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A GLOSSARY OF
INTERNATIONAL DISASTER ASSISTANCE
TERMS

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GLOSSARY OF INTERNATIONAL DISASTER ASSISTANCE TERMS

This glossary is intended as an aid to generalists working in the disaster assistance field. It has been prepared with the hope that terms which are common in the disaster assistance vocabulary will be rendered more comprehensible to all interested individuals, whether they be disaster relief specialists or specialists in related fields.

It is also hoped that this glossary will help standardize terms frequently used in international seminars on disaster preparedness. The glossary will be revised and updated as needs dictate. Anyone wishing to offer a term for inclusion should feel free to do so.

-A-

Acceleration - a change in velocity due to gravity; in earthquake hazard analysis, it is expressed as a fraction of gravity pull (g).

Adjustments - any physical or structural rearrangement of the environment to safeguard human life and property, such as the building of dams or windbreaks, or the strengthening of buildings.

Aerial reconnaissance - the survey of a disaster area by air to determine extent and type of destruction.

Afforestation - establishment of a tree crop in an area where trees have always or long been absent.

Aftershock - a tremor which follows the main shock of an earthquake and originates at or near the focus of the primary earthquake. Generally, major earthquakes are followed by a large number of aftershocks that decrease in frequency over time.

Agro-climatic region - identification of a region on the basis of homogeneous climate, physical features, and crop types; used to determine crop calendars, forecast crop yields, and conduct drought assessments.

Agro-forestry - the growing of crops and trees together, or the use of special crops or trees to supplement or complement normal field crops.

Agro-meteorology - the study and application of meteorology and climatology to specific problems in agriculture such as crop yield modeling and forecasting.

Alert signals - a commonly recognized siren, flag, or other device sounded or raised on the authority of local officials to indicate an emergency, man-made or natural. The use of such a signal may also activate specified emergency procedures, such as mobilization or evacuation.

Amplitude - the maximum displacement from zero level of any wave such as a seismic wave.

Analogue modeling - the application of a specific set of historic agronomic and climatic data of a given area to another area for which no such data exist; used to estimate crop conditions and potential yields.

Array - in seismology, an ordered arrangement of seismometers/geophones, the data from which feed into a central receiver.

Arrival time - the time at which a particular seismic wave phase arrives at a detector and triggers recording or alert devices.

Aseismic - non-seismic; used to designate structures which can withstand earthquakes or areas that are relatively free from seismic activity.

Ash flow - in eruptions of gas charged magma, a relatively small proportion of the material may be thrown high into the atmosphere by explosion. Much of the resulting ash remains suspended in a cloud which spreads rapidly outward close to the ground.

Assessment - survey of a disaster area to make estimates of damages and recommendations for necessary relief action.

Atmospheric pollution - contamination of the atmosphere by gases and solids produced by the burning of natural and artificial fuels in chemical and some industrial processes, and in nuclear explosions; the term may also include contamination produced by accumulation of cosmic dust, raising of surface dust by wind, volcanic eruptions, vegetation decay, sea spray evaporation, and natural radioactivity.

Avalanche - the rapid and sudden sliding and flowage of masses of usually incoherent and unsorted mixtures of snow/ice/rock material.

- B -

Barometric pressure - the pressure exerted by the atmosphere as a consequence of the gravitational attraction exerted upon a "column" of air lying directly above any given point on the Earth's surface.

Beaufort scale - scale of wind and rain conditions and speed, measured from zero when the sea is calm like a mirror and winds are less than 1 m.p.h., to twelve for hurricanes, when the air is filled with foam and spray and wind speeds are greater than 72 m.p.h.

Body wave - a seismic wave that travels through the interior of the Earth and is not related to a boundary surface.

Buffer strip - (also called a filter strip), a strip of trees or vegetation left intact along streams to protect against erosion, or to keep runoff from washing sediment or debris into streams.

- C -

Carrying capacity - the number or weight of any species that can survive in a given ecosystem without causing its deterioration. A more narrow definition is the maximum stocking possible on a given range or wildlife area, without diminishing the forage yields or damaging the watershed; the ability of a community to sustain growth.

Case report - reports prepared by OFDA presenting the history and development of disasters which have occurred since 1971, and cataloguing assistance received from all sources.

Catastrophe theory - a coherent group of general propositions used as principles to explain sudden, violent disturbances on the Earth's surface.

Change detection - the application of satellite or airborne imagery (via computer discernment) to analyze temporal changes on the Earth's surface.

Civil defense - a government agency that serves to coordinate, organize, and direct in time of emergency, the government, voluntary agency and private emergency response systems. It also acts to prevent, mitigate, and prepare for disasters. The civil defense agency provides relief and life support after a disaster strikes; it also initiates recovery and rehabilitation action and programs. In some countries similar functions may be performed by civil protection, emergency preparedness, emergency services, civil preparedness, or disaster assistance agencies.

Clear cutting - clean felling or complete cutting which removes an entire standing crop of trees.

Climatic anomaly - unusual or exceptional climatic conditions within a particular region or area.

Climatology - the branch of meteorology concerned with the mean physical state of the atmosphere together with its statistical variations in both space and time, as reflected in the totality of weather behavior over a period of many years. Climatology encompasses not only the description of climate but also the physical origins and widerange practical consequences of climate and climatic change.

