

ARE NATURAL DISASTERS PREDICTABLE?

Agostino Miozzo

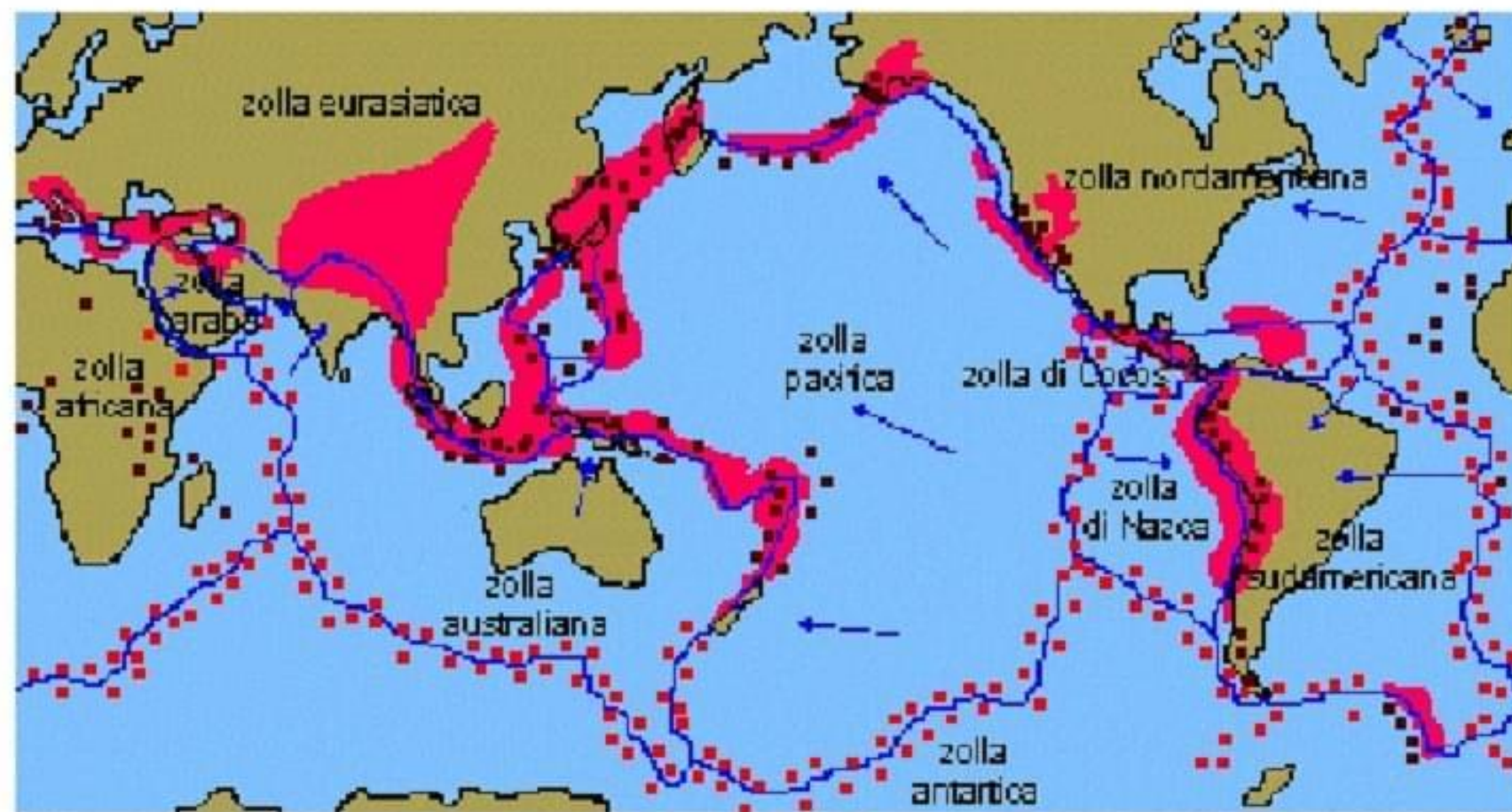
Several thin, white, parallel diagonal lines are located in the bottom right corner of the slide, extending from the right edge towards the bottom left.

