INFORMATION REPORT ON DISASTER REDUCTION BY THE REPUBLIC OF TURKEY

Component 1: Political Commitment and Institutional Aspects

Political commitment, strong institutions, and good governance are expected to elevate disaster risk reduction as a policy priority, allocate the necessary resources for it, enforce its implementation and assign accountability for failures, as well as facilitate participation from civil society to private sector. Due to its multi-disciplinary and multi-sectoral nature, disaster reduction falls into the agenda of many diverse institutions which, for effective implementation, requires clear assignment of roles and assumption of responsibilities as well as coordination of activities.

1. **Are there national policy, strategy and legislation addressing disaster risk reduction?** If yes, please describe to what extent current national efforts and main priority areas of the policy, and mechanisms to enforce the implementation of the policy and legislation are applied (and/or attach any relevant documentation).

Legal Framework for disaster management on national and local levels:

- Law No. 4373 dated 14 January 1943 concerning Protection Against Flash Floods
- Law No. 7126 dated 09 June 1958 concerning Civil Defense
- Law No. 7269 dated 25 May 1959 concerning Measures and Assistance to Be Put Into Effects Regarding Natural Disasters Affecting the Life of the General Public
- Directions No. 18851 dated 23 August 1985 concerning Principles of the Functioning, Tasks, Training and Controlling of the Fire Brigades Organizations
- Regulations No. 83/9727 dated 07 September 1985 concerning Radiation Safety
- Directions No. 88/12777 dated 08 May 1988 concerning Organization and Planning Principles of Emergency Assistance related Disaster
- Directions No. 88/12777 dated 08.05.1988 concerning Prime Ministry Emergency Management Center
- Instructions No. 02243 dated 05.10.1998 concerning Prime Ministry Emergency Management Center
- Emergency Management Agency of Turkey has been established, within the body of Prime Ministry, with a "Decree Amending the Decree on the Organizational Structure of the Prime Ministry No: 583", issued in the Official Gazette No: 23884, dated November 22,1999.
- Directions of National Implementation relating Nuclear and Radiological hazards dated 15 January 2000
- Emergency Management Agency of Turkey was transformed to Turkey Emergency Management General Directorate (TEMAD) with a decree no: 600 and issued in the official Gazette No: 24079, dated June 14, 2000.

Turkey Emergency Management General Directorate (TEMAD)

The framework of emergency management in Turkey is determined with the expression below which has been added to the tasks of Prime Ministry.

"To take necessary measures in order to provide an effective emergency management through nationwide in case of earthquakes, landslides, rock falls, fires, accidents, meteorological disasters, accidents caused by nuclear and chemical substances and population movements which are in such a scale that threatens national security and to provide coordination between agencies that are parts of emergency management such as the ones that are active either in precaution before emergencies or in search and rescue operations during emergencies or in recovery and reconstruction activities after emergencies."

Tasks of TEMAD

- To ensure the establishment of emergency management centers at governmental agencies and departments for the purpose of effective emergency management, to determine their working principles and to provide coordination between them,

- To monitor and evaluate the taking of the necessary measures, the preparation of short and long term plans and the establishment of data banks by agencies and departments with a view to prevent events that would require emergency management or mitigating their damage when they occur,

- To conduct the activities of coordination in the utilization of all types of land, sea and air transport vehicles and rescue and relief equipment and materials owned by public and private sectors in cases where emergency management is introduced

- To make arrangements that encourage voluntary organizations and individuals providing relief in emergency situations and to coordinate the receipt and protection of relief supplies and their dispatch to locations where such supplies are needed; and

- To carry out other duties which may be assigned by the Prime Minister.

2. **Is there a national body for multi-sectoral coordination and collaboration in disaster risk reduction, which includes ministries in charge of water resource management, agriculture/land use and planning, health, environment, education, development planning and finance?** If yes, please give detailed information (name, structure and functions). Attach any relevant documentation or indicate source of information.

There are individual efforts on disaster risk reduction studies and there is no national body for multi-sectoral coordination and collaboration in disaster risk reduction.

3. **Are there sectoral plans or initiatives that incorporate risk reduction concepts into each respective development area (such as water resource management, poverty alleviation, climate change adaptation, education and development planning)?** If yes, please indicate some examples and challenges/imitations encountered. If no, does your government have any plans for integrating disaster

risk reduction into development sectors? If no, please also specify the major difficulties.

Within the context of the National Programme of Cooperation for 2001-2005, signed between the Government of the Republic of Turkey and UNICEF, there is a project named as "Preparedness for Disasters and Emergencies" which is being coordinated by the General Directorate of Civil Defense of the Ministry of Interior of the Republic of Turkey.

The aim of this project is to conduct effective studies for the reduction of the disaster affects on women and children. With this general aim, the project targets;

- To encourage and support the strengthening of local/national systems aiming the immediate reaction in case of disasters for reducing the affects of disasters on women and children,

- To create consciousness and environment to support the inclusion of service programmes towards women and children in the plans for disasters preparedness and emergency management,

- To strengthen the disaster preparedness of women and children and to make the services towards women and children sustainable after the disasters, especially in the areas of health, education and psychological guidance.

Within this context, a Project Implementation Committee has been established with the participation of Ministries of Interior, Justice, National Education, Public Works and Settlement, Agriculture and Rural Affairs, Health and also Turkish Red Crescent and UNICEF Representation in Turkey.

4. **Is disaster risk reduction incorporated into your national plan for the implementation of the UN Millennium Development Goals (MDGs), Poverty Reduction Strategy Paper (PRSP), National Adaptation Plans of Action, National Environmental Action Plans and WSSD (World Summit on Sustainable Development) Johannesburg Plan of Implementation?** If yes to any of these, who are the main contacts for these initiatives.

Turkey attaches importance to the above mentioned global initiatives. In the preparation and implementation phases of the disaster and disaster risk reduction plans, the relevant bodies take into account the said initiatives.

5. **Does your country have building codes of practice and standards in place, which takes into account seismic risk?** If yes, since when. Which are the main difficulties in keeping with the compliances of the codes.

Since 2 September 1997 with some revisions in 1998, an Earthquake Design Code is in law to maintain earthquake resistant buildings. Deficiency on the control of buildings is a problem especially on rural areas. (A relevant document of the Ministry of Public Works and Settlement is attached herewith)

6. **Do you have an annual budget for disaster risk reduction?** If yes, is this commitment represented as part of the national budget or project based? Through which institution/s? If no, what other financing mechanisms for risk reduction initiatives are available?

The fund allocated from national budget is being used for disaster risk reduction studies, in-service training, organized education and the awareness of the personnel, voluntaries and population. In addition to those, European Union and World Bank funded projects are aiming the disaster risk reduction studies at different levels.

On the other hand, some special parts of the annual budgets of the Turkish Red Crescent Society, which are not within the context of national budgets, are being used for the preparations made before, during and after the disasters. In this framework, Turkish Red Crescent Society is both preparing special projects with its own resources and also some common projects with the other national organizations and official partners.

7. **Are the private sector, civil society, NGOs, academia and media participating in disaster risk reduction efforts?** If yes, how? Indicate existing coordination or joint programming between government and civil society efforts in disaster risk reduction, or major difficulties or constraints for this to be effective.

