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CARIBBEAN DISASTER MITIGATION PROJECT

INSURANCE, REINSURANCE, AND CATASTROPHE PROTECTION IN THE CARIBBEAN

A working paper prepared in collaboration with the World Bank

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GLOSSARY OF INSURANCE TERMS

Adjusting: The adaptation of a claim put in by an insured to conform it to the coverage conditions of the policy for settlement purposes.

Catastrophe: A major disaster event causing damage to multiple interests.

Captive: An insurance company owned by its policyholders and primarily concerned with insuring the owners' risks; industry trade associations often set up their own captive companies.

Deductible: A policy provision reducing the amount of claim settlement, often expressed as a percentage of the sum insured.

General Agency: An insurance agency empowered by the insurance company(ies) it represents to accept stipulated risks and settle claims on behalf of the insurer.

Hazard: A natural phenomenon with the potential to cause damage, including its location and the severity and probability of the damage.

PML: Probable Maximum Loss, a term used by insurers to signify the estimated amount likely to be claimed under policies, often expressed as a percentage of the full values insured.

Property: A generic term to signify those classes of insurance covering real and personal property (buildings, equipment, contents, etc.) as opposed to automobile, liability, life/health, etc.

Reinsurance: The mechanism by which one insurance company contractually passes a proportion of insured risks to another insurance company, the reinsurer.

Reinsurance commission: The consideration paid by the reinsurer to the reinsured company.

Reinsurance pool: A mechanism by which insurers combine their risks to purchase reinsurance collectively and/or the combined acceptance of reinsured risks.

Risk: Estimate of probable loss expected from the effects of a given hazardous event on a given element, or all elements, in an area. Risk relates a hazard to vulnerability.

Risk management: A technology (also a profession) whereby risk exposures are systematically identified and quantified and determinations are made about whether to eliminate or modify the risk, self-insure the risk, or purchase traditional insurance protection.

Retention Level: The level (amount) of risk retained by an insurer before reinsuring self-insurance. The amount of risk-taking borne by property owner.

Vulnerability: Degree of loss that may be expected of an element (e.g., a structure) exposed to a hazard event with a given location and severity.

EXECUTIVE SUMMARY

Means of preventing or ameliorating the consequences of natural disasters in the Caribbean fall into two basic categories: (1) hazard mitigation and vulnerability reduction measures adopted before a hazard event to minimize losses, and (2) economic mechanisms such as insurance, which pre-finance the costs of reconstruction. The former are ultimately more efficient, although the latter can reduce economic volatility by spreading risks more evenly.

The Caribbean insurance industry has been existence for some 25 years, principally as a component of the larger financial products and services industry. Relatively few independent insurers operate in the area.

Caribbean insurance companies have not been motivated to generate and expose significant capital for underwriting catastrophe perils. Characteristically, they limit their catastrophe risk retention levels to under 15 percent, the remainder being ceded to reinsurers. The availability of reinsurance affects the profitability of Caribbean insurance companies, as it governs the ability to write policies and thus generate subsequent income from reinsurance commissions. Tight markets, i.e., high premiums, have a pass-through effect, including proportionately higher commissions. Policy coverage restrictions are generally designed and imposed by foreign reinsurers, and their effect falls on the policyholders rather than on the insurance companies.

In recent years the Caribbean area has seen its share of natural disasters, and its insurance markets have been through one of their most difficult periods. As a result, Caribbean insurers need to evaluate their portfolio risks with greater precision so that they can prove to reinsurers their true exposures and thereby maintain reinsurance protection at reasonable cost.

The trends towards liberalization of trade and commerce are meeting a mixed response from the local Caribbean insurance industry. On the one hand, companies welcome the ability to invest assets in harder-currency areas. On the other hand, they fear outside competition. It is as apparent that the insurance industry needs to be rationalized as it is evident that there are far too many companies in proportion to population and GDP.

