
6th Meeting of the World Forum of Catastrophe Programmes. October 2011

Christiane de Bondy Secretary - General of GAREAT
Definition of Terrorism

Part I   - Terrorism Schemes in the World.

Part II - France: GAREAT

Part III - Issues and questions.

Conclusion.
Act of terrorism:

- No common definition. UN has been attempting to find one.

- Convergence of the definitions used, Act of Terrorism meaning: an act of any person acting on behalf or in connection with any organization which carries out activities directed towards the overthrowing or influencing of any government or public body by force, violence, fear.

- Terrorism catastrophes are societal, man made.
PART I

Terrorism schemes in the world.
Before September 11th.

- Those countries exposed to this risk possessed specific national coverage schemes
- Longest lasting one being Spain the Consorcio created in 1941, followed by Israel, Northern Ireland, South Africa, Bahrain, Sri Lanka, France, Namibia, Unite Kingdom.

Post September 11th.

- Insurance has been faced with a new brand of terrorism. A radical change occurred in the nature of the terrorist threat not anticipated by insurers:

- New schemes:
  Switzerland, Indonesia, Russia, France, India, Germany, Austria, USA, Australia, Netherland, Belgium, Denmark
## I - TERRORISM SCHEMES

<table>
<thead>
<tr>
<th>Year</th>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1941</td>
<td>Spain</td>
<td>Consorcio de Compensacion de Seguros (CCS)</td>
</tr>
<tr>
<td>1969</td>
<td>Israel</td>
<td>Property Tax and Compensation Fund Law and victims of Hostile Action law (VHAP)</td>
</tr>
<tr>
<td>1977</td>
<td>Northern Ireland</td>
<td>Criminal Damage Compensation Scheme Northern Ireland</td>
</tr>
<tr>
<td>1979</td>
<td>South Africa</td>
<td>South African Special Risks Insurance Association (SASRIA)</td>
</tr>
<tr>
<td>1981</td>
<td>Bahrain</td>
<td>Arab War Risks Insurance Syndicate (AWRIS)</td>
</tr>
<tr>
<td>1985</td>
<td>Sri Lanka</td>
<td>Strike, Riot, Civil Commotion and Terrorism Fund (SRCCTF)</td>
</tr>
<tr>
<td>1986</td>
<td>France</td>
<td>Guarantee Fund for Victims of Acts of Terrorism (FGTI)</td>
</tr>
<tr>
<td>1988</td>
<td>Namibia</td>
<td>National Special Risks Insurance Association (NASRIA)</td>
</tr>
<tr>
<td>1993</td>
<td>United Kingdom</td>
<td>Pool Reinsurance Company</td>
</tr>
</tbody>
</table>
## I - TERRORISM SCHEMES POST SEPTEMBER 11th 2001

<table>
<thead>
<tr>
<th>Year</th>
<th>Country</th>
<th>Scheme Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>End 2001</td>
<td>Switzerland</td>
<td>Swiss Terror Market Solution</td>
</tr>
<tr>
<td>End 2001</td>
<td>Indonesia</td>
<td>Indonesian Terrorism Insurance Pool/ MAREIN</td>
</tr>
<tr>
<td>End 2001</td>
<td>Russia</td>
<td>Russian Antiterrorism Pool (RATIP)</td>
</tr>
<tr>
<td>January 2002</td>
<td>France</td>
<td>Gestion de l’Assurance et de la Réassurance des Risques Attentats et actes de Terrorisme (GAREAT)</td>
</tr>
<tr>
<td>April 2002</td>
<td>India</td>
<td>Indian Market Terrorism Risk Insurance Pool IMTRIP/ General Insurance Corporation of India</td>
</tr>
<tr>
<td>September</td>
<td>Germany</td>
<td>Extremus</td>
</tr>
<tr>
<td>October 2002</td>
<td>Austria</td>
<td>Österreichischer Versicherungspool zur Deckung von Terrorisiken</td>
</tr>
<tr>
<td>November 2002</td>
<td>USA</td>
<td>Terrorism Risk Insurance Act (TRIA) extended to TRIPRA</td>
</tr>
<tr>
<td>June 2003</td>
<td>Australia</td>
<td>Australian Reinsurance Pool Corp (ARPC)</td>
</tr>
<tr>
<td>2003</td>
<td>Netherlands</td>
<td>Nederlandse Herverzekering Maatschappij voor Terrorismmeschaden (NHT)</td>
</tr>
<tr>
<td>May 2007</td>
<td>Belgium</td>
<td>Terrorism and Insurance Pool (TRIP)</td>
</tr>
<tr>
<td>March 2010</td>
<td>Denmark</td>
<td>Danish Terrorism Insurance Scheme</td>
</tr>
</tbody>
</table>
I – TERRORISM SCHEMES IN 20 COUNTRIES IN 2011

