

AIDA WORLD CONGRESS

PARIS 2010

CLIMATE CHANGE

QUESTIONNAIRE

Foreword

1. Climate change has been chosen as one of the topics for the AIDA World Congress to be held in Paris in 2010. Thank you for accepting to prepare a national report.

2. This subject is obviously one of great importance, and very much has already been written on it. For an AIDA World Congress, the focus should naturally be on the impact on the insurance sector, and more precisely on the impact on insurance law – a domain in which AIDA can make a significant contribution. When preparing your report, please stress the legal aspects (legislation, regulation, policies, clauses, legal nature of new products, etc...) – even though describing the context will always be necessary.

3. National reports will be particularly useful for such a subject where perceptions of the phenomenon may vary, and mainly, where the feared consequences of climate change can be widely different in the different regions of the world. Please see that your report gives the necessary information about the local context in which it is written (see part A of the questionnaire below).

4. The questionnaire is indicative. Try to cover all points you find relevant for your country, but do not hesitate to include additional information and comments in part C below.

A. Your local context

In your country :

1. What is the degree of awareness of climate change and its consequences?

- in the general public – the degree of awareness is low. Only the academia discusses the issue and the solutions to the problem whilst society itself is aware of the situation but is not doing anything to alleviate the adverse consequences of global warming.

- in the business sector – it is not very different from the low level of awareness of the general public. Motivated perhaps by the great volume and diversity of natural resources that can be found in Brazil, the idea that still prevails in the business world is that these resources are inexhaustible. There is, without any doubt, a lack of efficient public policies with respect to climate change and even the ones which do exist are often poorly supervised or not enforced by public authorities. The pace of development which exists in the country, especially in recent decades, with the acceleration of the economy and the delayed access of new population groups to consumer goods, does not allow for full awareness of the evils of environmental pollution and the degradation of the forests. Trees cut down to increase crop planting areas in many regions of the country. There are strong efforts by Central Government to increase economic development and due to this environmental policies become diffident or remain in the

background. Urbanization is important as is expanding the areas for planting crops for export but the frenetic pace of this is not always accompanied by the bias of sustainability. Ecoefficiency, in terms of economic, social and environment indicators is left to each individual company who implements their own environmental policies, acting within the national and worldwide context. Often the company is motivated by international pressure which imposes barriers to the exports of Brazilian products and raw materials which are not produced in a suitable environmental manner.

- in the insurance industry –the level of awareness is also very low. In fact, very few actions have been taken. Until now, there is not, in any general and systematic way, any kind of policy behaviour taken by the insurance market on this subject. The Brazilian banking system, more prepared than the insurance market, adopted mechanisms for environmental preservation much longer ago, such as those outlined by the Equator Principles. Because the insurance industry does not have a unified policy on the central issue for the whole system, preventative measures taken remain isolated. Some foreign insurers issue information about climate change and the actions they propose to take, but these are only isolated movements without significant effects. In 2008, the Federação das Empresas de Seguros e Capitalização - FENASEG (Federation of Insurance Companies and Capitalization Companies) constituted a Working Group precisely to start studying this issue in order to propose policies and procedural measures for the local insurance market. However, this Working Group has not yet published any measures or policies.

- in public authorities ? – the level is also low as previously discussed. There is no doubt that public policy should exist in a form which leads the way towards improving the climate conditions in the country. The scale of progressive deforestation of the Brazilian forests demonstrates the lack of sufficient political concentrated in this direction. The National Plan on Climate Change, which provides voluntary numerical targets and was presented at the 14th Conference on Climate Change of the UN (United Nations), in Poznan, was recently launched. Deforestation is responsible for 75% of Brazilians gas emissions and the Government has undertaken, through the National Plan mentioned, to reduce emissions by 40% by the end of 2009, based on 19,500 Km² of trees felled between 1996 and 2005. From 2010 to 2013, a further 30% reduction is

expected, based upon the rates from 2006 to 2009 and, by 2017, another 30% from the preceding four years. Even so, about 70 thousand Km² will be deforested in the next nine years, a fact that has generated much criticism from environmentalists. Beside this plan against deforestation, there is a movement to develop the country, in spite of the environmental cost involved which is not always regarded as a priority. Specialized academics, for example, question if it is not more efficient for Brazil to repower the existing hydroelectric plants rather than to build new units across the country which always negatively impact the environment. The whole issue, in spite of the co-responsibility of each citizen and each company separately, should be the subject of public policies which are well-drawn and effectively checked and implemented. The global economic crisis, starting from the second half of 2008, will certainly make many countries review their policies to combat global warming, with Brazil included in this.

