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DISASTER RISK REDUCTION – ROLE OF INSURANCE

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1.0: INTRODUCTION

Key elements of disaster management are prevention, mitigation, preparedness, response and relief, rehabilitation. The various stakeholders in the process of disaster mitigation are policy makers, decision makers, administration, professionals, professional institutions, R&D institutions, financial institutions, insurance sector, community, NGOs and the common man.

Insurance has played a very important role. The advanced countries have developed the insurance system and made it effective and mandatory – as a result the loss of lives and property is comparatively less.

In India, most of the losses suffered in natural disasters are not insured, for reasons such as lack of purchasing power, lack of interest in insurance, theory of karma attitude and ignorance of availability of such covers. Quite large numbers of agencies provide the insurance cover and foreign insurance companies have already ventured in such areas. This implies that the commercial and private sector can also play an essential role in disaster mitigation. There is need to create massive education/awareness for the need of insurance against natural disaster if we want to reduce the impact of disaster on the community. Participation of the Public private and community can help reduce the risk and vulnerability and help in early recovery.

2.0: NATURAL DISASTERS

Few regions of the earth have escaped the wrath of Nature recently. While every year has its share of calamities, the past few years have seen an extraordinary spate of natural disasters and atypical weather. The economic losses from these events have been considerable: Since 1989, insurance companies have paid out more than $44 billion in damage claims stemming from hurricanes, earthquakes, tornadoes, floods, droughts, mudslides, wildfires and other assorted maladies. Altogether, these calamities have cost the economy dearly in terms of lost wages and output, utility disruptions, destruction of public and private property, additional commuter time and transportation costs and hundreds of lives.

The nature of these destructive events—as well as their effect on the economy—varies considerably. Some natural disasters, like tornadoes, hurricanes and earthquakes, tend to be short-lived events, lasting several seconds to a few hours, but causing substantial destruction in a concentrated area. Others, like droughts or major floods, tend to be of a longer duration, spreading their damaging effects over a relatively larger expanse for days or weeks. Any type of disaster, however, can leave an economic imprint that lingers for years.Natural disasters typically set in motion a complex chain of events that can disrupt both the local economy and, in severe cases, the national economy.

3.0: ASIAN PACIFIC COUNTRIES AND DISASTERS

Asian and Pacific countries continue to suffer disproportionately from disasters caused by natural hazards. Disasters cause death, economic and environmental damage, and severe setbacks for social development. Recent large-scale disasters, including the devastating earthquake and tsunami in Japan of March 2011, highlight the value of national preparedness for disaster.

The Asian and Pacific region is vulnerable to many types of disasters, including floods, cyclones, earthquakes, drought, storm surges and tsunamis. During the past decade, on average, more than 200 million people were affected and more than 70,000 people were killed by natural disasters annually. Those figures represent 90% and 65% of the world totals, respectively.

Asian and Pacific countries have a high vulnerability to the impacts of disasters. With increasing urbanization, migration patterns and population growth in general, people are occupying high-risk areas in greater numbers than ever, increasing their vulnerability to disaster impacts.

Disasters do not respect borders or distinguish between income levels; however, the effect of disasters on human lives tends to be the lowest in high-income countries. In Asia-Pacific high income countries, about 1 person in every 1,000 people was affected by disasters and 1 in 1 million died during the 10 years from 2001 to 2010; in low-income countries nearly 30 in 1,000 people were affected and 52 in 1 million people killed. More people in the lower-middle income group were affected than people in the low-income countries, although the mortality ratio in the lower-middle group was lower.

The year 2010 was particularly bad in terms of the number and severity of disasters in the region. Wildfires and extreme temperatures swept through the Russian Federation, contributing to the nearly 56,000 deaths due to natural disaster in the Russian Federation, while the floods in Pakistan raised deaths due to natural disaster to over 2,100 with over 18 million people affected. The record floods in Pakistan contributed to the large economic damages and losses experienced by Pakistan in 2010 (US$7.4 billion) making it the most costly year with respect to natural disasters in at least 20 years. In China, earthquakes, storms, floods, landslides and other disasters killed a total of over 7,000 people and affected 145 million people. The Pacific subregion was severely affected in 2009 when wildfires swept through Australia and an earthquake of magnitude 8.1 hit Samoa, followed by a tsunami.

