



REPORT
ON
LOSS PREVENTION AND MINIMIZATION
IN THE
GENERAL INSURANCE INDUSTRY





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LETTER OF TRANSMITTAL

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भारतीय बीमा विनियामक और विकास प्राधिकरण
INSURANCE REGULATORY AND
DEVELOPMENT AUTHORITY OF INDIA

Dated: 27th July, 2020

Dear Dr. Khuntia,

I am pleased to submit the report and recommendations of the '**Working Group on Loss Prevention and Loss Minimization in the General Insurance Industry**'. The Working Group required an extended timeline to finalise its recommendations and give shape to the report because of the Covid-19 situation engaging the attention of all concerned on various issues. We are very grateful for the additional time provided for the Working Group to complete its task.

On behalf of the Working Group I would like to thank you for identifying this very important area of the general insurance sector as one needing immediate attention and for giving us the opportunity to examine it and make our recommendations.

Yours sincerely,

(T.L. Alamelu)
Member (Non-life)

Dr. Subhash C. Khuntia,
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Hyderabad.

REPORT ON LOSS PREVENTION AND MINIMIZATION IN THE GENERAL INSURANCE INDUSTRY

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ACKNOWLEDGEMENTS

This report has been prepared with inputs from all the members of the Working Group on Loss Prevention and Minimization in the General Insurance Industry, whose contribution I acknowledge gratefully. I would like to thank Dr. Subhash C. Khuntia, Chairman, IRDAI for giving me and the members of the Working Group the opportunity to work on this very important area of the General Insurance Industry.

I must acknowledge the tremendous work done by the erstwhile Loss Prevention Association (LPA) in the past whose work forms the genesis of many of the ideas covered in this report. Similarly, the work done by the erstwhile Tariff Advisory Committee (TAC) has given us immense insights into understanding the need for loss prevention and minimization in risk assessment. My appreciation to my team in the Non-life department for the logistics and assistance provided for the conduct of the various meetings and in giving this report its final shape.



ABBREVIATIONS

ABS	Anti-lock Braking System
AI	Artificial Intelligence
AMT	Automatic Manual Transmission
BIS	Bureau of India Standards
CAT	Catastrophe
CFD	Computational Fluid Dynamics
CFPS	Certified Fire Protection Specialist
COPE	Construction, Occupancy, Protection, Exposure
CVT	Continuous Variable Transmission
DCT	Dual-Clutch Transmission
DGCA	Directorate General of Civil Aviation
DGFASLI	Directorate General Factory Advice Service & Labour Institute
DOT	Department of Transportation
EIOPA	European Insurance and Occupational Pensions Authority
ESP	Electronic Stability Program
EQ	Earthquake
EWS	Early Warning System
FPA	Fire Protection Association
GPS	Global Positioning System
HPR	High Protected Risk
HSN	Harmonized System of Nomenclature
IDV	Insured Declared Value
IIBI	Insurance Information Bureau of India
IIHS	Insurance Institute for Highway Safety
III	Insurance Institute of India
IIRM	Institute of Insurance and Risk Management
IOT	Internet of Things
IRDAI	Insurance Regulatory and Development Authority of India
IRT	Institute of Road Transport
KART	Korea Automobile Insurance Repair Research and Training Centre
KSA	Kingdom of Saudi Arabia
LPA	Loss Prevention Association of India
LPC	Loss Prevention Council
LPM	Loss Prevention and Minimization
MoRTH	Ministry of Road Transport and Highways
MPV	Multi-Purpose Vehicle
NAIC	National Association of Insurance Commissioners
NCAP	New Car Assessment Program
NCB	No Claim Bonus
NFPA	National Fire Protection Association
NGO	Non-Governmental Organisation
NIA	National Insurance Academy
NIC	National Industrial Classification
NTCC	National Traffic Call Centre
NTSB	National Transportation Safety Board

PML	Probable Maximum Loss
RISC	Risk insight, Strategy & control authority
RTMC Act	Road Traffic Management Corporation Act
RTO	Regional Transport Office
SAMA	Saudi Arabian Monetary Authority
SUV	Sport Utility Vehicle
TAC	Tariff Advisory Committee
UK	United Kingdom



EXECUTIVE SUMMARY

Loss Prevention and Minimization are corollaries to insurance as a risk transfer mechanism. While loss prevention seeks to avoid losses in the first place, loss minimization seeks to mitigate it. Loss prevention and minimization activities are part and parcel of what insurers do—it helps improve their claims experience. However, industry-wide analyses of risks as well as knowledge sharing of the methodologies to prevent and minimize losses will help build synergies and create greater awareness. Collaboration with various agencies, Governmental and others is also the need of the hour. Education and expertise are key to better loss prevention and minimization.

In the past, the Loss Prevention Association of India (LPA) has rendered yeoman's service to the general insurance industry in the area of loss prevention and minimization. The Tariff Advisory Committee (TAC) has had its share of contribution. There are various Government initiatives as well as those of other agencies which are currently in vogue. But it needs a separate body which can offer a platform to stitch them all together for the common benefit of the stakeholders concerned. The Working Group felt that IRDAI is perfectly positioned to set up such a body under its aegis, given its powers under Section 14 (1) (f) of IRDA Act, 1999. IRDAI can play a key role in bringing the various agencies together on a common platform.

The body, as envisaged, would not be one directly involved in any commercial activity but would work to promote safety and loss prevention that helps, individuals, businesses, insurers and society in general. Ideally the body would be slim, technologically enabled and employ competent technical and other personnel. Apart from education, research and creating the right awareness through training, seminars etc, the body ought to be involved in activities such as setting standards and benchmarks, conducting post loss studies, giving risk improvement suggestions in a generic manner, collaborate with bodies such as IIBI for the required analyses of relevant data, carry out forensic studies and build capacity in these areas. Knowledge sharing being one of the primary objectives, the body should publish reports on studies carried out by it and be actively involved in dissemination through various digital means.

This report covers Property and Motor Insurance areas specifically. The scope for loss prevention and minimization is unlimited and covers each and every segment of insurance, be it health, cyber or any other area. The idea of this report and the recommendations made herein are to revive this very important aspect of general insurance functioning that pre-supposes a symbiotic relationship amongst the various stakeholders. The current pandemic situation has taught us many a lesson—the need to work together, share knowledge, prevent and minimise losses and suffering for better functioning through joint efforts, all of which will augur well for the economy and the lives of our billions.