Communications - in disaster preparedness and assistance, the interconnected network for transmitting information about potential disasters to the population. Orbiting satellites, seismographic meters and other equipment which monitors changes on the Earth form a part of this network. Public awareness and education programs designed to inform the population of the likelihood of a disaster and recommended actions to take in such an event, and warning signals alerting the community to a disaster are also part of this network. Information transmitted between the disaster site and the emergency operations center, heads of government, voluntary agencies, and international relief coordinators via telephone, radio, telegraph, or other media (television, newspapers, magazines, ham radio operators), is also a vital part of the communications network.

Contingency planning - a series of assessments and evaluations followed by the development of proposed plans of action in anticipation of a natural or man-made disaster. This involves: 1) identification of the potential threat, e.g., proximity to an active volcano, settlements on seismic faults or flood plains, history of drought, food shortages, or epidemics, etc.; 2) identification of likely impact of disaster, e.g., number of people potentially affected, disruption of food or water supply, transportation system, or communication channels, damage to property, roads, health facilities, duration of disaster and its effects; 3) anticipating and developing optimum response to such a threat, e.g., educate/alert population to potential risk, develop notification and evacuation plans, provide means of transporting people, food and medical supplies; 4) identification of existing resources, e.g., areas where shelters could be established, sources of food, water and medical supplies, communication and transportation systems, location of reconstruction equipment.

Crater - a bowl-shaped depression, as at the mouth of a volcano or geyser (or any pit resembling this), especially when formed by a subterranean explosion or by the impact of a meteor.

Creep - the gradual and more or less continuous, permanent deformation process sustained by ice and rock materials under gravitational stresses; also called mass move.

Creeping disaster - a disaster of slow onset, such as drought, health deterioration, or famine, which may not have an easily identifiable beginning.

Crop calendar - seasonal timetable of a region's standard crops giving dates of sowing and various stages of growth under different weather conditions.

Crop Moisture Index (CMI) - a modified Palmer Index that represents those aspects of soil moisture which affect vegetation and field operations. (See Palmer Index.)

- Crop moisture ratio** - the ratio of precipitation to the potential evapotranspiration (P.E.T.) for key stages in crop development. It measures the proportion of water supply-to-demand under rainfed conditions for successive growth stages of specific crops.
- Crop yield** - the amount of a crop harvested over a given period of time or at a given moment in its cycle.
- CSB** - Corn-Soya Blend, precooked blend of corn, defatted soy flour, vitamins and minerals; a Food for Peace commodity.
- CSM** - Corn-Soya Milk, precooked corn, defatted soy flour, dry skim milk, vitamins and minerals; a Food for Peace commodity.
- Cumulative precipitation** - a procedure for comparing meteorological and agricultural droughts by relating drought stages to a percentage of normal precipitation.
- Curriculum development** - when used in connection with disaster preparedness, relates to the inclusion of public awareness information in school education program. (See Public awareness.)
- Cyclone** - a large-scale closed circulation system in the Earth's atmosphere with relatively low barometric pressure and winds which blow counterclockwise around the center in the northern hemisphere and clockwise in the southern hemisphere. See also hurricane, typhoon, and tropical cyclone. Called "Cyclone" in Indian Ocean and South Pacific; "Hurricane" in Western Atlantic and Eastern Pacific; Typhoon in Western Pacific.
- Cyclone Panel** - an element within the Typhoon Committee with principal interest in the Bay of Bengal/Indian Ocean.

- D -

- Damage classification** - evaluation and recording of damages to structures, facilities, or objects according to three categories: 1) "severe damage," which precludes further use of the structure, facility, or object for its intended purpose. 2) "moderate damage," or the degree of damage to principal members which precludes effective use of the structure, facility, or object for its intended purpose, unless major repairs are made short of complete reconstruction. 3) "light damage," such as broken windows, slight damage to roofing and siding, interior partitions blown down, and cracked walls. The damage is not severe enough to preclude use of the installation for the purpose for which it was intended.
- Damage forecasting** - studies of the probable effects of a given disaster upon a particular population or community based on an assumed magnitude of hazard and an estimated vulnerability of potential victims and property.

Debris flow - a mass movement involving a rapid flow of debris from various kinds of earth material in various conditions. Specifically, a high density mud flow with abundant coarse-grained materials and resulting invariably from an unusually heavy rainfall.

Declaration of disaster - issuance of a State of Emergency by designated authorities in the wake of a large scale calamity, in order to activate those measures contained in the national disaster plans, preparedness plans, and emergency operations manuals. Such declarations are in effect for a limited time. The U.S. Government's response to foreign disasters is triggered by the American Ambassador's declaration of disaster or "determination that a disaster exists."

Deforestation - the clearing of a previously forested area. Though man is the primary deforester, natural agents, such as volcanic eruptions, erosion, and landslides may also contribute. Clear cutting, if followed by reforestation, is not an act of deforestation.

Desertification - the process by which an already arid area becomes even more barren, because of prolonged drought, sand drift, or manmade degradation of the environment.

Disaster - occurrence of widespread severe damage, injury, or loss of life or property, with which a community cannot cope and during which the affected society undergoes severe disruption. Disasters may be man-made or have natural causes and may include earthquakes, floods, fires, hurricanes, cyclones, major storms, volcanic eruptions, spills, air crashes, and creeping disasters such as droughts, epidemics or serious food shortages, as well as disasters of civil strife in which many victims may be left homeless as much property is seriously damaged or destroyed.

Disaster act - law(s) of a nation or its provinces which provides the government with the powers to employ the designated resources at national, state, or local levels to meet emergency demands and to administer disaster plans.

Disaster Area Survey Team (DAST) - a group that is deployed in an area after a disaster to ascertain the extent of damage to population and property and to recommend appropriate responses.