2. Which are locally the main expected consequences of climate change (please specify: “not applicable”/”medium risk”/”high risk”):

- floods (including flash floods) - high risk – on the grounds that Brazil has an extensive catchments area across its vast land mass.

- rise of sea level - high risk, considering that Brazil has 9,198 km of coast line, with a large population that is concentrated in cities located at sea level.

- melting of ice, of snow, avalanches – not applicable

- earthquakes – not applicable

- storms, tornadoes – medium risk

- heat waves, draught, fires – high risk. Considering that the country is tropical, the increase of heat radiation can cause serious damages not only in the health of population but also in the fauna and flora. In 2006, there was an unprecedented draught of gigantic proportions in the Amazon region.

- spread of diseases – high risk. Due to the tropical climate, already susceptible to many diseases, climate change can cause unprecedented pandemics in the country.

- other adverse effects

- any favourable consequences? – According to the opinion of certain scientists a favourable transformation may occur in some regions of the world because of the possibility of planting different crops. However, in Brazil, a country of tropical and sub-tropical climate, global warming doesn't seem to favour any particular geographic region.

3. Which economic sectors, critical for your country, could be particularly affected:

- agriculture – this sector is essential for Brazil and any unfavourable modification could bring serious damage to the country

- fisheries – the same. There is increasing development of fish farming in Brazil, which also may be affected depending on weather conditions and tides.

- forestry – the same. The preservation of Brazilians forests is a factor that transcends the Brazilian society because it is directly related to the overall interests of global society.

- energy – Brazil is developing bioenergy sources on a large scale and this could be severely affected if agricultural also suffered the adverse consequences of global warming.

- industry (which ?) – considering the possibility of water shortages all sectors can be affected because hydroelectric power provides the basis for the national economy.

- tourism – the same. Tourism in Brazil, which has a vast coastline of 9,198km, is focused in its coastal cities. Ecological tourism, represented by forests, the Pantanal, Mato Grosso, fauna, flora and the major national parks could also be impacted.

- others ? -

4. Have some concrete measures already been taken or envisaged (other than in insurance sector – see B below):

- legislation, regulation – in the Federal Legislative field, there is the Interministerial Resolution nº 1, from 11.09.2003, which provides procedures regarding concepts and endorsements of sustainable projects – Clean Development Mechanism (CDM). In 20.06.2000, the Brazilian Forum of Climate Change was created through the Decree nº 3515. This forum aims to raise awareness of society of the discussion about the problems of climate change caused by the greenhouse effects. It also intends to provoke discussion about the Clean Development Mechanism, defined in the article 12 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, which was ratified by Brazilian National Congress through the Legislative Decree nº 1, in 03.02.1994. There are other legislative initiatives in the state and municipal arenas of the country. Law projects are propagating in Federal, State and Municipal areas.

- initiatives of economic agents – Financial Institutions are adopting procedures related to the Equator Principles as well as other mechanisms to encourage the adoption of sustainable projects.

- others ?

5. How much is your country involved in international efforts and initiatives related to climate change:

- Kyoto Protocol – Officially, Brazil is a signatory of the Kyoto Protocol since 1994.

- International Strategy for Disaster reduction, Hyogo Framework – There aren't official records about the relation between Brazil and the Hyogo Framework. Some private companies maintain a technological exchange with Japanese companies, including Hyogo City, exchanging expertise in the field of natural high-impact accidents.

- National Platforms – the aforementioned Brazilian Forum on Climate Change addresses the issue.

- Emission trading systems – Brazil occupies the third place in the world in CDM projects. From the total existing number of 3,918 projects, 318 of them are from Brazil, representing 8% of the total. According to official statistics from the Ministry of Science and Technology, in 30.09.2008, Brazil remains behind China, that occupies the first place with 1,413 projects (35%) and India, in second place, with 1,118 projects (28%). 50% of Brazilian CDM projects are represented by renewable energy projects followed by 15% of swine breeding.

- others ?

6. Please provide references to literature on climate change concerning your country.

Brazilians websites:

www.mct.gov.br

www.mct.org.br/clima

www.forumclima.org.br

www.amazonia.org.br

www.inpa.gov.br

www.socioambiental.org

www.ibama.gov.br

www.centroclima.org.br

www.inpe.br

www.riosvivos.org.br

www.usp.br/iea

www.bmf.com.br

www.ppe.ufrj.br

www.mma.gov.br/conabio

www.greenpeace.org.br

B. Climate change and insurance *(please stress legal aspects)*

1. Which are the lines of insurance that could be affected?

- Property

Agriculture (crops, forestry, livestock) – this could be affected due to prolonged drought or even rain.