A parallel condition is general under-capitalization. Although substantiating data are very limited, there is some indication that the industry's capital reserves are inadequate to secure the 15 percent average local insurance coverage. A greater regulatory role for government is needed comprehensive research in the region to eliminate this weakness and to ensure that reinsurers are financially capable of meeting their liabilities fully and on time. One successful incentive used by several Caribbean countries is allowing locally dedicated insurance reserves to be tax-deductible. For broader reinsurance security a single Caribbean "clearing house" is recommended, perhaps an assigned responsibility of the Caribbean Association of Insurance Regulators. Ideally, the effective regulatory role for governments is to serve as a fair and proactive umpire between policyholders and insurers.

To shelter a major portion of its risk exposure in the Caribbean, the reinsurance industry has forcibly introduced a combination of deductibles and "average" clauses on claims resulting from damage caused by natural events. The deductible clauses customarily require self-insurance for the first 2% of the full insurable value of the property. For the average clauses, claim payments may be limited by the proportion by which the insurance covers less than the full insurable value. As recently experienced, these limitations may significantly reduce compensation for damage and result in dissatisfied policyholders. Full disclosure, in parallel with the creative marketing of insurance policies whose premiums are adjusted according to vulnerability estimates, should significantly improve the public attitudes and participation in such risk insurance. Affordability is crucial to the sustainability of the Caribbean insurance industry.

Caribbean insurance-industry statistics are inadequate. Where they do exist, they are not compatible. Undue reticence surrounds the disclosure of data required for public and regulatory demonstration of fiscal performance.

Although the importance of hazard and vulnerability mitigation measures is broadly accepted, Caribbean insurance companies are not inclined to take any initiative. They rely on the underwriting requirements laid down by reinsurers and view leadership in vulnerability reduction as a government function. It is evident that to keep the industry sustainable and protect the public interest, all parties--governments along with the local and the reinsurance industries--must assume an active role in promoting vulnerability reduction measures. The development of these roles is an excellent target for technical and financial assistance from international aid agencies.

Some larger institutions in the Caribbean have organized self-insurance programs that have been very effective in providing coverage and reducing costs. In addition, there is growing interest in establishing regional reinsurance pools to provide capital to cover major costs in the case of natural catastrophes. Critical to the success of these programs is excellent apolitical financial management of the funds. It is quite possible that external development agencies and financing institutions might support their initial liquidity.

It is believed that reinsurance premium pricing and commission mechanisms can be adapted to encourage improvement in the risk quality of portfolios and hence to allow discriminatory premium pricing for vulnerability reduction measures by policyholders. What is first required is a set of meaningful and workable risk-quality criteria and their incremental cost implications. This would include (1) hazard-mapped locations, (2) building type, structural vulnerability characteristics, and building contents, and (3) engineering certification for individual risk characteristics.

Regulatory measures for encouraging vulnerability reduction in the real sector include (1) non-structural measures such as identification of hazard-prone areas and limitations on their use, dissemination of hazard risk information, and use of incentives and disincentives to promote safer development; and (2) structural measures such as the use of building codes and materials specifications, the retrofitting of existing structures, and the use of protective devices. Strengthened insurance regulatory oversight in the region can also support the objectives of properly evaluating real-sector portfolio risks and ensuring the financial strength and solvency of the insurance industry.

SECTION I

OVERVIEW AND FISCAL POSITION

A. The Insurance Market and Outlook

1. Geography challenges the nations of the Caribbean to respond to the socioeconomic consequences of natural hazard catastrophes--hurricane, storm surge, flood, earthquake, and volcano.[1] Responses fall into two basic categories:

a. Hazard mitigation and vulnerability reduction measures adopted prior to a hazard event to optimize protection from damage.[2]

b. Economic mechanisms aimed at pre-financing the repair of the damage caused by disasters. The mechanism of insurance is in this category.

2. The former can be considered ultimately more efficient than the latter, which does not prevent or minimize the impact of the damage. The use of mitigation as a primary strategy in facing the consequences of natural disasters is slowly, but increasingly, gaining acceptance in public and private sectors around the world. Insurance remains a key pre-funding mechanism, but its efficiency is limited, especially when coverage is incomplete or not affordable.