Disaster assistance - provision of measures to prevent, reduce the impact of, and reverse the effects of disasters; phases include relief, rehabilitation, reconstruction and preparedness, and prevention and mitigation.

Disaster plan - the basic principles, policies, responsibilities, preparations, and responses developed to enable a society to meet any kind of emergency or disaster.

Disaster planning strategy - the national strategy of a country for achieving civil and state defense emergency preparedness, which defines the overall purposes, systems, methods and organizations (public and private), and the ways and means of achieving coordination and prompt response to needs as they arise.

Displaced person - one who flees or is separated from his/her community, as a result of political conflicts, civil strife, or natural disasters, but still remains within his/her own national boundaries.

DKM Scale - the Dalton King Magnitude Scale, developed at OFDA, which provides a magnitude of disaster damage relative to all other disasters on the basis of the number of victims, deaths, and dollar damages ascribed to a given disaster.

Dollar damage - the extent or physical damage in terms of cost of destroyed or damaged public and private assets.

- E -

Earth flow - a mass movement of land characterized by down-slope translation of soil and weathered rock over a discrete sheer surface (landslide) within well-defined lateral boundaries.

Earthquake - a sudden break in the rock of the Earth's crust below or at the surface, which results in the vibration of the ground, and the potential collapse of buildings and possible destruction of life and property if the quake is of sufficient magnitude.

Earthquake forecasting - estimating the probability of the occurrence of an earthquake in relative time, place, and magnitude.

Earthquake swarm - a series of minor earth tremors (none of which may be identified as the main shock) which occurs within a limited area and time.

Ecosystem - any group of living organisms; animals, plants, and bacteria, and their interrelated physical and chemical environment.

Elastic wave - a wave that is propagated by some kind of elastic deformation, i.e., a deformation which disappears when the forces are removed. A seismic wave is a type of elastic wave.

Emergency broadcasting system - radio and television broadcast stations which have been authorized by the government to disseminate information during a state of disaster or other national emergency.

Emergency operations center (EOC) - protected site from which government and non-government officials coordinate emergency relief responses.

Emergency operations plan - a description of emergency actions and instructions concerned with the threat, and/or impact of a disaster. It is usually issued by the civil defense agency and includes the Red Cross, other voluntary agencies, industry, and individuals. The plan states the method for taking coordinated action to meet the needs of the situation, and assigns tasks and priorities for completing these actions based upon predetermined assumptions, objectives, capabilities, and the requirements of each disaster type.

Emergency welfare - public and private assistance programs to locate and reunite family members during an emergency and provide essential welfare services, such as shelter, food, and medical attention.

Environmental degradation - variously applied to the effects of erosion, reduced water absorption and nutrient loss, e.g., after fire, overgrazing, or poor cultivation practices. Long-term changes are implied.

Epicenter - that point on the Earth's surface directly above the place of origin, focus, or hypocenter of an earthquake.

Epidemic - a rapid and widespread outbreak of disease.

Epidemiology - the study of healthy and diseased populations, and the environmental interrelationships affecting these states; also the surveillance of and techniques for discovery of sources, causes and control of epidemics.

Erosion - depletion or loss of soil as a result of moving surface water or wind. Erosion can seriously affect the crop production capacity of the remaining soil.

Establishment forestry - the process of developing a forest crop to a stage at which the young trees may be considered established, i.e., safe from normal adverse influences, such as frost or browsing, and no longer in need of special protection or tending.

Evacuation plan - procedure whereby persons can be removed from a threatened or impacted area.

Evapotranspiration - the combined loss of water from a given area, during a specific period of time, by evaporation from the soil and by transpiration from plants.

Excess property - stocks and supplies held by the United States Government out of which commodities may be purchased for disaster relief. Excess property may include such items as generators, electrical or fuel equipment, vehicles, (aircraft parts), farm machinery, or other such supplies. OFDA stockpiles do not include excess property.

Executive order (EO) - an order with the force of law issued by the chief executive of a country. In time of disaster, an executive order may be issued to ensure that emergency services will be forthcoming to the population in need.

Exploitation cutting - the removal of trees for immediate marketing with little or no regard for environmental needs.

Eye (of the storm) - the calm center of a tropical cyclone.

- F -

Fall - a type of landslide, characterized by a very rapid downward movement of rock mass or earth.

Fallout - the descent to earth of radioactive particles from the atmosphere which may arise from 1) natural causes, 2) atomic bomb or thermonuclear bomb explosion and 3) induced radioactivities and fission products from atomic reactor operations.

Fault - a planar or gently curved fracture in the Earth's crust across which relative displacement has occurred.

First aid - the immediate but temporary care given to the victims of an accident or sudden illness in order to avert complications, lessen suffering, and sustain life until the services of a physician can be obtained.

First arrival - in seismology, the first recorded signal attributed to a seismic wave traveling from a known source.

Flash flood - a sudden and extreme volume of water which flows rapidly and causes inundation of land areas. It can result in heavy loss of life and destruction of property.

Flood control - the management of water resources through construction of dams, reservoirs, embankments, etc., to avoid floods.

Flood plain - an area adjacent to a river, formed by the repeated overflow of the natural channel bed.

Flood plain zoning - a plan that defines the main zones of a potential flood area, usually accompanied by housing restrictions or by other recommendations.

Flow - a mass movement of unconsolidated material which exhibits a continuity of motion and a plastic or semifluid behavior, resembling that of a viscous fluid. It may be termed a creep, an earthflow, a mudflow, or a debris avalanche. Water is usually required for most types of flow movements.