Buildings – this could be affected, in particular claims involving windstorms, hurricanes, floods and flooding. There is not always a clear definition of these risks in policy texts and this fact can reflect broader concerns and legal discussions in the judicial field.

Business interruption – the same as above.

Others (specify) –

- Liability – D & O, because of possible omissions by the companies directors about the introduction of mechanisms for prevention of climatic events in the respective companies. E&O - for environmental engineering or certification companies

- Transport, marine – there is the probability of loss of goods stored in warehouses because of events of nature (floods, inundations, etc.) Losses could occur during transportation due to the increase of sea storms.

- Life, health - losses concentrated and motivated by pandemics that could be spread across the country because of climate change. In this sector, the text of policies can also generate conflicts.

2. How are the risks linked to climate change to be defined?

- Problems of interference of human and natural causes

(e.g. building in an area prone to being flooded) – This first option appears to be the most appropriate since there is no way to disregard the human factor in the current phenomenon of climate change. Man's interference in the environment is very destructive. The new legal and ethical environmental view determines the adoption of economically sustainable concepts in order to slow the rapid escalation of progress toward total chaos. So, the Brazilian Federal Constitution advocates that “everyone is entitled to an ecologically balanced environment, for the common use of the people and essential to the health quality of life, imposing on the government and the community the duty to defend it and preserve it for present and future generations” (art. 225)

- Problems of causal links

(e.g. increase of losses often due to a combination of factors

– natural, but also demographic and economic)

3. Insurers' measures of protection against excessive exposures

- Improvement of statistics

Cartography of risks – Until now, there is not, in the Brazilian insurance market, any specific statistics for weather phenomena in any class of insurance. The branch most affected by climate changes, Agricultural Insurance, has the relevant data concerning droughts, hail and heavy rainfall available because of the nature of this kind of insurance and not because of a specific role in climate change. There is no doubt that

the insurers need to modify their database statistics, systematizing the information relating to claims arising from weather phenomena, in order to establish even more rigorously preventive measures and the fair pricing of risks. In the agricultural sector there is relevant cartographic work done by institutions specialized in climate change which is essential for the operation of this kind of insurance. Other classes of insurance, in order to avoid possible immeasurable losses, also need to have this kind of technological tool as soon as possible. FENASEG is now aiming to establish partnerships with academics and technical institutions dedicated to research on climate, especially for Property and Automotive insurances, so that there is a map, by region of Brazil, corresponding to climate scenarios, , especially in the southeast, where there is a greater concentration of risk / policies written.

- Raising risk awareness (communication campaigns, lobbying, ...) - There is not this type of coordinated insurance campaign in the national market

- Prevention –the national insurance market is not currently concerned with this, except for the agricultural risks cited above, and now for Property and Cars risks, where possible mechanisms for prevention and measurement through technological tools are being examined .

- Limits of indemnity – So far, there are no limitations, except for losses resulting from a single event, but without the connection to climate change events.

- Deductibles – The same as the limits of indemnification.

- Exclusions – in Brazilian insurance contracts, there are not specific provisions or exclusions for events arising from climate change. At the same time, many policy texts can generate conflicts of interpretation because some contracts, the ones based on nominated risks, cannot include any kind of risk of this nature, so the insured can be uncovered in cases of accidents or, in a situation even more inappropriate for the insured, he could have the false expectation that he has coverage. Transparency is always necessary and recommended, even to categorically exclude risks of blatantly in the general interest.

- Premium increases - irrelevant due to the earlier comments.
- Cancellations – as above.
- Withdrawals from markets – as above.
- Adaptation of reinsurance agreements (or develop under point 4 below) Look at point 4 below
- Cover or climate risks on the financial market – Look at point 5 below
(or develop under point 5 below)
- Others

3. Insurers' initiatives to develop « new products »

N.B. Climate change is seen as opening new opportunities by a growing number of insurers. Some examples are listed below, but they are far from exhaustive and new products keep appearing. Please investigate the situation in your country and provide as much information as possible (obtaining models of clauses and policies would be extremely valuable).