USA
Spain
France
Northern Ireland
United Kingdom
Belgium
Netherlands
Denmark
Germany
Switzerland
Austria
Russia

Israel
Barhain
India
Sri Lanka
Indonesia
Australia
Namibia
South Africa

GREAT. 6th meeting of the World Forum, 24-28 October 2011
Each Terrorism Insurance and Reinsurance market solution shows significant variations in historical cause and in current practice:

- Terrorism insurance: mandatory vs optional
- Coverage: Terrorism vs Terrorism + various (civil commotions, riots..)
- NBCR (Nuclear, Biological, Chemical and Radiological) covered / excluded.
- Schemes: Insurance Company / Pools.
- Reinsurance schemes: mandatory vs optional.
- State warranty vs No State back up.
- Limited coverage / Unlimited coverage
- Funded / Not funded.
- Insurance Prices imposed by State / Free decided individually by each company.
- Prices based on geographical exposures / Property damage premium.
France: GAREAT
II – FRANCE. GAREAT CONTEXT

- The coverage of terrorism by insurance companies cannot be excluded from policies, mandatory by French law.

- Each Insurance company charges the terrorism price it decides.

- GAREAT set up in 2002 to find coverage for Property Damage (PD) and Consequential Loss arising out of act of Terrorism occurring on the French territory or in the French Overseas Departments, even when the cause originates outside France.

- As a market solution it is a partnership with all the actors of the French insurance market: Foreign and French insurance companies, French insurance Associations, International Reinsurers, the French State.
II – FRANCE. GAREAT RISK SPECTRUM

Two Sections:

- Large Risks section (LR). Risks ≥ 20 million euros sum insured (no PML, MFL limits).
  - Mandatory.
  - No adverse selection principle

  - Optional.
  - Once a company joins they must cede all their risks corresponding to the coverage scope of GAREAT. They cannot select particular risks.
GAREAT’s Members are French and Foreign insurance companies licensed to operate in France and in the French Overseas Departments.

- 253 members, including 11 direct membership Captives, 58 Lloyds’ Syndicates.

- Groups in 15 countries: Belgium, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, Switzerland, Great Britain, USA, Bermuda, Australia, Japan.

- Members’ shares depend on the GAREAT premiums ceded to GAREAT
II – FRANCE. GAREAT LARGE RISK SECTION PREMIUM RATES

- Reinsurance rates apply to property premiums.
- Rate vary according to bands of sum insured (except nuclear)
- Average rate on sum insured is around 0.11 per mille
- Potential 20% premium reduction maximum granted for all risks if scope of terror cover limited to 20% SI (not recommended for insured's).
- Insurers participate in GAREAT’s retention accordingly to their market share based on premium ceded

<table>
<thead>
<tr>
<th>Band of Sum Insured</th>
<th>Rates Apply to property premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>€ 20 M - &lt; € 50 M</td>
<td>12%</td>
</tr>
<tr>
<td>≥ € 50 M</td>
<td>18%</td>
</tr>
<tr>
<td>Nuclear risks</td>
<td>24%</td>
</tr>
<tr>
<td>Reinsurance captives. Terrorism SI 20% of total SI if possible.</td>
<td>Specific rates</td>
</tr>
<tr>
<td>Average Rate 15%</td>
<td></td>
</tr>
</tbody>
</table>
## GAREAT’s Rates Applicable to Property Premium

<table>
<thead>
<tr>
<th>Insured Sums</th>
<th>Cat 23: Motor Damage (ex TPL)</th>
<th>Cat 24: Homeowners</th>
<th>Cat 25: Commercial &amp; industrial risks</th>
<th>Cat 262: Farm owners (ex Hail)</th>
<th>Small aviation hull &lt;1 million euros</th>
<th>Small marine hull &lt;1 million euros</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6 million euros</td>
<td>0.10%</td>
<td>0.80%</td>
<td>1.20%</td>
<td>0.60%</td>
<td>2.50%</td>
<td>1.25%</td>
</tr>
<tr>
<td>≥ 6 millions euros to &lt; 20 millions euros</td>
<td>4.00%</td>
<td>4.00%</td>
<td>4.00%</td>
<td>4.00%</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
The structure is similar for both sections based on Annual Aggregate Excess of Loss (stop loss) concept:

- A Co-reinsurance layer mutualised between all the Members of the same section.

