Risk and Disaster Management – A Case Study of Nairobi, Kenya

Wafula NABUTOLA, Republic of Kenya

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SUMMARY

With each passing day we just have to thank the Maker. Why is this? Well, because there is no way, of knowing if we would have survived it or not. This is regardless of where we are, whether it is at work, at home, at school, traveling or even just sleeping. Each activity entails RISK.

RISK is the possibility of incurring a misfortune or a loss. A Surveyor, working as Facilities Manager one is confronted with an array of such potential challenges in respect of Persons, Property and Money. Some of these risks can be managed internally within the Facilities Management Department directly. Other RISKS emanating from third party involvement have to be countered, in part, by extension of obligation to suppliers via their contracts or by insurance or both.

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1. INTRODUCTION

1.1 Scenario I

In the past few years, various cities in our country have experienced fires in which property worth millions of shillings was destroyed. Sregrettably, Kenyan lives were lost sometimes. These cities have one fire station each. What is at issue is:

- Are these fire stations adequate to serve their intended purpose?
- Are the personnel well motivated and trained?
- Is the equipment of the right type and in good condition to fulfil its purpose?

1.2 Scenario II: Natural Phenomena

Flooding is another source of anxiety. The most notable was the *El – Nino flooding* which was most pronounced in Nairobi City. But even before the *El-Nino*, any time it rains here in Nairobi, we get floods. The storm water drainage system is not well serviced although the network exists.

During the seasonal rains, the river system burst its banks and causes flooding especially in Nyanza province where the rivers flow into Lake Victoria and then out into the Nile. This is seasonal and predictable and for donkey years, our leadership have talked about dykes, rain harvesting and storage. When our rivers burst their banks, people's houses are washed away and emergency services of the Kenya Armed Forces are mobilized to deliver food supplies and to rescue stranded families.

Ironically during drought as is happening now we go without food, when we get rains we have floods!

1.3 Scenario III: Terrorists Factor

Then came the terrorist threats in 1970's. A bomb exploded at the Norfolk hotel. In 1975. During the same year, another bomb exploded at the OTC bus station. Sadly some Kenyans lost their lives and a lot of property was destroyed.

Nothing could have prepared the nation for the August 7th 1998 bombing of the United States of America Embassy in Nairobi. 250 Kenyans perished. The publicity was more focused because of the US Embassy. A team of rescue specialists from Israel, with dogs arrived the very following day and assisted, they did a splendid job. It turned out to be a terrorist bomb unleashed to intimidate, to kill and maim, destroying indiscriminately. Whatever their cause it did not justify the loss of Kenyan lives.

1.3.1 The Immediate Vicinity of the Bomb Blast

The US Embassy building itself which was said to have been bomb proof and which was a prime target was mangled at the entrance.

1.3.2 Government

The government set up an emergency committee mainly of politicians and other public figures. Sadly there were barely any technocrats on that team and the political will being transient, by its nature, has dissipated. We are now back where we were.

More recently, a terrorist bomb mounted on a truck rammed into a tourist hotel in Mombasa linked to the Jewish State of Israel. 10 Kenyans died and 3 Israelis.

All the foregoing beg the question:

- What level of preparedness is required?
- What degree of anticipation is needed to deal with all of these calamities? Because whether manmade or natural both are destructive, and take our fledging economy back many years!
- In the unfortunate event of loss of lives, one would be asking, were they preventable?
- Could something have been done to lessen the severity of the blow?
- What measures does the government have in place to address these and how effective are they?
- As Land economists, surveyors, building economists, architects, engineers, environmentalists, ecologists, nationalists and the armed forces, what can each discipline bring to the table to ensure some level of preparedness for any eventuality?

One sign of hope is that belatedly, Government, through its Sessional Paper, on Housing has included the following issues about disaster and even sttempted to define it giving it official recognition:

Disasters are events that seriously disrupt the functioning of a community, inflicting widespread human, property and environmental losses, which exceed the ability of the affected community to cope, using its own means. Disasters, natural or man-induced, and depending on causal factors, can be either slow or sudden.

