present, military organizations.

Fund relief organizations (when delegated the funding authority).

Monitor and evaluate USG-funded relief activities.

The Team Leader of a DART reports to the Chief of Mission as the lead USG person in the affected country to ensure that USG disaster relief efforts are coordinated and to OFDA/W to ensure that OFDA's mandate and mission are being carried out.

OFDA views disaster relief provided to victims in the immediate aftermath of a disaster within the context of long-term recovery and development activities. Disasters can provide the opportunity to reduce the vulnerability of the affected country to future disasters. Rehabilitation and reconstruction, properly formulated, can do much to introduce mitigation techniques to protect against the effects of future disasters.

OFDA stands ready to continue the American tradition of providing humanitarian relief for disaster victims worldwide.

2) How does the US Government provide humanitarian aid?

OFDA is the office within USAID responsible for providing non-food, humanitarian assistance in response to international crises and disasters. The USAID Administrator is designated as the President's Special Coordinator for International Disaster Assistance and OFDA assists in the coordination of this assistance. OFDA is part of the Bureau for Humanitarian Response (BHR), along with the Office of Food For Peace (BHR/FFP), the Office of Transition Initiatives (BHR/OTI), the Office of Private and Voluntary Cooperation (BHR/PVC), and the Office of American Schools and Hospitals Abroad (BHR/ASHA). BHR/OFDA is organized into three divisions, under the management of the Office of the Director. The Disaster Response and Mitigation (DRM) division

is responsible for the aid given in response to disasters and crises that occur overseas and the mitigation assistance that is provided to prevent or reduce the impacts of disasters on the people and economic infrastructure in foreign countries. The Operation Support (OS) division provides the necessary technical and logistical support to the office and its programs and personnel overseas. The Program Support (PS) division administers the office's financial and accounting systems which allow for rapid disbursement of funds in order to respond quickly to disasters. BHR/OFDA also maintains a staff of field personnel stationed in critical countries to monitor both disaster response and mitigation activities.

BHR/OFDA provides humanitarian assistance in response to a declaration of a foreign disaster made by the U.S. Ambassador or the U.S. Department of State. Once an event or situation is determined to require U.S. Government (USG) assistance, BHR/OFDA can immediately provide up to \$25,000 to the U.S. Embassy or USAID Mission to purchase relief supplies locally or give a contribution to a relief organization in the affected country. BHR/OFDA can also send its own relief commodities, such as plastic sheeting, tents, and water purification units, from one of its four stockpiles located in Italy, Guam, Panama, and Maryland. Increasingly, BHR/OFDA deploys short or long-term field personnel to countries where disasters are occurring or threaten to occur, and in some cases, dispatches a Disaster Assistance Response Team (DART).

The largest percentage of BHR/OFDA assistance goes to relief and rehabilitation project grants managed by Private Voluntary Organizations (PVOs), Non-Governmental Organizations (NGOs) and International Organizations (IOs). Relief projects include airlifting relief supplies to affected populations in remote locations, managing primary health care and supplementary feeding centers, and providing shelter materials to disaster evacuees and displaced persons. A rehabilitation project might immunize dislocated populations against disease, provide seeds and tools to farmers who have been affected by disasters, or drill wells or rehabilitate water systems in drought-stricken countries. BHR/OFDA carefully monitors the organizations implementing these projects to ensure that resources are used wisely and to determine if the project needs to be adapted to changing conditions. The goal of each project is to meet the humanitarian needs of the affected population, with the aim of returning the population to self sufficiency.

The notwithstanding clause of Section 491 of the Foreign Assistance Act of 1961 states that no statutory or regulatory requirements shall restrict BHR/OFDA ability to respond to the needs of disaster victims in a timely fashion. BHR/OFDA follows the standard USAID procedures for routine procurements, but utilizes expedited or modified procedures when necessary to achieve its disaster response objectives. The first principle in disaster response accountability is to ensure that appropriate assistance gets to the neediest victims in time to minimize death and suffering. Procurement and accounting procedures may be expedited, but must include effective systems of internal control.

Not all of BHR/OFDA assistance goes to providing aid in response to disasters. BHR/OFDA

mitigation staff oversees a portfolio of projects designed to reduce the impact of disasters on victims and economic assets in disaster-prone countries. Over the last several years, BHR/OFDA has invested in a number of programs in partnership with the U.S. Geological Survey (USGS), the Pan American Health Organization (PAHO), the Asian Disaster Preparedness Center, the World Environment Center, and other offices within USAID. These programs not only enhance a country capacity to manage its own disasters and hazards, but also promote the transfer of technology, goods, and services between the U.S. and the host country. BHR/OFDA mitigation-related programs range from investing in drought early warning systems that can possibly head off a famine to training local relief workers to manage the response to a disaster more effectively. BHR/OFDA is increasingly investing in programs designed to prevent, mitigate, prepare, and plan for complex emergencies, which are more the result of human actions than of acts of nature.

3) How a Disaster is Declared?

The Chief of the U.S. Mission or the U.S. Department of State declares a disaster in the affected country once it is determined that the event or situation warrants a USG response. A disaster cannot be declared without a request from the host country for USG assistance. A disaster declaration allows the Chief of Mission to allocate up to \$25,000 (the “Ambassador's Authority”) for host country relief efforts. BHR/OFDA releases the \$25,000 Ambassador's Authority from its International Disaster Account (IDA) and provides the Mission with guidance for determining the need for additional USG assistance. BHR/OFDA sends assessment teams to disaster sites when needed.

4) Emergency Relief

Recent examples of emergency relief by USAID/OFDA.

1997

Iran

On February 28, 1997, an earthquake measuring 5.5 on the Richter Scale struck the Sarab and Meshkin region’s of Iran’s Arzebil province, 420 km northwest of Tehran. A second earthquake measuring 5.1 on the Richter Scale hit the region on March 2. The two earthquakes were followed by more than 500 aftershocks.

More than 76,000 people were affected by the two earthquakes, which killed nearly 1,000 people, injured 2,600, and left thousands of people homeless. The earthquakes damaged some 12,000 houses and destroyed another 8,500. Approximately 600 classrooms were destroyed by the

earthquakes, as well as 19 medical centers, 19 communications centers, 118 religious centers, and 60 public water systems. Roads and power lines suffered heavy damage, and over 160,000 livestock died as a result of the earthquakes. Survivors faced below-freezing temperatures, deep snow, and marauding wolves. The harsh conditions impeded the efforts of relief workers.

The Government of Iran (GOI) provided assistance, as did the Iranian Red Crescent Society, which distributed tents, blankets, heaters, and food supplies. On March 4, the GOI issued an appeal for international assistance. On March 4, Acting Assistant Secretary for the Near East and Asia David Welch issued a disaster declaration for northwest Iran and requested that BHR/OFDA work in conjunction with other USG agencies, U.N. agencies, and international organizations to assess the extent of the disaster and provide appropriate assistance. On March 11, BHR/OFDA provided a \$25,000 grant toward the IFRC appeal to purchase much-needed humanitarian supplies.

(BHR/OFDA Assistance \$25,000)

Iran

An earthquake measuring 7.1 on the Richter Scale struck Khorasan Province in eastern Iran on May 10, 1997. The earthquake caused the worst damage in the villages surrounding Birjan and Qaen, two major population centers 850 km southeast of Iran's capital, Tehran. The earthquake killed 1,568 people. Estimates of the number of people injured ranged between 2,600 (according to the Government of Iran) and 5,059 (according to the Iranian Red Crescent Society). More than 19,000 houses were damaged as a result of the earthquake and 12,000 were completely destroyed, leaving some 60,000 people homeless. The earthquake damaged 315 km of water distribution networks in 44 villages, as well as 405 km of power networks and 50 substations. In addition, 55 medical facilities, 74 cooperatives, and 217 businesses were destroyed, and some 42,000 cattle died.

On May 11, the IFRC issued an appeal for funds to help victims of the earthquake. On May 12, Acting Assistant Secretary for the Near East and Asia David Welch declared a disaster in northeast Iran and requested that BHR/OFDA respond to the IFRC appeal with a grant of \$100,000. On May 14, BHR/OFDA provided a \$100,000 grant to IFRC for food, winter clothing, hygiene items and tents, blankets, and other items for survivors.

(BHR/OFDA Assistance \$100,000)

Peru

On November 12, 1996, an earthquake measuring 6.4 on the Richter Scale occurred in the Pacific Ocean, approximately 350 km south-southeast of Lima. The earthquake affected the cities of Ica, Palpa, Nazca, Caraveli, Lucanas, and Huancavelica. It was the worst earthquake to strike the region since 1940, killing 17 people and injuring 624, and destroying 4,417 homes and damaging

10,926. Nearly 9,000 families (more than 81,900 people) were affected. Four hundred six schools and 22 health centers were either destroyed or damaged. Adobe houses destroyed by the earthquake in Bella Union, Acari Province. Photo by Alejandro James, BHR/OFDA/LAC.

On November 14, 1996, U.S. Ambassador Dennis C. Jett declared a disaster in Peru. BHR/OFDA responded by providing \$25,000 through the U.S. Embassy in Lima to the National Institute of Civil Defense. These funds were used for the local purchase of tents, blankets, and other emergency relief supplies. BHR/OFDA dispatched a regional advisor on November 16, 1996, to assess the situation and to make recommendations for additional relief assistance.

Rubble of homes in Nazca, Ica Province. Photo by Alejandro James, BHR/OFDA/LAC. Based upon the regional advisor assessment, BHR/OFDA arranged an airlift of 14,688 sq. ft. of plastic sheeting to address the emergency shelter needs of approximately 56,000 displaced persons. The total cost of this airlift was \$201,920, including transport and commodities. On November 22, 1996, BHR/OFDA provided an additional \$50,000 to meet local surface transportation and handling costs to ensure the timely distribution of these shelter materials.

(BHR/OFDA Assistance \$276,920)

1998

China

On January 10, 1998, an earthquake measuring 6.2 on the Richter Scale struck the Shanyi and Zhanbei counties in China's Hebei Province, 200 km north of Beijing. The earthquake affected more than 470,000 people, including 47 people killed, 11,440 injured, and 44,000 left homeless. The earthquake also caused the collapse of 103,000 homes and damage to tens of thousands of buildings. Survivors confronted both sub-freezing temperatures and a fresh snowfall on January 13, which complicated the delivery of emergency relief supplies.