Chapter 1

Introduction

1. Background

- 1.1 Loss Prevention and Minimization are important aspects of loss control in General Insurance. Insurance is a risk transfer mechanism and loss prevention and loss minimization are corollaries to it. While loss prevention seeks to avoid losses in the first place, loss minimization seeks to mitigate it. These activities are relevant for each of the categories of general insurance, albeit in different ways. It would be in the common interest of both the insurer and the insured to ensure that losses are prevented in the first place and should losses occur, it is necessary for the insured to take immediate steps to minimize it.
- 1.2 Not only are loss prevention and minimization important in reducing financial losses for the insured or insurer but also crucial for protection of lives and property in general. The right education and creation of awareness would play a major role. Loss prevention and mitigation also mean lower insurance premiums in the long run for the policyholder, besides protection for the economy.

2. Loss Control both a science and art वि वि प्रा

- 2.1 Rising loss ratios (as a result of increasing losses and shrinking premium) in general insurance can destabilize the industry unless the right interventions are carried out in a timely manner by all relevant stakeholders.
- 2.2 The function of loss control is not an academic or a macro level exercise but calls for detailed examination and analysis based on a scientific approach; it is a science because it calls for scientific knowledge to diagnose the underlying causes of losses and develop solutions using appropriate scientific knowledge which can be repeated in similar situations.
- 2.3 Loss prevention is an art as well because there is always a human element to a loss which needs to be effectively understood and managed. ***“There is sufficient evidence to indicate that loss prevention can be influenced through human intervention during the life cycle of a risk”*** commented Roger Cottell, Managing Director with Zurich Engineering in Great Britain.
- 2.4 An essential component of any loss prevention programme will deal with the human factor in reducing risks. This human element manifests in the form of contributory factors like the kind of management, human emotions and behaviour, social setting, training, operating conditions of health and hygiene etc.

2.5 Human safety is addressed by many government and private bodies like DGFASLI, Regional Labour Institutes, factory inspectors and also companies employ safety officers, welfare officers to ensure human safety and establish protocols for handling machinery with emphasis on safety of the people working on them.

3. Varied segments and varied risks in General Insurance

3.1 There are several areas in general insurance, each of which will require a different approach when it comes to loss prevention and minimization. For example, in Fire Insurance, loss prevention could mean good industrial housekeeping and training of the workers in the use of fire-fighting appliances so that they swing into action in the event of a fire occurring. In Marine Insurance, supervision of loading and unloading of cargo has helped prevent many a loss. Similarly, immediate steps to contain leakage of a tanker as a result of an accident has helped minimize the loss of contents of the tanker. When it comes to Motor Third Party Insurance, public awareness on the provision of the mandatory Third Party Liability insurance and of their rights and responsibilities is crucial. This awareness itself will see a drop in losses!

3.2 A vital area in motor insurance is road safety. Measures to improve road safety would go a long way in reducing motor and personal accident losses for insurance companies. MoRTH (Ministry of Road Transport and Highways) has been taking various measures and has introduced certain initiatives. The Hon'ble Supreme Court too has constituted a committee to look into various aspects of road safety (SC Committee on Road Safety). The insurance industry is a key player in implementing the same.

3.3 The insurance landscape is fast changing and is pervading into new areas which bring with them their vulnerabilities—cyber risk for example.

4. Role of General Insurers

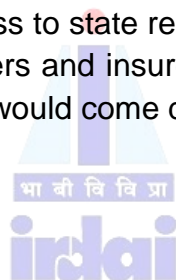
4.1 It is the constant endeavour of insurers to disseminate knowledge and information on the ways and means of preventing and minimizing loss. These could be through both formal and informal means. Indeed, loss prevention and minimization activities are part and parcel of what the insurers do, as it helps improve their claims experience in various ways. Starting from risk assessment to payment of claims under a policy, insurers seek to take steps to prevent and minimize losses. They take the help of experts to carry out risk assessment wherever required and suggest risk improvements. They also educate their customers regarding loss prevention and minimization. At the point of claim, the surveyor has an important role to play in mitigating losses.

4.2 Even while all these activities take place in the normal functioning of an insurer, there is lack of industry-wide analyses of risks. Education and creation of awareness of the need for and the methodologies for preventing and minimizing losses at a macro level are also wanting. Knowledge sharing of experience relating to loss prevention and minimization rarely happens. Insurers tend to restrict themselves to the education of their clients through risk inspections and client seminars.

5. Property loss control solution transcending time and geography

5.1 Property insurers who are likely to be equipped with big data on property loss may be in the right position to analyse this data and get a cue on the causes of losses and arrive at the likely solutions. However, this is easier said than done because it involves a multi-disciplinary approach, calls for research facilities and requires collaboration with industry and academia.

5.2 The existing loss control practices of the insurers are incidental to the primary function of underwriting. Needless to state reducing the frequency and severity of losses would benefit both insurers and insureds, as the overall burning cost and consequently the premium rate would come down.



6. Need for collaboration

6.1 There is a need to collaborate with the Government and Government agencies and various other agencies/authorities such as the National Disaster Management Authority, Central Building Research Institute, Central Road Research Institute, Indian Institute of Packaging etc.

6.2 Within the insurance orbit, collaboration is necessary with the Insurance Information Bureau of India (IIBI), which is the primary data repository for the insurance industry and educational bodies such as Institute of Insurance and Risk Management (IIRM), National Insurance Academy (NIA), Insurance Institute of India (III) etc, which are into academics and general training.

7. Education and Expertise are key

7.1 Education is a key component in loss prevention and mitigation. Simple messages such as safety measures against fire during Diwali or following the rules while driving need to be communicated effectively to the general public. Education relating to loss prevention and safety can be carried out through various media—print such as publication of booklets, brochures etc. electronic (audio and video),

melas and other appropriate channels in rural areas, seminars and webinars on loss prevention and so on.

7.2 Apart from research and education, there is also a need to encourage and develop expertise in and make available professional consultancy services in loss prevention and loss mitigation. Today, this expertise comes from scattered sources with exposure and expertise behind it being limited to an individual's experience or an organisation's, in specific areas alone.