4.0: SOME SEVERE DISASTERS IN THE RECENT PAST

4.1: Earthquake and tsunami, Japan (11 March, 2011)

Cost: $235 billion (by the World Bank). $309 billion (by Japan Government)

So far, 8,649 people have been confirmed dead and another 13,262 are missing since the 9.0-magnitude quake struck off the coast near Sendai, Japan, on March 11, 2011. The degree of damage caused by the earthquake and resulting tsunami was enormous.

Failure of the cooling system at the Fukushima Nuclear Power Plant intensified the situation, resulting in evacuation of about 200,000 people residing around the plant.

4.2: Kobe earthquake, Japan (1995)

Cost: $100 billion (by the World Bank)

The Great Hanshin earthquake, or Kobe earthquake, occurred on Jan. 17, 1995, in the southern part of Hyogo Prefecture, Japan. Measured at 6.8 magnitude, the earthquake killed nearly 6,500 people, making it the deadliest disaster in the world that year.

The Kobe quake caused about $100 billion in destruction, according to an calculation by the World Bank, but Japanese trade rebounded within a year, with imports recovering fully and exports back to 85 percent of normal levels.

4.3: Hurricane Katrina, U.S. (2005)

Cost: $81 billion total damage cost (by NOAA)

Hurricane Katrina of the 2005 Atlantic hurricane season was one of the worst disasters in the U.S. history. It made landfall along the Gulf Coast on Aug. 25, 2005. At least 1,836 people died in the hurricane and in the subsequent floods. Five years later, thousands of displaced residents in Mississippi and Louisiana were still living in temporary accommodations.

The total damage from Katrina is estimated at $81 billion (2005 U.S. dollars). It also generated the largest single loss in the history of insurance - $41 billion, according to the Insurance Information Institute.

4.4: Northridge earthquake, California, U.S. (1994)

Cost: $42 billion (by US Government)

While there have been more powerful earthquakes than the magnitude 6.7 Northridge quake, it caused large-scale damage throughout Los Angeles and the San Fernando Valley due to the location of its epicenter.

The Northridge earthquake occurred on Jan. 17, 1994, in Reseda, a neighborhood in the city of Los Angeles, Calif., and lasted for about 10-20 seconds. The quake resulted in more than 60 deaths and more than 5,000 injuries. More than 25,000 people were left homeless, according to the Federal Emergency Management Agency. In addition, the earthquake caused an estimated $25 billion in damage, making it one of the costliest natural disasters in the U.S. history.

4.5: Sichuan earthquake, China (2008)

Cost: $29 billion (by the World Bank)

The May 12, 2008, Sichuan earthquake was a deadly earthquake that measured at 8.0 magnitude. The quake killed about 70,000 people and left more than 18,000 missing. The epicenter was 80 km (50 miles) west-northwest of Chengdu, the capital of Sichuan province, where almost 4 million people resided.

Estimates put direct damage and losses from the earthquake at $29 billion, with indirect damage much higher.

Note: The Indian Ocean tsunami in 2004, which caused about 250,000 deaths, is not included on this list. Economic losses there amounted to only $14 billion in today's prices, partly because of low property and land values in the affected areas.

However, money is only one scale of evaluating the impacts of natural disasters.

"A total of about 250,000 deaths in the Indian Ocean Tsunami can never be compared by economic loss."

5.0: INDIAN MAJOR DISASTERS

5.1: SUPER CYCLONE OF ODISHA, 1999: The cyclone dumped heavy torrential rain over southeast India, causing record breaking flooding in the low-lying areas. The storm surge was 26 feet (8 meters). It struck the coast of Odisha, traveling up to 20 km inland. 17,110 km² (6,600 mi²) of crops were destroyed, and an additional 90 million trees were either uprooted or had snapped.

Approximately 275,000 homes were destroyed, leaving 1.67 million people homeless. Another 19.5 million people were affected by the supercyclone to some degree. A total of 9,803 people officially died from the storm, with 40 others still missing, The damage across fourteen districts in India resulted from the storm was approximately $4.5 billion (1999 USD, $5.1 billion 2005 USD).