The Government of the People's Republic of China (GOPRC) responded to the earthquake, as did the Chinese Red Cross, which set up field hospitals and distributed warm winter clothing, blankets, and medicines. In response to an appeal for international assistance from the GOPRC, U.S. Ambassador James R. Sasser issued a disaster declaration on January 13. BHR/OFDA responded by providing \$25,000 through the U.S. Embassy in Beijing to UNDP for disaster relief assistance. In addition to the BHR/OFDA assistance, DOD provided more than 40 MT of relief supplies, including tents, medical supplies, sleeping bags, cold weather clothing, blankets, and humanitarian daily rations. The DOD assistance was valued at \$65,000.

BHR/OFDA Assistance	.....	\$25,000
Other USG Assistance	.....	\$65,000
Total USG Assistance	.....	\$90,000

Papua New Guinea

On July 17, 1997, an earthquake with a magnitude of 7.0 on the Richter Scale was registered in the Bismarck Sea off the northwestern coast of Papua New Guinea, near the Sissano Lagoon. This earthquake triggered tsunamis of approximately ten meters that crashed into the north coast of West Sepik Province, near the coastal town of Aitape. A string of coastal villages to the west of Aitape were most severely affected. The coastline consists of low beaches that protect extensive inland lagoons and waterways. The tsunamis, which struck at a high rate of speed shortly after dark, penetrated up to one kilometer inland. A number of coastal villages, from Sissano to Malol, were completely destroyed. Other villages were partially destroyed and isolated shelter damage occurred even to the east of Aitape.

The Government of PNG (GPNG) did not have precise population information, but some 9,000 people were estimated to have inhabited the affected area. The total number of deaths related to this disaster may never be known, but estimates suggest that more than 2,000 people perished. In addition, many of the survivors were badly injured, with broken bones and bruising. Due to the extreme difficulties of finding and retrieving bodies from the lagoons and inland debris, the search was abandoned and Sissano Lagoon was declared off limits for health and cultural reasons.

On July 19, U.S. Ambassador to PNG Arma Jane Karaer declared a disaster due to the earthquake and resulting tsunamis. BHR/OFDA responded by providing \$24,861 through the U.S. Embassy/Port Moresby to the GPNG's National Disaster Emergency Service to help meet the critical disaster-related needs of the affected population in the Sissano Lagoon area. As initial assessment reports began to reveal the magnitude of the disaster, BHR/OFDA provided an airlift of 3,200 five-gallon water containers and 391,680 sq. ft. of plastic sheeting (enough to provide shelter for approximately 1,600 families). These relief commodities, valued at \$128,904 for airlift and replenishment of a BHR/OFDA stockpile, were donated to the PNG Red Cross for distribution to the affected population. BHR/OFDA also dispatched a disaster response expert to assess the situation and assist the U.S. Mission in coordinating relief efforts.

On July 28, 1998, U.S. Secretary of State Madeleine Albright traveled to Papua New Guinea as part of a pre-scheduled USG delegation to the region. Based upon commitments made during her visit, BHR/OFDA will provide \$650,000 to support rehabilitation activities in FY 1999. These activities will focus on rebuilding the livelihoods of affected communities, and mitigation activities that may help to reduce the impact of similar disasters in the future.

BHR/OFDA Assistance \$168,415

Afghanistan

On February 4, 1998, an earthquake measuring 6.1 on the Richter Scale struck Takhar Province, a remote region in northeastern Afghanistan about 50 km from the Tajikistan border. The earthquake affected 28 villages surrounding the city of Rostaq and completely destroyed eight of

them. The region was particularly vulnerable to earthquake damage because of the predominately mud housing. Massive landslides swept entire mountainside villages into valleys. Aftershocks, which continued for several days, caused additional casualties and spurred further population displacement.

The earthquake killed between 3,000 and 5,000 people and left more than 20,000 people without shelter. In the days following the earthquake, some 5,800 people found temporary shelter in seven reception centers in Rostaq. Many more found accommodations in private homes. Virtually all livestock – the region primary means of livelihood – died as a result of the earthquake. Aftershocks killed an additional 250 people.

There was a substantial response by international governments and relief organizations to the earthquake, but the region isolated, rugged terrain, limited road access, hazardous weather conditions, and Afghanistan unstable political situation severely hindered relief efforts. The Afghan Red Crescent Society (ARCS), which had emergency supplies pre-positioned in the region, was the only relief organization providing aid to victims for the first two days after the disaster. Problems of access made the logistics of aid delivery the most critical relief issue in the disaster response.

On February 6, 1998, Assistant Secretary of State for South Asian Affairs Karl Inderfurth declared a disaster. In response, BHR/OFDA provided \$500,000 in support of ICRC and UNOCHA airdrops of 1,000 MT of high priority emergency relief supplies. BHR/OFDA also provided \$25,000 to ARCS for relief activities through the U.S. Embassy in Pakistan.

In addition, ongoing USG support to IOs contributed to the disaster response. Support to general and specific relief programs included a contribution by BHR/FFP of emergency food commodities to WFP country-wide emergency program, and a \$14.9 million discretionary contribution from State/PRM to ICRC South Asia programs. A small portion of this contribution helped enable ICRC to respond to the Afghanistan disaster as required.

BHR/OFDA Assistance \$525,000

Afghanistan

On May 30, 1998, an earthquake measuring 6.9 on the Richter Scale struck a remote area of northeastern Afghanistan, about twenty miles west of Faizabad, the capital of Badakshan Province. The earthquake struck the region of Rostaq, which was also struck by an earthquake on February 4 (See Afghanistan - Earthquake I case report), as well as Cha Ab, and most severely, Shar-e-Bozorg. Nearly 50 villages (approximately 4,000 homes) were destroyed. Entire villages perched on steep mountainsides slid into valleys or were buried by landslides. A month after the earthquake, aftershocks were still continuing on an almost daily basis, forcing even those villagers whose homes were not destroyed to sleep outside because of the ongoing danger. The situation worsened further when heavy rains led to flash flooding and mudslides. Relief

organizations responded to the earthquake under the coordination of UNOCHA, which used \$1.2 million remaining from its appeal for the February 4 earthquake. ICRC and IFRC, in conjunction with the Afghan Red Crescent Society, provided first aid, evacuation for the wounded, medical assistance to clinics and hospitals, and distribution of non-food relief items to survivors. MERLIN conducted a vaccination campaign and treated some 2,500 earthquake victims. MSF/B hospital in Taloqan tended to the needs of earthquake victims. OXFAM coordinated water and sanitation efforts and flew in equipment such as piping, pumps, and water jugs. Most personal food stocks and many crops and water sources were destroyed; however, there were ample supplies of relief food in the region at the time of the earthquake. WFP, supported by a BHR/FFP contribution of emergency food commodities to its country-wide emergency program, had 40,000 MT of food in Peshawar, Pakistan, 2,300 MT in northern Afghanistan, and 2,500 MT in Termez, Uzbekistan (on Afghanistan northern border).

A critical problem, due to the region rugged terrain, bad weather, and earthquake-damaged or buried roads, was the logistics of getting aid to the victims. Helicopters were the only feasible means of reaching many affected villages. A related problem was the scarcity of helicopter fuel in the region.

In response to this situation, Assistant Secretary of State for South Asian Affairs Karl Inderfurth declared a disaster on June 1. Following the disaster declaration, BHR/OFDA contracted two helicopters as an in-kind donation to the U.N. for the joint relief operation, at a cost of \$1.2 million. In addition, BHR/OFDA dispatched two planes, at a cost of \$151,000, with 50,000 humanitarian daily rations (HDRs). The HDRs, from BHR/OFDA stockpile in Pisa, Italy, were delivered to WFP in Peshawar, Pakistan, on June 9-10 for onward transport to Afghanistan. BHR/OFDA also provided four 3,000-gallon water bladders and 672,000 sq. ft. of plastic sheeting, and contracted transportation of these items via commercial airliner. The cost of replacing the plastic sheeting to a BHR/OFDA stockpile was \$48,447. Finally, BHR/OFDA provided transportation at a cost of \$64,000 for humanitarian relief supplies donated by UNOCHA.

BHR/OFDA Assistance \$1,484,843

Azerbaijan

An earthquake measuring 6.5 on the Richter Scale struck the southern portion of Azerbaijan on July 9, 1998. Although there were no deaths reported, more than 10,000 buildings were damaged including several schools, hospitals, and clinics. Due to the severity of the damage, U.S. Ambassador Stanley T. Escudero issued a disaster declaration on August 4. BHR/OFDA responded by providing a \$25,000 grant through the U.S. Embassy in Baku to the IFRC. This funding was used for the purchase of local relief supplies, such as tents and blankets, to assist earthquake victims.

BHR/OFDA Assistance \$25,000

Azores

On July 10, 1998, an earthquake measuring 5.8 on the Richter Scale struck the Azores. The earthquake left eight people dead, destroyed more than 300 homes, and rendered more than 1,500 people homeless. On July 14, due to the continuing emergency conditions, the Government of Portugal (GOP), on behalf of the Regional Government of the Azores, requested assistance from the USG. The GOP requested that the USG provide 50 portable latrines for use by the population that had been left homeless as a result of the earthquake.

On July 17, U.S. Ambassador Gerald S. McGowan officially declared a disaster for the Azores. BHR/OFDA responded immediately by providing \$22,000 to the U.S. Embassy for the local purchase of portable latrines. The latrines were given to the GOP for use by the population most severely affected by the July 10 earthquake.

BHR/OFDA Assistance \$22,000

Slovenia

On April 12, 1998, an earthquake registering 5.5 on the Richter Scale struck the Kovarid-Bovec region of western Slovenia. The earthquake damaged 311 buildings and left 710 residents either homeless or living in unsafe buildings. Of the damaged buildings, 120 needed to be completely demolished and rebuilt. The Slovenian Red Cross and other NGOs helped the Government of Slovenia, the Slovenian Civil Defense, and the Italian provinces of Friuli, Venezia, and Giulia to provide assistance. Emergency needs included potable water, food, building materials, and financial assistance for reconstruction.