Chapter 2

International Experience

1. Loss prevention a high priority globally

1.1 Loss Prevention is a high priority of developed and developing nations through Education, Training, Legal Provisions and use of Technology to conserve resources. For instance, Loss prevention and mitigation in Motor Insurance is measured through Reduced Accidents/Deaths in Highway Collisions, Pile-up accidents in adverse weather and Avoidance of Frauds. Minimising carbon foot prints through emission control is the primary focus of all nations even as they try to move to becoming a more ethical society.

2. South Africa

2.1 The National Traffic Call Centre (NTCC) of South Africa was established to report about bad drivers, unsafe vehicles, overloading, corruption in Vehicle testing stations and so on.

2.1 The RTMC Act, 1999 of South Africa has been passed to develop the quality and safety of road transport. They have the functional duty of training of traffic personnel, carrying out infrastructure safety audits, carrying out accident investigations, communicating to and educating the public about road safety aspects. The concept of Arrive Alive plays an important role in all such activities using digital technology. South Africa has compulsory Motor Insurance and the Prudential Authority of South Africa (Insurance Regulator) actively coordinates on Loss Control with the help of Government Agencies.

3. USA

3.1 USA follows State-wise Insurance Regulations. However, the National Association of Insurance Commissioners (NAIC) plays the role of a coordinating agency.

3.2 Loss prevention and control is a continuous process using technology such as telematics for monitoring driver behaviour etc. using specialised agencies.

3.3 There are two organizations in USA, namely NFPA and FM Global both of which play a vital role in property loss prevention not only in USA but also in other parts of the world.

3.4 NFPA- National Fire Protection Association

3.4.1 The NFPA is an international non-profit organization with over 50000 members, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards.

3.4.2 NFPA delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy, conferences and publications. NFPA, widely known as codes and standards organization, is the backbone of loss control.

3.4.3 The codes and standards are designed to minimize the risk and effects of fire by establishing criteria for building, processing, design, service, and installation around the world.

3.4.4 There are more than 250 technical committees comprising of approximately 9,000 volunteers which review public inputs and vote on the revisions in a process that is accredited by the American National Standards Institute. NFPA provides free online access to its codes and standards.

3.5 FM Global

3.5.1 FM Global is an American company in United States with offices worldwide with 1800 engineers on roll, that specializes in loss prevention services, primarily to large corporations throughout the world in the Highly Protected Risk (HPR) property insurance market sector. The FM data sheet published by FM Global provides the standards and codes for various occupancies for property loss prevention.

3.5.2 The FM Global Research Campus is one of the most sophisticated centres with an eye on advancing the science of property loss prevention. Its four laboratories focus on fire technology, natural hazards, electrical hazards, and hydraulics, and run experiments that develop understanding around the risk via experiments.

3.5.3 It's services include predictive analytics, claims, cyber risk assessment, business risk consulting, supply chain risk management, appraisal as well as other key services and standards

3.6 NTSB- National Transportation Safety Board

3.6.1 The U.S. Department of Transportation (DOT) established the NTSB as an independent agency. The NTSB, which has no authority to regulate, fund, or be directly involved in the operation of any mode of transportation, conducts investigations and makes recommendations from an objective viewpoint.

3.6.2 Since 1967, the NTSB has investigated into accidents in the aviation, highway, marine, pipeline, and railroad modes, as well as accidents related to the transportation of hazardous materials. The agency embarked on a major initiative to increase employee technical skills and make their investigative expertise more widely available to the transportation community by establishing the NTSB Academy.

3.6.3 Since its inception, the NTSB has investigated into more than 1,32,000 aviation accidents and thousands of surface transportation accidents. It has around 400 employees on call, 24 hours a day, 365 days a year. NTSB

investigators travel throughout the country and to every corner of the world to investigate significant accidents and develop factual records and safety recommendations with one aim—to ensure that such accidents never happen again.

3.6.4 Because the NTSB has no formal authority to regulate the transportation industry, their effectiveness depends on their reputation for conducting thorough, accurate, and independent investigations and on producing timely, well-considered recommendations to enhance transportation safety.

4. Australia

4.1 The State Insurance Regulatory Authority of New South Wales (sira.nsw.gov.au) plays an important role in detection of frauds and loss prevention. The approach is to conduct training and have knowledge sharing continuously.

5. Europe

5.1 The ETSC-European Transport Safety Council:(etsc.eu), a non-profit organisation funded by European Union, apart from Public and Private Sector participation, is concentrating on reduction in transport crashes and casualties in Europe. The European Insurance and Occupational Pensions Authority (EIOPA) plays a guiding role through research papers and engagement of stakeholders including European Union on Accident Prevention and Control through legal provision. The current legal basis for vehicle monitoring in member states is Directive 2014/45 of European Union from April 2014 and implemented effectively.

6. Asia

6.1 There are specialized bodies like KART (Korea Automobile Insurance Repair Research and Training Centre) in South Korea floated by the insurance industry to lay down repair costs and to crash tests various vehicles and rate them based on the economic loss they cause to the insurance industry. This body also imparts training to insurance company officials and loss adjusters to enhance their technical know-how and also advises about methods to deal with the various losses. They also publish standard rate charts for various parts and repair costs for all make and models of cars being used in South Korea.

7. United Kingdom

7.1 There are many property loss control bodies like the Fire Protection Association - FPA UK (formerly LPC-Loss Prevention Council) - which is committed to “an Engineering approach for property loss control and cost-effective loss prevention program”.

7.2 The RISC Authority (Risk Insight, Strategy and Control Authority), administered by FPA, is an annually funded research organization supported by a significant group of UK insurers that conducts research in support of the development and dissemination of best practice on the protection of property and business.

7.3 The RISC Authority carries out the following in UK.

- i. Stakeholder engagement (seminars, webinars, undertake research in specific class of occupancies for property protection)
- ii. Standards representation- (Represent insurers in safety standard/codes development committees /testing etc. BIS/NBC like we had TAC/LPA in India but we have no equivalent body now)
- iii. Information gathering and data analytics (for specific purpose of loss control)
- iv. Creation of data and loss case study repository (risk survey reports, videos, photos and summary reports of post loss study)
- v. Carrying out research and Testing facility in the area of loss control
- vi. Production of best-practice guides
- vii. Development of loss control tool kits (both conventional check lists and digital tools utilizing IOT, drones, AI, Analytics etc.)
- viii. Dissemination of knowledge and information- (web portal and professional journals and bulk messaging)
- ix. Synergizing – creating a win- win atmosphere for stakeholders



8. Saudi Arabia

8.1 It is understood that the Saudi Arabian Monetary Authority (SAMA) has drawn up a detailed Risk Control Policy and procedures to be followed by insurers. They have drawn up their property regulations by adopting NFPA (National Fire Protection Standards).