Focal depth - distance from the Earth's surface at which a seismic wave first originates, i.e., at the hypocenter of an earthquake.

Focal zone - the rupture zone of an earthquake. In the case of a great earthquake, the focal zone may be several hundred kilometers in length.

Focus - a point beneath the Earth's surface where the first motion of an earthquake and its elastic waves originate.

Food for Peace - a United States Government program which provides food assistance to populations in need. Food for Peace commodities consist of grains, oils, legumes, and blends of commodities whose nutrient values have been predetermined and which are sufficiently universal in nature to be accepted by most populations. (See P.L. 480.)

Food for Work - one component of the Title II program under P.L. 480 where persons perform necessary jobs to improve their communities and for which they receive food as full or partial payment. (See P.L. 480.)

Food shortage - a scarcity of food, in a given area, which has not yet reached famine proportions. Food shortages usually require some external food assistance but usually do not result in loss of life. (See Famine.)

Foreshock - precursory seismicity which commonly precedes a main shock (earthquake) by anywhere from seconds to weeks and usually originates at or near the focal zone of the main earthquake.

Forest cover - organic debris or humus on the surface of the forest soil.

Forest/grassland fire - fires in forest or brush grasslands which cover extensive areas and which usually do extensive damage. They may start by natural causes like volcanic eruptions or lightning, or they may be caused by arsonists or careless smokers, by those burning wood, or by clearing a forest area.

Forestation - the establishment of a forest, either natural or man-made, on an area which may not have had a forest previously.

Frequency - the repetition of various forms of waves, expressed in cycles per second.

- G -

Geomorphology - a science that deals with the form and surface configuration of the solid earth. It attempts to reveal the interrelationships between the origin of surface features and the causes of their alteration.

Geophysics - the science which deals with physical occurrences at and below the surface of the earth including geology, oceanography, geodesy, seismology, hydrology, etc.

G.M.T. - Greenwich Mean Time, or Zulu time or Z. time, or Zero Meridian. A standard reference time used throughout the world, based on the time at the Royal Observatory in Greenwich, England. (Using the twenty-four hour system to convert from Greenwich time, subtract five hours for Eastern Standard Time (EST), six hours for Central Standard Time (CST), seven hours for Mountain Standard Time (MST), eight hours for Pacific Standard Time (PST). Add one hour to the above time zones for "daylight saving time" which is in effect during the summer months in the United States and some other countries.

Global/plate tectonics - the concept that the Earth's surface is made up of several large plates or crustal slabs that move and are continually altering the crust of the Earth.

Green belt - an area of trees and other natural vegetation, or an area of general conservation works, including tree plantings.

Ground water level - the level at which soil and porous rock is saturated with water. This may vary from area to area, being surface level or higher marshy areas, and substantially sub-surface in desert regions.

- H -

Ham radio - the international amateur radio network, sometimes the only surviving communication system after a disaster occurs. Ham radio operators often play an invaluable role in transmitting disaster assessment and needs information between victims and disaster relief specialists.

Hazard - physical forces (hurricane, flood, volcano, etc.) which, when in proximity to populations, may cause disasters.

Health resources - public and private hospitals and clinics, medical personnel, medical and drug supplies, and pharmaceutical distributors.

Heat prostration - a physical response to exposure to excessive heat characterized by cold, damp, ashen skin, lowered blood pressure, excessive sweating, and an increase in pulse rate greater than 100.

History of disasters - a data file prepared by the Office of U.S. Foreign Disaster Assistance which records notable disasters of the 20th century, arranged by disaster number, disaster type, number killed, number of victims, number homeless, and dollar damage.

Hurricane - in the Western Hemisphere, a major storm with a wind velocity of seventy-five miles per hour or more. Also called typhoons in the Pacific Ocean, and cyclones in the Indian Ocean and South Pacific. See Beaufort Scale.

Hydrology - the science which studies the landtrapped waters of the Earth, their occurrence, circulation, and distribution; their chemical and physical properties; and their interaction with the environment, including their relationship to living things.

Hydrometeorology - the study of the occurrence, movement, and changes in the state of water in the atmosphere. The term is also used in a more restricted sense to mean the study of the exchange of water between the atmosphere and continental surfaces.

Hypocenter - the location of the focus of an earthquake, calculated by geographic coordinates and depth from the surface.

- I -

ICRC - International Committee of the Red Cross

Induced seismicity - earthquake activity resulting from man-made causes such as liquid intrusion and construction of reservoirs.

In kind - commodity donations given at the time of a disaster which may consist of food, blankets, medicines, tents, etc.

Insect infestation - 1) the contamination of harvested or stored stocks by insects, usually remedied by the use of appropriate insecticides and fumigants; 2) the contamination of a crop area by insects, which requires the application of insecticides in order to protect crops from destruction.

Intensity - a subjective measurement of the force of an earthquake at a particular place as determined by its effects on persons, structures, and earth materials. Intensity is a measure of effects, while magnitude is a measure of energy. The Modified Mercalli scale is the principal intensity scale used in the United States.

Isobar - a line represented on a map or chart connecting points on the Earth's surface having equal barometric pressure over a given time or period.

Isoseismal line - a line connecting points on the Earth's surface at which earthquake intensity is or is expected to be the same.

- K -

Kanamori Scale (MW) - a magnitude scale used to measure the seismic energy of great earthquakes, i.e., earthquakes with rupture lengths greater than 100 km.