With their disaster management and earthquake research institutes, some of the universities contribute to disaster risk reduction efforts with academic studies. Their fund is supplied whether from international projects or from their own budget allocated for scientific studies. Some NGOs play an important role on civil protection activities. Press also sometimes assist disaster risk reduction activities with public information and education programmers.

Component 2: Risk Identification

Identification of risks is a relatively well-defined area with a significant knowledge base on methods for disaster impact and hazard and vulnerability assessment. Systematic assessment of losses, social and economic impact of disasters, and particularly mapping of risks are fundamental to understand where to take action. Consideration of disaster risks in environmental impact assessments is still to become routine practice. Early warning is increasingly defined as a means to inform public and authorities on impending risks, hence essential for timely actions to reduce their impact.

1. **Has your country carried out hazard mapping/assessment?** If yes, please describe for which hazards, when they were updated and for what geographical scale they exist. Do they induce characteristics, impacts, historical data, multi-hazards approach? Which institutions are using the results of the hazard assessment? To whom are they available? (attach any relevant document)

Some maps are prepared at national level those could be used on hazard mapping assessment both directly and indirectly. Some of them are Earthquake Zoning Map of Turkey prepared by Ministry of Public Works and Settlement, Active Fault Map of Turkey prepared by Mineral Research Institute. In addition to that General Directorate of Disaster Affairs (GDDA) of the Ministry of Public Works and Settlement of the Republic of Turkey is involved at some regional multi-hazard mapping projects which include landslide, rock fall, flood and snow-

avalanche hazard maps. Some microzonation maps are being prepared by municipalities which became obligatory for municipalities after 1999 Marmara Region Earthquake.

Those are prepared for the use of land use planning and infrastructure planning organizations like municipalities and related bodies of ministries.

Examples to those studies may be reached via internet from the web pages of different organizations like Earthquake Research Department of Ministry of Public Affairs and Settlement. (Please see the attached document)

2. **Has your country carried out vulnerability and capacity assessments?** If yes please describe the methods used and major social, economic physical, environmental political and cultural factors considered in the assessment(s). Who are the main contact for these assessments (or attach any relevant documentation of contact information).

There are emergency aid plans for cities and counties which is controlled by Ministry of Public Affairs and Settlement periodically in which there exists all the information regarding the capacity of governorates. In addition Ministry of Public Affairs and Settlement carries out some regional projects for vulnerability assessments on NW Black Sea Region on different types of disasters and with DRM Project on microzonation. Also Turkish-Japanese Joint Project called "Earthquake Disaster Prevention Research Project" work on vulnerability assessment of earthquakes at regional level. (Relevant web site: www.deprem.gov.tr See also the attached document)

3. **Does your country have any mechanisms for risk monitoring and risk mapping?** If yes, who is responsible?

At national level Earthquake Research Department of Ministry of Public Affairs and Settlement has observation network for earthquakes. Also national efforts are being carried out by Ministry of Public Affairs and Settlement on risk mapping studies where other governmental institutions and academic community has some regional small scaled studies on this issue. The Kandilli Observatory of the Boğaziçi University is also working on this aspect.

4. **Is there a systematic socio-economic and environmental impact and loss analysis in your country after each major disaster?** If yes, are the results available?

Different governmental organizations like National Planning Organization, Ministry of Public Affairs and Settlement, Turkey Emergency Management General Directorate and NGOs like Turkish Red Crescent make some impact and loss analysis after each major disasters. The results of those may be reached from related bodies.

5. **Are there early warning systems in place?** If yes, for what hazards and for what geographical scope. Do you have any example when the system was activated lately? Which are the main institutions involved? Please indicate any relevant lessons-learnt from the use and public reaction to early warnings issued.

* State General Directorate of Meteorology: Early Warning System for Meteorological Extremes.

* General Directorate of Hydraulic Works: Flood early warning system at regional level.

* İstanbul Governorate and Municipality: Earthquake early warning system for İstanbul City that aims to prevent secondary affects of any earthquake like fire by cutting off gas and electricity power lines.

Component 3 Knowledge Management

Information management and communication, education and training, public awareness and research are all parts of improving and managing knowledge on disaster risk and their reduction. Inclusion of disaster reduction at all levels of education, effective public awareness and information campaigns, media involvement in advocacy and dissemination, availability of training for communities at risk and professional staff, and targeted research are the ingredients to support the knowledge base for effective disaster reduction.

1. **Does your country have disaster risk information management systems (governmental and/or non-governmental)?** If yes, what kind of information on disaster reduction is available, how is it collected, how is the information disseminated and who are the main users? (indicate relevant sources of information, if applicable)

Disaster Information System which will work at Ministry of Public Affairs and Settlement is about to be established. With this system more efficient response to disasters is aimed to be achieved. During a disaster Crisis Management Centers maintain the information cycle with some governmental organizations like TEMAD, Ministry of Public Affairs and Settlement, etc.

2. **Are the academic and research communities in the country linked to national or local institutions dealing with disaster reduction?** If yes, please describe the mechanisms for information sharing and indicate any example of usefulness and effectiveness. Which are the main research and academic institutions dealing with disaster reduction related issues (please list, if available, and indicate how their research work is related to the country's disaster risk reduction needs.)

The following projects are the ones aiming this linkage:

- Kandilli Observatory in Istanbul (KOERI): Shared use of data
- Middle East Technical University (METU) Disaster Management Implementation and Research Center: Project based
- Istanbul Technical University (ITU) Disaster Management Research Center: Project based.
- Turkish Scientific Research Councils (TUBITAK): Project based
- Atatürk University Earthquake Research Institute Shared use of data

3. **Are there educational programmes related to disaster risk reduction in your public school system?** If yes, for what age-range? Do you have any educational material developed to support the teachers in this area? (please attach any relevant documentation)

a) There is a Protocol on the Participation in the Training and Civil Defense Services of Scouts between Ministries of Interior and Education.

b) Procedures of Establishment of the Civil Defense Branch in Schools are published in the Bulletin Review of Ministry of Education.

c) There is a unit relating the civil defense and disasters in the National Security Lesson in the first class of high schools. First aid and disaster subjects are given in the biological and healthy lessons.

d) On the other hand, the Ministry of Natonal Education is working on a project in this issue.

4. **Are there any training programmes available?** If yes, please list (if available indicate scope and target audiences of the courses). Do you have any indication on how these courses have been useful to change any practices at local or national scale?

a) Programs relating in-service training in the Civil Defense College and civil defense search and rescue units.

b) Programs which are prepared in the provinces, districts and institutions according to Procedures of the Guidance relating the Civil Defense Organizations and Population Training published by Ministry of Interior.

c) Civil Defense Bulletin published by General Directorate of Civil Defense "four" times in a year are distributed without fee. In addition, trained posters and brochures also distributed for population.

d) More detailed information can be provided in the Web Site: www.ssgm.gov.tr

e) Also a note on the activities of Turkish Red Crescent Society in this aspect is attached herewith.

5. **What kind of traditional indigenous knowledge and wisdom is used in disaster-related practices or training programmes on disaster risk reduction in your country?**

- Scenarios such earthquakes, floods, avalanches as suitable for condition of the region are implemented during the exercises held at the end of training of personnel and voluntaries in the provinces and districts by the General Directorate of Civil Defense of the Ministry of Interior. Exercises include search and rescue in NBC accidents, water floods, avalanches.

