

Rescue Mission in Mexico City

by Toni Frisch, SDR Team Commander

The appalling earthquake which hit Mexico last September gave the Swiss Disaster Relief Unit the chance of offering its valuable services. UNDRO and the SDR have been collaborating very closely since several years. Also, an agreement defining this collaboration was signed in October 1985. In the Mexico disaster, two UNDRO delegates flew with the SDR team to the stricken region. Rescue team commander Toni Frisch reports on SDR's mission of mercy.

On September 19th 1985 Mexico was hit by a disastrous earthquake, with particularly heavy damage to Mexico City itself.

About 10,000 persons were killed and 20,000 wounded, over 150,000 lost their homes and enormous damage to property occurred.

After their operations in the earthquakes of North Yemen in 1982 and Turkey in 1983, the combined forces of the "Swiss Rescue Chain" have now seen action for the first time in Latin America.

The Earthquake

Mexico, situated on the Pacific earthquake belt, has suffered again and again from disastrous earthquakes as shown in the diagram. (See page 8).

The cause of the earthquake on September 19th was once again the sudden displacement of strata off the Mexican coast near Acapulco. Slips in these gigantic plates occur so fast that the resultant earthquake releases enough energy to

L'UNDRO et l'ASC collaborent très étroitement depuis plusieurs années. Ainsi un accord régissant cette collaboration fut-il signé en Octobre 1985.

Dans le cas du Mexique, deux experts de l'UNDRO se sont envolés avec l'équipe ASC pour la région sinistrée où ils ont pu assumer immédiatement leur mission d'information et de coordination.

supply a country the size of Switzerland with power for decades.

But the enormous amount of damage caused by this earthquake was not due only due to its magnitude* of 8.1. Mexico City is built on loose sedimental strata, the bed of a prehistoric sea, and this situation led to the effect of earth movements being multiplied by up to five times.

Alarm and Mobilization

Only about half an hour after the earthquake, the SDR headquarters in Bern were already notified. This was only possible due to the well co-ordinated collaboration with the Swiss Seismological Institute in Zurich, which immediately reports all earthquakes with magnitude above 5.5 to the SDR.

The SDR command organization can be reached round the clock via Swiss Air Rescue radio, and has its



A recovered victim.

*The magnitudes mentioned in this report are derived from amplitude measurements of seismic waves on the earth's surface, and can be determined more reliably over long distances than magnitudes measured from body wave arrivals at nearby stations. The value of 8.1 given here corresponds to a Richter magnitude of approximately 7.5-7.8 according to body wave measurements.

own staff location system covering the whole of Switzerland.

Immediately after a report is received, all available information is collected in order to decide whether to start rescue operations. In this case it proved extremely difficult to obtain detailed information because of the break down in telephone and telex communications with Mexico. However information arriving during the night, together with the first TV pictures, made rescue operations in Mexico seem more and more likely.

Partner organizations were warned to be ready for action, and in the early hours of the morning the alarm was given. Responsibility for this decision lies with the delegate of the Swiss Federal Office for Disaster Relief Abroad.

During Friday 20th September the mission team prepared themselves for departure at Zurich's Kloten airport. But the chartered French DC 8 cargo aircraft could not take off in the afternoon as planned — it was delayed until midnight by a strike of air traffic controllers in France.

Special Conditions in the Mexican 'quake

Experience so far has always shown that survival chances for victims buried underneath rubble are only very slight after about 72-96 hours.

When traditional buildings, dry masonry walling and simple earth-covered wooden structures collapsed during the earthquakes in Turkey and Yemen, hardly any cavities were left for those buried under the rubble. Survival chances were thus extremely limited, and death came quickly.

So far, SDR has never gone into action without previous reconnaissance, since the site of the disaster — either within Europe or not too far from the Mediterranean area — was never further than 5,000 km away.

But in Mexico City the following conditions applied:



The earthquake released colossal amounts of energy, several storeys were reduced to a height of only 50-80 cms.

- Due to the cavities left underneath collapsed buildings, and the ideal climate, victims often survived for a week or longer.
- For the first time the SDR had to go into action without previous reconnaissance — despite the break down in communications and lack of information.
- The scene of disaster was 12,000 km away from Switzerland.
- For the first time a large city (population 18 million) was involved.

Sequence of Action in Mexico City

On Friday 20th September the mission commander was in personal contact with the Mexican embassy in Bern, which immediately informed the Mexican Government — once again with the invaluable help of short-wave radio amateurs.

Another decisively important factor was the establishment of radio contact with Mexico City control tower about 45 minutes before landing. This considerably accelerated mission activities after arrival.

Immediately after landing, about 48 hours after the earthquake, the

aircraft's freight of disaster relief and survival material was handed over to government representatives. This material immediately came into use — an essential condition for the blood plasma with its special storage requirements.

Only two hours after landing, the first Swiss disaster dogs had gone into action after a quick briefing with local authorities at the "Zocalo" co-ordination center.

During the next few days the SDR searched 25 of the most heavily damaged sites, aided by the Mexican Government, armed forces, civil defence and customs authorities as far as possible.

The rescue teams were particularly assisted by radio communication with the Zocalo, and police cars with blue lamps and sirens which forced a path through the dense traffic jams. Extremely valuable help was also given by the local Swiss people and Mexican branches of Swiss firms, so that there was no dearth of interpreters, vehicles and drivers familiar with the locality.

The appalling destruction created a major problem for all the Mexican and overseas helpers, whether disaster dog guides or rescue workers. One example of this was in "Tlatelolco," a large residential quarter in