PREDICTABLE

(MEANING)

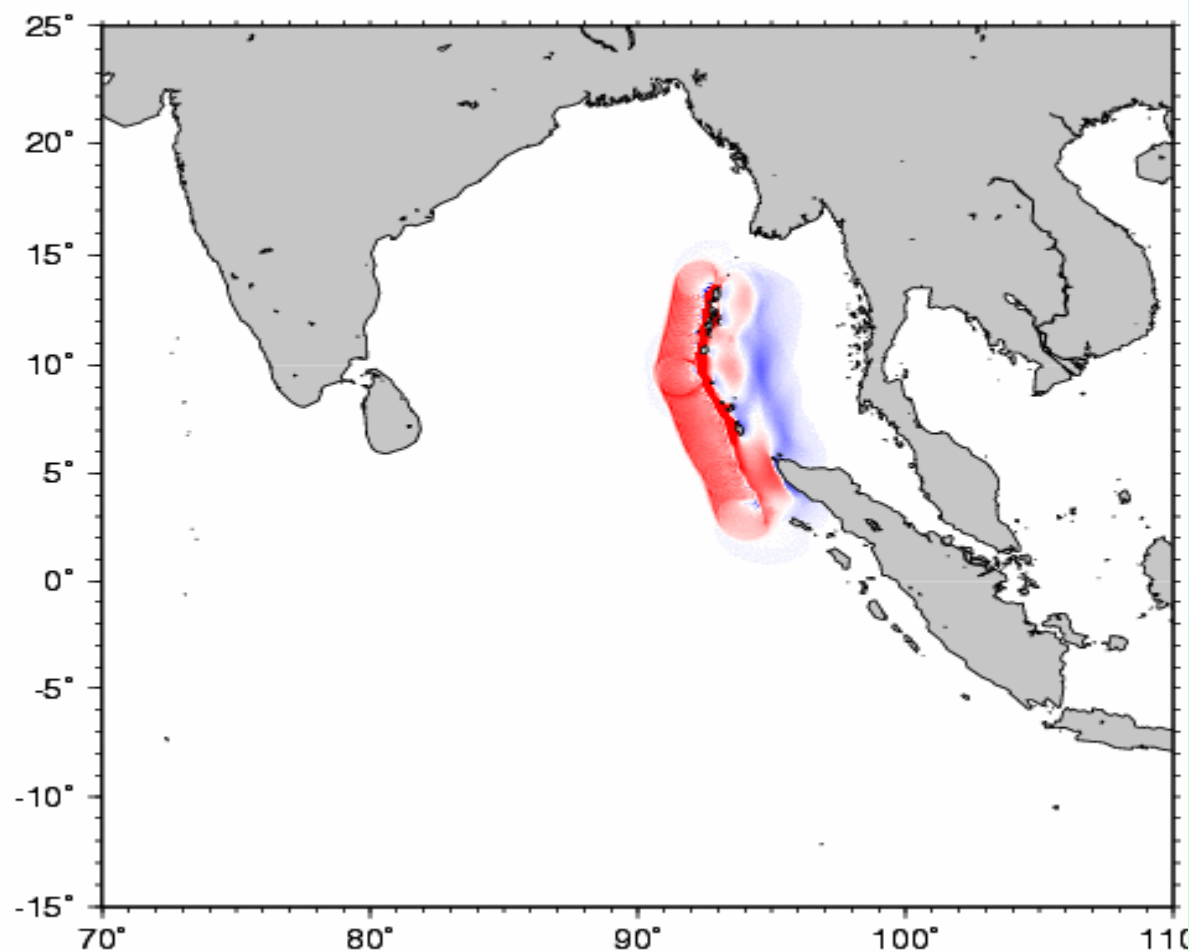
- **Anything that you can see or know before it happens is predictable.**
- **Something that is predictable happens in a way or at a time that you know about before it happens.**
- **Able to be foretold or declared in advance: new technology allows predictable weather forecasting.**
- **Expected, especially on the basis of previous or known behavior.**

Zone sismiche



Simulazione dello tsunami: propagazione dell'onda

2004 Sumatra Earthquake 010 min



VULNERABILITY



Extreme frailty of buildings located in coastal areas, where tourist infrastructures are close to the sea