3. The Caribbean insurance market obtained its own identity some 25 years ago with the passage legislation governing the establishment of local insurance companies. Most companies then established had hitherto operated under general agency or branch structures of foreign (mainly UK) insurers. For the most part, these local operations continue today as insurance units of trading and financial companies whose profit strategies center on their roles as agents for a wide range of products and services. Only relatively few independent insurers operate in the area.

4. Caribbean insurance companies have not been motivated to generate and expose significant capital for underwriting catastrophe perils. Furthermore, foreign insurers and reinsurers, with longer and broader expertise, remain willing to shoulder the major risk via reinsurance. Characteristically, Caribbean insurance companies limit their catastrophe risk retention levels to under 15%, the remainder being ceded to reinsurers.

5. While 85% of gross property insurance premiums are transferred to reinsurers, the actual remittances to them are reduced first by the commission paid by reinsurers to local companies (e.g. 30% x 85% = 25.5%) and second by the reinsurers' share of claims payments to policyholders under an assumed-loss ratio of 50% of premiums (85% x 50% =

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[1]See Appendix A for a historical tabulation of Caribbean catastrophes

[2]See Glossary for the terms hazard , vulnerability , and risk . They are defined in accordance with the OAS publication *Disasters, Planning and Development. Managing Natural Hazards to Reduce Loss,* 1990.

42.5%). Thus, for a normal year the net outflow from the region would be 32% (100% - 25.5% - 42.5%) of the original gross premiums contracted by Caribbean insurance companies. A year with abnormally high claims experience can of course result in a net remittance inflow from reinsurers.

6. Caribbean insurers have largely restricted their involvement to their own geographic markets. However, the active involvement of some governments--Bermuda, The Bahamas, the Cayman Islands, and to a lesser degree Barbados--has succeeded in attracting sizeable offshore captive insurance company business. Strong financial and insurance regulation has been an essential underpinning to these successes.

7. Over recent years, the Caribbean area has seen its share of natural disasters and insurance markets in the area have been through one of their most difficult periods. The spate of world-wide natural hazard events over the last several years had, through 1994, created the tightest reinsurance market in memory, with very high prices for limited availability, and stringent coverage limitations. There has been some alleviation of these conditions so far in 1995, but a renewed frequency of hazard events in the summer and fall will probably cause a reversion to tight conditions for those islands hit by storms.

8. The availability of reinsurance affects the profitability of Caribbean insurance companies as it governs the ability to write policies and thus generate subsequent income from reinsurance commissions. Tight markets, i.e., high premiums, have a pass-through effect including proportionately higher commissions. Policy coverage restrictions are generally designed and imposed by foreign reinsurers, and their effect falls on the policyholders rather than the insurance companies. In fact, the insurance companies benefit by the reduced risk exposure from the coverage restrictions, which customarily include a claims deductible of 2% of the amount insured and a reduction of the claims payment in the same proportion that the amount insured by the policy is less than the full insurable/market value (known as the "average" clause).

9. The reinsurance product available to Caribbean markets is in essence designed and priced by foreign reinsurers on the basis of their worldwide (rather than Caribbean-area) catastrophe experience. Caribbean insurers now face the need to evaluate their portfolio risks more precisely than before so as to demonstrate their true exposures to reinsurers, and thereby maintain reinsurance protection at a justified and reasonable cost.

10. The trends toward further liberalization of trade and commerce are being met with a mixed response by the local Caribbean insurance industry. On the one hand, companies welcome the ability to invest assets in harder-currency areas. On the other hand, they fear outside competition, especially if such competition is free of local regulation and tax obligations and also focuses on the broader, better risks. Caribbean countries' laws vary on the validity of insurance contracted with companies licensed outside the region (non-admitted insurance). Harmonization of these provisions is recommended, perhaps following the Puerto Rico example which allows non-admitted insurance subject to regulatory approval and a significant premium tax (approximately 20%). Another facet of the liberalization issue is the likely need to rationalize insurance companies/agents/brokers in the region, where close

examination (in the absence of reliable statistics) shows that there are far too many companies in proportion to population and GDP.