5.2: 26 December 2004 Tsunami:

Number of countries damaged: 13, including Indonesia, Sri Lanka, India, Thailand, Myanmar, Malaysia, The Maldives and Somalia

Number of people killed: Latest figures indicate at least 226,000 dead, including 166,000 in Indonesia, 38,000 in Sri Lanka, 16, 000 in India 5300 in Thailand and 5000 foreign tourists

Number of people injured: Over 500,000

Potential additional deaths from infectious diseases: 150,000

Number of people affected: Up to 5 million people lost homes, or access to food and water

Number of children affected : Around a third of the dead are children, and 1.5 million have been wounded, displaced or lost families

Number of people left without the means to make a living: One million

The earthquake and resulting tsunami in the Indian Ocean on December 26th, 2004 had a devastating effect on India. According to the Indian government, almost 11,000 people died in the tsunami and over 5,000 are missing and feared dead (Ministry of Home Affairs). It is estimated that 380,000 Indians have been displaced by the disaster and reconstruction is expected to cost more than 1.2 billion dollars (World Bank). The areas hardest hit by the tsunami were the southeastern coast and the Andaman and Nicobar Islands.

6.0: INSURANCE IN DISASTER RISK REDUCTION

For decades, the financing of disasters in developing countries has relied on a reactive approach, consisting of the diversion of funds from domestic budgets and extensive financing from international donors. Such “ex post” funding approaches are inefficient, often poorly targeted, and insufficient. Moreover, they provide no incentives for proactive risk reduction measures such as improved urban planning, higher construction standards, etc. Reactive approaches to risk financing are becoming increasingly unsustainable due to a number of factors. Vulnerability is increasing as emerging economies grow and accumulate more assets. Poorly planned urbanization, continued environmental degradation, and population growth
contribute to further increases in vulnerability and growing disaster losses. The IPCC’s Fourth Assessment Report confirms that climate change will bring more frequent and more intense extreme weather events. The increase in hazard exposure and in vulnerability point to a continuing trend of increasing losses due to natural disasters. With the capacity and willingness of donors to fund disaster relief and reconstruction ultimately constrained, the funding gaps between available donor resources and post-disaster funding will grow if disaster prone countries do not engage in risk reduction and pre-disaster risk financing. Insurance markets in the majority of developing countries are undeveloped, and coverage for natural disasters is extremely limited. Where hazard coverage exists, it is usually limited to major industrial and commercial properties, and some wealthier households. The demand for risk transfer instruments in emerging markets is often constrained by market gaps, lack of regulatory frameworks, lacking data on disaster risk, a lack of a culture of risk financing, and the reluctance of large reinsurance market players to invest in the development of small risk markets.

Recent years has brought growing interest from private sector insurance firms in
microinsurance. Primary insurers at the country level play a key role in most microinsurance schemes, by channelling the risk to commercial markets and allowing the intermediary agency to focus on client relations and support. Regulatory changes implemented in India over the last several years have increased the incentives for insurance companies to participate in such schemes. Micro disaster insurance can cover sudden-onset events, such as earthquakes, floods, and
cyclones, as well as slow-onset events, such as droughts. Traditional microinsurance programs have consisted of indemnity insurance, which pays claims based on actual losses and requires an extensive network of claims adjusters who assess individual losses following an event. Indemnity schemes include those in India offered by NGOs in conjunction with insurance companies in two states. These schemes build on microinsurance arrangements for independent risks, such as unemployment, fire and accidents, by extending cover to loss of life, property or livestock due to natural disaster events. Coverage for property losses due to floods, earthquakes, cyclone and other natural calamities is offered to groups such as women with a minimum group size of 250, or to community groups for managing the impacts of disasters post-event.