- On the other hand, especially after the 1999 earthquakes in Turkey, Turkish Armed Forces both formed specialized units and also restructured all the units at the level of brigades with the capacity of performing Disaster Relief Operations. These units are making their own periodical exercises and also participating to the national disaster exercises.

- At the national level, there are periodic exercises of the Ministry of Interior and National Security Council.

6. **Do you have any national public awareness programmes or campaigns on disaster risk reduction?** If available, who are the main players for raising public awareness? How are the mass media and schools involved? Who are the targeted groups and how do you evaluate the programmes?

- In general, universities and institutes supports the primary and high schools on disaster risk implementation especially on earthquakes. Regular conferences aiming information and awareness of the population on the protective and rescued measures which will be taken are organized in the provinces and districts. Film and video demonstrations are done in the places such examinations, fairs etc., articles are published via local radios, TV and other means, photos, posters and spots are hung up on the walls and books and brochures are distributed to the population.

- The 1999 earthquakes in Turkey, had shown once again the importance of the public awareness. In this framework, the project of forming a uniform education and organisation has been given to the Istanbul technical University.

- By the Centers of Strategy and Emergency Management of the Ministry of Interior, an educational project has been started with the aim of training professional emergency managers. This educational model has been designed to include planning and a model of emergency management for the preparedness of all parts of the society.

- General Directorate of Civil Defense of the Ministry of Interior, which is the only official body that has the legal responsibility of increasing the consciousness of the public against disasters, is making activities in the provinces with this aim.

- Kandilli Observatory of the Boğaziçi University is implementing a project specifically prepared for Istanbul, together with a national non-governmental rescue organization named AKUT.

Component 4 Risk Management Applications/Instruments

For effective disaster risk reduction, synergies are needed between sustainable development and disaster risk management practices. Moving from analyzing of and knowing about risk to taking concrete actions to reduce their impacts is a demanding step. Ideas and practices coming from different disciplinary areas will complement what is already practiced in disaster risk management. For example, instruments for risk management have proliferated especially with the recognition of environmental management, poverty reduction and financial management.

Environmental and natural resource management is among the best-known applications to reduce flood risks, control landslides (through reforestation) and control droughts (through ecosystem conservation). Physical and technical measures, such as flood control techniques, soil conservation practices, retrofitting of buildings or land use planning, are effective in hazard control. Financial instruments in the form of insurance, calamity funds, catastrophe bonds are useful to lessen the impact of disasters.

1. **Is there any good examples of linking environmental management and risk reduction practices in your country (key areas of environmental management may include coastal zone, wetland and watershed management, reforestation and agricultural practices, amongst others).** If yes, please indicate in what areas. (Attach any relevant documentation or references)

Studies of Ministry of Environment and a non-governmental organization TEMA is important in this field.

2. **Are financial instruments utilized in your county as a measure to reduce the impact of disasters (e.g. insurance/reinsurance, calamity funds, catastrophe bonds, micro-credit finance, community funds, etc.)?** If yes, please describe what those instruments are and when they are established, who manages them and who are eligible to them.

DASK (Natural Disasters Insurance Organization)
Fund allocated to Ministry of Public Affairs and Settlement for disaster related studies.

3. **Please identify specific examples of technical measures or programmes on disaster risk reduction that have been carried out in your country (see below, case studies).**

Earthquake Resistance of Buildings
Earthquake Resistance of Bridges and Viaducts
Earthquake Resistance of Governmental Buildings like schools and hospitals etc.
Flood Preventions Studies on Major Rivers
Rock fall-Landslide-Snow Avalanche Retaining Structures

Component 5 Preparedness and Contingency Planning

Preparedness and emergency management has been used a means for reducing life lasses from direct and indirect effects of disasters. A well-prepared system is expected to be effectively informed by early warning endowed with regularly rehearsed national and local contingency and evacuation plans, fitted with communications and coordination systems, as well as adequate logistical infrastructures and emergency funds. Local-level preparedness, particularly at community level, including training deserves special attention as the most effective way of reducing life and livelihood losses.

1. **Do you have disaster contingency plans in place? Are they prepared for both national and community levels?** If yes, please describe their main components, who is responsible for activating the plan(s)? Are the plan(s) updated on annual basis? Have you ever used the contingency plan(s) that was or were developed? Of yes, what was the result?

- Province and District Disaster Emergency Relief Plans are prepared by the coordination of the General Directorate of Civil Defense of the Ministry of Interior. These are prepared based on different types and magnitudes of the disasters. Province and District Disaster Emergency Relief Plans are approved by the governor and distributed to the Ministry of Public Works and Settlement, Ministry of Interior, Ministry of Health, Ministry of Agricultures and Ministry of

Environment and Forest. Plans used for crisis and disaster emergency and exercises are updated continuously.

- Turkish Armed Forces (TAF) has special plans within the context of natural disaster assistance. They have been prepared in coordination with the relevant civilian authorities.

1. 17 Regional Disaster Commandries (RDCs) for the natural disaster assistance interventions have been established by the TAF. On the other hand; RDCs have sub-divisions called Secondary Regional Disaster Commandries (SRDCs) which has an authority according to the area of the disaster-struck region. They are formed in provinces/districts and in the level of brigadiers.

2. If the responsible RDC is heavily subject to the disaster, the executive command of the disaster management may be handed-over to the neighbouring RDC. This possibiliy is coordinated by the neighbouring RDC during the planning of natural disaster assistance intervention.

3. The RDCs consider time/distance/capabilities/assistance elements in their coordinations. The plans are prepared in order to facilitate long-distance troop transfers to and between disaster-hit areas.

4. If all the RDCs are heavily affected by the disaster, the Turkish General Staff determines the responsible commandry which will be in charge of the disaster management.

5. Natural disaster assistance intervention plans are prepared according to the general assumptions listed below. The worst-case scenarios are taken into consideration and the plans are continuously updated. Their validity is examined by joint exercises with the other relevant government bodies. In the plannings, the priority is given to the civilian capabilities; in case of the insufficency of the civilian capabilities, military assets will also be used.

(a) The possible disaster might be more comprehensive or in a greater scale than the previos disasters. If there`s no recorded data on the previous disasters for that spesific region, the earthquake and flood risks are also taken into account.
(b) The earthquake might lead to major fires and this might result in explosions in industrial and energy facilities. The risk of chemical gas leakage should aslo be taken into consideration.
(c) The number of damaged/demolished/flooded buildings may be in great numbers. People might be bound under debris/avalanche/land mass. Housing demands might increase as a result of the disaster.
(d) Transportation network might be damaged, domestic and foreign transportation necessity might be increased, transportation system might partly or totally be collapsed in the early hours of the disaster.,
(e) Dams, power centrals, fuel oil tanks and other facilities of strategic importance might be damaged in case of a disaaster.
(f) Communication might totally be interrupted.
(g) Electricity and potable water facilities might be damaged .
(h) The disaster might occur at late night hours, under summer or winter conditions.
(i) Food, medicine and heating materials might be insufficient.
(j) Militart staff and their families might also be subject to the disaster.
(k) Looting might take place in disaster regions.

(l) Provocations against official authorities might happen.
(m)Civilian authorities might be in effective in the early stages of the disaster.

6. "Natural Disaster Assistance Troops (DAFYAR)" which are formed in the battalion level, are always kept ready for intervention to natural disasters.