As a result of the earthquake, U.S. Chargé d' Affaires J. Paul Reid declared a disaster on May 4. In response, BHR/OFDA provided \$10,000 in disaster assistance funds through the U.S. Embassy in Ljubljana to the Slovenian Red Cross for the purchase of emergency relief commodities to meet the immediate emergency needs of earthquake victims.

BHR/OFDA Assistance \$10,000

Bolivia

On May 22, 1998, an earthquake registering 6.8 on the Richter Scale struck the Aiquile-Totora area of Bolivia in the Department of Cochabamba. The epicenter of the earthquake was the town of Aiquile, where some 200 buildings collapsed from the tremor. In the town of Totora, 21 people were killed, 52 injured, and 223 houses destroyed. U.S. Ambassador Donna Hrniak declared a disaster in Bolivia on May 22 due to the need for potable water and emergency shelter. In response to the declaration, BHR/OFDA provided \$25,000 through USAID/La Paz for the local purchase of garden hose, chlorine, and lumber for shelter frames.

On May 24, OFDA/LAC coordinated the airlift of 391,680 sq. ft. of plastic sheeting, twelve 3,000-gallon water bladders, and 1,000 five-gallon water containers to Cochabamba. Bolivia's

Civil Defense force assisted in moving the airlifted relief supplies from Cochabamba to Aiquile and Totora. OFDA/LAC also provided consultants to assess the extent of the damage caused by the earthquake and to facilitate the transfer of USG-donated relief commodities. After assessing the rural hamlets near Aiquile and Totora, USAID/La Paz requested an additional \$110,000 for the local purchase of lumber and tools and transportation costs. An additional 293,760 sq. ft. of plastic sheeting was provided to USAID/La Paz for distribution as required. The cost of replenishing stockpile items and transporting them to Bolivia totaled \$252,042. To meet immediate food needs, BHR/FFP provided seven MT of P.L. 480 Title II emergency food for distribution in the affected area. The food commodities, diverted from in-country stocks, were valued at approximately \$3,000.

BHR/OFDA Assistance	.....	\$387,042
BHR/FFP Assistance	.....	\$3,000
Total USG Assistance	.....	\$390,042

1999

Colombia

U.S. Ambassador to Colombia Curtis W. Kamman issued a disaster declaration on January 26 in response to the earthquake. USAID/OFDA immediately deployed a three-person team to Colombia to conduct damage and needs assessments, coordinate the USG response effort, and report on the disaster situation. In days following the disaster, USAID/OFDA's field team in Colombia was augmented by two additional disaster response specialists. USAID/OFDA's Senior Regional Advisor, who is based at the regional office in San José, Costa Rica, headed the team. He arrived in Bogota on January 26, and traveled overland to Armenia the same day, accompanied by a Colombia-based USAID/OFDA health specialist. A USAID/OFDA information officer arrived in Bogota on January 27, and began field reporting from the USAID Mission in Bogota. On January 30 and February 3, two additional disaster response specialist were added to the team. One is assisting the U.S. Embassy and the USAID Mission with coordination issues and the other is helping to manage the relief and rehabilitation effort in Armenia. By February 11, both disaster relief specialists operating out of Bogota had returned to the United States, and the Senior Regional Advisor had returned to San José, Costa Rica. The Colombia-based USAID/OFDA health specialist continues to assist the USAID Mission in Bogota to address post disaster follow-up.

On January 26, a USAID/OFDA-funded, 62-person Miami-Dade search and rescue (SAR) team arrived in Cali via chartered aircraft, along with 56,000 pounds of support equipment. The estimated transport cost to deploy the SAR team is \$155,000. Upon its arrival, the SAR team immediately established an emergency operations center in Cali and sent an advance group to

Armenia. Additional members of the SAR team traveled to Armenia the following day. By noon on January 27, the Miami-Dade team had integrated itself into the existing SAR effort. Although the Miami-Dade SAR team did not rescue any survivors, they successfully used technical equipment to retrieve eight bodies. On January 28, President Pastrana officially declared the end of the rescue phase. Subsequently, the SAR team began an orderly demobilization on January 29. By January 30, all but four members of the SAR team had returned to the United States. Three of the four remaining SAR team personnel departed Colombia on February 5, after conducting damage and needs assessments in areas surrounding Armenia and erecting model shelter structures for displaced populations. The final SAR team member departed on February 8.

USAID/OFDA also funded the deployment of an eight-person Community Technical Support Team, comprised of Miami-Dade and Fairfax County SAR personnel, to advise Colombian officials on ongoing rescue and relief efforts. This technical assistance team arrived in Bogota on January 28, but returned to the United States the following day given the completion of SAR efforts and the demobilization of the 62-person team.

The U.S. Government authorized an initial aid package worth \$2 million in relief supplies and technical assistance. This figure includes \$125,000 that USAID/OFDA provided to the USAID Mission in Colombia for the local purchase and transport of relief supplies and the rental of equipment. Between January 27 and February 4, USAID/OFDA airlifted the following relief commodities: 8,000 blankets; 600 rolls of plastic sheeting (enough to provide temporary shelter material to 6,000 families); 1,980 gallons of bottled water; 165 cases of meals-ready-to-eat (MREs); and 8,400 humanitarian daily rations (HDRs) to assist in meeting emergency food needs. USAID Assistant Administrator Hugh Parmer and a USAID/OFDA Science Advisor accompanied USAID/OFDA's initial flight of relief supplies to Bogota and then accompanied the supplies onward to Armenia. Both individuals departed Colombia on January 29. The bottled water and MREs were donated by the Fairfax County Fire Department at an approximate cost of \$20,000. The cost of the HDRs was \$34,128 and was met by the U.S. Department of Defense. The total estimated cost to USAID/OFDA for the purchase of the blankets and plastic sheeting, and the transport of these and the other relief items is \$546,505.

USAID/OFDA plastic sheeting was provided to persons unprotected by heavy rains immediately following the earthquake. USAID/OFDA technical assistance and plastic sheeting was also used to construct community kitchens and day care facilities in Barcelona, Buenavista, Pijao, and Armenia. The day care facilities will allow parents to resume their livelihoods and the food kitchens will ensure that the most affected populations are receiving adequate supplies of food for immediate consumption. All USAID/OFDA-erected community food kitchens will be run by local organizations. USAID/OFDA plastic sheeting is also being provided to small coffee producers for the repair of homes and processing facilities, allowing coffee production to resume. Additionally, USAID/OFDA provided PAHO \$250,000 in support of earthquake-related health

activities.

From January 31 through February 2, a Texas Air National Guard-crewed C-130 flew a total of eight sorties between Bogota and Armenia, delivering a total of 79 MTs of relief supplies and transporting 16 passengers. The air bridge was discontinued after three days, given the availability of road transport.

Currently, USAID/OFDA is in the process of designing a series of rehabilitation and disaster mitigation activities. These activities will focus primarily on shelter reconstruction and the appropriate use and maintenance of indigenous construction materials. Efforts are also underway to provide technical support to local government efforts to improve hazard mapping and its linkages to land-use planning in the city of Armenia. The anticipated cost of these rehabilitation and disaster mitigation activities is estimated at approximately \$1 million.

USAID/OFDA Assistance Provided to Date \$1,076,505

USAID/OFDA has authorized an initial aid package worth \$2 million in relief supplies and technical assistance, which is in addition to expenses incurred as a result of the SAR Team deployment. To date, \$1,076,505 of that amount have been committed to the relief effort.

Turkey

On September 10, the Kearsarge ARG departed from Turkey, having completed its mission of providing emergency shelter and medical care to the victims of the August 17 earthquake. Marines and sailors from the Kearsarge ARG distributed over 6,000 of the 7,023 tents donated by the U.S. Government, constructed 10 tent sites, provided medical and dental care to the earthquake victims, and assisted in providing potable water to the residents of Gölcük.

In a civil-military turnover ceremony on September 10 at Topel air field, the U.S. Consul General turned over to Kocaeli province governor all remaining U.S. humanitarian supplies, marking the end of the U.S. emergency humanitarian assistance effort in response to the earthquake.

On August 31, the USAID/OFDA DART handed over more than \$270,000 worth of search and rescue equipment and vehicles to both the Izmit fire department and a volunteer search and rescue organization named AKUT. The donated equipment includes a search camera, sound detection equipment, jack hammers, pry bars, and generators. In addition, Miami Dade fire and rescue department donated approximately \$30,000 worth of medical supplies to the university hospital of Izmit.

At the onset of the emergency, USAID/OFDA deployed two search and rescue teams to help recover earthquake survivors. Search and Rescue Team 1 (from Fairfax County, VA) arrived in Turkey on 18 August and conducted operations until 22 August. SAR 1 returned to the U.S. on

August 24. Search and Rescue Team 2 (from Miami Dade) arrived in Turkey on 21 August and returned to the U.S. on August 28. Each team included 70 rescue experts, search dogs, and sensory and earth moving equipment.

Estimated USAID/OFDA Assistance to-date: *

USAID/OFDA

Turkish Red Crescent for relief assistance \$25,000

Deployment/Demobilization of Search and Rescue team (SAR 1)* \$1,460,960

DART deployment and support costs \$100,000

Relief items: medical supplies, 30,000 blankets, 700 rolls of plastic sheeting, hygiene kits
\$424,160

Transport costs for relief items \$352,000

Water purification units (three) \$250,000

Deployment/Demobilization of Search and Rescue team (SAR 2)* \$1,837,960

Total USAID/OFDA Assistance

\$4,450,080

DOD

Body Bags

Surgical gloves and masks

Tents

Medical supplies

Total DOD Assistance

\$10,000,000

Total USAID/OFDA Assistance

\$14,450,080

- Estimates change as costs become actual.

Relief Efforts:

The PMCMC reports that the total number of tents set up or awaiting setup is 101,444. 54,389 of these came from international donors and 37,480 came from the Turkish Red Crescent. Others have been set up by the military and the private sector (1,605 and 7,970, respectively).

According to the PMCMC, there are a total of 156 tent cities which have 1,808 toilets, 35

kitchens, 4 cafeterias, and 24 kindergartens.

As of September 12, the PMCMC reported, a total of 358 international relief personnel were working in the affected area.