Lack of knowledge of tsunamis and complete absence of information on how to behave in case of emergency



Common weakness of local civil protection response system

**NATURAL AND MAN
MADE DISASTERS,
CRISIS AND CONFLICT ARE
PREDICTABLE**

**HIGH RISK REGIONS
ARE
KNOW**

**WE HAVE THE KNOWLEDGE,
THE INSTRUMENTS,
THE CAPABILITIES TO:**

***PREVENT CRISIS, REDUCE
VULNERABILITY, BE
PREPARED TO FACE ANY
NATURAL
OR MANMADE DISASTER***

**NATURAL AND MAN MADE
DISASTERS
ARE PREDICTABLE
BUT ...
WE ARE NEVER PREPARED TO
FACE THEM

WHY?**

**WHAT IS MISSING IS THE
POLITICAL WILL
TO RESPOND TO
WARNINGS**





SOSUTH EAST ASIA
26 December 2004
Earthquake and tsunami

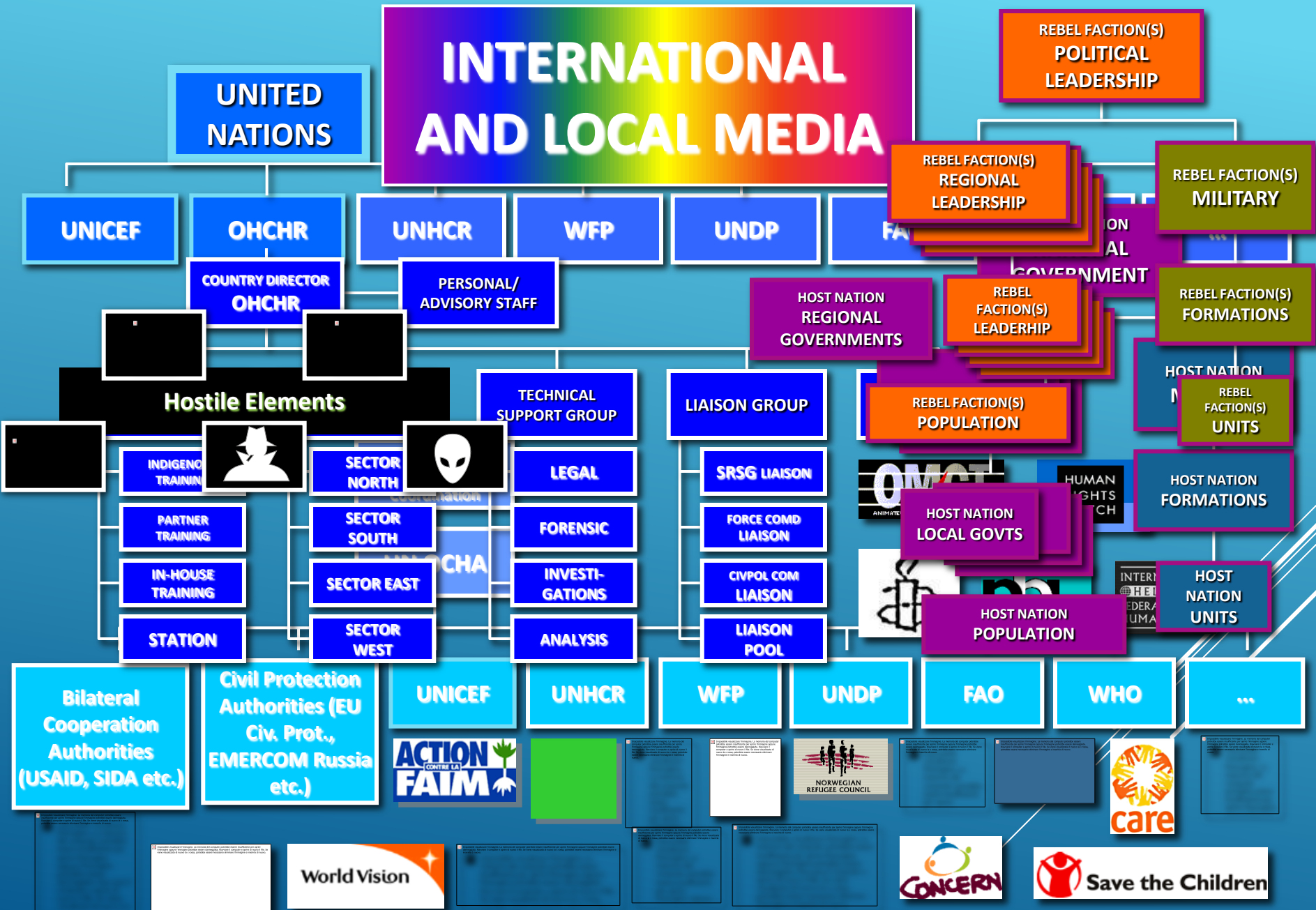


**Are Recipient Countries
ready (and organized) to
receive foreign support?**

**ARE RECIPIENT COUNTRIES
READY TO ASK TO THE
DONOR COMMUNITY THE
SUPPORT THEY REALLY
NEED?**

**IS THE DONOR COMMUNITY
READY TO PROVIDE (IN DUE
TIME) THE ASSISTANCE
THAT IS ADEGUATE TO THE
NEEDS OF THE RECIPEINT
COMMUNITY?**

CRISIS MANAGEMENT:



COORDINATION

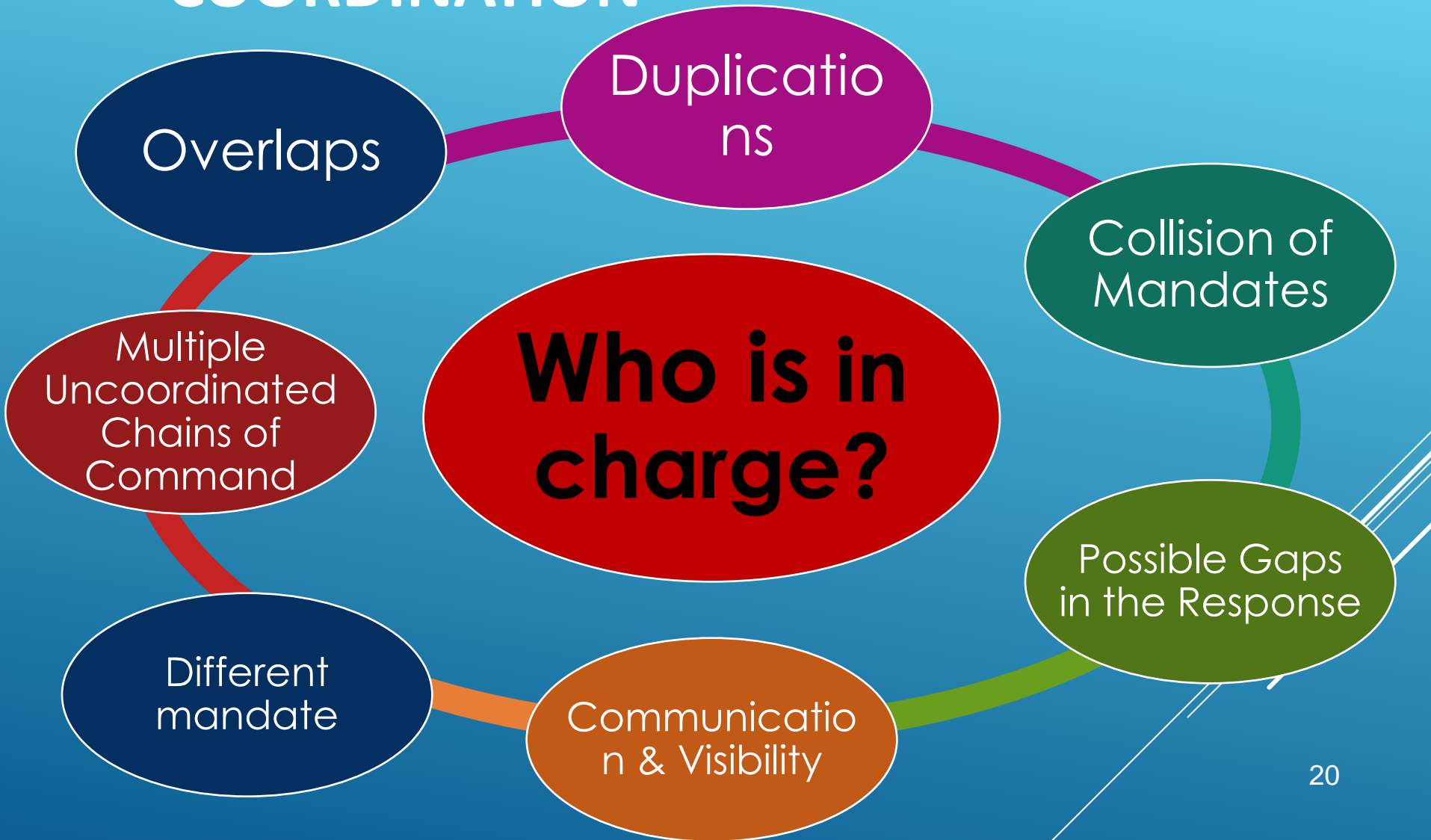


COORDINATION

- the process of organizing people or groups so that they work together properly and well
- the organization of the different elements of a complex body or activity so as to enable them to work together effectively.
- the ability to use different parts of the body together smoothly and efficiently.
- Coordination is the act of arranging, putting things in order, or making things run smoothly together

- the regulation of diverse elements into an integrated and harmonious operation
- the skillful and effective interaction of movements
- The act of making all the people involved in a plan or activity work together in an organized way

MAIN CHALLENGES OF COORDINATION



ITALY IN SRI LANKA





Magnitude 9.0 Richter scale - SOUTHEAST ASIA

26 December 2004, 7:58:00 local time (1:58 Italian time)

- The seriousness of the situation has been immediately recognised by the Italian Civil Protection, assessed on the extent of the event and on the factors which determine the risk in those areas, namely:
 - high hazard
 - high vulnerability of infrastructures
 - high value, particularly in that season of the year

ESPOSIZIONE

ZONE DENSAMENTE POPOLATE

particolarmente elevata in questo periodo dell'anno la presenza di turisti stranieri nelle regioni colpite dallo tsunami; rilevante è il flusso di europei, ad esempio:

circa 5.000 italiani