11. Historically, feelings as to the industry's role for active involvement in promoting hazard and vulnerability mitigation have been very mixed. While the insurance companies do not deny the inherent benefit of such measures, their concerns center on the complexities and costs of implementation , particularly as reinsurers are seen as unlikely to share in such costs. They view leadership role on mitigation measures as a government function. Caribbean insurance regulators who guard market solvency are rightly concerned with the paucity and untimely delivery of meaningful data from companies, many of which are perceived as undercapitalized. Regulators are also pushing for needed upgrading of their powers and modernization of insurance laws and regulations.

12. The insurance markets appear intensely competitive for property insurance--a competition primarily seeking reinsurance commission revenues rather than underwriting or "risk taking". The larger Caribbean insurance markets contain insurance companies (with sizable market shares) that form part of broader commercial groups. For these companies, the thrust for increasing insurance policy production is further motivated by gaining "cross sales" growth in their related services such as insurance agency/brokerage, claims adjusting, mortgage, real estate, or banking operations. Observation suggests that insurance-market participants could be saturated while undercapitalized. This, however, is not yet substantiated, because the unavailability of credible statistics makes it impossible to determine asset strength.

13. Apart from the inadequacy of industry statistics in almost all markets (particularly balance-sheet information), there is little commonality among information systems, in either individual markets or the area as a whole. Outside of the Caribbean, insurance is a highly information-intensive industry and software systems abound, including those for regulatory reporting purposes.

14. One of the key issues in the Caribbean insurance market is the reinsurance availability/affordability factor. Given the more recent easing of reinsurance prices, Caribbean insurers should see to it that long-term interests are best served by strengthening all elements of the industry infrastructure to meet the reasonable expectations of policyholders, taking into account market capacity for coverage at different premium price levels.

15. This strategy should include enhanced contributions by the insurance industry to the promotion of hazard and vulnerability mitigation measures--positive as well as negative incentives--through discriminatory premium pricing. Also envisioned is more effective regulation of the business to ensure, inter alia, adequate solvency margins. Both the development of mitigation measures and the improvement of regulation can be expected to qualify for technical and financial assistance from international aid agencies.

B. Fiscal Position of Industry[3]

Insurance Company Reserves **(and other reserve practices).**

16. Since premiums are paid to provide for the possibility of future claims, insurance companies in areas prone to natural hazards have a particular responsibility to display their stewardship of premium moneys received and their fiscal performance. In particular, the insurance regulator needs timely, accurate, and full disclosure of pertinent data so as to fulfill the solvency vigilance role (see Appendix C). Compared with other markets, most of those in the Caribbean are unduly reticent about disclosing the data required for public and regulatory demonstration of fiscal performance.

17. Visits and discussions during 1995 with regulators, companies, and the Insurance Association of the Caribbean (IAC) revealed that the data reported are inadequate to permit a description here of the industry's current fiscal position. In particular, data reporting was seen as unduly delayed (up to two years or more), and very scanty indeed on balance-sheet elements necessary to identify key fiscal ratios or early-warning signs of perilous trends. The present report has therefore been limited to basic fiscal considerations relating to natural hazard insurance.

18. Insurance-company reserves fall into two basic categories: first, the shareholders' capital and free "surplus" reserves, and second, the insurance or "technical" reserves. The latter are customarily tax-deductible, constituted for known liabilities such as pre-paid (annual unused) premiums or payment of reported but unpaid claims. In effect, the capital and free reserves represent the solvency margin and are intended as the last asset resource should the technical reserves prove inadequate.

19. Two factors in particular apply in relating these considerations to natural-hazard. First, although catastrophes are accepted as severe but infrequent events in accounting principle terms (Generally Accepted Accounting Principles, or GAAP), their timing or magnitude cannot be precisely forecast, so that it is difficult to determine the optimal amount and investment instruments for reserving purposes. Second, more than 85% of the insured catastrophe liabilities fall under reinsurance contracts placed mostly outside the Caribbean. These two factors prompt a local insurer to figure out first how to prudently reserve for the net liability retention (under 15%) before the event occurs, and second how to ensure that reinsurers are financially secure enough to meet their liabilities fully and on time for the lion's share of the liabilities (over 85%).