- On top several reinsurance layers placed with international reinsurers (including some GAREAT Members). Renewed every year.

- An unlimited layer: 100 % reinsured by Caisse Centrale de Réassurance (CCR), the State reinsurer. Conditions negotiated every year.
The Unlimited reinsurance layer is:

- Guaranteed by the French State for 3 years. Next renewal January 1st 2013

- Global for the LR section. Trigger 2 billion euros ie: about 0.1% of French GDP, 4% of the French Non Life total premium income, 13% of the French Property premium,

- Specific by company for the SMSR section, individual threshold.
II – FRANCE . GAREAT LARGE RISK SECTION 2011 STRUCTURE

Programme: annual aggregate excess of loss
Duration: 12 month at January 1st, 2011
Basis: losses occurring between January 1st - December 31st, 2011

Unlimited/State Guarantee/
Global Treaty
CCR / GAREAT

Layer 5
Layer 4
Layer 3
Layer 2
Layer 1

Reinsurers

Members’retention:
Layer 1 : € 400 million
100% Estimated original premium: €1.3 billion
Estimated GAREAT’s premium: € 195 million

Members'coreinsurance / Retention

<table>
<thead>
<tr>
<th>Million €</th>
<th>2,000</th>
<th>1,600</th>
<th>1,200</th>
<th>800</th>
<th>400</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer 5</td>
<td></td>
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<tr>
<td>Layer 4</td>
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<td>Layer 3</td>
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<td>Layer 2</td>
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<tr>
<td>Layer 1</td>
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<td></td>
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<tr>
<td>U/Y</td>
<td>GAREAT 100%</td>
<td>REINSURERS</td>
<td>MEMBERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Premium</td>
<td>Reinsurers</td>
<td>CCR **</td>
<td>1 192,2</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>2002-2011</td>
<td>2 396,0</td>
<td>921,9</td>
<td>38%</td>
<td>281,9</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>2011 (est)</td>
<td>197,0</td>
<td>59,5</td>
<td>30%</td>
<td>20,1</td>
<td>10%</td>
<td>117,4</td>
</tr>
<tr>
<td>2010 (est)</td>
<td>197,0</td>
<td>59,4</td>
<td>30%</td>
<td>20,1</td>
<td>10%</td>
<td>117,5</td>
</tr>
<tr>
<td>2009 (est)</td>
<td>246,3</td>
<td>72,3</td>
<td>29%</td>
<td>21,1</td>
<td>9%</td>
<td>152,9</td>
</tr>
<tr>
<td>2008**</td>
<td>246,6</td>
<td>81,5</td>
<td>33%</td>
<td>21,6</td>
<td>9%</td>
<td>143,5</td>
</tr>
<tr>
<td>2007**</td>
<td>250,8</td>
<td>110,7</td>
<td>44%</td>
<td>22,6</td>
<td>9%</td>
<td>116,1</td>
</tr>
<tr>
<td>2006**</td>
<td>253,5</td>
<td>112,1</td>
<td>44%</td>
<td>28,2</td>
<td>11%</td>
<td>114,6</td>
</tr>
<tr>
<td>2005**</td>
<td>262,5</td>
<td>119,5</td>
<td>46%</td>
<td>31,8</td>
<td>12%</td>
<td>111,2</td>
</tr>
<tr>
<td>2004**</td>
<td>278,5</td>
<td>129,4</td>
<td>46%</td>
<td>37,1</td>
<td>13%</td>
<td>112,0</td>
</tr>
<tr>
<td>2003**</td>
<td>264,3</td>
<td>106,1</td>
<td>40%</td>
<td>39,4</td>
<td>15%</td>
<td>118,8</td>
</tr>
<tr>
<td>2002**</td>
<td>199,5</td>
<td>71,4</td>
<td>36%</td>
<td>39,9</td>
<td>20%</td>
<td>88,2</td>
</tr>
</tbody>
</table>

* Closed underwriting years
** Premium to CCR iro unlimited treaty and railroad vehicle treaty (since 2009)
PROGRAMME: annual aggregate excess of loss

Duration: 12 month at January 1st, 2011

Basis: losses occurring between January 1st - December 31st, 2011

Estimations:

- 100% reinsurance (excluding unlimited): €2 800 million xs €400 million
- GAREAT premium 100% Market: €160 millions
- Basic PD premium: €14.8 billion
- Reinsurance:
  - GAREAT premium: €16.0 million

GAREAT Market Share: 10%
GAREAT has introduced a special process for handling major losses in order to:
- Record, monitor and quantify losses in real time and per section.
- Measure in real time the impact on the Members’ retention.
- Trigger the Reinsurance protection.
- Reimburse Members as soon as possible.