8.2 As part of their guidelines, Fire Safety Certification is a must. The Kingdom of Saudi Arabia (KSA) Fire and Safety Regulation permits must be updated in the risk survey report. They have established and published minimum standards of the risk survey reports to be followed by the insurers.

8.3 SAMA stipulates the Sum Insured limits for mandatory surveys by risk engineers; low sum insured and low hazard cases are permitted to be surveyed by any trained staff of the insurance company and need not be by risk engineer.

8.4 They have established periodicity of re-surveys and the survey report must be less than 3 years old at the quotation date. Where the most recent survey report is more than a year old, and contains recommendations to mitigate insured risks, the insurance Company must obtain a follow-up report on the actions taken by the insured.

8.5 If critical and high priority recommendations made in the most recent survey report have not been acted upon for more than a year after the report was produced, no insurance cover may be offered. If there are any low priority recommendations that have not been actioned more than a year after the report was produced, the Company must collect additional premium or impose exclusions, or additional deductibles, as may be appropriate, relating to these points.



Chapter 3

The Indian Experience

1. Loss Prevention Association of India (LPA)

In the past, Loss Prevention Association of India has played a leading role in imparting knowledge and sensitising the industry as well as the public on matters concerning road accidents etc. This included seminars for various target groups on subjects such as road safety, safe driving etc, till it ceased to exist due to administrative reasons.

2. Government initiatives

2.1 Now, the Government of India through the Ministry of Road Transport and Highways (MoRTH) plays an active role on Road Safety, especially Blind Spots and shares the information with the general public. State Governments also take an active part in regulating road transport through training institutions like the Institute of Road Transport (IRT), Chennai, training the drivers of State Transport Buses and Heavy Vehicles. However, the accidents on Highways continue to contribute to 55% of Road Accidents and need to be prevented through a focussed approach.

2.2 An analytical setup like IIBI to unearth motor insurance frauds, educational institutions like Insurance Institute of India, College of Insurance and National Insurance Academy, Pune's initiatives on training of insurance professionals both from India and abroad are commendable but the horizon of loss prevention is vast.

2.3 In Motor for instance, various Automobile Associations also play an active role. These associations operate on subscription basis and provide training and create awareness about safe driving skills. Membership of these Associations earn discount on Own Damage Premium for the Vehicle Owners.

2.4 Loss prevention and minimization takes on a new dimension as the nature of motor risk moves from driver enabled vehicles to technology driven vehicles being manoeuvred through computer programming. The present approach and outlook on motor risk coupled with loss prevention will undergo a radical change in the days to come. It needs an institutional set up to analyse and educate the users appropriately.

2.5 This change will lead to digitalisation taking over from human monitoring and Artificial Intelligence controlled loss prevention and mitigation using HSN (Harmonised system of nomenclature) of parts. However, the scope for human intervention to prevent and minimize the loss is still available.

2.6 There is no national agency in our country on property loss control or accident investigation which closely works with the insurance companies or *vice versa* except for a few government departments like inspectorate of factories , boiler inspectors, the police authorities, DGCA , RTOs, Bureau of Indian standards, fire brigade etc all of whom work within their contours with no symbiotic relationship.

3. Current practices in loss control by insurers

3.1 Property loss prevention and loss minimization practices are not common or uniform across insurers and range from no special effort other than basic checks during underwriting to very focused efforts with dedicated loss control team or departments engaging specialist. As per the current practices amongst insurers in India, loss control is seen, by and large, as incidental to underwriting and business growth. Attention to loss control must happen through three fronts – prudent underwriting / risk selection based on risk inspection, prudent claims management and prudent risk management (Investigation and fraud control).

3.2 Loss prevented (or avoided) by an insurer is not necessarily a loss prevented for the industry. There is certainly a need for an industry-wide solution here.

3.3 Risk inspection practices include in-house independent surveys by the risk engineers in some of the insurance companies, whose reports become the basis of underwriting. These reports provide risk assessment based on COPE features of a risk, and risk improvement suggestions and PML assessment. While on the other end of the spectrum there are some insurers with no dedicated risk engineering department.

4. Survey by private surveyors/brokers

4.1 Some insurers also engage loss surveyors like the erstwhile TAC /LPA engineers as well as other chartered engineers to get the risk surveyed on *ad hoc* basis.

4.2 Sometimes risk survey reports are provided by the insurance brokers – either carried out by their in-house engineers or the survey report received from one insurance company on the risk is circulated to other insurance companies.

4.3 Again, there are Joint Surveys conducted by groups of risk engineers of various companies / underwriters and sales members wherein the group is taken around the risk. But this exercise may sometimes result in poor quality surveys because of distraction due to many people crowding and lack of quality discussions. Many man-days could be wasted on one exercise!

4.4 The main expected outcome of the risk survey report is a clear risk analysis and PML to enable sound underwriting and risk improvement recommendations, if any, to improve the quality of risk. The quality of survey report also widely varies depending upon the quality of the risk engineer, co-operation of the client and broker, duration of survey, scope of survey, planning and scheduling of survey, independent survey or joint survey, availability of plant engineers, availability of data, over loading the engineer because of seasonality of surveys (crowding in last quarter) etc. There may be insurers with high risk appetite who possibly conduct no surveys.

4.5 Every risk survey report invariably contains risk improvement recommendations based on assorted codes and best practices of own and others. Such recommendations are classified based on cost benefit, criticality and on physical

improvement which involve expenditure for implementation, or a safety process improvement with no or minimal cost to the insured.

4.6 In spite of such good efforts by the insurers to control losses, the compliance rate is poor as many suggestions remain on paper or repeatedly find place in subsequent surveys but are not implemented. There could be many reasons for this – for instance compelling a client may make him move to another insurer or suggestions needing heavy capital investment or a cost-benefit analysis being not encouraging or being impractical.

4.7 The cumulative effect of such ineffective practices is that the losses would continue to rise. The insurance industry has to find a way to improve the risk survey practice and compliance rate of at least some of the critical recommendations; Though there is no easy solution for this, one possibility could be a loading of premium for poor risks or application of a warranty in the policy that critical suggestions made need to be complied with.