20. Until recently, Caribbean insurers were discouraged by existing tax laws from setting up specific reserve provisions for catastrophes *before* the event. Several Caribbean countries are now permitting tax deductibility for such dedicated reserves. Without this dispensation, very little of paid premiums becomes available to meet future catastrophe claims liabilities under the policies issued. In concept and very broadly, in the absence of a natural hazard

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[3]Based on available data.

event, less than 20% of premiums customarily see its way to an increase in free reserves. Operating expenses can characteristically consume 30% of premiums, income tax about 24%, and a dividend policy perhaps a further 17%, leaving about 29% plus investment income, passing to free reserves. Hence, in the policyholder's interest, it is recommended that dedicated, properly monitored tax-deductible catastrophe reserves be allowed. The Puerto Rican "Catastrophe Trust Fund" is worth examination in this respect (see Appendix E).

21. The second challenge, that of reinsurance security, is of greater consequence than the first and is exacerbated by the recent turmoil in major foreign reinsurance markets (e.g. the Lloyds market). Caribbean insurance companies, as never before, must exert every proactive effort at their disposal to determine the ability of reinsurers to deliver their reinsurance commitments fully and on time (see Appendix D). Inadequate reinsurance security is tantamount to gambling the solvency and survival of a primary insurance company. Reinsurance security similarly has to be a focal point for the regulator's scrutiny. A single Caribbean reinsurance security "clearing house" would be advantageous in terms of effectiveness and efficiency; perhaps the Caribbean Association of Insurance Regulators could examine a potential role for itself in this function.

22. Reserves held by insurers contemplate several self-insurance practices that do not involve customary insurance mechanisms, in a standard "risk taking" sense. The most basic form of self-insurance is concerned with claim deductibles under policies. These are customarily 2% of the full insurable value of the property and are normally mandatory under catastrophe peril policies. This represents a significant transfer of risk, particularly for homeowners, as the 2% deductible will often cover repair costs e.g. roof repairs. The 1995 Leeward Island storms demonstrated that policy deductibles can almost relieve insurance companies of providing any coverage at all. Self-insured deductibles can also be significant to commercial policyholders; furthermore, they find that they need to be largely self-insured for business-interruption loss ("loss of profit"). Some larger and special-risk categories (e.g., power utilities), have also over recent years found it impossible to obtain full or in some cases any, affordable insurance. On occasions, such entities have voluntarily devised very high self-insured deductible levels aimed at covering the potential loss damage and separate self-insurance funding for business interruption. These risk-management arrangements, the emulation of which is recommended, have served to attract greater levels of insurance/reinsurance cover for the higher, less exposed, risk levels. Furthermore, the insurance cost and availability difficulties have prompted trade associations (e.g., Caribbean Hotel Association, CHA), to employ risk-management techniques and/or arrangements with off-shore insurance companies to buy reinsurance on a group basis.

23. The extent to which reserves exist for varieties of self-insurance is not known, but tax deductibility for commercial enterprises to pre-fund catastrophe provisions is conceptually the same issue as for insurance companies and is likewise recommended. For home properties, mortgage and other lending institutions can help finance the self-insurance portion resulting from the application of claims deductibles and underinsurance penalties so as to assure timely repairs on their collateral.

Insurance Liabilities and Corresponding Assets

24. A catastrophe insurer's gross potential liabilities (the sums insured under its policies) can run into hundreds of millions, if not billions, in any currency. The gross liabilities are reducible to net liabilities though reinsurance. A critical management challenge to insurers is a meticulous assessment of the commitment liabilities, both gross and net of reinsurance. This assessment includes the closest scrutiny of reinsurance contract provisions, including the clarity and accuracy of the information supplied to reinsurers.

25. Catastrophe commitments deserve clear tabulation, with segregation both for disaster types (hurricane, earthquake, etc.) and for alternative severity scenarios (hurricane storm tracks, windspeed classes, and earthquake Richter-scale severities). Provision also needs to be made for so-called "Second Event" scenarios as reinsurance contracts customarily vary from primary policy provisions by placing limits on the amounts of protection available for second (subsequent) catastrophes during any one reinsurance contract period. The 1995 hurricane season has given examples of unexpectedly high storm frequencies, and some insurance companies are understood to be faced (as at October 1995) with difficult decisions regarding reinstatement of their reinsurance contract limits for the remainder of the period (most expire at year end). The reinstatement premiums quoted, if at all, will be at very high "adversity" levels.