2. **Has your government established emergency funds for disaster response and are there national or community storage facilities for emergency relief items-mainly food, medicine, tents/shelters?** If yes, please provide some details.

- Funds allocated to Ministry of Public Affairs and Settlement for disaster related studies.

- The storage facilities of the Turkish Red Crescent Society are important for this aim. There are also official storage facilities in every province, airport and harbor to be used in case of need.

3. **Who is responsible for the coordination of disaster response preparedness and is the coordination body equipped with enough human and financial resources for the job?** Please comment on the effectiveness of the coordination work done so far?

After the 1999 earthquakes, General Directorate of Emergency Management has been formed under the Prime Ministry and has the responsibility to coordinate the studies.

Component 6 Call for good practices in disaster risk management

Based on the above analysis and information provided, please provide at least two examples of any successful implementation of disaster reduction activities in your country (could be of local national or regional scale) any project or community based experience, national policy, interaction between sectors, etc. would be welcome. Provide maximum one page on each example indicating area of work, institutions and actors involved, duration, impact of the activities, lessons-learnt and if the example have been replicated. You may also kindly direct us to relevant web-based information/organization.

DETERMINATION OF NATURAL HAZARD AND RISK OF KASTAMONU REGION (NW TURKEY)

Project Stages

Hazard and Risk Assessment of Kastamonu Province project is commenced to mitigate effects of natural disaster, after the catastrophic earthquake that stroke Marmara region on August 17th and November 12th 1999 The project had been planned to foundation to TEFER (Turkey Flood and Earthquake Relief) project which was organized by World Bank But TEFER project was interrupted after Marmara Earthquake.

Objectives and Methodology

The project is intended
- to determine hazard and risk level of Kastamonu region on the basis of Geographic Information Systems (GIS)

- to aid planners and decision makers by providing natural hazards information rooted in earth science.
- to build geographic database for data updating, analyzing and transfer

Under the project's framework, earthquake, landslide, rock fall, and snow avalanche potential of region have been studied. Earthquake, landslide and snow avalanche hazard maps have been prepared on regional scale, while rock fall hazard map has been limited to city center. The hazard maps related to various disaster types have also been combined and a multi-hazard hazard map produced

Informations Essential For The Emergency Aid Plan

According to the disaster scenario, results prepared Kastamonu City center, following outcomes are suggested to be taken into consideration during planning of emergency aid for the future;

- After an earthquake with magnitude close to the scenario value, a preliminary damage assessment study must be done at Karaçomak Dam.
- The number of collapsed and heavily damaged houses is calculated as 295 according to the scenario earthquake in city center When building/house ratio is considered there might happen 170 points for search and rescue facilities.
- Number of heavily wounded people is estimated to be 48 but this might increase due to casualties from neighboring regions. Transportation of those heavily wounded people to high capacity hospitals at cities must also be considered.
- Earthquake induced land sliding must be accepted between Kastamonu-Ilgaz, Tosya-Ilgaz and Kastamonu-Tosya highway This situation may cause difficulties in transportation and communication.
- Southern parts of Kastamonu Region, Çankırı and Çorum Provinces will be effected from that earthquake. So it will be impossible to maintain assistance from those regions
- Although serious damage on main interconnected systems is not accepted, various damages must be accepted on transformers, electricity transformation poles and also on transmission lines. These problems will cause lack of electrical energy
- Water pipes parallel to Karaçomak River may be broken at various locations so difficulty on water supply of city may arise and this will be vital if earthquake happens especially in summer season
- Due to the fact that earthquake may happen in winter season, fire disasters maybe faced in city center and also on villages In that case efforts to put out the fire will be insufficient and this phenomenon will increase the number of casualties.
- In the case of the break off F/O cables between Ilgaz-Tosya, telecommunication of Kastamonu will stop with Tosya
- There might be need for language translators for foreign rescue teams.
- Temporary housing will be necessary for more than 861 family. City's own opportunities like government buildings, hotels, student hostels are not enough for accommodation of those victims Tent cities will be necessary for Kastamonu City center.
- Number of technical personels like architects, civil engineers for damage assessement is not enough.

As a result, this study reveals disaster hazard and risk of Kastamonu Region and put into the facts and also deficiencies of the city. These are offered for local authorities' and decision makers usage. MINISTRY OF PUBLIC AFFAIRS AND SETTLEMENT plans to extend that kind of studies all around the country

Component 7 Priorities you want addressed at World Conference on Disaster Reduction

What do you think are the priority topics to be agreed upon at the World Conference to enhance and strengthen national policy and practice to reduce risk and vulnerability to natural and technological hazards? Please list any other thematic areas or specific topics of discussion that you consider of importance to increase the effectiveness of disaster risk reduction for your country.

Please also indicate any particular experience or project that your country would like to exhibit or present at the Conference.

- The General Directorate of Emergency Management of the Prime Ministry would like to make a presentation on the Lessons from the 1999 Earthquakes.

- On the other hand the following issues may be the priorities of the Conference:

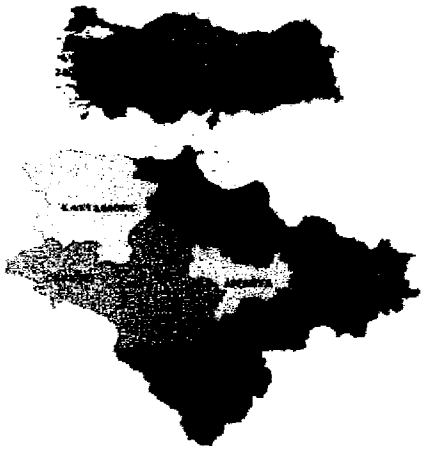
- Implementation of regional disaster information systems,
- Earthquake resistance of buildings on rural areas and consciousness of people living on rural areas to the effects of disasters.
- Public Training studies,

EARTHQUAKE DISASTER PREVENTION RESEARCH CENTER
TURKISH-JAPANESE JOINT PROJECT

Türkiye may be one of the countries having the shortest return period of damaging earthquakes. There are many measures which must be taken into account for mitigation of earthquake effects. One of the most experienced countries on this subject is Japan. An agreement aiming to open a center for earthquake disaster prevention research was signed between Türkiye and Japan on March 18, 1993. A number of researchers, belonging to various disciplines of earthquake-related sciences, have been assigned to the project, which is supported by JICA. These professionals are from different universities and private companies of Japan and researchers from ERD and ITU of Türkiye. There are three subcenters within the project. The Earthquake Data Collection and Vulnerability Evaluation (EDCVE) Subcenter in Ankara is responsible for collecting seismological data in the project area, estimating the damage caused by earthquakes by using databases and giving the estimated results to the administrative organizations in a very short time. The Earthquake Engineering Research (EER) Subcenter in Istanbul is responsible for developing and investigating earthquake resistant structures and soil conditions in the laboratory ground specially set up in the content of this project. The Education and Training (E&T) Subcenter is responsible for presenting the results obtained from project studies to the related organizations and the public.

The project targets of EDCVE Subcenter are the following:

a) To determine the earthquakes parameters and making a pre-estimation about the human loss and damage just after the earthquake,
b) To provide a reliable data transmission between local stations, the regional and main centers by using a computer network,
c) To evaluate the results and transmit them to administrative organizations in approximately within 20 minutes.