Chapter 4

Conceptualisation of an Organisation for Loss Prevention and Minimization

1. Need for a full-time body

1.1 It is important for the relevant stakeholders to get together on a common platform in order to achieve the common objectives of loss prevention and minimization for the industry as a whole. The Regulator and the Industry have the primary role here.

1.2 The Working Group recommends setting up a Section 8 Company with the objective of promoting Safety and Loss prevention. The Company should focus on creating an environment of safety and loss prevention among industries, businesses, insurers and society. It should be funded by IRDAI and the General Insurance Companies.

1.3 The Company should not be directly involved in commercial activities like Risk Inspection, Risk Management, Tracing of Cargo, Cargo Supervision, Route Surveys, Project Monitoring or setting up motor garages etc. These activities should be left to private business units. These private business units need to be accredited by this institution.

1.4 The recommended body could advise insurers on the framework for encouraging focus on improving safety and loss prevention in their organisations through a system of benefits and penalties in premium rates and terms and conditions of insurance policies.

1.5 It should employ competent technical personnel and should ideally be a slim organisation. It should be technologically enabled and have regional presence wherever required.

2. Activities to be performed by the body

2.1. To start with the body can work in the areas of Property (including Cargo) and Motor lines of insurance businesses. While these points are covered in more detail in the subsequent chapters, this body should broadly be dedicated to the following types of activities:

3. Property (Illustrative)

- a) Setting and reviewing codes and benchmarks in collaboration with various industry associations.
- b) Reviewing building codes for EQ resistant constructions
- c) Developing and reviewing a map on flood prone risks and EQ Zones in India.
- d) Setting standards for firefighting systems

- e) Studying property losses in India and across the world and give advisories to industry and insurers.
- f) Developing safety films, posters, leaflets and provide to industry and insurers.
- g) Organising seminars, workshops on safety and loss prevention for different industries and insurers.
- h) Collaborating with fire services for better firefighting operations
- i) Promoting mutual aid schemes
- j) Collaborating with National and State disaster bodies during catastrophes for better loss prevention.
- k) Collaborating with IIBI to collect and build segment-wise / occupancy-wise loss data (with geo code) and analyse and publish types / patterns of losses including severity, root cause etc and suggest suitable loss prevention and mitigation techniques.

4. Cargo (Illustrative)

- a) Advising industries on packaging and transportation
- b) Developing and reviewing HSN codes for transportation of hazardous cargo
- c) Developing films and literature on cargo safety including cargo handling at ports.
- d) Organising training for better cargo handling to ports, carriers, and railways

5. Motor (Illustrative)

- a) Mapping high exposure accident spots across the country
- b) Collaborating with police and insurers for road safety campaigns
- c) Organising safe driving training programmes
- d) Organising programmes for school students on road safety
- e) Collaborating with vehicle manufacturers on better safety aspects in vehicles
- f) Collaborating with insurers and police to reduce stolen vehicles and quick recovery of and disposal of stolen vehicles.
- g) Collecting, collating and analysing data on loss experience and making suggestions for loss prevention and mitigation.

6. Others (Illustrative)

- a) Focussing on research in all areas of safety and loss prevention in collaboration with various educational and research institutions

- b) Carrying nationwide TV, radio and media campaigns on safety and loss prevention
- c) Instilling a culture of safety and loss prevention in young minds by introducing appropriate programmes in schools.



Chapter 5

Loss Prevention and Minimization in Property Insurance

1. Adopt /develop standards and codes for loss control

1.1 Loss minimization standards and regulations (like BIS/NBC/TAC/NFPA/FM/RISC codes) form the back bone of loss control, and hence the same are to be adopted and formalized by the loss prevention body for the purpose of loss control. The TAC codes are found preserved in IIBI website under the resources section and the same can be updated and revived i.e. own, customize, develop and publish /spread the property loss control regulations and best practices for the industry to follow. The availability of such codes would be essential for qualitative risk rating or ranking and bench mark the risks.

1.2 It is also necessary to maintain liaison with insurance companies, fire advisors to state governments, factory inspectorate and advisory services, electricity boards, Petroleum and explosive safety organization, Bureau of Indian standards etc. to review the existing regulations in the light of experience and to suggest modifications of regulations. Also this body must encourage unification of regulations on the same subject by various organizations.

1.3 The body can promote observance of minimum standards in fire- fighting, safety equipment, electrical equipment and organize setting up of efficient testing facilities

1.4 The loss control body must participate in such code development bodies – nationally and internationally, as LPA and TAC did have such a role in the past.

2. Risk inspection by Surveyors /Risk Engineers

2.1 Development of an expert body cannot happen overnight and needs to be developed over a period of time. It is recommended that the requisite core talent and manpower for the loss control function be hired from the relevant domain or class of occupancy of high exposure risk and be blended with experienced risk engineers and loss control professionals from the insurance industry. Pure domain experts may have limitations when it comes to knowledge relating to loss control. On the other hand, just being risk engineers could mean limited domain knowledge. Hence the need to develop specialist engineers on loss control. There is a need to blend, create and cultivate a talent pool which would gain acceptance and credibility by the stake holders.

2.2. A central repository of all Risk Inspection Reports (insured-wise) should be created with access being provided to insurers after masking information that might involve confidentiality, as a knowledge-sharing initiative.

3. Conducting post loss studies

3.1 The proposed loss control body should conduct post loss surveys for large losses exceeding a set value and share the detailed report with root cause analysis and suggested measures to help prevent or mitigate such losses in future.

4. Suggestions relating to risk improvements

4.1 The effectiveness of loss control of property risk would depend upon the 'quality' of risk improvement suggestions made by the inspecting engineer and the kind of 'response' received from the insured and insurer to such recommendations for loss control. In spite of good efforts by the insurers to control losses, the compliance rate is poor as many suggestions remain on paper or repeatedly find place in subsequent surveys but not implemented to.

4.2 Poor risks need to be identified by a risk score / risk survey and mandated to be differentiated suitably from good risk to enforce compliance of risk improvement suggestions. Desired outcomes ought to be set out and/or benchmarks laid down, so that compliance may be ensured through proper insertion of warranties and other conditions precedent to liability, whilst the risk is being underwritten as well as through periodical audits.

5. Collaboration with IIBI on loss data

5.1 Building up the relevant database is critical for the loss control function to be effective and IIBI can play a critical role here. The database created needs to be studied, analysed and interpreted by the people who understand occupancy exposure who should seek validation from the stakeholders and then connect the findings with the loss control effort. Greater the granularity of loss data collected the better.