Many Kenyans are exposed to a wide range of hazards in the natural or man-made environment that adversely affect their lives and property. The range of disasters includes drought, desertification, soil erosion and land slides, deforestation, epidemics (human and livestock), especially HIV –AIDS, refugee influx and internally displaced persons, and unplanned urbanization and settlements amongst many others. Locusts are a menace. Human induced disasters relate directly to human actions. They include fire, mines collapsing, industrial pollution and construction structure failures. These latter have become common all urban centres and have generated a lot of concern due its frequency and loss of lives and damage to property.

The most devastating impacts of disasters are in human settlements, especially those of the poor and disadvantaged communities, who are the majority of our society. In these areas, the sense of preparedness is least and relief lowest.

Kenya Government Policy Statements on disasters are as follows:

The following measures will be put in place to strengthen the country's mechanism to manage disasters:

- Identifying and setting aside land banks for the purposes of meeting urgent shelter requirements of refugees, returnees and internally displaced persons, including as appropriate, the construction of temporary housing with basic facilities taking into account gender specific needs

- Undertaking delineation of high risk regions for different disasters for hazard mapping

- Developing procedures for safe development of hill sides and application of environmental impact assessments

- Promoting research in alternative less flammable building materials

- Promoting hazard resistant building designs and construction in zones prone to earth movement and flooding by enforcing building specifications and regulations

  - Promoting disaster prevention through timely and continuous maintenance of such services as storm water drains, fire alarm systems to reduce the impact of disasters.

- Establishing data banks and information systems on disasters and developing appropriate dissemination channels to enhance community preparedness.

  - Building capacity on disaster management by training planners, designers and engineers in human settlements to promote disaster conscious land-use management in the development and implementation of land use plans.

- Undertaking monitoring and evaluation as a means of response, and using lessons learnt from past disaster audits to take preventive measures that minimize negative impacts.

Source: *Sessional Paper NO. 3 on National Housing Policy for Kenya*
Ministry of Roads, Public Works and Housing
May 2004

1.3.3 Nairobi City Council

Nairobi City Council has a responsibility to assure fire safety. It has a poorly equipped fire station. Its management and staff not motivated and are ignored except when there is a fire. Infact, the latest fire incident was in town hall, the Mayor's Prlour, the seat of city government was burning but alas, it turned out that:

- The fire equipment was grossly inadequate; The fire hydrants had no water.
- There was no Access
- It took KAF and Airport Fire Brigade to bring the fire under control, 4 or 5 hours later.
- Preliminary investigations point at arson but no one has been charged in a court of law.

Several factors came to question. There is the issue of the law, politics, informal traders, formal traders (the underwriting companies) financing, and intelligence gathering all are major players.

1.3.4 Informal Traders – Merchandise Peddlers (hawkers)

Currently, they have been moved from the high streets to the back alleys. In the high streets where they were a general nuisance, but in alleys they are a definite obstruction in the event of fire or other emergency.

Ironically, it is stated government policy to alleviate poverty through exactly these initiatives of self propelled, mobile, micro financed merchants. They have the stated objective of " from the streets to the malls" the idea being that after 5years of peddling merchandise, they should have earned / saved enough for other alternatives to start business on a permanent location preferably in a mall.

1.3.5 Government Facilitation

At the time of independence, the local authorities operated relatively independently and had well-structured sources of revenue. This made it possible to manage their own affairs and provide quality social service. Through a series of legislations, however, the Central Government took over most of the revenue generators leaving the local government helpless and penniless but still expected to deliver service like fire fighting.

1.3.6 Insurance and Risk Management

All real estate business contain hundreds of risks which are often referred to as loss exposures. Risks are scattered from each tenant space to the common areas and the structure itself. Wherever people gather in one location as they do in the commercial property, the number of risk increases. For example: -

- A shopper can suffer a bodily injury for which the property ownership will be liable. Similarly an idler can cause liability to the shop owners.
- Vandals might deface the common areas of the shops.

- A wind or storm might blow down a fence that surrounds the parking lot.
- Even the government imposed guidelines like health and safety at work or the factories act or the public health act are all risks because the owner must abide by them or face the danger of litigation.