- New policies to cover the consequences of climate change
 - Coverage for producers of new energies (e.g. wind-mills)
 - Liability of architects
 - D & O environmental liability
 - Micro-insurance products for developing countries
- Climate risk management services, expertise

- New policies as incentives to reduce greenhouse gas emissions
 - “Pay as you drive” motor insurance
 - “Energy saving”, “Green-building” insurance
- Initiatives in the carbon market
 - Carbon credit insurance (covering failure to deliver emission rights)
 - Options to buy carbon credits to offset emissions (vehicles)
- Others

In Brazil, the market has been adopting, although slowly, most models of products listed in the above items. There are promotions to exchange policies for *bits* which means using certified digital policies which replace printed documents (papers) and also avoids the transportation (of vehicles and people) involved in the delivery of these documents to their recipients. Because of the great potential of Brazilian agricultural, with a strong focus on clean technologies and renewable energy projects, it is not only agricultural insurance which is strengthened but also insurance for the engineering risks of wind power plants, power plants powered by methane gas from landfills and pig farming, plants from the burning of sugar cane bagasse and others. The insurance of forests (reforestation) is also beginning in the market. Another initiative that has been studied but not yet implemented is the incentive that can be given to insurers to invest part of their mandatory provisioned assets in companies listed on the Stock Exchange with ISE - Corporate Sustainability Index. There are also projects that encourage the neutralization of carbon, especially for service providers to insurers, for example, car repair garages that must adapt themselves to sustainability standards.

4. Reinsurance

In your country, what is the role of reinsurance companies with respect to the above problems?

The Brazilian market for reinsurance, whose operations have been monopolized by IRB-Brasil Re from 1939 to 2008, finally opened up for international companies by way of Complementary Law nº. 126 of 15.01.2007. This is a recent occurrence so there is no way to list all the repercussions that it will have. Highlighted in the items above, with rare exceptions, was the low compliance by national insurers to the problems

relating to climate change. Since the beginning of open reinsurance operations in April 2008, very little influence can be seen with regard to the interference of international reinsurers. Any indication in this sense would be purely speculative and not objective at this time.

It is worth repeating that, as they operated alone for 69 years in the market, IRB-Brasil Re didn't present any outstanding situation in relation to the risks of climate change, or rather, didn't limit reinsurance cover or incentivise measures to prevent risk of this nature.

5. ART (Alternative Risk Transfer)

Have any of the following techniques developed in your country in connection with climate change: There is no emphasis on this segment of business in Brazil, not for risks of climate change or indeed any others. Also SUSEP - Superintendency of Private Insurance, did not yet regulate the operations of financial reinsurance and others in the national market.

- Derivatives - There are carbon credits, because of the CDM that Brazil has.

- Swaps – There is the Plan of Conversion of Foreign Debt for Environmental Purposes, internationally known as *Debt-For-Nature Swaps*. The conversion of external debt into financing for environmental projects is a tool that has existed since the 80s and basically serves to minimize the negative impact of external debts in developing countries and to mitigate the environmental destruction. In Brazil, the instrument has been standardized by the Central Bank, through Resolution No. 1840 and Circular No. 1988, both of 16 July 1991. Interested parties must first obtain the consent of the Technical Commission for the Evaluation of Environmental Projects, addressed in that resolution. The second step is to present the request for approval to the Department of Foreign Capital of the Central Bank of Brazil with the identification of titles / credits / deposits subject to the donations.

- Cat bonds – irrelevant

- Others? Many types of commodities in the agricultural sector, especially developed in Brazil

What is the legal nature of these different products? Can they qualify as “insurance”?

They have a financial nature, and cannot be classified as insurance. There is no security support for any of them in the Brazilian market, except for carbon credits, for which there are possibilities for insurance coverage through the Guarantee, export credits and although there are certainly insurance companies interested in offering these products, until now there is no demand from the sector. No insurer will concentrate efforts in this type of insurance product because it is not a developed product, even with a reduced number of risks.

6. Cooperation or competition with public sector

What is the state of cooperation (or competition) between public authorities and the insurance sector in your country in issues related to climate change?

There is no cooperation and even less competition. The few studies undertaken by the private sector and focused on Agricultural Insurance sector were financed by the market, including by public organizations that hold the weather information of the country. Currently, the FENASEG wants to increase the relevant studies of climate change and seek partnerships with governmental organizations, which in fact have not only information but also the power to police compliance and the power of leadership to determine compliance with specific standards by all citizens and companies. There is speculation on the need for change, for example to the Buildings Code, especially for certain regions of Brazil more vulnerable to strong winds. The Code in Brazil is the responsibility of municipal governments and, therefore, there must be a concerted effort of the insurance market in conjunction with such governmental entities in the search for improvements in prevention measures - for example, relating to the requirement for a certain type of roof. The insurance market should also undertake contacts and dealings with the Industry Federations in major states of Brazil to motivate them to make improvements for the benefit of all. Certainly the insurance market is not solely

responsible for all the ills of climate change already occurring and that could be intensified in the coming years. Also, the insured should engage and cooperate on such issues, in support of the whole society.

Are there specific public schemes concerning some of the risks involved? Irrelevant to the response above

C. Any additional information or comments

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