circa 5.000 francesi

10.000 Regno Unito

2.500 svizzeri

1.500 austriaci

20.000 svedesi

1.000 belgi



INFORMAZIONE GLOBALE SUL FENOMENO



Per la prima volta viene ripreso uno tsunami da numerosi video che ne filmano l'arrivo sulle spiagge



BANDA ACEH SHORELINE
6/23/2004



BANDA ACEH SHORELINE
12/28/2004

CREDIT: DIGITAL GLOBE



L'osservazione diretta, attraverso il materiale fotografico, satellitare e video raccolto, consente agli studiosi di accrescere le conoscenze scientifiche sul fenomeno

La disponibilità in tempi molto brevi sui siti internet di informazioni scientifiche sullo tsunami consente a molti di conoscere il fenomeno e di inquadrarlo nelle conoscenze geodinamiche e sismotettoniche dell'area

Magnitude 9.0 Richter scale - SOUTHEAST ASIA
26 December 2004, 7:58:00 local time (1:58 Italian time)

5.30: Crisis Unit of the Department of Civil Protection

10.30: Operational Committee of Civil Protection in coordination with the Consular Crisis Unit of the Ministry of Foreign Affairs and the Monitoring and Information Centre of the EU Commission:

- **Tourists departures to Southeast Asia were cancelled**
- **Arrangements for the immediate dispatch to the area of**
 - **military and commercial flights for the repatriation of affected tourists, and**
 - **medical teams and equipment**

17.30: departure of the first Italian civil protection team; two additional teams will leave later at night