The Permanent Mission of Turkey to the United Nations Office in Geneva has submitted to UNOCHA an updated list of remaining aid materials required for the population affected by the earthquake. The first priority request is shelter, including tents and containers. The second category of requests includes mobile hospitals, water purification devices, water storage tanks, cranes, and excavators. The full list can be found in the UNOCHA Situation Report #19 at the following website: http://www.reliefweb.int/ocha_ol/.

The UNDP in Ankara reports that 46 countries provided assistance to Turkey following the earthquake. Some of this assistance includes a total of \$16,078,000 in cash contributions, 10,104 tents, 2,276 search and rescue (SAR) team members, 224 SAR dogs, 23 ambulances, 66,318 blankets, 17,140 body bags, 709 medical personnel, and 290 generators.

Taiwan

USAID provided \$25,000 through the American Institute in Taiwan (AIT) to meet critical needs of those affected. AIT manages the United States Government's unofficial relations with Taiwan and channeled the assistance through the local Red Cross. USAID also committed \$2,386,200 for the cost of the SAR Team (including mobilization costs). The Department of Defense contributed \$82,000 to the response effort by supplying 1,500 bodybags to local authorities. (Note: These figures are preliminary and subject to change.)

AIT sent representatives to Nantou to verify the status of the American community. AIT confirms that one American child was killed in the earthquake and two American citizens were injured.

USAID's 92-person SAR team was composed of USAID disaster specialists, Fairfax County, Virginia SAR specialists, and Miami-Dade, Florida SAR specialists. The SAR team began operations on September 22 in Touliu, an urban area that is approximately 32 miles from the epicenter in Nantou County, and on September 23, the SAR team rescued a 32-year old male.

Following the September 26 aftershock, the USAID Team re-deployed to Nantou County to conduct an assessment. Local authorities later determined that additional assistance was not required from the USAID SAR team.

Based on consultations with local emergency response officials, the USAID Team ceased operations on Sunday, September 26 and returned to Taipei to continue the demobilization process. The team returned to the United States on Tuesday, September 28.

Four Fairfax County and Miami-Dade SAR personnel joined the United Nations On-Site Operations and Coordination Center (OSOCC) and continued to work in a safety and advisory role through Tuesday, September 28, when most international teams were expected to leave

Taiwan.

Estimated USG Assistance to-date: *

USAID/BHR/OFDA:

Local Red Cross for relief assistance \$25,000

Deployment/Demobilization of Search and Rescue team (SAR 1) \$2,386,200

Total USAID/OFDA Assistance \$2,411,200

DOD:

Body Bags and transport \$82,000

Total DOD Assistance \$82,000

- Estimates may change as costs become actual figures.

Turkey

At 3 a.m. EST (10 a.m. local) on November 18, the USAID Disaster Assistance Response Team (DART) Fairfax County SAR team donated, from its own equipment, tents, generators, heaters, and bottled water to the Devlet Hospital in Duzce. The hospital building was damaged during the earthquake. The donations will allow an additional field hospital to be established in Duzce.

The USAID DART will formally transition from search and rescue operations to humanitarian response activities on November 18. Search and rescue activities continued until 7 a.m. local time on November 18. Two members of the USAID DART will remain in the area to continue to assess humanitarian assistance needs.

In total, the USAID DART SAR team searched at least six sites in Duzce. No survivors were found by the U.S. team. In addition, the USAID DART provided medical assistance to the community and conducted humanitarian needs assessments.

Arrangements for the return of the USAID/DART SAR have been confirmed. The team will depart Ankara for the U.S. on November 19, with a scheduled arrival at Dulles Airport on November 19 at 8:30 p.m. The DART/ SAR team arrived Ankara 8 a.m. EST (3 p.m. local) on November 18. The DART/ SAR team will undergo initial After Action and Critical Incident Stress debriefings today, November 18.

The 21-member U.S. Department of Defense (DOD) Humanitarian Assistance Survey Team (HAST) is deployed in Duzce and working with the U.N. local authorities and other international teams. The HAST expects to demobilize on or about November 19.

Relief Efforts:

OSOCC reported that as of November 16, a total of 40 international SAR teams responded to the earthquake disaster. Teams were composed of 1,455 personnel and 273 dogs. OSOCC

announced that nearly all search and rescue teams have already departed or will depart Duzce by Friday, November 19. OSOCC declared rescue operations complete in and around the Duzce area as of November 18 at 6 a.m. EST.

The United Nations announced that OSOCC would shut down operations in Duzce by November 19. OSOCC is tentatively planning to move to the city of Bolu, the provincial capital of Bolu Province, within the next 48 hours. From Bolu, OSOCC will coordinate the provision of humanitarian assistance from the international community.

OSOCC reported that water experts visited the water treatment plant at Duzce, which will be operational in three or four days. An assessment of the city's water distribution system will be conducted in the following days. Water is currently being trucked by the GOT to Duzce from Istanbul and Ankara daily. The water supply system in Bolu Province is largely operational.

OSOCC reported that the power plant in Duzce is functioning, although electricity is unavailable in most of the city due to downed power lines. Local authorities are focusing on bringing electric power to the tent camps. A DOD/HAST expert will conduct an assessment of Duzce's power facilities on November 18.

The Turkish Red Crescent is serving 14,000 hot meals per day in Duzce, 10,000 in Bolu and 10,000 in Kanasyli. In addition, private companies and restaurants are donating food to displaced persons. UNICEF estimates that there is enough food in the region and that the challenge is one of distribution. However, to guard against malnutrition, UNICEF will distribute 30 metric tons of protein biscuits to children beginning on Monday, November 22.

Estimated USG Assistance to date (November 12 earthquake): *

DOD winterized tents (originally sent to Izmit) \$1,400,000

USAID/BHR/OFDA

Transport of DOD winterized tents \$316,000

Deployment/Demobilization of Search and Rescue Team \$2,000,000

Winterized tents with heaters/Generators/Bottled water (donated to Duzce hospital) \$105,000

Sub Total USAID/BHR/OFDA Assistance \$2,421,000

Total USG Assistance \$3,821,000

- Estimates may change as costs become actual figures.

5) Mitigation Program

Asian Urban Disaster Mitigation Program (AUDMP)

PROJECT PROFILE

Life of Project: Six year program, commenced on October 1995.

Funding: Original core funding from USAID/OFDA.

Management: Implemented by ADPC with management oversight from USAID/RUDO for Southeast Asia.

Project Description

Asia is the most disaster-prone region of the world, where loss of life and property from natural hazards is very high, hindering sustainable, broad-based development. As population and economic activity concentrate in rapidly-growing cities, urban areas become increasingly vulnerable to disasters. Where properly managed, however, cities also represent a critical opportunity to mitigate the damage from natural hazards.

The Asian Urban Disaster Mitigation Program (AUDMP) is a six-year program designed to respond to the need for safer cities. The ultimate goal of the program is to reduce the disaster vulnerability of urban populations, infrastructure, critical facilities, and shelter in targeted cities throughout Asia. The purpose of the program is to:

- establish sustainable public and private sector mechanisms for disaster mitigation that will measurably lessen loss of life, reduce the amount of physical and economic damage, and shorten the post-disaster recovery time; and
- promote replication and adaptation of successful mitigation measures within target countries and throughout the region.

Working in conjunction with collaborating institutions in each target country, the program strategy takes a three-tiered approach:

- National demonstration projects in each of the target countries will serve to provide a working example of urban hazard mitigation. In a selected urban area in each country, a hazard or set of hazards will be assessed, followed by the design and implementation of appropriate disaster mitigation measures.

The Information and Networking component aims to help build public and private networks as a forum for exchanging information and experience on urban disaster management, with the goal of replicating successful hazard mitigation practices from the demonstration projects throughout the region.

The Training, Resource Materials, and Continuing Education component provides an opportunity to further institutionalize hazard mitigation practices through seminars for national level decision makers, as well as by using an in-country and regional train the trainers approach for passing on technical skills via a core curriculum in hazard assessment and mitigation. Courses will be offered by in-country partner institutions and on a distance learning basis.

INDONESIA: Earthquakes in Bandung

In Indonesia, the project strives to reduce the vulnerability of Bandung, West Java to natural disasters, particularly to earthquake hazards. Special attention will be paid to critical facilities such as schools and hospitals.

NEPAL: Earthquakes in Kathmandu Valley

This project will assist the three municipalities of Kathmandu Valley to understand the risk of earthquakes and the vulnerabilities of communities to earthquake hazards. Under the project, an appropriate mitigation plan will be developed and implemented. The project will focus on school safety.

CERA



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REPORT

ON

**“THE GOVERNMENTAL AND NON-GOVERNMENTAL AID ORGANISATIONS
IN AUSTRALIA AND NEW ZEALAND IN THE FIELDS OF EARTHQUAKE DISASTER
MITIGATION AND POST EARTHQUAKE DISASTER RECOVERY FOR DEVELOPING
COUNTRIES, DURING THE FIVE-YEAR PERIOD JULY 1995 THROUGH JUNE 2000”**

FOR

**DR TUNEHISA TSUGAWA
KAJIMA CORPORATION
TOKYO, JAPAN**

AS A CONTRIBUTION FOR THE JICA SURVEY

BY

**DR JACK RYNN
DIRECTOR OF RESEARCH AND CONSULTING
CENTRE FOR EARTHQUAKE
RESEARCH IN AUSTRALIA
BRISBANE, AUSTRALIA**

AUGUST 2000

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TABLE 1
TASK A : AUSTRALIA AND NEW ZEALAND ORGANISATIONS INVOLVED (1995-2000)