- L -

Land degradation - refers generally to erosion and other damages to land, especially caused by land misuse.

Landsat - orbiting, earth resource sensing satellite used for mapping, environmental change detection, and disaster damage assessment.

Landslide - a rapid or marginally rapid movement of soil and rock downhill.

Lava flow - the residue of an eruption from a volcano which usually consists of molten magma and ash, and usually moves at a moderate pace (in comparison to an ash flow) down a mountain side, often threatening life and property below.

Life support - food, water, sanitation, shelter, and medical aid during the 60 to 90 days following a disaster.

Local conditions - usually refers to weather conditions, significant to the disaster business in time of storms. When local conditions warrant, low-lying coastal areas must be evacuated and other appropriate storm precautions must be taken to mitigate loss of life and property. Also refers to soil conditions.

LORCS - League of Red Cross Societies (also known by cable address, LICROSS).

Low velocity zone - any layer of the Earth in which seismic velocities are lower than in the layers above and below it.

- M -

Magma - the molten matter under the Earth's crust from which igneous rock is formed.

Magnitude - a measurement of the strength of an earthquake, using a scale graduated by the logarithm of the maximum seismic wave amplitude, as recorded on a seismograph at a specified distance from the earthquake's epicenter. Each magnitude step on the Richter scale represents an increase of ten times the measured wave amplitude of the earthquake.

Major accident - refers to occurrences of catastrophic proportion. These may be separate or cumulative accidents on land, sea, or air; serious crashes of ships, trains, or airplanes; multiple auto accidents; destructive accidents in chemical, petrol, or nuclear power plants or at sewage and disposal plants; widespread electrical failures; and collapse of major structures. They may require emergency response or create a public demand for such a response either by government or by various voluntary or private agencies.

Major disaster - flood, hurricane, earthquake, drought, volcanic eruption, epidemic, fire, or other catastrophe of a severity which causes serious disruption to societal, economic and infrastructure elements. In general, a disaster rating 10 or above on DKM scale.

Major earthquake - an earthquake having a magnitude of seven or greater on the Richter scale.

Malnutrition - the condition of severe shortage of protein and calorie intake to such a degree that wasting and shrinking of muscles occurs and performance of daily tasks is drastically inhibited. Malnutrition is measured by several indicators, including upper arm circumference, weight/height, weight/age ratios. These measurements are compared to a standard for a well-nourished individual of the same age.

Mass care - provision of help, usually through public feeding centers where portions of a disaster-stricken population are provided with at least one balanced meal per day. Mass care involves the orderly feeding to families a predetermined quantity and type of food matched, as closely as possible, to the particular preferences of the region or country in question.

Mass wasting - a general term for the dislodging and down slope transport of soil and rock material under the direct application of gravitational body stresses.

MDRO - Mission Disaster Relief Officer. Individual appointed by the Chiefs of USAID Missions to coordinate Mission activities in response to disaster threats.

Medical self-help - training programs to help people prepare for survival in time of disaster when conventionally trained medical help is not available or accessible.

Mercalli Scale - a scale for rating earthquake intensity as humanly perceived, rated numerically from I-Not felt except by a very few, to XII-Damage total. Also is called a Modified Mercalli Scale or MM scale when used in North America.

Meteorology - the science concerned with the atmosphere and related phenomena. Meteorologists observe the atmosphere, temperature, winds, density, clouds, and precipitation, and analyze its observed structure and evolution in terms of the laws of physics.

Microclimate - the fine climate structure of the air space that extends from the surface of the Earth to a height at which the effects of the immediate characteristics of the underlying surface can no longer be distinguished from the general local climate (mesoclimate or macroclimate).

Micro-earthquake - an earthquake having a magnitude of 2 or less on the Richter scale. (See Richter Scale.)

Microseismicity - small earthquake activity.

Microzonation - subdivision of a region into zones that have exposure to similar earthquake related effects. (See Zonation.)

Mission Final Disaster Summary Report - report prepared by USAID or U.S. Government Embassy representatives in a stricken country at the conclusion of a disaster relief effort. This report catalogs and evaluates assistance provided from all sources, giving special attention to aid furnished by the United States Government.

Mitigation - longterm measures taken to reduce the effects of disaster through alteration of the physical environment, such as flood plain zoning and control, afforestation, land terracing, torrent control, sand dune stabilization, and planting of shelter belts or windbreaks.

MM scale - see Mercalli scale.

Monsoon - seasonally heavy rains and wind, particularly in the Indian Ocean and South Asian areas. It can contain winds which change direction with the season, may cause severe damage, and could require emergency response and disaster relief.

- N -

Needs assessment - the estimate of what assistance is needed by a region or country following a disaster.

NGO - non-governmental organization.

NOAA - National Oceanic and Atmospheric Administration of the U.S. Department of Commerce.

Oceanography - the exploration and scientific study of the ocean and its phenomena.

Office of U.S. Foreign Disaster Assistance (OFDA) - the office which has been established by the United States Government to respond to the needs of victims outside the United States who have either been threatened by a disaster or are already disaster victims.

Oil spill - the contamination of a water or shore area by oil from a damaged ship or storage facilities. Oil spills usually require at least minimal emergency response and, if serious enough, may require emergency evacuation of an area.

Operations control - that which is exercised by the Emergency Operations Center in time of disaster to coordinate all activities relative to emergency relief, both in the field and for the response of the United States Government.

Palmer index - a mathematical representation of "meteorological drought" for evaluating the scope, frequency, and severity of prolonged periods of abnormal weather. Its terms include: available water capacity of the soil, evapotranspiration, moisture loss from surface of underlying soil layers, normal precipitation, temperature and runoff.