In Kenya, with a population of more than 31 million of which 10 million are unemployed or underemployed, there are many idlers and so the risk is higher. Risks are realities and every shopper or commercial investor must contend with them. One way to protect against economic loss is an insurance policy. Insurance Companies do not prevent losses.They offer the next best thing, which is financial protection against the consequences of loss. Insurance is based on the probabilities that events will occur in various climates, regions, areas or neighbourhoods.

1.3.7 Definition of Risk

Risk represents uncertainty. Many uncertainties affect real estate investors daily. Insurance serves as a financial risk against risk. Risk management prepares the owner for the financial demands of claims arising from accidents and losses and gives the investor and manager and their creditors protection against these claims thus generating peace of mind. In property, insurance can provide financial protection against loss from among other things fire, theft and bodily injuries.

Commercial property owners can manage risk and thereby directly or indirectly increase their profits. Direct protection comes in the form of financial support when damage occurs. Risk management also produces indirect benefits. The property which is scrutinized vigorously for loss exposures, will be better managed and controlled than one that has not been properly scrutinized. Risk management thus in many ways prevents and prepares the business for the financial demands of accidents or litigation.

2. FACTORS THAT AFFECT PROPERTY INSURANCE RATES

2.1 Construction

The underwriting inspector will evaluate the materials that were used in building the property including:
- what the structure consists of i.e. bricks, masonry and fire resisting materials.
- The layout and design are also evaluated also the materials for the interior.
- The susceptibility of the materials to fire whether or not the building has a fire sprinkler system and other perils found on the property.

These are some of the several factors that will affect insurance rates and in turn affect the premium rates.

2.2 Occupants

The insurance surveyor reviews the type of tenants in the building. A commercial property will have retailer tenants on the ground floor. Upper floors will attract service clients (doctors and lawyers). The insurer developing the rate would take into account the great exposure of one tenant (a restaurant) than another (women clothing store). The greater the risk, the higher the premium.

2.3 Protection

There are many ways to protect the property and reduce its exposure to loss. Sprinklers, parapets, fire doors and fire division are some of the devices that are used. If used effectively, they would ultimately reduce the premium payable and underwriting problems.

2.4 Prevention

Prevention activities must include fire drills, meeting with tenants to discuss fire safety and periodic inspections of the buildings including the services especially electrical wiring. Kenya has had its fair share of fires caused by electrical cabling. Wiring is meant to last the lifespan of a building and should be audited regularly to assure that the elements of weather, usage, abuse have not compromised its intergrity.

2.5 Exposure

External hazards that increase the danger of the property fall under this heading. These are generally physical hazards created in many cases by nearby structures:

- A commercial property located near a chemical plant compunds risk of explosion.
- Weather conditions can create additional hazards to the property.
- Insurance considers area vulnerability to earthquakes, hurricanes or hail storms.

3. PROPERTY INSURANCE PENALTY CLAUSE

Best known among penalty clauses is the coinsurance clause. The coinsurance clause states that; ”the insured must carry insurance equal to a specified percentage of the value of the property at the time of the loss, or suffer a penalty”.

Another form of insurance is known as an *agreed amount endorsement*. This is where the insurance company and the insured agree that the property will be insured for a specific amount for a specific period of time, and that the insured need not worry about being under-insured so long as this amount of insurance is carried.

It is recommended that all insurance policies be reviewed by the property manager and the insurance company at least annually.

4. MANAGEMENT'S RECORD – KEEPING RESPONSIBILITIES

Insurance records are some of the files in the property manager's possession. A qualified insurance agent will handle insurance records, of policy exploitation, premium payments, inspection reports and loss history.

Ultimately, some real estate practitioners believe that property managers should handle all insurance matters, including the decision-making process. It simplifies matters. The manager is knowledgeable about what happens on the property, and the manager can usually maintain a more thorough and efficient insurance programme based on up to date data.

5. THE USE OF RISK MANAGEMENT CONCEPTS

Risk can be static (pure) or dynamic (speculative). Speculative risk refers to the uncertainties involved in any business decision, results that lead to either a financial gain or loss. Many call these entrepreneurial risks. The decision to buy or build a commercial property is a dynamic risk. As soon as a "buyer" becomes an "owner", however, dynamic risk becomes static risk.