GOVERNMENT AGENCY	NON-GOVERNMENT ORGANISATION
EARTHQUAKE DISASTER MITIGATION	
AUSTRALIA	
<p>EMERGENCY MANAGEMENT AUSTRALIA (EMA) Department of Defence, Commonwealth Government of Australia, Canberra, Australia (Project facilitator and donor agency)</p> <p>AUSTRALIAN AGENCY FOR INTERNATIONAL DEVELOPMENT (AusAID) Department of Foreign Affairs and Trade, Canberra, Australia (Bilateral and Multilateral donor)</p> <p>AUSTRALIAN GEOLOGICAL SURVEY ORGANISATION (AGSO) Department of Industry, Science and Resources, Commonwealth Government of Australia Canberra, Australia</p>	<p>CENTRE FOR EARTHQUAKE RESEARCH IN AUSTRALIA (CERA) Brisbane, Australia (Private research and consulting organisation)</p> <p>ROTARY INTERNATIONAL DISTRICT 9600 "DISASTER AWARENESS ADVISORY TEAM" (DAAT) COMMITTEE Brisbane, Australia (RI District 9600 includes part of Southeast Queensland Australia), Papua New Guinea and the Solomon Islands)</p>
NEW ZEALAND	
<p>INSTITUTE OF GEOLOGICAL AND NUCLEAR SCIENCES (IGNS) Wellington, New Zealand (Project facilitator and consulting Government Crown Research Institute)</p>	<p>EARTHQUAKE HAZARD CENTRE Wellington, New Zealand (Private information dissemination facility)</p>

TABLE 1 - Continued

GOVERNMENT AGENCY	NON-GOVERNMENT ORGANISATION
POST-DISASTER EARTHQUAKE RECOVERY	
AUSTRALIA	
<p>AUSTRALIAN AGENCY FOR INTERNATIONAL DEVELOPMENT (AusAID) Department of Foreign Affairs and Trade, Commonwealth Government of Australia Canberra, Australia</p> <p>DEPARTMENT OF DEFENCE (DoD) Commonwealth Government of Australia Canberra, Australia</p> <p>EMERGENCY MANAGEMENT AUSTRALIA (EMA) Department of Defence, Commonwealth Government of Australia Canberra, Australia</p>	<p>ADVENTIST DEVELOPMENT AND RELIEF AGENCY (ADRA) Sydney, Australia</p> <p>ANGLICORD (ANGLI) Sydney, Australia</p> <p>AUSTRALIAN COUNCIL FOR OVERSEAS AID (ACFOA) Canberra, Australia (Coordination and facilitation role for NGOs)</p> <p>AUSTRALIAN RED CROSS SOCIETY (ARCS) and INTERNATIONAL FEDERATION OF RED CROSS (IFRC) Melbourne, Australia</p> <p>COMMUNITY AID ABROAD (CAA) Sydney, Australia</p> <p>CARE AUSTRALIA (CARE) Canberra, Australia</p> <p>MEDICINS SANS FRONTIERS (AUSTRALIA) (MSF) Sydney, Australia</p> <p>NATIONAL COUNCIL OF CHURCHES AUSTRALIA (NCCA) Sydney, Australia</p>

TABLE 1 - Continued

GOVERNMENT AGENCY	NON-GOVERNMENT ORGANISATION
<p>NEW ZEALAND OVERSEAS DEVELOPMENT ASSISTANCE (NZODA) Ministry of Foreign Affairs and Trade Wellington, New Zealand</p>	<p>PACIFIC EMERGENCY MANAGEMENT ASSOCIATES (PEMA) Canberra, Australia (Private organisation involved in UNDAC Missions for post-disaster response) ROTARY INTERNATIONAL (RI) Coordinator through RI District 9600 Brisbane, Australia SALVATION ARMY (AUSTRALIA) (SAA) Canberra, Australia SECOURS CATHOLIQUE / SOLIDAIRE LAIQUE (SCSL) Sydney, Australia WORLD VISION AUSTRALIA (WVA) Melbourne, Australia</p> <p>NEW ZEALAND</p> <p>CARITAS (CAR) Wellington, New Zealand</p> <p>NEW ZEALAND RED CROSS (NZRC) Wellington, New Zealand</p>

TABLE 1 - Continued

GOVERNMENT AGENCY	NON-GOVERNMENT ORGANISATION
	<p>UNICEF (NEW ZEALAND) Wellington, New Zealand</p> <p>WORLD VISION NEW ZEALAND (WVNZ) Auckland, New Zealand</p>
<p>NOTE: The Governments of both Australia and New Zealand through their international development and aid agencies (AusAID and NZODA, respectively) support many UNITED NATIONS (UN) programs and activities in Developing Countries, which include:</p> <p>UNDP - United Nations Development Programme</p> <p>UNOCHA - United Nations Office for the Coordination of Humanitarian Affairs (formerly UNDHA - United Nations Department of Humanitarian Affairs)</p> <p>UNICEF - United Nations Childrens Fund</p>	

TABLE 2
TASK B : PART 1 - EARTHQUAKE DISASTER MITIGATION (1995-2000)

AUSTRALIA		
DEVELOPING COUNTRY	GOVERNMENT AGENCY	NON-GOVERNMENT ORGANISATION
<p>PACIFIC ISLAND COUNTRIES (Small Island Developing States of Pacific Island Countries : SIDS-PIC)</p>	<p>AusAID 1989-2000 : Practical international development cooperation program which included earthquake as one of the natural hazards, for the PICs in general</p> <p>EMA 1990-2000 : As part of the Australian IDNDR Coordination Committee and the Pacific Regional IDNDR Committee (per UNDHA-SPPO South Pacific Disaster Reduction Programme, SPDRP), for the PICs in general</p> <p>AGSO 1997-2000 : In collaboration with the South Pacific Applied Geoscience Commission (SOPAC, a regional organisation for the PICs) with the "Pacific Cities" Project - for Fiji (Suva), Tonga (Nuku'alofa), Vanuatu (Port Vila) and Solomon Is (Honiara)</p> <p>AGSO 1998-1999 : In collaboration with SOPAC and UNDP-SPO, conducting an information infrastructure and GIS workshop for PIC in Suva, Fiji</p> <p>[NOTE: Monetary values for these individual programs are unavailable as they are integrated in Australia's donor programs administered by AusAID]</p>	<p>CERA 1993-2000 : As a member of the International Association for Earthquake Engineering (IAEE) "World Seismic Safety Initiative" (WSSI) for the Pacific Island Countries, specifically for Fiji Funding</p> <ul style="list-style-type: none"> • CERA (EST AUD\$12,000 (In kind)) • WSSI AUD\$1,300 (Travel expenses only) <p>CERA 1998-2000 : Earthquake mitigation measures and strategies (including tsunami mitigation), in the context of the UN IDNDR RADIUS program, for the PICs in general [NOTE: Monetary value for this program cannot be defined as funds were contributed from the private resources of CERA personnel]</p> <p>CERA 1999-2000 : Information within the Pacific Region IDNDR Final Report (Total funding for Report AUD\$24,000)</p>

TABLE 2 - Continued

DEVELOPING COUNTRY	GOVERNMENT AGENCY	NON-GOVERNMENT ORGANISATION
FIJI		<p>CERA 1997-1998 : For the City of Suva - Suva Earthquake Risk Management Scenario Pilot Project (SERMP) with the Earthquake and Tsunami Exercise "SUVEQ 97" (In collaboration with UNDHA-SPPO and New Zealand IGNS, as part of SERMP) Funding</p> <ul style="list-style-type: none"> • UNDHA-SPPO AUD \$21,000 (AusAID Donor) • CERA (EST AUD\$10,000) (In kind - personal funds)
TONGA		<p>RI 1998: Rotary Foundation Carl P. Miller Discovery Grant (No. 0600) to Dr J. Rynn (CERA) per Rotary Club of Mt Coot-tha (RI District 9600, Brisbane, Queensland, Australia) entitled "Feasibility Study for Implementation of Earthquake and Tsunami Mitigation for the Kingdom of Tonga" Funding</p> <ul style="list-style-type: none"> • RI AUD\$3,500

TABLE 2 - Continued

DEVELOPING COUNTRY	GOVERNMENT AGENCY	ON-GOVERNMENT ORGANISATION		
SOUTH EAST ASIA - CHINA - INDONESIA - UZBEKISTAN (UN IDNDR RADIUS PROGRAM)		CERA 1998-1999: Through Dr J. Rynn as International Expert - Regional Advisor for Asia in UN IDNDR RADIUS program, advisory visits to China (Zigong), Indonesia (Bandung) and Uzbekistan (Tashkent) Funding <ul style="list-style-type: none"> • UN RADIUS AUD \$10,000 (Travel expenses only) • CERA (EST AUD\$50,000) (In kind - personal funds) 1999 : UN IDNDR RADIUS Symposium, Tijuana, Mexico as Regional Advisor - Asia Funding <ul style="list-style-type: none"> • UN RADIUS AUD\$3,400 (Travel expenses only) • CERA (EST AUD\$10,000) (In kind - personal funds) 		
<p>NOTES: Monetary values (funding) in USA Dollars (USD\$) and Australian Dollars (AUD\$)</p> <table border="0"> <tr> <td style="vertical-align: top;"> GOVERNMENT AGENCY : AusAID EMA AGSO NON-GOVERNMENT ORGANISATION : CERA RI UNDHA-SPPO UNDP-SPO UN IDNDR RADIUS </td> <td style="vertical-align: top;"> - Australian Agency for International Development (Department of Foreign Affairs and Trade) - Emergency Management Australia (Department of Defence) - Australian Geological Survey Organisation (Department of Industry, Service and Resources) - Centre for Earthquake Research in Australia (private enterprise) - Rotary International District 9600 "Disaster Awareness Advisory Team" (DAAT) Committee (Brisbane, Queensland, Australia) - United Nations Department of Humanitarian Affairs - South Pacific Programme Office - United Nations Development Programme - South Pacific Office - United Nations International Decade for Natural Disaster Reduction (1990-2000) "Ris Assessment Tools for Diagnosis of Urban Areas against Seismic Disasters" Initiative </td> </tr> </table>			GOVERNMENT AGENCY : AusAID EMA AGSO NON-GOVERNMENT ORGANISATION : CERA RI UNDHA-SPPO UNDP-SPO UN IDNDR RADIUS	- Australian Agency for International Development (Department of Foreign Affairs and Trade) - Emergency Management Australia (Department of Defence) - Australian Geological Survey Organisation (Department of Industry, Service and Resources) - Centre for Earthquake Research in Australia (private enterprise) - Rotary International District 9600 "Disaster Awareness Advisory Team" (DAAT) Committee (Brisbane, Queensland, Australia) - United Nations Department of Humanitarian Affairs - South Pacific Programme Office - United Nations Development Programme - South Pacific Office - United Nations International Decade for Natural Disaster Reduction (1990-2000) "Ris Assessment Tools for Diagnosis of Urban Areas against Seismic Disasters" Initiative
GOVERNMENT AGENCY : AusAID EMA AGSO NON-GOVERNMENT ORGANISATION : CERA RI UNDHA-SPPO UNDP-SPO UN IDNDR RADIUS	- Australian Agency for International Development (Department of Foreign Affairs and Trade) - Emergency Management Australia (Department of Defence) - Australian Geological Survey Organisation (Department of Industry, Service and Resources) - Centre for Earthquake Research in Australia (private enterprise) - Rotary International District 9600 "Disaster Awareness Advisory Team" (DAAT) Committee (Brisbane, Queensland, Australia) - United Nations Department of Humanitarian Affairs - South Pacific Programme Office - United Nations Development Programme - South Pacific Office - United Nations International Decade for Natural Disaster Reduction (1990-2000) "Ris Assessment Tools for Diagnosis of Urban Areas against Seismic Disasters" Initiative			