The project service area is located in the central part of the North Anatolian Fault Zone and covers Samsun, Sinop, Kastamonu, Çankırı, Çorum Yozgat, Amasya, Tokat and Ordu provinces. The Earthquake observation system consists of a main center in Ankara, a regional center in Samsun and local stations in Amasya, Çankırı, Çorum, Kastamonu, Samsun, Vezirköprü, Tokat, Niksar and Yozgat.

EARTHQUAKE DATA COLLETCION AND

The main center is located in the Earthquake Research Department in Ankara, the regional center to the Ministry of Public Works and Settlement Branch Office in Samsun. The local stations were constructed on land provided by local authorities.

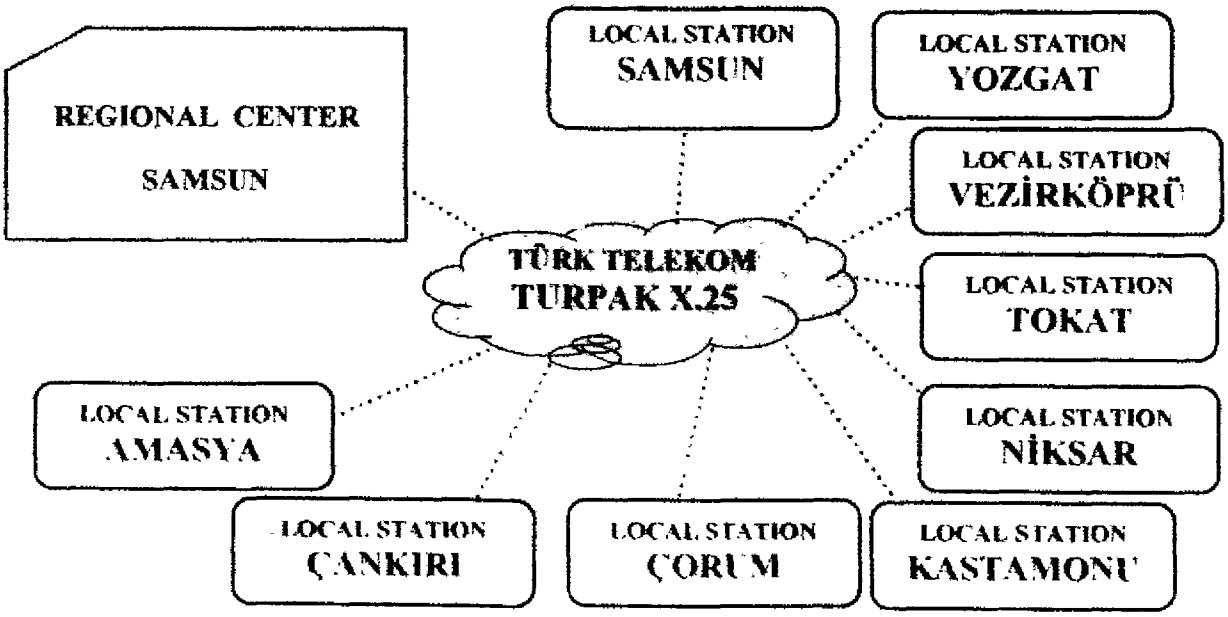
The system properties are;

a) Intelligent: aiming at automatic determination of earthquake parameters and estimation of damages,

b) Experimental: for practical utilization of this kind of new approach,

c) Upgradable: open to developments by using new data and findings.

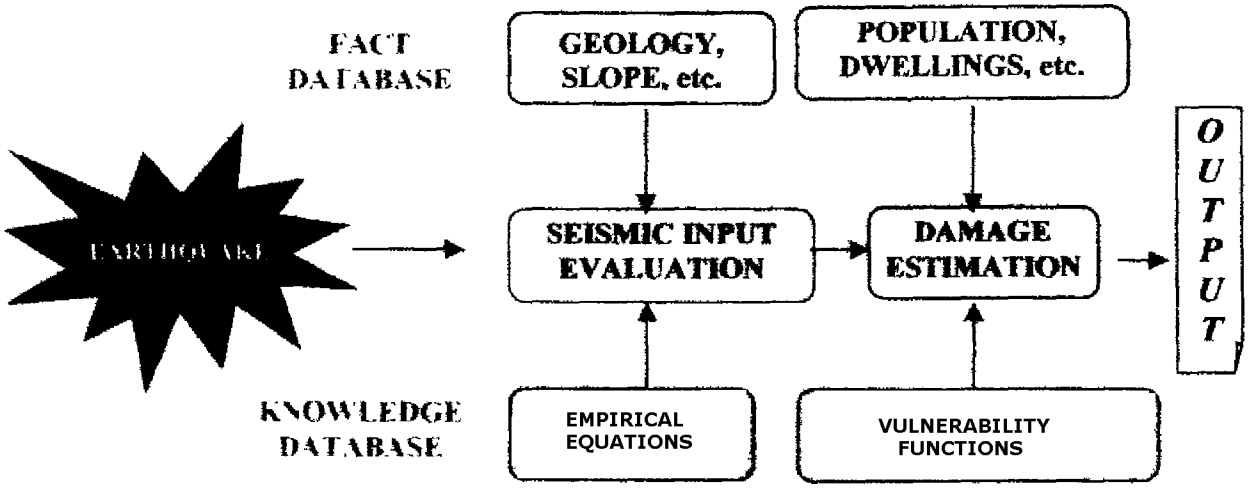
Data transmission between centers and local stations utilize the TURPAK X.25 network service which is provided by Turkish Telekom.



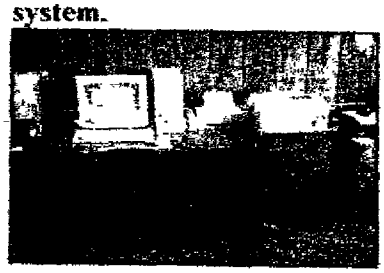
VULNERABILITY EVALUATION SUBCENTER

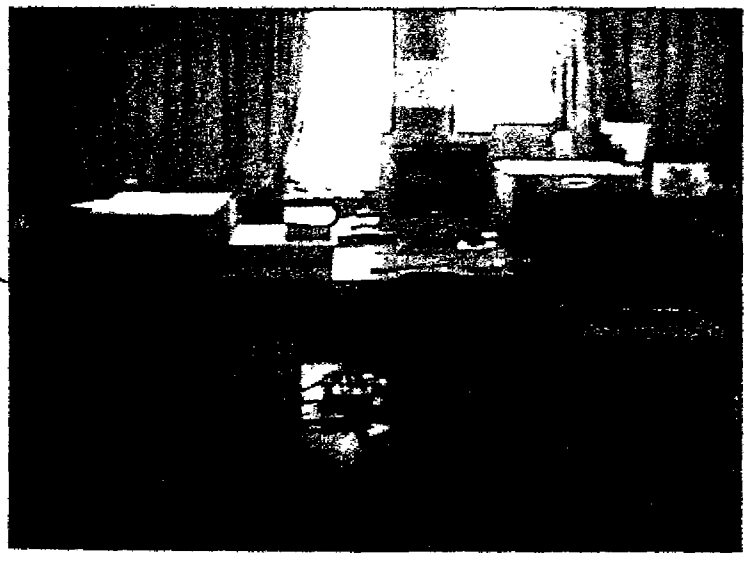
The main center is now active on the first floor of the Earthquake Research Department, General Directorate of Disaster Affairs in Ankara. It depends on the activities of the subgroups for data collection and evaluation, seismological studies and analysis, data transmission and system control.