More recently, index-based schemes have emerged, which feature contracts written against a physical trigger (parametric insurance). In the case of weather derivatives for crop risks, farmers collect insurance compensation if the index reaches a certain measure or “trigger,” regardless of actual losses. Index-based weather derivative schemes have been undertaken in India, Ethiopia, Malawi, Nicaragua, Peru and Ukraine. Contracts are written against a physical trigger, for example, severe rainfall measured at a regional weather station. Contracts are designed by insurance companies and sold by rural development banks, farm cooperatives or microfinance
organizations. Since payouts are not coupled with individual loss experience, farmers have an incentive to engage in loss reduction measures, for example, switching to a more robust crop variant. These schemes may offer a viable alternative to traditional crop insurance, which has failed in many countries due to the high costs associated with settling claims on a case-by-case basis. The major advantages of index-based insurance are the reduction of moral hazard and of
transaction costs. Index-based mechanisms are also more transparent, as they are based on a physical trigger and the payout is fixed in advance. The major downside of index insurance is the basis risk: if the trigger is insufficiently correlated with the losses experienced then no payout may occur, even if the losses are substantial.

Micro disaster insurance shows great potential, but faces several challenges before it becomes a sustainable mechanism for effective risk management for the poor.

Affordability. Microinsurance needs to be affordable to low-income clients. Disaster insurance premiums include the costs of handling many small contracts, distributing the product often to remote areas, as well as assuring sufficient capital to cover dependent claims. These elements combine to make insurance more costly than the purchaser's expected losses from the insured events. Thus, a major dilemma is to offer premiums that can be paid by the very poor in highrisk areas.

There are several ways to reduce disaster insurance premiums. The most obvious is subsidies from public authorities, international donors or those at lower risk in the insurance pool (cross subsidies in the insurance system). There are many examples in developed and transition countries. The Hungarian government is providing subsidies to poor households as part of a recently legislated flood insurance pool. In the UK extensive cross subsidies in the private flood insurance system make it affordable to low-income households. In developing countries, transaction costs can be minimized by offering policies to groups or communities and through established microfinance institutions.

7.0: Insurance Plays a Role in Disaster Recovery – US Experience

Each natural disaster reminds us of the value of insurance to protect our homes and businesses.

The answer, unfortunately, varies for each individual situation. Geography, history of disasters in a particular area, and the type of catastrophic event all impact how easily—or how challenging—it will be to recover following a natural disaster.

One of the underlying issues is the rise of natural disasters over the past decade. Insured losses from U.S. tornadoes and thunderstorms—the most costly of weather events — topped $25 billion in 2011, more than double the previous record of 2010, according to the industry trade group the Insurance Information Institute.

Tornadoes were the costliest type of natural disaster in 2011 based on insured losses, far outpacing hurricanes, which resulted in insured losses of $5.5 billion, according to the Insurance Information Institute.

To respond to the rise of disasters—and the dollars needed to pay out following an event—U.S. insurance companies are now requiring higher deductibles, smaller reimbursements for incidents such as roof damage, and limits on the amount paid out for total reconstruction on a home.

For example, the insurance industry has changed the way it covers roofs—which are almost always damaged by the high winds of tornadoes. Most homeowners will find that their insurance policy will not cover the cost to replace a roof more than 10 years old. Instead, their insurer will pay the depreciated value.

In most of these cases, consumers opted for less generous policies in search of lower premiums. Still, people with tornado damage are likely to encounter a more straightforward claims process than residents with hurricane damage. This is because tornado damage is almost exclusively caused by winds, and leads to fewer "unknowns" for both sides than when damage is also caused by flooding, which typically isn't covered by standard homeowner policies.

Floods Pose Special Challenges

Landslides, hurricanes, earthquakes, or other natural disasters can bring on floods. But while a homeowner may, for example, have earthquake coverage, that coverage may not apply to a flood resulting from an earthquake.

Flooding is defined by the National Flood Insurance Program as a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or two or more properties (at least one of which is your property) from: overflow of inland waters, unusual and rapid accumulation or runoff of surface waters from any source, and mudflows.

Flood insurance prices vary widely depending on the risk of the location, the physical condition of the building, how much coverage is purchased, and the deductible amount.

8.0: CONCLUSION

India needs to take lessons from the experiences of US, Japan and third world countries where insurance or microinsurance are in place and helping reducing the impact of disaster and making the community resilience

against vulnerability of risk. Accordingly national policies are also required to be realigned. National and global insurance companies are also required to be provided subsidies against the premium to boost the willingness of the community to go for the insurance.