TABLE 2 - Continued

NEW ZEALAND

DEVELOPING COUNTRY	GOVERNMENT AGENCY	NON-GOVERNMENT ORGANISATION
FIJI	IGNS 1997 : In collaboration with CERA (Australia) and UNDHA-SPPO (Fiji) for the City of Suva - Suva Earthquake Risk Management Scenario Pilot Project (SERMP) Funding • UNDHA-SPPO NZ\$15,000 (Donor funding)	EHC Information dissemination facility Funding • UK Commonwealth Science Council NZD\$15,000pa.
INDIA	IGNS Seismic hazard mitigation in design of natural gas storage tanks at: Dabol - Dabol Power Company and General Electric Pipivau - BP (Funding Not Specified)	
HONG KONG	IGNS Seismic hazard analysis and building design in association with Hong Kong Polytechnic and consultants (Funding Not Specified)	

NOTES

Monetary values (funding) in New Zealand Dollars - NZD\$

GOVERNMENT AGENCY : IGNS - Institute of Geological and Nuclear Services (New Zealand Government owned independent Crown Research Institute)

NON-GOVERNMENT ORGANISATION : EHC - Earthquake Hazard Centre (private enterprise)

**TABLE 3
DEVASTATING EARTHQUAKES IN DEVELOPING COUNTRIES 1995 JULY - 2000 JUNE
WITH KNOWN HUMANITARIAN AID RESPONSE FROM AUSTRALIA AND NEW ZEALAND**

DEVASTATING EARTHQUAKES Information taken from US Geological Survey - National Earthquake Information Center "Significant Earthquakes of the World"							HUMANITARIAN AND RESPONSE Summary of Table 4		
ORIGIN TIME (UT)			LOCALITY		GEOGRAPHIC		MAGNITUDE	AUSTRALIA	NEW ZEALAND
1995	OCT 01	15:57	TURKEY	Dinar	38.10°N	30.18°E	MW 6.0	O	O
	OCT 06	18:09	INDONESIA	Kerinci	2.09°N	101.41°E	MW 6.8	X	X
	OCT 09	15:35	MEXICO	Jalisco	19.25°N	104.19°W	MW 7.6	O	O
1996	JAN 01	08:05	INDONESIA	Sulawesi	0.73°N	119.93°E	MW 7.8	X	O
	FEB 03	11:14	CHINA	Yunnan	27.29°N	100.28°E	MW 6.2	X	O
	FEB 17	05:59	INDONESIA	Biak	0.89°S	136.95°E	MW 8.1	X	O
	MAR 28	23:03	ECUADOR	Cotopaxi	1.04°S	78.74°W	MW 6.0	X	O
1997	FEB 27	21:08	PAKISTAN	Harnai	29.98°N	62.21°E	MW 7.0	O	O
	FEB 28	12:57	IRAN	Ardabil	38.08°N	48.05°E	MW 6.0	X	X
	APR 05	23:46	CHINA	Xinjiang	39.51°N	76.87°E	MW 5.9	X	O
	APR 06	04:36	CHINA	Xinjiang	39.54°N	77.00°E	MW 5.8	X	O
	APR 11	05:34	CHINA	Xinjiang	39.53°N	76.94°E	MW 6.0	X	O
	MAY 08	02:53	BANGLADESH	Sylhet	24.89°N	92.25°E	MW 6.0	X	O
	MAY 10	07:57	IRAN	Khorasan	33.83°N	59.81°E	MW 7.3	X	X
	MAY 21	22:51	INDIA	Jabalpur	23.08°N	80.04°E	MW 5.8	O	O
	JUL 09	19:24	VENEZUELA	Cumana	10.60°N	63.49°W	MW 6.9	O	O
	NOV 21	11:23	BANGLADESH	Chittagong	22.21°N	92.70°E	MW 6.1	O	O

TABLE 3 - Continued

DEVASTATING EARTHQUAKES							HUMANITARIAN AND RESPONSE		
ORIGIN TIME (UT)			LOCALITY		GEOGRAPHIC		MAGNITUDE	AUSTRALIA	NEW ZEALAND
1998	JAN 10	03:50	CHINA	Hebei 4	1.08°N	114.50°E	MW 5.7	X	O
	FEB 04	14:33	AFGHANISTAN	Rostaq	37.08°N	70.09° E	MW 5.9	O	O
	MAY 22	04:48	BOLIVIA	Arquila	17.73°S	65.43° W	MW 6.6	O	O
	MAY 28	21:11	CHINA	Xinjiang	37.39°N	78.84° E	MW 5.6	O	O
	MAY 30	06:22	AFGHANISTAN	Badakhshan	37.11°N	70.11° E	MW 6.6	O	O
	JUN 27	13:55	TURKEY	Adana	36.88°N	35.31° E	MW 6.2	O	O
	JUL 17	08:49	PAPUA NEW GUINEA	Aitape	2.96° S	141.93°E	MW 7.0	X	X
			*major tsunami						
	NOV 29	14:10	INDONESIA	Ceram	2.07° S	124.89°E	MW 7.7	O	O
1999	JAN 25	18:19	COLOMBIA	Armenia	4.46° N	75.72° W	MW 6.2	X	X
	FEB 11	14:08	AFGHANISTAN	Lowgar	34.26°N	69.36° E	MW 5.9	O	O
	MAR 28	19:05	INDIA	Chamoli	30.51°N	79.40° E	MW 6.6	O	O
	JUN 15	20:42	MEXICO	Puebla	18.39°N	97.44° W	MW 6.9	X	O
	AUG 17	00:01	TURKEY	Ismit	40.75°N	29.86° E	MW 7.4	X	X
	SEP 20	17:47	TAIWAN	Chi-Chi	23.77°N	120.98°E	MW 7.6	X	X
	SEP 30	16:31	MEXICO	Oaxaca	16.06°N	96.93° W	MW 7.4	O	O
	NOV 12	16:57	OTURKEY	Duzce	40.76°N	31.16° E	MW 7.1	X	X
	NOV 26	13:21	VANUATU	Pentecost Is	16.43°S	168.23°E	MW 7.3	X	X
2000	MAY 04	04:21	INDONESIA	Sulawesi	0.99° S	123.44°E	MW 7.4	O	O
	JUN 04	16:28	INDONESIA	Bengkulu	4.73° S	102.05°E	MW 7.8	X	X

NOTES: MAGNITUDE : MW Moment Magnitude (per USGS - NEIC)
HUMANITARIAN AID : X Significant aid given; O No aid given

TABLE 4
TASK B : PART 2 - POST EARTHQUAKE DISASTER RECOVERY (1995-2000)
AUSTRALIA

DEVASTATING EARTHQUAKE IN DEVELOPING COUNTRY				GOVERNMENT AGENCY			NON-GOVERNMENT ORGANISATION		
1995	OCT 06	INDONESIA	Kerinci	AusAID	AUD\$ *305,092	HUMANITARIAN AID Earthquake Relief as Bilateral Aid (Private Enterprise)	(PVE	AUD \$ *305,092 includes: 41,824 195,000 668,268	HUMANITARIAN AID Private Enterprise Tents and blankets Relief supplies and reconstruction Earthquake relief)
1996	JAN 01	INDONESIA	Sulawesi				WVA	100,000	Food, emergency shelter
1996	FEB 03	CHINA	Yunnan	AusAID	*200,000	Earthquake assistance (UNDHA)	(UNDHA ARCS WVA	*200,000 25,000 1,537,448	Earthquake assistance) Earthquake Relief Sanitation, health, shelter agriculture
1996	FEB 17	INDONESIA	Biak	AusAID	*119,780	Earthquake relief (AusAID, WVA, PVE)	(WVA (PVE (PVE (PVE	*53,000 *11,055 *11,055 *10,780	Earthquake relief) Earthquake relief) Earthquake relief) Earthquake relief)
				(AusAID	*22,000	Earthquake relief)	(PVE WVA	*11,055 89,847	Tents) Relief operations, helicopter for transport of supplies and people and distribution of relief items

TABLE 4 - Continued

				<u>AUD\$</u>	<u>HUMANITARIAN AID</u>		<u>AUD\$</u>	<u>HUMANITARIAN AID</u>
1996	MAR 28	EDUADOR	Cotopax i			WVA	10,000	Temporary housing, survival needs
1997	FEB 20	IRAN	Ardabil	AusAID	*300,000	Earthquake relief (MSF, UNDHA)	(MSF *123,000 (UNDHA *77,000 (UNDHA *100,000	Emergency relief Emergency shelter, water Relief)
1997	APR 05 APR 06 APR 11	CHINA CHINA CHINA	Xinjiang Xinjiang Xinjiang			WVA	253,464	Food, health, sanitation
1997	MAY 08	BANGLADESH	Sylhet			WVA	16,945	Shelter
1997	MAY 10	IRAN	Khorasan	AusAID	*75,000	Earthquake assistance	(UNDHA *74,000	Earthquake assistance)
				AusAID	*200,000	Earthquake relief as Bilateral aid		
1998	JAN 10	CHINA	Hebei	AusAID	*75,000	Emergency aid (UNDP)	(UNDP *75,000 WVA 1,989,114	Emergency aid) Reconstruction, sanitation, agriculture
1998	MAY 30	AFGHANISTAN	Badakhshan	AusAID	*300,000	Helicopters and UNDAC Mission (UNOCHA)	(UNOCHA 300,000	Helicopters and UNDAC Mission)
						ARCS	N/S	Earthquake relief