5.2 The loss control body together with IIBI must collect and build segment wise / occupancy wise loss data (with geo code) and present a snapshot view of type / pattern of losses along with information on root causes, severity of loss & applicable loss prevention and mitigation techniques learnt from the loss and applied for avoiding reoccurrence.

6. Forensic studies

6.1 The loss control body should also build capabilities relating to forensic studies.

7. Conduct safety audit and safety training

7.1 The body ought to undertake safety management exercises and conduct periodic training on safety audit for businesses; it must help organise training for fire officers and fire men for company fire brigades as well as on economic rehabilitation after a major loss

8. Cargo Loss prevention

8.1 The body should involve itself in loss minimization activities in major ports like supervision of cargo discharge, follow up of safety clearance, safe guarding of cargo and tracing of missing cargo.

8.2 It should provide expert advice on transport of special cargo and supervision of loading and unloading activities as well as tracking transits.

8.3 It can take up study of security systems in industrial and storage premises devise model security systems, organize and provide training for security staff.

8.4 Liaison with Indian Institute of Packaging and conduct of packaging audits is another area the body can deal with.

8.5 Inspection of the Infrastructure at rail sidings and stations and suggesting measures like control of theft, wet losses etc. are also some of the possibilities. Some cargoes like cement / fertilizers are mainly transported through rail.

8.7 A very important area is “Asset tracking by GPS “and chip mounting on cargos and cargo trucks.

8.8 Integration of GSTN and online Way Bill databases would help tracking consignments and reduce claim settlement TAT, which an effective loss minimization measure.

8.9 Collaborating with Meteorological agencies for sending pre-emptive safety advisories before/during inclement weather.

8.10 Implementation of internationally accepted HSN codes to standardise cargo categorisation.

9. Effectiveness to be measured

9.1 The quality of the activities of the loss control body, its function and performance are to be reviewed and measured by appropriate metrics like customer feedback, loss ratio / burning cost improvements etc. The loss control body must aim to bring down burning cost segment-wise, occupancy-wise etc. These are important parameters to study its effectiveness.

9.2 The body must build capabilities and excel in its sphere of activity.

10. Current practices in risk survey and loss control

10.1 Property loss prevention and minimization practices are not common or uniform across insurers. The quality of survey report and consequently the quality of loss control widely varies among the insurers depending upon the quality of the risk engineer, co-operation of the client and broker, limitation of duration of survey such as the planning and scheduling of survey, availability of data at site, overloading, seasonality of surveys and so on.

10.2 There are again Joint Surveys conducted by groups of risk engineers of various companies / underwriters and sales members where in the group is taken around the risk to make out whatever they can make out in such group movement.

10.3 Also, some insurers engage loss surveyors, e.g. erstwhile TAC /LPA engineers and other chartered engineers to get the risk surveyed if they deem it fit or mandatory to get the survey done and if in-house risk engineers are not available.

11. Survey report format and PML working to be standardized

11.1 For the same COPE (Construction, Occupancy, Protection and Exposure) information, many surveys are conducted and reports issued in various report formats which leads to inconsistencies in the reports and findings. Therefore, it is recommended that standard report formats for the 'risk survey report' and common methodology for PML working and risk scoring may be established.

12. Build loss data and risk profile data

12.1.A database of industrial property risks in the country (around 25000 cases of above Rs. 50 Cr Sum Insured for high hazards) can be built from various sources utilizing geo code/unique property ID as the location-wise, occupancy-wise property identifier. The risk can be mapped to NIC (National Industrial Classification) code across the general insurance industry and the risk survey report can capture this code which can be shared with IIBI or the loss control body.

12.2. The survey reports/data bank now available with the insurers can be given to the loss control body or IIBI to create a risk profile database. Also the repository of such reports can be used for the common good of the industry on a subscription basis. The need for surveying risk by multiple insurers, multiple number of times can be minimized. Integration of macro databases like ROC/MCA and MSME (*Udyog Aadhar*) would improve the underwriting and claims management efficiency.

13. Promote mutual aid schemes among clients

13.1 Building upon synergies will be mutually beneficial for policyholders.

14. Marine Cargo related steps

14.1 Maintain liaison with the Government and port authorities, ship owners, insurers, road transport authorities, BIS etc. to review existing regulations in the light of experience and to suggest modifications of regulations. To encourage unification of regulations on the same subject by various organizations.

14.2. Coordinate with police, port authorities and customs authorities to prevent theft, pilferage and burglaries.

15. Research activities and Knowledge Sharing

- i. Providing advisory services to trade and industry on various aspects of fire safety right from planning and construction stage up to setting up of safety program in operation
- ii. Supporting research by competent research institutes regarding
- iii. Development of fire-fighting and protective equipment
- iv. Development of fire resistant materials and clothing
- v. Development of designs and constructions to minimize fire hazards, fire spread and fire load
- vi. Advising on human and medical aspects of fire safety
- vii. Sponsoring research into fire hazards and related problems safety precautions in new industrial process and in problem areas
- viii. Publishing technical literature on fire hazards fire safety, recommend codes of practice and results of work done in the field in other countries.
- ix. Circulating Success Stories from/Best Practices adopted by the industry with regard to loss prevention and mitigation.

16. Courses in Risk Engineering

16.1 There is no formal diploma or degree programme in the country that imparts knowledge on property loss control. The subject of property loss prevention and minimization is engineering oriented and a highly technical subject as the losses of various industries are to be controlled and there is no one institute that passes on the knowledge of all the occupancies and its risk exposure and applicable mitigation measures. Therefore, it is recommended that academic institutions like NIA, IIRM etc can be encouraged to offer one or two-year duration professional courses on risk engineering in collaboration with the recommended body.

16.2 This course can be designed to familiarize students about major loss causing occupancies, scenario build-up of losses, about applicable standards and codes-national & international, loss control tools and methodologies, sponsorship for certification courses in loss control like CFPS, CFFP, under NFPA etc.

17. Emerging risk and innovation in Loss control

17.1 The research and education team must innovate on solutions for emerging risks and take digital initiatives and adopt frontier technology of the prevailing times to evaluate risk and formulate suitable loss control methodologies (like currently Drones, IOT, AI, machine learning, Mobility, CFD etc.).