Commercial properties cannot escape static risks. They are everywhere in the property. They are, in fact, a part of any real estate investment. Yet, careful planning can minimize loss exposures and this is where astute management can be very helpful. Location, design, leasing and operations may affect the amount of risk in the property; and *these are factors that managers can try to control.*

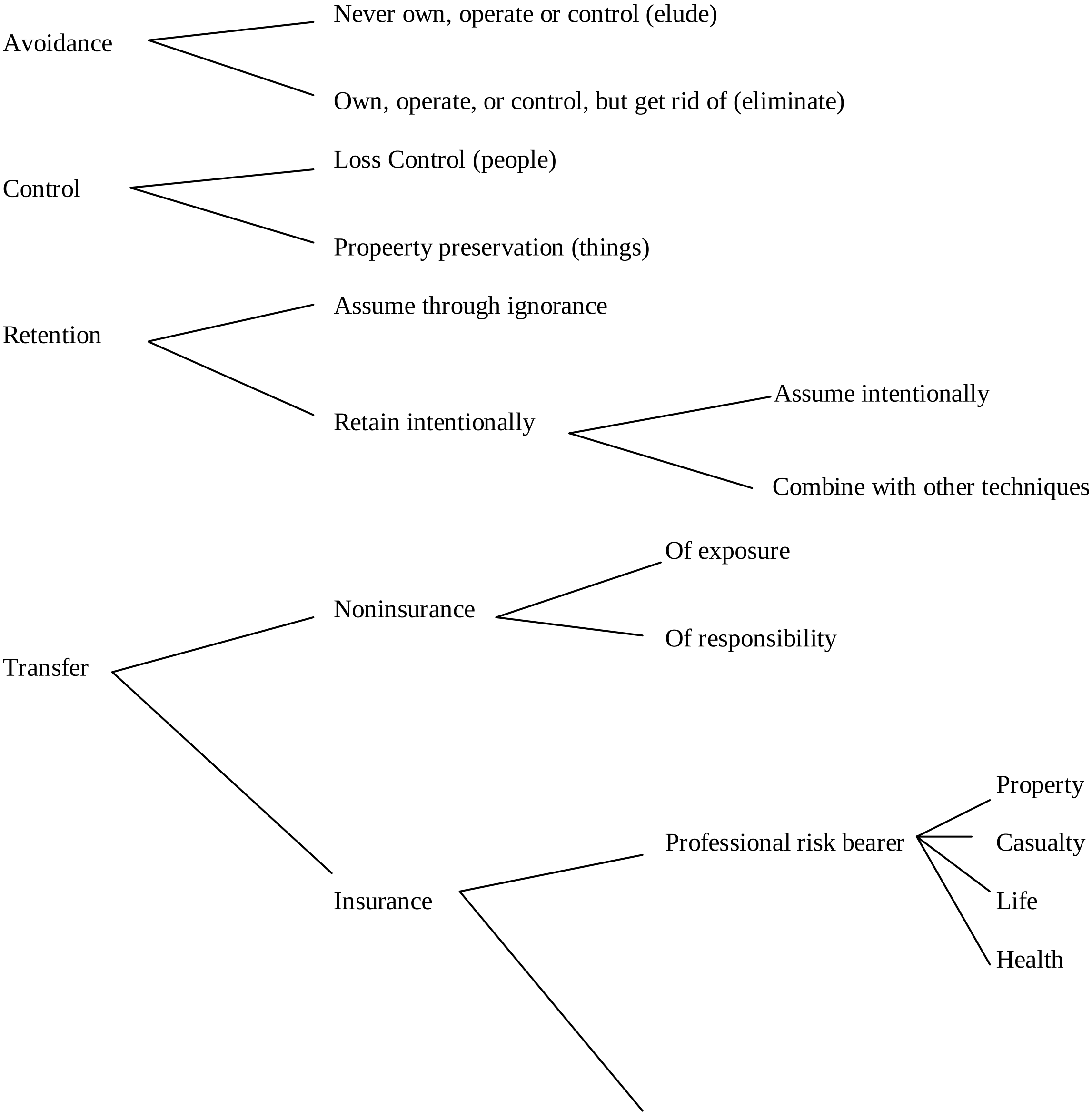
Managers can use a risk management decision – making model to develop their programmes. The model has three modes: *planning, action, and decision making*. The risk management model sets forth these steps.