TABLE 4 - Continued

				<u>AUD\$</u>		<u>HUMANITARIAN AID</u>				<u>AUD\$</u>		<u>HUMANITARIAN AID</u>	
1998	JUL 17	PAPUA NEW GUINEA (Tsunami)	Aitape	AusAID	*2,930,850	Emergency and Bilateral aid (DoD, EMA, AusAID, ARCS Private Enterprise, PEMA)							
				(DoD	*1,855,063	Operation "Shaddock": Military field hospital, aircraft and relief items)		(ARCS	*10,771	Red Cross placement)			
								(PVE	*48,096	Medical supplies)			
								(PEMA	*11,833	UNOCHA/UNDAC Mission)			
								ADRA	110,000	Relief			
				(EMA	*5,087	Tsunami assistance)		CAA	121,558	Relief			
				(AusAID	*699,570	Rehabilitation project)		ANGLI	56,050	Relief			
				(AusAID	*300,430	Rehabilitation phase)		NCCA	96,717	Support through churches			
								WVA	250,000	Relief, rehabilitation			
								SAA	600,000	Relief, shelter, water			
								SCSL	15,000	Relief			
								RI	925,000	Relief, rehabilitation			
									(245,000	Reconstruction teams, transportation, vehicle and ambulance, food, tools, and machinery, building materials			
									700,000	Not disbursed - currently under consideration)			
								(IFRC	*300,000	Relief assistance)			
1999	JAN 25	COLOMBIA	Armenia	AusAID	*500,000	Emergency aid (IFRC, UNOCHA)		(UNOCHA	*200,000	Earthquake assistance)			
								WVA	30,000	Emergency relief			

TABLE 4 - Continued

TABLE 4 - Continued									
1999	JUN 15	MEXICO	Puebla	AUD\$ HUMANITARIAN AID			AUD\$ HUMANITARIAN AID		
							WVA	42,857	Relief
1999	AUG 17	TURKEY	Ismit	AusAD	*3,500,000	Emergency aid (ARCS, UNCF, UNOCHA UNDP)	(ARCS	*1,400,000	Assistance for victims)
	AND						(UNICF	*1,000,000	Earthquake assistance)
1999	NOV 12	TURKEY	Duzce				(UNOCHA	*600,000	Relief initiatives)
				AusAID	*N/S	UNOCHA/UNDAC Mission (PEMA)	(UNDP	*500,000	Assistance for victims)
							(PEMA	*N/S	UNOCHA/UNDAC Mission
				EMA	N/S	Facilitation of police and fire observers	CAA	7,000	Relief
							CARE	4,000	
							NCCA	25,600	Support through Middle East Council of Churches
							WVA	40,511	Distribution of relief
1999	SEP 20	TAIWAN	Chi-Chi	AusAID	*25,000	Emergency aid (EMA)	UNOCHA	*N/S	UNDAC Mission - five technical advisors
				(EMA	*25,000	Earthquake assistance)			
				AusAID	*N/S	UNDAC Mission (UNOCHA)	WVA	1,825,000	Water medicine, hygiene kits, purified water
				EMA	N/S	Facilitation of four technical experts to operate with UN	ARCS	N/S	Relief through IFRC

TABLE 4 - Continued

1999	NOV 26	VANUATU	Pentecost Is	AusAID	AUD\$ 170,000	HUMANITARIAN AID Relief flights, food, water volcanic risk evacuation flight	AUD\$	HUMANITARIAN AID	
2000	JUN 04	INDONESIA	Bengkulu	AusAID	*735,000	Bilateral and emergency aid	(ARCS	*500,000	Contribution to IFRC Applied for emergency assistance)
				(AusAID (AusAID)	*100,000 *82,317	Bilateral aid) Bilateral aid for water supplies)			
				AusAID	*N/S	UNOCHA/UNDAC Mission (PEMA)	(PEMA	*N/S	UNOCHA/UNDAC Mission)
				EMA	N/S	Emergency assistance	ADRA WVA	81,900 50,714	Relief 2000 family kits

TABLE 4 - Continued

NOTES: Monetary values (funding) given in Australian Dollars - AUD\$
 *Denotes Australian Government donor agency AusAID total funds provided to both Government and Non-Government agencies
 () Parenthesis show specific agencies in receipt of AusAID * funding
 N/S Monetary value not specified

GOVERNMENT AGENCY :	AusAID -	Australian Agency for International Development (within Department of Foreign Affairs and Trade)
	DoD -	Department of Defence (Military relief operations and assistance)
NON-GOVERNMENT ORGANISATIONS:	EMA -	Emergency Management Australia (within Department of Defence)
	ADRA -	Adventist Development and Relief Agency
	ANGLI -	AngliCORD - Anglicans Cooperating in Overseas Relief and Development
	ARCS -	Australian Red Cross Society
	CAA -	Community Aid Abroad
	CARE -	Care Australia
	IFRC -	International Federation of Red Cross
	MSF -	Medicins Sans Frontiers (Australia)
	NCCA -	National Council of Churches Australia
	PEMA -	Pacific Emergency Management Associates
	PVE -	Private Enterprise (non-specified)
	RI -	Rotary International (Australia and New Zealand) (coordinated through RI District 9600, Brisbane, Queensland)
	SAA -	Salvation Army Australia
	SCSL -	Secours Catholique/Solidaire Laique
	WVA -	World Vision Australia
	United Nations Agencies:	
	UNDAC -	United Nations Disaster Assessment and Coordination Team
	UNDHA -	United Nations Department of Humanitarian Affairs
	UNDP -	United Nations Development Programme
	UNICEF -	United Nations International Childrens Emergency Fund
	UNOCHA -	United Nations Office for the Coordination of Humanitarian Affairs

TABLE 4 - Continued

NEW ZEALAND

DEVASTATING EARTHQUAKE IN DEVELOPING COUNTRY				GOVERNMENT AGENCY			NON-GOVERNMENT ORGANISATION		
1995	OCT 6	INDONESIA	Kerinci	NZODA	<u>NZD\$</u> *50,000	<u>HUMANITARIAN AID</u> Earthquake relief (UNDHA)	(UNDHA	<u>NZD\$</u> *50,000	<u>HUMANITARIAN AID</u> Earthquake relief)
1997	FEB 28	IRAN	Ardabil	NZODA	*75,000	Earthquake relief (UNDHA)	(UNDHA	*75,000	Earthquake relief)
1997	MAY 10	IRAN	Khorasan	NZODA	*75,000	Earthquake relief (UNDHA)	(UNDHA	*75,000	Earthquake relief)
1998	MAY 30	AFGHANISTAN	Badakhshan	NZODA	*50,000	Earthquake relief (UNOCHA)	(UNOCHA NZRC	*50,000 9,340	Earthquake relief Earthquake relief
1998	JUL 17	PAPUA NEW GUINEA	Aitape	NZODA	*203,124	Bilateral tsunami aid for medical team, transport aircraft with medical supplies shelter and water containers (NZDF)	CAR NZRC WVNZ SANZ	488,000 1,097,060 200,000 18,000	Tsunami relief Tsunami relief Tsunami relief Medical teams and ground relief support
				(NZDF NZODA	*203,124 *699,985	Bilateral aid) Tsunami relief (NZRC)	(NZRC	*699,985	Tsunami relief

TABLE 4 - Continued

NEW ZEALAND

1999	JAN 25	COLOMBIA	Armenia	NZODA	<u>NZD\$</u> *20,000	<u>HUMANITARIAN AID</u> Earthquake relief (NZRC)	NZRC CAR NZRC WVNZ UNICEF	<u>NZD\$</u> *20,000 2,000 3,263 100,000 20,000	<u>HUMANITARIAN AID</u> Earthquake relief) Earthquake relief Earthquake relief Earthquake relief Earthquake relief
1999	AUG 17 AND NOV 12	TURKEY TURKEY	Ismit Duzce	NZODA	*450,000	Earthquake relief (IFRC, UNICEF)	(IFRC (UNICEF CAR NZRC WVNZ UNICEF	*250,000 *200,000 32,000 962,390 260,000 20,000	Earthquake relief) Earthquake relief) Earthquake relief Earthquake relief Earthquake relief Earthquake relief
1999	SEP 20	TAIWAN	Chi-Chi	NZODA	*150,000	Earthquake relief (NZRC)	(NZRC NZRC WVNZ	*150,000 160,287 20,000	Earthquake relief) Earthquake relief Earthquake relief
1999	NOV 26	VANUATU	Pentecost Is	NZODA	10,000	Food			
2000	JUN 04	INDONESIA	Bengkulu	NZODA	*200,000	Earthquake relief (NZRC)	(NZRC NZRC	*200,000 154,169	Earthquake relief) Earthquake relief

TABLE 4 - Continued

NEW ZEALAND

NOTES: Monetary values (funding) given in New Zealand Dollars - NZ\$
 *Denotes New Zealand Government donor agency NZODA total funds provided to both Government and Non-Government Organisations
 () Parenthesis show specific agencies in receipt of NZODA * funding
 N/S Monetary value not specified

GOVERNMENT AGENCY :	NZODA	-	New Zealand Development Assistance (within Minister of Foreign Affairs and Trade)
	NZDF	-	New Zealand Defence Forces (Ministry of Defence)
NON-GOVERNMENT ORGANISATIONS :	CAR	-	Caritas
	IFRC	-	Industrial Federation of Red Cross
	NZRC	-	New Zealand Red Cross
	SANZ	-	The Salvation Army New Zealand
	WVNZ	-	World Vision New Zealand
	United Nations Agencies:		
	UNDHA	-	United Nations Department of Humanitarian Affairs
	UNICEF	-	United Nations International Childrens Emergency Fund
	UNOCHA	-	United Nations Office for Coordination of Humanitarian Affairs

The Governmental and/or Non-Governmental Aids of Organizations in European DAC Countries in the Field of Earthquake Disaster Mitigation and Post Earthquake Disaster Recovery for Developing Countries

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RDM/IZIIS - Skopje

Annex A: States and International Organizations of the EUR-OPA Major Hazard Agreement