Potential evapotranspiration (PET) - the amount of moisture that would be removed from a given land area by evapotranspiration.

Phase - the onset of a displacement or oscillation on a seismogram, indicating the arrival of a different type of seismic wave.

P.L. 480 commodities - agricultural commodities issued by the Office of Food for Peace in A.I.D. as authorized by Public Law 480, Title I and Title II. Title I authorizes the sale of U.S. agricultural commodities to friendly countries in exchange for payment in local currency. Title II provides for grants of farm products for famine relief and other assistance, including economic and community development. Food for Peace and Food for Work programs are administered under Title II.

Plantation - an artificial forest stand. A man-made forest raised by the sowing of seed or by planting.

Pollution - contamination of the environment by industrial, chemical, or natural waste products, and from debris flow or other man-made causes such as oil or other chemical spill.

Population at risk - a given population whose lives, property, and livelihoods are threatened by natural hazards.

Potable - fit to drink.

Precipitation - in meteorology, water droplets or ice particles condensed from atmospheric water vapor and sufficiently massive to fall to the Earth's surface, i.e., rain, snow, sleet, hail.

Preparedness - may be described as action designed to minimize loss of life and damage, and to organize and facilitate timely and effective rescue, relief and rehabilitation in cases of disaster. Preparedness is concerned with understanding the threat, forecasting and warning; educating and training officials and the population; establishing organization for and management of disaster situations, including preparation of operational plans, training relief groups, stockpiling supplies, and earmarking necessary funds.

Prevention - measures designed to preclude natural phenomena from causing or resulting in disaster or other emergency situations. Prevention concerns the formulation and implementation of long-range policies and programs to eliminate the occurrence of disasters. Prevention includes legislation and regulatory measures, principally in the fields of physical and urban planning, public works, and building. It also encompasses the manifestation of such plans.

Protection forest - an area wholly or partly covered with woody growth, managed primarily to regulate stream growth, maintain water quality, minimize erosion, stabilize drifting sand, or exert any other beneficial influences.

Public awareness - the state of being informed about the actions needed to save lives and property in the event of a disaster. Public awareness may involve public or adult education, radio or television broadcasts, the establishment of emergency centers in convenient locations, and the use of the print media.

Private voluntary organization (PVO) - a group that aids needy people around the world on a regular basis as well as in times of disaster.

- R -

Radio Amateur Civil Emergency Service (RACES) - skilled amateur radio operators worldwide who communicate emergency messages in accordance with approved civil defense communication plans.

Radar - instrument used for detection and ranging of objects. Doppler weather radar determines velocity of a storm by measuring the frequency change in a transmitted pulse caused by the target's motion. Airborne radar is used in photo reconnaissance for mapping or assessment purposes.

Radial fissure - a term used in connection with earthquakes or volcanic eruptions, meaning a narrow opening or crack moving from the center outward or from the circumference inward along a radius.

Range management - the planning and directing of land use. Range management secures and sustains maximum production of livestock, milk and/or cut forage compatible with other uses such as the conservation of natural resources.

Reconstruction - as used by OFDA, actions taken to reestablish a community after a period of rehabilitation subsequent to a disaster. Actions would include construction of permanent housing, full restoration of all services, and complete resumption of the pre-disaster state.

Reforestation - the establishment of a tree crop on forest land following deforestation.

Rehabilitation - as used by OFDA, actions taken in the weeks or months immediately following a disaster to restore basic services, construct temporary housing, and allow a population to function at near pre-disaster level.

Relief - the meeting of immediate needs for food, clothing, shelter and medical care for disaster victims. As used by OFDA, the assistance given to save lives and alleviate suffering in the days and weeks following a disaster. For creeping disasters the relief period may be months or even years.

Remote sensing satellite - an orbiting spacecraft carrying a variety of instruments for measuring visible and invisible electromagnetic radiation.

Rescue - see Search and Rescue.

Resource inventory - a listing of the personnel and material available to disaster managers in time of emergency.

Richter scale - a scale, not limited at the top or the bottom, which measures the magnitude of an earthquake from one (least) to ten (greatest), with each magnitude step on the scale representing an increase of ten times in measured wave amplitude of the earthquake. An increase of one magnitude step has been found to correspond to an increase of 30 times the amount of energy released as seismic waves.

Risk mapping - maps which identify types and degrees of hazards, and natural phenomena of areas that may be affected by disasters.

Rock fall - free falling or precipitous movement of a newly detached segment of bedrock of any size from a cliff or other very steep slope. A rock fall is the fastest moving landslide and is most frequent in mountain areas during spring and fall when there is repeated freezing and thawing.

Rockslide - a landslide involving a downward, usually sudden and rapid movement of newly detached segments of bedrock over an inclined surface or over pre-existing features. The moving mass is greatly deformed and usually breaks up into many smaller slides. Rockslides frequently occur in the high mountain ranges, such as the Alps or the Canadian Rockies.

Rossi-Forel scale - the first scale used to measure earthquake intensity. It is commonly indicated by the abbreviation R.F. followed by the Roman numeral of the scale degree.

Runoff - the rain water not absorbed by the ground that runs over the land surface during or following a storm.

Rupture zone - area of deformation (collapse) delineated by location of earthquake aftershocks.

- S -

Sand dune stabilization - the obstruction of moving dunes by the use of mechanical or vegetative means including afforestation.