26. Clearly, a company's capital and free reserves, plus any dedicated catastrophe reserves, need to be demonstrated as sufficient and readily realizable for these purposes. The assets held to cover a company's insurance or "technical" reserves should not be considered available for the payment of catastrophe claims because they are constituted customarily to cover prior known reported outstanding claims or unexpired pre-paid (annual) premiums.

27. Consideration also needs to be given to the assets and investment instruments employed for covering reserves set up to meet an insurance company's liabilities (net of reinsurance) under natural hazard policies. Since the liabilities emanate from insurance policy contracts, the corresponding reserves and their covering assets are held by the company in a fiduciary capacity for the benefit of policyholders. In consequence, the investment instruments selected should be those that best meet the purposes for which policyholders purchase their insurance. One consideration has to be the secondary potential of natural hazard events to affect local financial markets adversely at the time liquidity is required. It is recommended that specific regulation support the view that preferred instruments are found in hard-currency financial markets least likely to be affected by natural catastrophes. Likewise, instruments should be placed in open financial markets entirely on an "arm's length" basis (without any strings attached, as opposed to some existing regulations that allow up to 20% of assets to be kept in intra-group holdings).

C. Claims Payments and Reinsurance Recoveries

28. The basic principle governing natural hazard claims settlement and reinsurance recovery practices is that claims should be met fairly, speedily, and openly. The key new challenge facing claims settlement involves restrictions on the scope of policy coverage. The

1988 Hurricane Gilbert claims in Jamaica were met with admirable speed and fairness with assistance from teams of imported adjusters and close supportive involvement by reinsurers. With reinsurers' agreement, Gilbert's claims, for the most part, were settled without applying the "average" clause; furthermore, few policies then contained significant deductibles. Today, insurers have to negotiate settlement agreements under which the amount of the damage suffered is reduced first by the 2% deductible and second by the "average" clause.

29. These two coverage limitations, as is their intent, act to reduce materially the final amount of any claim settlement and in some cases, as has been said, preclude any payment at all--where, for example, the deductible of 2% is more than the cost of the damage suffered. It has to be accepted that the settlement process will be much more protracted and potentially acrimonious than formerly, as policyholders might express shock at these fine-print coverage limitations. Furthermore, reinsurers (who characteristically have over 85% of the claims' total), will vigorously scrutinize the application of these limitations, which have a very high impact on their liability. In summary, astute planning to deal with this novel scenario is recommended in order to avoid procedural and public-relations nightmares.

30. Practice drills for all personnel likely to be involved in the claims process are recommended to insurance companies . It is important that internal systems be tailored to catastrophe eventualities, because the overall claims settlement and reinsurance recovery processes are very information-intensive. Practice drills will hone management, public relations, and other skills to allow the transparency of operations essential to maintaining all-round good will. Particularly important is the advance marshaling and training of an effective staff of adjusters to enable a company to portray a proactive, rather than reactive, response to claimants. The public relations function merits special focus, since the post-event image of an insurance company will depend on the image gained during adversity. A trained and energetic 24 hour "help desk" function goes a long way toward this objective. Policyholders need to know how to put together the information they need to press their claims and where to get practical help to safeguard their belongings.

31. Planning the reinsurance recovery/remittance process is recommended as another essential. A company's claims-management function should have a close involvement in reinsurance negotiations,especially on the contractual wording referring to claims procedures. Agreements should be reached with reinsurers , in advance of an event, as to the precise sequence of procedures, documentation requirements, and provisional payment arrangements. Such agreements should be in writing and should be made directly with the reinsurers, rather than rely on representations of intermediary reinsurance brokers. Reputable reinsurers will respect primary insurance companies for attention to detail on these aspects. Delayed reinsurance remittances can wreak havoc with a primary insurer's efforts to satisfy policyholders' reasonable requirements.