States and International Organizations of the EUR-OPA Major Hazard Agreement	Date of Accession to OPA
Member States of the Council of Europe/Etats Membres du Conseil de l'Europe	
Albania/Albanie	15/04/1993
Austria/Autriche	*
Belgium/Belgique	29/05/1991
Bulgaria/Bulgarie	28/10/1994
France/France	20/03/1987
Germany/Allemagne	*
Greece/Grece	20/03/1987
Italy/Italie	20/03/1987
Luxembourg/Luxembourg	20/03/1987
Malta/Malte	20/03/1987
Portugal/Portugal	20/03/1987
Russia/Russie	19/04/1990
San Marino/Saint-Marin	20/03/1987
Spain/Espagne	20/03/1987
Switzerland/Suisse	*
Republic of Macedonia/Republique Macedoine	22/01/1996
Turkey/Turque	20/03/1987
Ukraine/Ukraine	04/02/1997
Non-Member States of the Council of Europe/Etats Non-Membres du Conseil de l'Europe	
Algeria/Algerie	12/02/1991
Armenia/Armenie	20/01/1993
Azerbaijan/Azerbaidjan	20/01/1993
Georgia/Georgie	20/01/1993
Japan/Japon	*
Liban/Liban	01/03/1995
Moldova/Moldavia	01/03/1995
Morocco/Maroc	01/03/1995
Monaco/Monaco	16/01/1990
International Organizations/Organisations Internationales	
European Commission/Commission des Communautés Europeennes	16/06/1987
NATO/F.I.S.C.R.	
DHA United Nations/Nations Unies	21/05/1992
UNESCO	16/01/1990
WHO - Regional Office for Europe	
OMS - Bureau Regional pour l'Europe	20/03/1987

- States observers in activities of the partial agreement (or in some of them)
- Etats observateurs pour les activites de l'accord (ou pour certaines d'entre elles)

Annex B: Network of Specialized European and Euro-Mediterranean Centers of the MHA Agreement

CEMEC	European Center for Disaster Medicine, San Marino
CUEBC	European University Center for the Cultural Heritage, Ravello, Italy
AFEM	European Natural Disasters Training Center, Ankara, Turkey
ECPFE	European Center on Prevention and Forecasting of Earthquakes, Athens, Greece
EMSC	European Mediterranean Seismological Center, Bruyeres-le-Chatel, France
CESG	European Center on Seismic and Geomorphological Hazards, Strasbourg, France
ECGS	European Center for Geodynamics and Seismology (ECGS), Walferdange, Luxembourg
ICoD	Euro-Mediterranean Center on Insular Coastal Dynamics, Valletta, Malta
ECNTRM	European Center of New Technologies for the Management of Natural and Technological Major, Moscow, Russian Federation
ISPU	Higher Institute of Emergency Planning, European Center of Florival, Florival, Belgium
CEISE	European Center for Research into Techniques for Informing the Population in Emergency Situations, Madrid, Spain
ECTR	European Interregional Educational Center for Training Rescuers, Yerevan, Armenia
ECGHHD	European Center on Geodinamical Risks of High Dams, Tbilisi, Georgia
-----	European Center on Training and Information of Local and Regional Authorities and Population in the Field of Natural and Technological Disasters, Baku, Azerbaijan
CEPRIS	Euro-Mediterranean Center for Evaluation and Prevention of Seismic Risk, Rabat, Morocco
CSLT	European Center for School Level Training on Risk Prevention, Sofia, Bulgaria
CRSTRA	Euro-Mediterranean Center for Arid Zones, Ksar Chellala, Algeria
ECILS	European Center on Vulnerability of Industrial and Lifeline Systems, Skopje, Republic of Macedonia
TESEC	European Center of Technological Safety, Kiev, Ukraine
CERU	European Center for Urban Risks, Lisbon, Portugal

Annex C: REVISED MEDIUM TERM PLAN 1997 - 2001

7th Ministerial Session of the EUR-OPA Major Hazards Agreement
Monte-Carlo, 24-25 November 1997

I. PREAMBLE

The Committee of Ministers of the Council of Europe adopted the intergovernmental EUR-OPA Major Hazards Agreement, which is designed to “secure closer cooperation on prevention of, protection against and organisation of relief in major natural and technological disasters”, at its session on 16-20 March 1987.

This cooperation is organized under an Open Partial Agreement (Resolution (87) 2) - partial because only those Council of Europe member States which are interested participate, open since non-member States of the Council of Europe may apply to join it.

The main aim is to look, in pluri-disciplinary terms, at ways of cooperating on prevention Protection and relief in connection with major disasters.

General principles of the Medium-Term Plan

The Agreement’s second medium term plan, running from 1997 to 2001, will focus on precise definition of the themes on which the various types of activity conducted under the Agreement should concentrate:

- research, training, information activities;
- activities within the Agreement's network of Centres;
- specific programs;
- service activities: European warning system, etc.

On the basis of the European Specialized Centers network activities and priorities set out in section II.B.2. of this document, the intention is to evaluate the practical results obtained, after a three-year period, with a view to examining the specific value of the medium-term plan and updating it as and when necessary.

A number of principles have been formulated to provide a conceptual basis for all activities conducted under the Agreement:

1. The EUR-OPA Major Hazards Agreement is an instrument for contact, exchange and cooperation between the “States of Eastern Europe, the Southern Mediterranean and Western Europe.”
2. In order to avoid duplication, activities under the Agreement are as far as possible, prepared, conducted and evaluated together with the European Union and the other

European institutions (the European Space Agency), and with international institutions such as the specialized United Nations agencies (DHA, UNESCO, WHO, ILO, IAEA, WMO, etc.), and NATO.

3. During the period 1997-2001, activities under the Agreement should focus on a limited number of themes and fields, producing tangible results which illustrate their special features and utility.
4. In budget terms,
 - In the context of project effectiveness and budget restrictions, the Special European Fund, based on compulsory contributions by the member States, must be used to support priority activities under the Agreement. The resources needed to implement the specific programs as well as other programs implemented within the network of European and Euro-Mediterranean Centers are raised from European and international institutions and voluntary contributions from member and non-member States of the Agreement, or from interested institutions.
 - The grants made to the European, Euro-Mediterranean and Associated Centers will be adjusted, depending on their concordance with the Agreement's priorities, as defined in the present medium-term plan. They may not exceed 60% of the total sum contributed by the authority to which a Center is attached or by other bodies.
5. An audit system is being introduced: from 1997 onwards, 1/3 of the European, Euro-Mediterranean Centers and Associate Centers will be audited every year, and the quality of the results achieved through their work assessed, as a contribution to overall evaluation, in 1999, of activities conducted under the Agreement. The aims of the audits are to:
 - assess the results of activities of European, Euro-Mediterranean and Associate Centers supported by the Special European Fund in relation to the priorities set out in the present document
 - confirm the approval of a Center as a European, Euro-Mediterranean or Associate Center
 - assess the Centers from a budgetary point of view.
6. The fact of being a member State of the Agreement does not automatically grant entitlement to have a European Center approved.

II. PLAN OF ACTION

A. PLATFORM FOR EXCHANGE AND CONSULTATION AT POLITICAL LEVEL

The EUR-OPA Major Hazards Agreement is regarded as an instrument of exchange and cooperation between Eastern Europe, the Southern Mediterranean and Western Europe, and its aim is to exchange information on member States' protection, prevention and relief organization policies, encourage them to learn from one another's experience, and promote a policy of cooperation, covering in particular:

- scientific and technical questions (prevention, forecasting, protection and the organization of relief)
- policy on communication and public information
- return to a normal state of affairs
- training
- study of existing legislation on major hazards and methods for the management of emergency situations.

B. SCIENTIFIC AND TECHNICAL COOPERATION: RESEARCH, TRAINING (SEF)

Having regard to the priority concerns of member States, this plan covers hazard research, prevention and forecasting, the management of emergencies, rehabilitation, and post-crisis analysis of natural and technological hazards.

B.1. Horizontal programs

Priority is given to pluri-disciplinary programs covering the following:

i. Training

Analysis of existing training curricula at school and university level and in permanent and vocational training (Civil Protection Schools).

Employment/training market studies to identify the types of job essential to risk management and the training profile sought by employers.

The EUR-OPA Major Hazards Agreement will contribute to the organization of training courses for relief specialists: preparation for crisis (including preventive activities), relief management, post-disaster measures. Experience shows that active methods (analysis of previous disasters, simulation exercises, field visits) are essential. It participates in the preparation of the persons intervening during a crisis situation at technical, medical and

psychological level.

ii. *Communication and information*

Preparation of multimedia information and training material, aimed at the general public (or specific groups) and covering action to be taken before, during and after disasters. This material must be suitable or adaptable for use in several countries, and should cover the needs of specific target groups (e.g. classroom and game-based materials should be produced for teachers).

iii. *Contribution of advanced technologies to risk management and particularly the role of space technologies.*

iv. *Comparative studies of legislation on major hazards and the management of emergency situations.*

B.2. Thematic program concerning the priority fields of activity of the European network of the Agreement's Centers

On the basis of the various types of natural hazards: earthquake, earth movement, volcano, flooding (plain flood and torrential flooding), hurricane, desertification, coastal zone, forest fire, etc. and of technological hazards: nuclear, chemical, transport of dangerous substances, etc...., the following priorities were reached:

Natural hazards:

- earthquake and associated landslides
- flooding

Technological hazards:

- chemical
- transport of dangerous substances

With respect to these types of hazards, priority was given to the following fields of activity:

Earthquake:

- research in prediction and prevention
- information-communication in crisis management
- operational aspects in crisis management

Flooding:

- information-communication in prevention
- regional planning in prevention
- operational aspects in crisis management
- contribution of technologies in crisis management

Chemical:

- research in prevention
- training in prevention
- information-communication in prevention
- training in crisis management
- operational aspects in crisis management.

Transport of dangerous substances:

- operational aspects in knowledge
- training in prevention
- training in crisis management
- operational aspects in crisis management.

In the field of surveillance, the aim is to consolidate and develop the existing conventional warning systems.

The EUR-OPA Major Hazards Agreement will help to set up European networks of “voluntary contribution” data banks in the fields of seismic risk, flooding and chemical risk.