FRAMEWORK OF THE SYSTEM



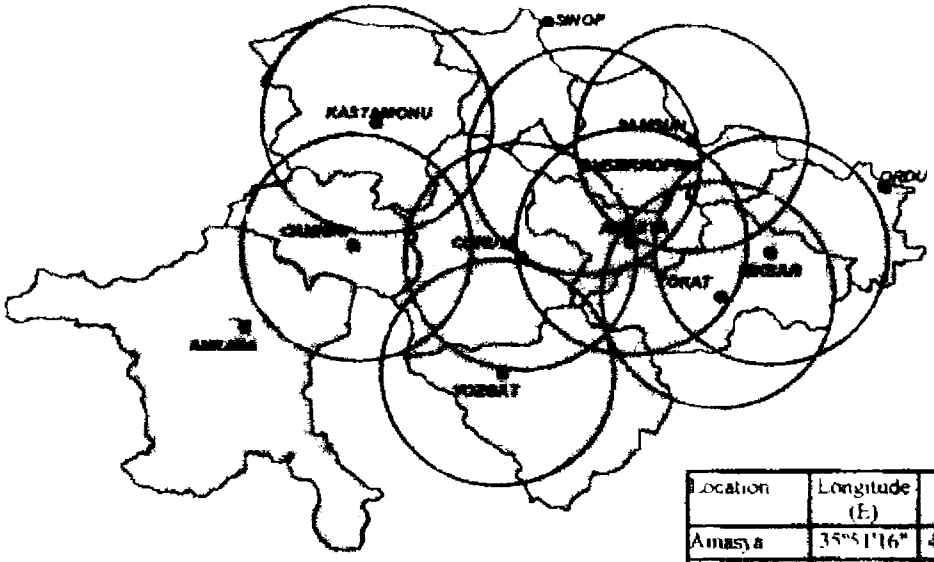
Hardware in the main center consists of one workstation for determining the earthquake parameters and estimating the damage distribution, and two PCs and accessories for controlling the system.





LOCAL STATIONS

Local stations were built in the cities of Amasya, Cankiri, Corum, Kastamonu, Samsun, Tokat and Yozgat, and in the towns of Niksar and Vezirkopru. The service area of the system also covers Sinop and Ordu cities. Ankara station works as a spare local station for temporary purposes.

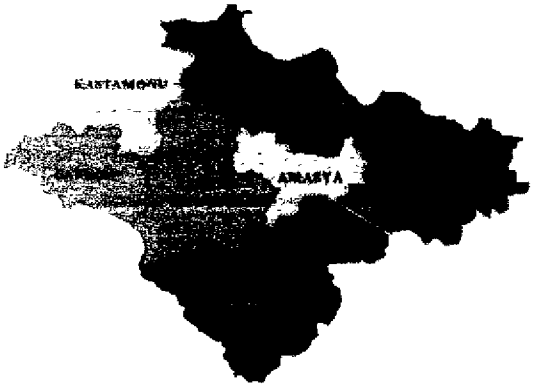


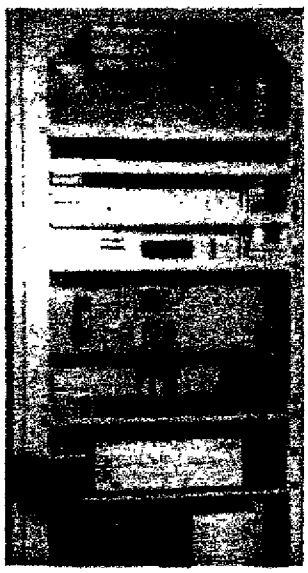
Location	Longitude (E)	Latitude (N)	Elevation (meter)
Amasya	35°51'16"	40°40'09"	520
Çankiri	33°36'12"	40°36'02"	805
Çorum	34°58'82"	40°34'71"	894
Kastamonu	33°47'32"	41°24'48"	694
Niksar	36°57'35"	40°34'83"	460
Samsun	36°22'10"	41°15'53"	130
Tokat	36°32'75"	40°19'31"	680
Vezirköpru	35°26'13"	41°08'60"	720
Yozgat	34°48'37"	39°48'69"	1358
Ankara	32°45'16"	39°54'51"	850

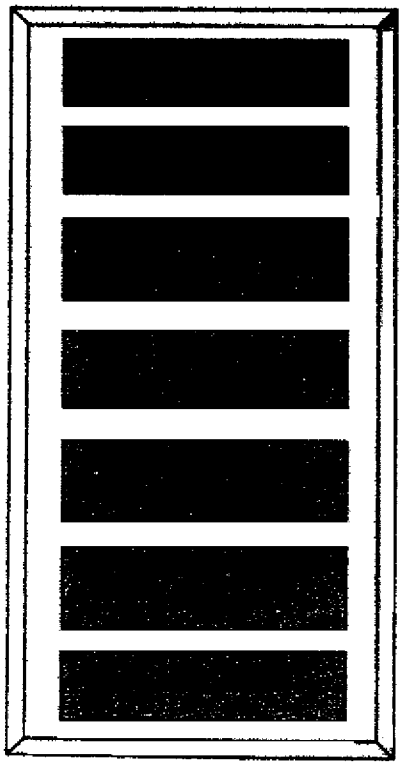
The figure shows theoretical detection capability for small earthquakes, a circle with a radius of 80 km is drawn, with its center located at each local station. An earthquake with a magnitude M ≥ 3.0 occuring within the circle is detectable at the station, according to previous research.

Signal to noise ratio measurements were made several times for the selection of suitable place for each local station. Following our statistical studies on earthquake occurrence during the past 15 years, we can anticipate 2 earthquakes with M> 4.0, which may cause damage, to occur in the project service area within a year.

vulneranilization and determinade the coordinates of the station a computer for recordine the data and one transmission unit for sending the data to the main and regional centers through TURPAK lines. All the equipment are safe against a power failure by using a UPS unit.







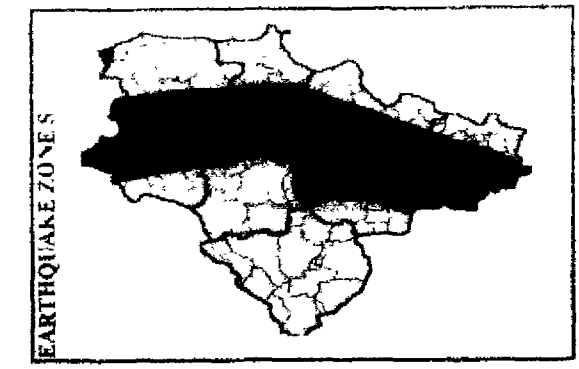
SEISMOMETER

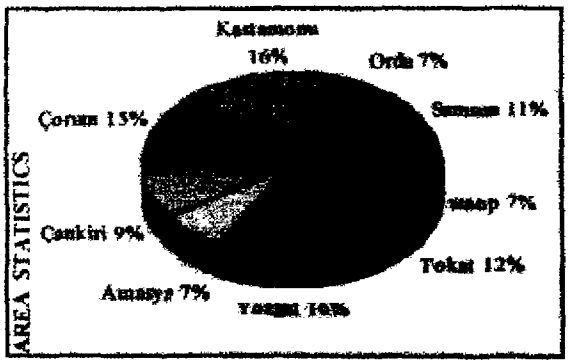
Type: VSE-355JE 3 Components
(Tokyo Sokushin Co. , Ltd.)