Search and rescue - the process of locating and assisting disaster victims, sometimes through the use of specialized teams, dogs, and/or equipment.

Sea surge - a rise in sea level which results in the inundation of areas along coastlines. These phenomena are caused by the movement of ocean and sea currents, winds, and major storms.

Secondary hazards - those hazards which occur as a result of another hazard or disaster, i.e., fires or landslides following earthquakes, epidemics following famines, food shortages following drought or floods.

Sedimentation - the filling of reservoirs and other areas with silt, caused by runoff, flooding, and/or soil erosion.

Seiche - a free or standing wave oscillation of the surface of water in an enclosed basin that is initiated by local atmospheric changes, tidal currents or earthquakes.

Seismic belt - an elongated earthquake zone; usually concentrated along the margins of tectonic plates, i.e. Chile, Peru, the eastern Caribbean, Central America, southern Mexico, California, southern Alaska, the Aleutians, the Kuriles, Japan, Taiwan, the Philippines, Indonesia, New Zealand, and the Alpine-Caucasian-Himalayan belt.

Seismic resistant - see Aseismic.

Seismic risk maps - charts which depict areas likely to experience estimated levels of damaging earthquakes.

Seismic sea wave - an ocean wave which is caused by an undersea earthquake, volcanic eruption or landslide. (See Tsunami.)

Seismograph - an instrument for recording vibratory movements of the ground.

Seismography - the study of earthquake measurement and analysis.

SFB - Soy-Fortified Bulgur (Food for Peace Commodity).

SFCM - Soy-Fortified Cornmeal (Food for Peace Commodity).

Shelter - housing to meet basic needs of disaster victims. Immediate post-disaster needs are met by the use of tents. Alternatives may include polypropylene houses, plastic sheeting, geodesic domes, and other similar types of temporary housing.

Shelter belt - a strip of trees along a farm, used to protect fields or crops against wind. Also called a field wind break.

Shock series - the foreshock(s), the main shock, the aftershock(s), associated with earthquakes.

Siltation - see Sedimentation.

Situation Report - with reference to OFDA, a brief report that is published and updated periodically (sometimes daily) during a disaster relief effort, and which outlines the details of a disaster's occurrence, the needs generated, and the responses undertaken by all donors as they are known at the time of publication. Situation reports are also issued by U.S. Missions overseas in telegram format and by UNDRO and LORCS by telex.

Slide - see Landslide.

SMS/GOES (Synchronous Meteorological Satellites/Global-Observing Environmental Satellites) - satellites orbiting over the equator at the same rate as Earth's rotation and providing images of visible and infrared portions of the spectrum for the same area every 30 minutes. The satellites can collect and distribute environmental data from remote unattended data collection platforms on land, in water, or in the atmosphere and quickly transmit these data to ground receiving stations.

Snow melt - liquification of snow masses, which can produce a flood as the water travels down mountain slopes and streams.

Soil conditions - the conditions of earth (moisture content, disaggregation, density, etc.) which may mitigate or intensify disaster agents, such as drought, flooding, or seismic movement.

Soil creep - the gradual and steady movement of soil and loose rock material down a slope which may be gentle but is usually steep; it is also called surficial creep.

Soil map - a map showing the distribution of soil types in relation to the various physical features of the Earth.

Soil moisture - moisture within the zone of aeration of the soil, including water vapor (also part of the soil air) present in the soil pores. In some cases refers strictly to moisture within the root zone of plants.

Solfatera - a volcanic vent which emits only gases.

Staple food - a food which is regularly consumed in a country or community and from which a substantial proportion of the total calorie supply is obtained, especially by the poorer population and in times of food shortage.

State of disaster - a situation of emergency which is officially recognized by the U.S. Government after an official declaration of the existence of a disaster by the U.S. Ambassador.

Stockpiles - (OFDA) four storehouses of emergency relief supplies maintained in Guam, Singapore, Panama and Italy.

Storm surge - a sudden rise of sea as a result of high winds and low atmospheric pressure; sometimes called a storm tide, storm wave, or tidal wave. Generally affects only coastal areas but may intrude several miles inland.

Sub-marine eruption - a volcanic eruption below the surface of the ocean.

Support EOC's - a system of facilities with the necessary staffing and communications to provide direction and control for one or more emergency functions of a community; e.g., police, fire, public works engineering, or backup to the main disaster operations center. Some emergency plans call for support EOC's to direct or control one or more types of emergency operations in specific geographic areas in their jurisdiction, in support of and reporting to the main EOC. (See Emergency operations center.)

Surplus property - property which is considered in excess of the needs of U.S. government agencies, but which may be useful and/or made available to other organizations for educational, health, or disaster prevention or relief purposes. (See Excess property.)

- T -

Technology transfer - information and equipment provided by one country or area to another, along with the responsibility of training individuals in the use of that information, technology and/or equipment.

Telemetry - the use of communications devices for the purpose of monitoring, measuring, and transmitting data on the physical conditions of an area, such as temperature, radiation, etc., to a receiving station. Used especially in flood monitoring, earthquake analysis, tsunami and crop forecasting.

Terracing - horizontal cuts, benches or embankments made along hillsides to reduce erosion, improve cropping, hold back runoff, improve infiltration of rain, or carry out some other function of conservation.

Tidal bore - an abrupt rise of tidal water (caused by atmospheric activities) moving rapidly inland from the mouth of an estuary.

Tornado - localized, violently destructive wind storm occurring over land. Characterized by a long funnel-shaped cloud composed of condensation and debris extending to the ground and marking the path of greatest destruction. (See Cyclone.)