17.2 Over a period of time the body must graduate to develop CAT modelling accumulation monitoring and foresee future developments detrimental to the industry and develop solutions

17.3 The education and research team must have continuous and frequent engagement with stakeholders through online journals, web contents,

webinars/seminars, onsite training, conductor and or sponsor loss prevention studies & surveys, promote subscription services.

18. Infrastructure for the loss prevention institution

18.1 Undoubtedly developing excellent risk management /loss control expertise needs the backing of state of the art infrastructure, research and training facilities, laboratory and testing facilities on par with the globally known institutes like FPA/NFPA/FM.



Chapter 6

Loss prevention and Minimization in Motor Insurance

1. Motor Insurance products

1.1 At present, Motor Insurance in India is divided largely into Private and Commercial Vehicles apart from Miscellaneous Type of vehicles. From the Coverage perspective, the business is segmented as Damage to Insured Vehicle (Own Damage) and Damage to Third parties as per Motor Vehicles Act.,

2. Role of Surveyors and Institutions in Loss Control

2.1 Surveyors and Investigators are important links in loss control and they contribute to minimize fraud and control inflated claims. Average price data on repair of parts is not available and OEM wise database would help to standardise the category-wise labour rates.

2.2 The findings shared by surveyors need to be captured and analysed. Institutions like IIBI contribute to fraud monitoring by analysing the data. However, this needs to be supplemented by deep learning techniques by a focussed body to help minimize losses.

3. Current practices followed by Insurance Industry in the area of Loss Prevention and Loss Minimization in Motor Insurance

3.1 Currently, each insurer has its own approach to data analytics with limited data being available in silos. IIBI has been providing Claims search functionality with wide usage among industry, with hits crossing the 1 Crore mark in FY 19-20 helping in substantial savings for the industry. However, enriching the claims data available in the repository with better quality data as well as speedier submission will help the industry further—there are still instances of dependence on the insureds' declaration to reckon NCB.

3.2 Telematics is yet to be popularised and many aspects, in particular data sharing etc needs close attention. Initiatives through the Regulatory Sandbox mode on this aspect by some insurers are yet to be completed.

3.3 A limited effort was made by a few General Insurers on block chain for sharing NCB details. Synergy is triggered when data sharing happens from a reliable source through analytics and enables the users to take informed decisions.

4. Loss Minimization efforts can be in the form of various measures

- a) Quantifying the risks in terms of Safety Scores, Claim Propensity Models based on the features of the vehicles especially the safety features etc
- b) Developing a repository and sharing real time information to prevent frauds in coordination with IIBI.
- c) Education and creation of awareness.

- d) Identifying Uninsured Vehicles in coordination with IIBI and following it up with State Enforcement Agencies towards ensuring that more vehicles are insured. Running Awareness Programmes in co-ordination with the General Insurance Council with the Ministry of Road Transport and Highways (MoRTH) and the States to highlight the ill effects of Uninsured Vehicles on Accident Victims and their dependants.
- e) Social policing to arrest sale of spurious parts.
- f) Linking motor insurance premium to traffic offences.

5. Direct and Indirect factors that could have a bearing on loss minimization in motor insurance

Sl.No	Direct Factors	Indirect Factors
1	Risk Scoring	Awareness campaigns for loss prone zones & periods
2	IDV master and listing of safety features of all models	Training of Company Personnel and Surveyors
3	Fraud Prevention Mechanism	
4	Common Repository for Declined Proposals including inspection photographs	
5	Part pay outs for various models - Detailed analysis of each part for each model based on loss experience.	
6	Hot-spotting of accidents based on Frequency & Severity	
7	Cost of repair for comparable garages by geography	

6. Adoption of Technology

The following technology enabled co-existence is needed through an institutional set-up for the Industry.

6.1 Block Chain

6.1.1 Block chain integration of Insurance Companies, IRDAI, IIBI, Road Transport Authority, Police Department and Ministry of Road Transport and Highways(MORTH) will bring all the stakeholders on same page. Present day country-based cloud hosting gives space to have such data. This will help in:

- Identifying Uninsured Vehicles.

- Segregation of Vehicles basing on manufacturing details to comply with Emission guidelines on renewal of Insurance.

6.1.2 The Loss Prevention Body can enable insurers to share further details of exposure & claims through the use of new technology like Block chain for seamless sharing to prevent frauds for e.g. Pre-Inspection photos, Pre-settlement claim details, On spot settlement claim details in subsequent insurance etc.

6.1.3 It can help in integrating databases like *Sarathi* (driver), FASTAG (RFID) and traffic violations.

6.2 Identify pain points with Data Analytics and Artificial Intelligence

6.2.1 Data Analytics and use of Artificial Intelligence for Motor Loss prevention can help analyse the features of Vehicles and the behaviour of Users.

6.3 Telematics

6.3.1 This facility is useful to price and know claim related information speedily. This analytical tool has good features to analyse the behaviour and price accordingly apart from initial indication of accident.

6.3.2 The work of the loss prevention and minimization body should be two pronged. One, to carry out a forensic study of the losses to understand the cause/effect and laying down guidelines for prevention mechanism to avoid such losses in future. The other would be to define the standards for the industry to follow, along with best practices in the world that act as a guide.

7. Demographic Reach

7.1 This body should delve deep into understanding the cause and consequence of large loss geographies, major Frauds, theft prone locations, Red flagged accident zones like National and State Highways which contribute to 55% of accidents, chronic claimants, etc.,

8. Best Practice Guidelines

8.1. There shall also be standard guidelines on the inspection of vehicles based on the age and model, the acts to be or not be performed in the event of a loss, precautions to be taken by the Insured and the best practices to be adopted in the event of a loss or during a particular season where losses are common.

9. Standardisation of Repair Costs

9.1 The body can lay down guidelines on repair charges for parts for each model of vehicle to bring standardisation across the industry and for the manufacturers to adhere to as this will be done in consultation with all the stakeholders for a transparent mechanism to be evolved.

10. Co-ordination with all Stake Holders on Loss Prevention:

9.1 The body can work closely with the Ministry of Road Transport & Highways (MORTH) for working on Road Safety standards to be adopted across all states and can act as a coordinator between all stakeholders i.e. Government, Insurance Companies, Vehicle Manufacturers, Road Safety experts, NGOs etc. It can also actively participate in vehicle recall measures and other safety initiatives launched by various stakeholders.