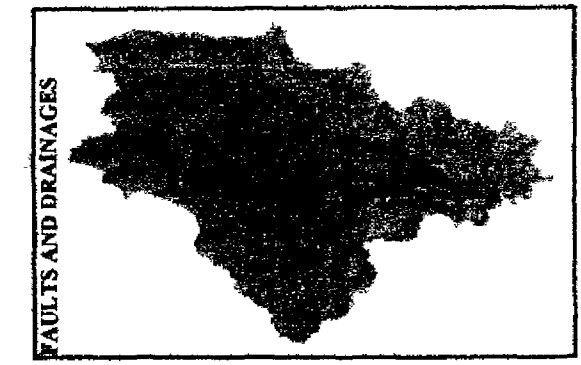
Maximum Range:
Velocity (±200 kine)
Acceleration (±2000 gal)

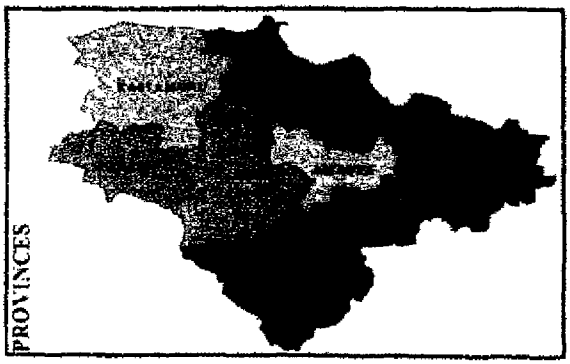
Frequency Range:
0.018-100Hz (-3dB)

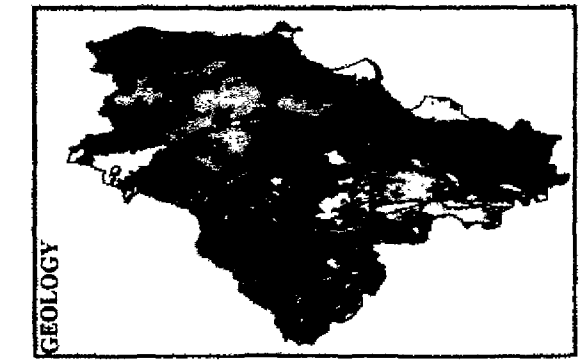
SAMPLES OF THE SYSTEM DATABASE



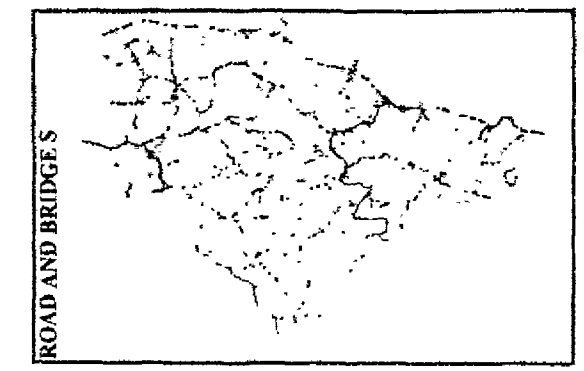








Province Name	Area (km^2)	Population (1997)	Density (Person/km^2)
AMASYA	5703	343299	60
CANKIRI	7488	247807	33
CORUM	12795	576207	45
KASTAMONU	13136	363022	28
ORDU	5949	827523	139
SAMSUN	9351	1156267	123
SİNOP	5802	219333	38
TOKAT	10076	687069	68
YOZGAT	14095	569038	40
Total	84395	4989565	



GEOGRAPHICAL INFORMATION SYSTEM RESOURCES

[illegible] outside during the earthquakes keep yourself far away from buildings and electricity poles because of falling objects.

✓ If you are driving a car, drive away from the normal traffic. Do not use bridges and tunnels. Find a safe place and stay inside the car.

✓ **If you are inside a building, find a place under a strong table, furniture, or doorframe and protect your head. Keep yourself far from windows, fireplaces, heavy furniture and furniture that can easily be overturned.**

✓ **If you are inside a crowded place like theatre, school, cinema, office etc., do not run to the stairs or elevators. Follow the instructions of authorized personnel.**

✓ **After the shaking of the earthquake, turn off the electricity, gas, and water. Do not switch anything against a probable gas leakage.**

✓ **After the earthquake, help the injured and old people. Do not move heavily injured people in panic, find a safe place and wait for the authorized personnel.**

✓ **After a big earthquake, there will be aftershocks. Be ready for these aftershocks. Especially during the first three days following the earthquake if the authorized organization does not give the permission, do not stay in your house even if it is safe. Do not believe the gossips, ask anything you want to learn only from the authorized organizations.**

✓ **The most important thing during the earthquake is to keep calm, not to panic and to be courageous.**

Always remember that panic gives dangerous reaction during the earthquake.

EMERGENCY NUMBERS

Ambulance	Police	Gendarmery	Fire	Water	Natural Gas
112	155	156	110	185	187

FOR MORE INFORMATION:

General Directorate of Disaster Affairs
Earthquake Research Department
"Earthquake Disaster Prevention Research Center"
Eskişehir Yolu 11. km
06530 Lodumlu-Ankara

Telephone: (312) 287 36 45
Fax : (312) 285 53 04
E_mail : bilgi@deprem.gov.tr

TURKISH JAPANESE PROJECT

FUNCTION

EARTHQUAKE DATA COLLECTION AND VULNERABILITY EVALUATION SUBCENTER (ANKARA)

EARTHQUAKE ENGINEERING RESEARCH SUBCENTER (İSTANBUL)

ACCUMULATION OF EARTHQUAKE STRONG MOTION RECORDS. ACCUMULATION OF DATA AND KNOWLEDGE ON EARTHQUAKE DAMAGE EVALUATION FOR THE IMPROVED INITIATION OF EMERGENCY RESPONSES

ACCUMULATION OF EXPERIMENTAL TECHNIQUES AND KNOWLEDGE FOR UPGRADING OF STRUCTURAL PERFORMANCE AGAINST EARTHQUAKE EFFECTS.