In preparation for a major loss, GAREAT has arranged to:
- Coordinate measures with the Members’ contacts.
- Develop external communication with the parties concerned.
- Implement a crisis test.
II – FRENCH NATIONAL SOLUTION SPECIFICS

- Mutuality: full mutualisation of risks, losses are covered at the first euro.

- Mandatory: avoids anti-selection in large risks

- Simplicity: rates based on Property premium

- Flexibility: premiums charged to the insured may be different from GAREAT rates

- Non profit organization.

- Not funded.

- Profitability: all residual premium after losses back to members, potential reserves done by members

- Visibility: 3 year unlimited warranty of the French State

- Proactive governance
PART III

Issues and questions.
- An « interdependence » between risks (at several levels) which is very difficult to evaluate.

- Local self-protection may generate negative externalities.

- Potential accumulations between schemes and countries (mass destruction, CBI)

- Externalities arising out of Crisis Management decisions could give rise to major losses as a result of a domino effect.

- Lack of historical data, and asymmetric information.

- Dynamic uncertainty. The risk of Terrorism is not an unchanging one.

- Limited ability to use models: difficult to advance a probabilistic approach

- Risk perception: integration of psychological factors, difficulty for prevention measures to be taken
III – POTENTIAL FOR DEVASTATING NUCLEAR TERRORISM LOSS

The Nuclear terrorism loss examples evaluate potential events 5 to 20 times superior to the damages caused to the world Trade Center:

- An attack on a nuclear plant:
  Conventional attack: 200 billion US dollars (GAO, USA)

- Dirty Bomb:
  5kg TNT and 1.85 PBQ (cesium 137) on Paris: 100 to 300 billion euros (Laboratoire Spiez, Switzerland)

- Nuclear bomb made:
  - Bomb on New York : 800 billion US dollars (American Academy of Actuaries, USA)
  - Bomb 10kt on a harbour in California: + 1000 billion US dollars (Rand USA)
III - QUESTIONS

In the complex context of Terrorism, the following questions arise:

- How can we better gauge the domino effects of an act of hyper-terrorism, with its inevitable consequences for the economy and for the general public?

- How can the « chain of risks » be managed in such a way that the risks are better defined in spite of this degree of uncertainty?

- How can inadequacies of coverage be avoided?

- How can prevention be improved with the help of the Public Authorities?

- How can we ensure that the Crisis Committees of the different bodies concerned operate in a coordinated way?
Conclusion.
CONCLUSION: GLOBAL UNIVERSE. STATES. COOPERATION

- Hyper-terrorism corresponds to a «global» universe in which information, technologies and non-conventional weapons are available for use by new organizations operating across borders.

- There is a limit to which the risk can be insured by the market alone, and the State must play a part.

- Close cooperation between insurers, reinsurers and States is essential, and this must allow the implementation of viable reinsurance schemes which are consistent with existing legislative systems.
CONCLUSION: OECD TERRORISM PLATFORM

A Terrorism Platform has been initiated in June 2010 by OECD.

- The platform attempts to gather the heads of the existing Terrorism national schemes of the world including also those of countries which are not members of the OECD.

- The main objective of the steering Committee being to share regulatory and market information on a comparable basis, monitor the evolution of national terrorism insurance programs, assess market trends, and identify and share best practices in order to continuously improve risk financing and (re)insurance solutions in response to the global terrorism threat.
CONCLUSION:
IS THERE AN IDEAL TERRORISM COVER?

NOT YET,

BUT ALL COUNTRIES SHOULD

COOPERATE FOR THE LARGEST COVER

(LOCAL/REGIONAL/GLOBAL)
THANK YOU

GAREAT, 1 rue Jules Lefebvre, 75009 Paris, France

http://www.gareat.com
Tel: + 33 (0)1 53 21 51 66