THAILAND, Phuket
28 DECEMBER - 03.45 local time

SRI LANKA, Colombo
27 DECEMBER - 11.40 local time

MALDIVE, Malè
27 DECEMBER - 10.40 local time

**ARRIVAL OF ITALIAN CIVIL PROTECTION EMERGENCY
UNITS FOR THE REPATRIATION OF TOURISTS**

27 December 2004 - 01.48 Italian time

Return of the first 171 Italians from Malé - assistance at the airport



Return flights pax 26
12 DPC
14 Commercial

Italian airlift

26 December – 3 January

Italian Passengers 3967

Foreign Passengers 341

of which 316 Europeans
5 Africans
3 Asians
17 Americans

TOTAL 4308

(Maldives 3142 – Thailandia 579 – Sri Lanka 587)

PHUKET

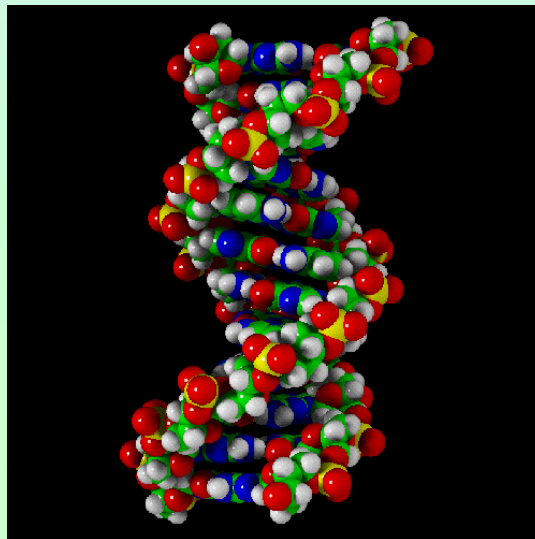
Italian Team for the identification of dead



BANCA DATI GLOBALE DEL DNA

Un comitato internazionale viene creato per procedere all'identificazione delle vittime attraverso la definizione del DNA di ciascuno

Vengono diffuse sui siti internet le fotografie delle vittime al fine di accelerare il riconoscimento delle salme



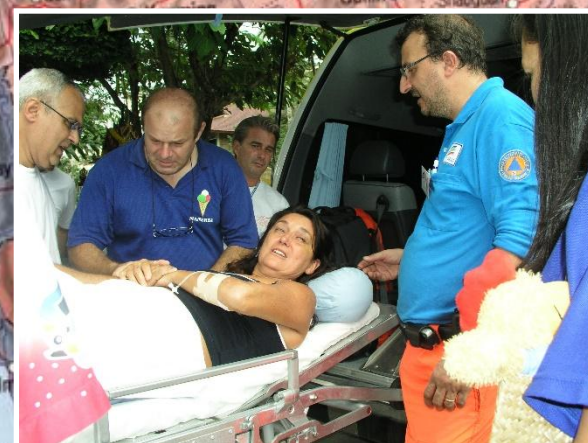
ASSISTANCE TO THE AFFECTED POPULATION



SRI LANKA, Trincomalee
AMP – Regione Liguria



THAILANDIA, Phuket
AMP – Regione Marche



SRI LANKA, Mancholai
Field hospital – ANA sez. Bergamo

4 Advanced Medical Posts and 50 tons of health emergency items

SRI LANKA, Unawatuna
PMA – Università di Pisa



IDHWATTA



AL – HIRA SCHOOL

900 tents in Sri Lanka



PHASE TWO: ITALIAN SOLIDARITY

Mobile phone services
(Tim, Vodafone, Wind, 3, together with
Rai, Mediaset, Il Corriere della Sera)

Via SMS text messages

Landline phone services
(Telecom Italia e Fastweb)

Calls from landline numbers

TG5 and Il Corriere della
Sera

Bank account number

Credit cards

Department of Civil Protection

Direct bank transfers to the
civil protection accounts

TOTAL
About EURO 45 MILLION

**Dona 1 euro
alle popolazioni
dell'Asia
inviando uno o piu' SMS
al numero 48580.**



L'ARRIVO DEI PRIMI AIUTI DELLA PROTEZIONE CIVILE PER LO SRI LANKA



28-30 dicembre due voli di linea

150 tende, farmaci e materiale sanitario di primo soccorso (10 tonnellate)