D. The Regulator's Role

including data management and voluntary disclosure)

32. In other major markets, natural hazard experiences have prompted insurance regulators to take greater initiative in advancing multi-sector catastrophe protection approaches. Regulators have devised novel techniques and procedures based mainly on information technology for the necessary fiscal integrity and compliance matters. Most revised approaches enjoy the support of the regulated companies which share with the regulator a common interest in publicly demonstrating key fiscal and compliance performance indicators using common, cost-efficient, computerized formats.

33. The effective professional insurance regulator will be perceived publicly as a fair and diligent umpire between policyholders and insurers. This regulator will also guard the broader public interest served by the insurance industry, particularly the industry role in national capital markets (see the Puerto Rico example in Appendix E). It is recommended that pertinent government circles more readily recognize in practice that the strength, growth, and social responsiveness of the industry will be directly commensurate with the strength, growth, and social responsiveness of the industry's regulatory function.

34. A natural hazard event has the characteristics of low frequency and high severity. The adage "When the wind doesn't blow, nobody wants (or needs), to know" may have had some historical validity. However, catastrophes around the world in recent years have prompted insurance regulators to reassess their roles. The regulatory attitude or driving force recommended is one of encouraging and enforcing efforts to maximize the economic mitigation and protection available through the insurance mechanism without denying insurers a fair expectation of profit.

35. There is a parallel with financial services regulation, where the "hazard" to be mitigated is a liquidity crunch with potential for a run on a banking system. A natural hazard could provoke a run on an insurance system, along with the secondary "hazard" of public recriminations. In terms of delivering on their policy commitments, the issue of reinsurance security deserves the closest attention (see Appendix D). Regulators could consider adopting a risk-management philosophy approach to this challenge. Such an approach holds that the risks to be managed must first be identified and measured, and then be eliminated, minimized or transferred by means of appropriate techniques. The methods employed include adept scrutiny, compliance controls, and asset verification/certification as well as respected, speedy enforcement powers.

36. From meetings with Caribbean regulators and companies, it was evident that significant activity aimed at modernizing insurance laws and regulations is going on. Several findings called for improved regulatory effectiveness covering the regulators' institutional framework, statutory status, and enforcement powers, as well as financial, human, equipment, and facility resources. While these initiatives are very welcome, they imply that, generally, the regulator's function has not kept up with the times and that existing tools are not perceived as adequate. Furthermore, there was the implication that the regulatory improvement process itself is too slow-moving.

37. It is recommended that, to be strong and effective, insurance regulation include the following:

a. Minimum capitalization requirements for local carriers and brokers.

b. Solvency and liquidity levels.

c. Adequate asset/liability management (including maturity and currency matching where applicable), and insurance security.

d. Incentives and requirements (including tax concessions) to build catastrophe reserve funds up to minimum levels.

e. Minimum standards for non-ceded retention of local coverage.

f. Accurate verification and valuation of companies' balance-sheet entries to ensure adequate financial capacity to cover claims.

g. Increased allowance for overseas investments of insurance assets.

h. Industry entry requirements, including the admission of foreign competitors.

i. Requirements that the security and reliability of overseas reinsurers that take on portfolios of local coverage be verified.

j. Linkage of insurance regulation to require compliance with building codes before insurance coverage can be provided.

k. Monitoring and inspection techniques.

l. Conditions for revoking licenses and shutting down operations.

38. Recommendations for institutional strengthening of the regulatory function would include the following:

a. Adequate funding for the effective regulatory role (see Appendix E).

b. Focused training and contracting of adequately skilled staff to develop, implement, and enforce procedures supporting the execution of regulatory reform.

c. Upgrading information technology capabilities and computer equipment to allow for more automated compilation and analysis of insurance industry data, as well as timely reporting.

d. Setting up "twinning" arrangements with superintendencies that have undergone or are undergoing successful institutional and regulatory reform (e.g., in Trinidad and Tobago), in order to share best practices.

39. The initiative from Trinidad and Tobago is encouraging. The Government has commissioned (with World Bank funding) a respected Canadian public accounting firm to produce proposals for the management criteria, status, and practices of the insurance regulatory function (Appendix F). It is recommended that these methods be adopted by other Caribbean nations as a "best practices" approach.