Torrent control - structures (rock or other materials) constructed to halt the erosion of stream channels.

Traction - a general term for a mode of transporting debris by running water, in which the particles are swept along close to the bed of the stream.

Trauma - injury or shock which can result when individuals are suddenly and violently thrust into a disaster situation; may be physical or mental.

Tremor - quick vibrating or shaking movement of the ground associated with an earthquake.

Tropical cyclone - a storm originating over tropical seas with winds of up to 200 mph rotating around a low pressure area. Most commonly observed in the Northern Hemisphere from May to November and in the Southern Hemisphere from December to June. In the North, winds spin counterclockwise around a warm center core. In the South, the rotation is clockwise.

Tropical depression - a definite closed circulation (in the sense of a closed isobar) with a maximum sustained wind speed of below 34 knots.

Tropical disturbance - the formative weather pattern from which a cyclone may develop. It forms only in low latitudes over oceans with a warm surface temperature and is characterized by a slow fall in barometric pressure. Its strongest winds arise to the North and East of the developing center or vortex in the Northern Hemisphere, and to the South and East of the developing center or vortex in the Southern Hemisphere. Surface pressure drops to about 1010 to 1000 millibars (29.82-29.53 inches).

Tropical storm - (See Tropical cyclone, Hurricane, Typhoon.)

Tsunami - the preferred Japanese term meaning sea waves generated by submarine disturbances. (See Seismic sea wave.)

Tsunami warning system - a system operated by the U.S. National Weather Service in Honolulu, Hawaii. It dispatches warnings upon earthquake detection and upon abnormal tidal readings.

Typhoon - in the Western Pacific, a violent wind and rain storm that results from the existence of certain conditions. (See Cyclone, Hurricane.)

Typhoon Committee - in 1968, the Economic and Social Commission for Asia and the Pacific (ESCAP) and the World Meteorological Organization jointly sponsored the establishment of an intergovernmental Typhoon Committee responsible for coordinating the planning and implementation of measures to minimize typhoon damage in the ESCAP region. The Committee's program includes meteorological and hydrological activities, disaster prevention and preparedness, training and research.

- U -

Undernutrition - the state of calorie/protein intake that is less than recommended minimum requirements and may be the result of poor eating habits, inadequate knowledge of nutritional requirements, or limited availability of necessary nutrients. Undernutrition can be a constant and undetected condition for several years before becoming debilitating.

UNDP - United Nations Development Program. Basic development tool of the U.N. system, with headquarters in New York and Resident Coordinators in each developing member country. The Resident Coordinator serves as UNDRO representative for disaster relief and preparedness matters in lieu of UNDRO presence.

UNDRO - Office of the United Nations Disaster Relief Coordinator: Geneva based organization with responsibility for coordinating disaster prevention, preparedness and relief operations within the U.N. system and among member countries.

UNEP - United Nations Environmental Program.

UNESCO - United Nations Educational, Scientific, and Cultural Organization.

UNICEF - United Nations Children's Fund.

- V -

Volag - voluntary agency/private voluntary agency.

Volcanic eruption - the sudden discharge of heated matter, i.e., lava, cinders, ashes, gases, and dust, from a volcanic vent.

Volcanic seismicity - the shaking of the ground near a volcano which may precede an eruption. Generally microseismic, yet increasing in magnitude within hours of potential eruption.

Volcano - a vent in the Earth's crust through which molten lava, gases, etc., are discharged; the mountain formed by such discharges.

Voluntary agencies (or volags) - nongovernmental agencies or organizations which exist in many countries throughout the world. Some possess personnel trained to assist when disaster strikes. Some volags have capabilities that extend from the local to national and international levels.

Vortex - the eye or center of a cyclone, hurricane, or typhoon.

Vulnerability - the extent to which a country, area, community or structure risks being damaged by a disaster.

- W -

Warning system - a communications capability designed to disseminate information on conditions which are likely to result in drought, flood, earthquake, or other similar disasters.

Watershed - all land and water within the confines of a drainage divide. This is also called a "catch," "basin," or "drainage basin," i.e., an area of land where runoff flows into the same stream.

Watershed management - the practice of conservation and management of land within a watershed area to minimize problems such as flooding, erosion, and sedimentation.

Weathering - a process that breaks up weaker or softer rocks by atmospheric activities and gravity.

Weather modification - the change of natural weather phenomena by man to effect fog dispersal, cloud modification, rain making, hail and lightning suppression. The modification of severe storms, however, is still in its infancy.

Weather facsimile communications system (WEFAX) - used with the SMS/GOES satellite systems for meteorological analysis.

Windbreak - a barrier, such as a strip of trees, used to protect houses, crops, or animals against wind damages.

World Meteorological Organization (WMO) - headquartered in Geneva, Switzerland. A specialized agency of the United Nations, which helps promote international cooperation in the establishment of meteorological networks, provides uniform standards in information dissemination, and encourages training and research in meteorology and hydrology.

World Food Program (WFP) - an agency of the United Nations Food and Agriculture Organization, located in Rome, which provides food assistance using contributions from the international community. The food assistance may be used in development activities or for emergencies.

WSB - Wheat-Soya Blend, precooked blend of whole wheat flour, defatted soy flour, vitamins, sugar, and chemicals, sometimes distributed in supplementary feeding during a disaster.

- Z -

Zonation - the arrangement of an area, country, or region into zones according to its disaster incidence rate; particularly significant with regard to earthquakes. (See Microzonation.)

Zulu time - (See Greenwich Mean Time.)