7 gennaio un cargo

natante per il pattugliamento delle coste

110 tende PI-88

sistema satellitare e ponti radio

offerte delle Regioni italiane:

**potabilizzatori, imbustatrice per acqua, dissalatori, nebulizzatore
medicinali, materiale e apparecchiature sanitarie per i PMA e
l'ospedale di Matara (30 tonnellate)
materiale scolastico e cancelleria**

7 gennaio due C-130 AM

90 tende PI-88

9 gennaio volo di linea

offerte delle Regioni italiane:

medicinali e materiale sanitario di primo soccorso (10 tonnellate)

18 gennaio volo di linea

230 tende PI-88 *offerte dalla Regione Calabria*

**Left on 31 December and arrived at
Ratmalana airport in Colombo on 3 January**



**From 8 to 16 missions per day for transporting Italian civil
protection, EU and UN personnel and equipment from
Ratmalana to Trincomalee and Unawatuna**

From 8 to 12 flying hours per day



THE USE OF 2 CANADAIR

THE FIRST MEMORANDUM OF UNDERSTANDING WITH THE GOVERNMENT OF SRI LANKA



AMBASCIATA D'ITALIA
COLOMBO

Memorandum of Understanding between the
Government of Italy and the Government of Sri Lanka
on operation of Italian Aircraft in Sri Lanka
for provision of humanitarian relief to the areas affected by the Tsunami of
26th December 2004.



AMBASCIATA D'ITALIA

H. E. Ambassador Salvatore Zotta
Embassy of Italy in Sri Lanka

On behalf of the Government of Italy

Hon. Nimal Siripala De Silva
Minister of Health Care and Nutrition and Uva
Wellness Development

On behalf of the Government of Sri Lanka

Memorandum of Understanding between the
Government of Italy and the Government of Sri Lanka on Emergency
Relief Programs in the Health Sector

SRI LANKA



8 INTERVENTION AREAS

- District of Trincomalee
- District of Matara
- District of Galle
- District of Gampaha
- District of Ampara
- District of Jaffna
- District of Hambantota
- Nord-Est Area

A TOTAL OF 41 PROJECTS

Out of which:

**11 implemented by the Department
of Civil Protection
30 by NGOs and other Italian and
international organizations**

EURO 49.790.761

**(out of which € 5.120.970 financed
by the civil protection fund)**



TYPES OF INTERVENTION

Restoring living conditions

Emergency shelters
rehabilitation of damaged houses
Rebuilding work (housing and sewerage)

Health

Rebuilding of hospitals and maternal and child health units

Fisheries

Rehabilitation of fishing livelihood (boats, nets, infrastructures, etc.)

Social and economic development

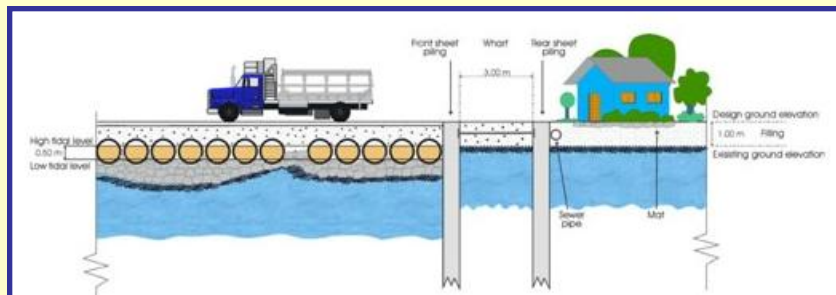
Institutional support to the local fire fighters department

Water and sanitation

Rehabilitation of the water and sewage system

Education

Reconstruction of public schools



- RESETTLEMENT IN INTERNAL REMOTE AREAS
- OCCUPATION OF THE AREAS CLOSE TO THE SEE
- LEGISLATION THAT OBLIGED TO LIVE 200/300 MT FAR FROM THE SEE (NEVER RESPECTED)
- TSUNAMI A GOOD OPPORTUNITY TO «CLEAN» THE BEACHES FROM ILLEGAL HOUSES
- SOFISTICATED HOUSES SCHOOLS HOSPITALS ABANDONED VERY SOON

Pakistan 8/10/2005 - Earthquake