EDUCATION & TRAINING SUBCENTER (İSTANBUL)

CONTRIBUTION TO THE REDUCTION OF PROBABLE EARTHQUAKE DISASTER IN TÜRKİYE

ORGANIZATION

GENERAL DIRECTORATE OF DISASTER AFFAIRS
THE MINISTRY OF PUBLIC WORKS AND SETTLEMENT
(ANKARA)

EARTHQUAKE DISASTER PREVENTION RESEARCH CENTER
(ANKARA)

EARTHQUAKE DATA COLLECTION AND VULNERABILITY EVALUATION SUBCENTER (ANKARA)

EDUCATION & TRAINING SUBCENTER (İSTANBUL)

EARTHQUAKE ENGINEERING RESEARCH SUBCENTER (İSTANBUL)

GENERAL DIRECTORATE OF DISASTER AFFAIRS ANKARA

I.T.U. FACULTY OF CIVIL ENGINEERING İSTANBUL

JAPAN INTERNATIONAL COOPERATION AGENCY

ENCLOSURE FOR QUESTION NO: 3.4

TRAINING PROGRAMMES OF THE TURKISH RED CRESCENT SOCIETY

Projects Implemented During 2000-2003

NAME	# OF PARTICIPANTS	# OF TRAINING
Disaster Preparedness and Intervention	323	11
Disaster Preparedness and Intervention (Syrian RC)	46	3
Logistics Expertise	39	2
Disaster Planning and Needs Determination	23	1
Disaster Preparedness	3	1
Disaster Preparedness and Basic Life Support	43	1
Disaster Preparedness Workshop	30	1
ABCD Basic Disaster Consciousness	26	1
Non-Structural Risk Reducement (YOTA)	27	1

DISASTER PREPAREDNESS AND INTERVENTION TRAINING

A. AIM OF THE TRAINING:

Standardization of the disaster intervention management of the Red Crescent by sharing the information and national/international experiences of the relevant institutions/organizations. Increasing the basic knowledge of the Red Crescent staff who will work in the disaster intervention field.

B. CONTENT OF THE TRAINING:

- RED CROSS-RED CRESCENT MOVEMENT AND PRINCIPLES AND RULES IN DISASTER MANAGEMENT
- DISASTER MANAGEMENT SYSTEM IN TURKEY
- THE ROLE, RESPONSIBILITIES AND LIMITS OF THE RED CRESCENT IN TURKISH DISASTER MANAGEMENT
- DISASTER PREPAREDNESS AND REDUCING THE NEGATIVE IMPACTS OF DISASTERS
- APIT (EMERGENCY PLANNING AND NEED CALCULATION IN DISASTERS)
- RELATIONS WITH THE MEDIA
- PSYCHO-SOCIAL
- COMMUNICATION
- LOGISTICS IN DISASTERS
- TRACING UN + NGO'S
- EMERGENCY HOUSING AND NUTRITION DURING DISASTERS
- MONITORING AND EVALUATION
- EXERCISE
- EVALUATION

DISASTER PLANNING AND NEEDs DETERMINATION TRAINING

A. AIM OF THE TRAINING:

REGULATION OF THE DISASTER PLANNING AND NEEDS CALCULATION SYSTEM OF THE RED CRESCENT IN ORDER TO GIVE THE BEST SERVICE POSSIBLE AND FOR MINIMIZING THE NEGATIVE CONSEQUENCES.

B. CONTENT OF THE TRAINING:

- GENERAL NOTIONS AND DEFINITIONS REGARDING THE EMERGENY SITUATION AND NEEDS DETERMINATION DURING DISASTERS
- DEFINITION OF THE DISASTER
- DISASTER MANAGEMENT
- EMERGENCY SITUATION

- EMERGENCY SITUATION PLANNING AND NEEDS DETERMINATION DURING DISASTERS
- EMERGENCY SITUATION PLANNING DURING THE PREPARATION PHASE
- EMERGENCY SITUATION PLANNING DURING INTERVENTION
- MONITORING AND EVALUATION

LOGISTICS EXPERTISE TRAINING

A. AIM OF THE TRAINING:

Establishing a standard logistics system for the preparation and intervention periods and teaching this system to the logistics staff of the Red Crescent.

B. CONTENT OF THE TRAINING:

- BASIC LOGISTICS
- LOGISTICS IN RED CRESCENT'S CURRENT DISASTER MANAGEMENT SYSTEM
- AUTOMATION
- WHAT KIND OF A STRUCTURE DOES THE AUTOMATION FORESEE?
- LOGOSTICS IN REGIONAL DISASTER INTERVENTION SYSTEM

DISASTER PREPAREDNESS TRAINING:

A. AIM OF THE TRAINING:

Increasing the knowledge of the Red Crescent staff about the health services during disaster intervention and providing the practice of their past experience.

B. CONTENT OF THE TRAINING:

- EARTHQUAKE EPIDEMIOLOGY.
- DEFINITION OF THE INTERNATIONAL RED CROSS AND RED CRESCENT SOCIETIES FEDERATION.
- INFORMATION ON THE ACTIVITIES OF THE TURKISH RED CRESCENT SOCIETY.
- VISITING THE TENT-CITY IN IZMIT AS A SAMPLE OF DISASTER AREA.

- EVALUATION OF THE NEEDS.
- ORGANIZATION AFTER THE DISASTER.
- FIRST AID.
- CRISIS CENTER STUDIES IN TURKEY (REGARDING EARTHQUAKES)
- HEALTH SERVICES.
- PSYCHO-SOCIAL SUPPORT.
- REHABILITATION, WATER SANİTATION.
- PHYSICAL THERAPY.

DISASTER PREPAREDNESS AND BASIC LIFE SUPPORT:

A. AIM OF THE TRAINING:

The development of Red Crescent's health services by increasing the knowledge of the staff with regards to disaster intervention.

B. CONTENT OF THE TRAINING:

- DISASTERS IN GENERAL AND DISASTER PREPAREDNESS
- RED CRESCENT-RED CROSS MOVEMENT
- CONSTRUCTION
- WATER PURIFICATION
- PSYCHO-SOCIAL PROGRAMME AND IMPLEMENTATION
- ASSISTANCE SUPPORT DEPARTMENT
- DEPARTMENT OF HEALTH
- INTRODUCTION TO FIRST AID
- COMPETITION, AIM AND RESULT IN FIRST AID
- DEMONSTRATION IN FIRST AID PROGRAMME
- PUBLIC HEALTH AND PRACTICE
- SOCIAL AID
- BASIC LIFE SUPPORT
- FIRST AID AND VOLUNTEERS DURING DISASTERS
- TRIAGE AND HOSPITAL DISASTER PLAN DURING DISASTERS
- BASIC LIFE SUPPORT TRAINING
- FREQUENTLY ASKED QUESTIONS
- TRAINING AND PRESENTATION TECNNIQUES
- BASIC LIFE SUPPORT EXERCISES, WORKSHOPS AND SCENARIOS

ABCD BASIC DISASTER CONSCIOUSNESS TRAINING:

A. AIM OF THE TRAINING:

The aim of the ABCD training is; increasing disaster consciousness, informing our friends and relatives about the risk reducement methods, and facilitating the integration of the Red Crescent to our society.

B. CONTENT OF THE TRAINING:

- DISASTER CONSCIOUSNESS
- EARTHQUAKE HAZARDS AND RISKS
- BEFORE THE EARTHQUAKE
- DURING AND AFTER THE EARTHQUAKE

- FOLLOWING STEPS

NON-STRUCTURAL RISK REDUCEMENT (YOTA) TRAINING:

A. AIM OF THE TRAINING:

The aims of YOTA training are, increasing consciousness about these hazardous objects, giving informations about the determination of risks, couraging all individuals about risk reducements by taking small steps, and informing the society about the fixation methods.

B. CONTENT OF THE TRAINING:

- What's YOTA?
- AIMS OF THE YOTA TRAINING
- R&D STUDIES
- YOTA PRINCIPLES
- DETERMINATION OF RISKS
- BEFORE FIXATION
- BASIC YOTA IMPLEMENTATIONS