11. Educative publications

11.1 The body can publish literature pertaining to ways and measures to reduce losses, minimize the severity of losses, identify and share best practices across various industries and identify catastrophic losses and lay down benchmarks pertaining to them.

12. Safety Mapping of Vehicles and Rating Factor Generation

12.1 The body could work on mapping the various safety features like:

Air bags (Front/Side impact)	Pedestrian safety
Turbo	ABS (anti-lock braking system)
Length of Vehicle	ESP (electronic stability program)
Body type (Sedan/Hatch back/Compact/SUV /MPV etc)	Speed Sensing for auto door lock
Electric Vehicles	EWS-early warning system
Automatic Type (AMT/CVT/DCT)	Manual Transmission
Rear cameras and sensors	Crash Test rating (NCAP, IIHS etc.)

12.2 A common standardised matrix (score) which may be developed by this body in partnership with the General Insurance Council to incorporate the safety features of each make and model being insured so that this score can also become one of the rating factors in insurance.

13. Collaboration with Traffic Police for training curriculum

The body could collaborate with IIBI on sharing of traffic violations and arranging education and training programmes for chronic violators. The body should also collaborate with the state police in establishing training curriculum for the traffic violators especially red light jumping and drunken driving offenders.

14. Garage Network Master

A Garage Network Master can be prepared for providing the average repair costs in terms of repair of each part, average painting costs and average turnaround times for each type of repair which can be accessed by the industry for ready comparison. The repairers can be graded on the basis of their performance and low-ranking garage

personnel can be involved in orientation and training activities to enhance their skills and knowledge. Black listing of suspicious garages can be done by collaborating with IBI and the General Insurance Council.



Chapter 7

Summary of Key Recommendations

- 1) The Working Group recommends setting up a Section 8 Company with the objective of promoting Safety and Loss Prevention.
- 2) The Company should be promoted by the IRDAI as well as the industry.
- 3) The Company should liaise with Government and other relevant agencies to achieve its objectives.
- 4) The Company should not be directly involved in commercial activities like risk inspection, specific risk management, tracing of cargo, cargo supervision, route surveys, project monitoring etc—these activities should be left to private business units. However, the Company should capture experience and knowledge in a generic form for education and dissemination.
- 5) The Company may also set standards and benchmarks for various activities from the insurance perspective.
- 6) The Company should be technologically enabled.
- 7) The Company should collaborate with bodies such as Insurance Information Bureau of India as well as with various academic institutions, bodies dealing with insurance education and build synergies.
- 8) The Company may start working on promoting safety and loss prevention in the areas of Property Insurance and Motor Insurance to begin with and can expand into all areas of general insurance as well as Health insurance in the future.

APPENDIX 1: REFERENCE

1. Fire protection association UK-<https://www.thefpa.co.uk/>
2. RISC authority –UK -<https://www.riscauthority.co.uk/>
3. National Fire Protection Association USA- <https://www.nfpa.org/>
4. FM Global USA-<https://www.fmglobal.com/>
5. National Transportation Safety Board USA <https://www.nts.gov/>
6. Saudi Arabian Monetary Authority- <http://www.sama.gov.sa/>
7. Insurance Information Bureau of India - <https://iib.gov.in/>
8. Reference materials from Ex Loss Prevention Association members:
 - 25 Years of LPA Draft Booklet.ppt
 - Activities of LPA
 - The Insurance Regulatory Bill – Presented on 16.03.1999
9. RCAR Working Group manual on Technical Criteria for the certification of body replacement parts - www.rcar.org
10. Report on Road Accidents in India – 2018 by MoRTH (www.morth.nic.in)
11. Road Traffic Management Corporation Act 1999- Republic of South Africa

APPENDIX 2: CONSTITUTION OF THE WORKING GROUP



भारतीय बीमा विनियामक और विकास प्राधिकरण
INSURANCE REGULATORY AND
DEVELOPMENT AUTHORITY OF INDIA

Ref: IRDAI/NL/ORD/MISC/223/12/2019

Date: 12th December, 2019

ORDER

Re: Constitution of Working Group to make recommendations for Loss Prevention and Loss Minimization in General Insurance Industry

Loss Prevention and Loss Minimisation are important aspects of loss control in insurance. Steps for loss prevention and loss mitigation not only help the insured and the insurer but also help mitigate economic losses in a larger context.

2. While loss prevention and loss minimisation are aspects insurers are concerned with right from the time a risk is assessed to the time a claim occurs, there is a need to synergise the activities of the various stakeholders involved in these activities for the benefit of all concerned. Research and education in this area needs to be encouraged. Collaboration with the Government and various Government agencies in this regard will benefit the society at large.

3. It is, therefore, important that all stakeholders work together towards a common end on a common platform.

4. In the above backdrop, it has been decided to constitute a Working Group consisting of the following members with the following Terms of Reference (ToR):

5. Constitution of the Working Group

- i. Smt. T. L. Alamelu , Member (Non-Life), IRDAI, Chair
- ii. Shri. G. Srinivasan, Director, National Insurance Academy, Member
- iii. Shri. Kunnel Prem, CEO, IIBI, Member
- iv. Shri. M. Nagaraja Sarma, Secretary General, General Insurance Council, Member
- v. Shri. C. S. Ayyappan, Deputy General Manager, New India Assurance Co. Ltd, Member
- vi. Shri. Girish Gangadharan, Senior Manager, GIC Re, Member
- vii. Shri. Thangaraju Mallan, Senior Vice President – Corporate Underwriting - HDFC Ergo General Insurance Co. Ltd., Member
- viii. Shri. Ramanan V, Appointed Actuary & SVP, Max Bupa Health Insurance Co. Ltd., Member
- ix. Shri. S K Jain, Vice President, Insurance Brokers Association of India, Member

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- x. Smt. Yegnapriya Bharath, Chief General Manager (Non-Life), IRDAI,
Member Convener

6. Terms of Reference:

- i. To suggest segment-wise ways and means to improve Loss Prevention and Loss Minimisation in insurance.
 - ii. To evaluate current practices followed by insurance industry in the area of Loss Prevention and Loss Minimisation and suggest approach to synergise the activities of the various stakeholders involved in order to ensure better Loss Prevention and Loss Minimisation.
 - iii. To give recommendations for promoting research, education and services related to Loss Prevention and Loss Mitigation.
7. The Working Group shall submit a report containing its recommendations within twelve weeks of the date of this order.


(M. Pulla Rao)
Executive Director (Gen)