6. PLANNING

The first mode, planning, involves three stages:

- Identification of all possible loss exposures on the property. The manager can study blueprints of the property and make a physical inspection of it and define all of its risks.
- Thorough analysis of risks that the manager has named. An analysis should estimate the probability that the event actually will occur (on a scale from zero possibility to absolute certainty, with only a few events falling at either extreme). The analysis should also estimate how frequently the event will occur.
- The third step in planning, which is selection, begins after the manager has analyzed the probability that an event will occur. The manager must evaluate all of the loss exposures at the centre.

Modes of Risk Management.



Source: IREM

7. ACTION

The next mode in the risk management model is action, and at this point, the manager can choose from four options. The choices are avoidance, control, retention and transfer;

7.1 Avoidance

Generally, the owner selects this technique when it is possible to avoid a risk, and the rewards of eluding it outweigh those of assuming it.

7.2 Control

Through the technique of control, the centre manager takes active steps to reduce loss exposures. One method is called *loss control*; this involves activities with people, such as employees and customers, to protect them from injury. A second method *is property preservation*, which involves measures aimed at protecting physical property from loss.

Who takes responsibility for loss control and the preservation of property? Primarily three different groups – *the government, private associations that specialize in loss prevention, and individual firms*, or, for the purposes here, each commercial property owner or property manager. The government becomes involved because it establishes standards, and because it has public funds available to provide services.

7.2.1 Occupational Safety and Health Act (OSHA)

OSHA places safety standards on all private employers – and these guidelines affect many aspects of the operation of a commercial property. The following are some of the areas that affect commercial properties:

Walking and working surfaces.
Means of entering and exiting.
Powered platforms, handlifts and vehicle – mounted work platforms.
Hazardous materials.
Personal protective equipment.
General environmental control.
Medical and first aid.
Fire protection.
Compressed gas and compressed air equipment.
Material handling and storage.

If an inspector discovers that the real estate or a tenant there is violating an OSHA requirement, a citation will describe the violation, and the employer or owner, within a specific time frame, must remove the hazard or correct the condition.

Many private groups also get involved with risk control. One is the well – known National Safety Council, which compiles and distributes survey data on home and business accidents. The Council also publishes materials on preventive activities.

The property manager must take responsibility to control losses at the commercial property.
An active retention implies that the risk manager consciously decides that the centre owner will pay the consequences of a known exposure. This can occur when the chance of loss is so

low that it can essentially be ignored. A loss exposure is often retained by ignorance. Assumption through ignorance occurs when the risk is unknown or unobserved; for example, an old mineshaft under the property.

Loss exposures can be transferred in two ways. One is a non-insurance transfer, such as a hold harmless agreement. For example, a service station can be sublet, with an agreement that the tenant will assume responsibility for potential losses. The other form of transfer is a transfer to an insurance company. Transfers may also be combined with some form of retention and control.

8. DECISION MAKING

The third mode in risk management programmeme is decision-making. In this final step, the manager reviews the selection criteria and assigns the appropriate techniques to treat the loss exposure. In many cases, such decisions require the approval of several people.

With the selection criteria approved in advance, the manager will understand the parameters for planning the programme. Following decision making, the manager can begin to implement the risk management programme. *The plan, similar to all decision-making models, must be monitored to ensure that it is effective; and evaluated, to seek ways to improve it.*

9. TYPES OF INSURANCE COVERAGE

The person charged with obtaining an insurance policy for the real estate has many factors to consider. Those considerations will include the following:

The size and type of the real estate.
The real estate's location
The real estate's physical characteristics.
Local ordinances, financial institutions, and insurers.

For a real estate still in the design stage, either as a newly constructed building or a renovated building, the decision-maker should solicit the advice of all experts involved with the project. Architects and engineers on the other hand may recommend any of the following items:

A more resistant structure.
Adequate fire escape exits and fire fighting access.
A structure with heating, cooling and other protective controls.
A physical layout that moves customer traffic safely and efficiently.
An automatic sprinkler system.

Whatever the recommendations, again- they must be suitable for the real estate. Furthermore, coverage, capacity, and claims, should serve as the decision-maker's guidelines. The two parties, the insurer and the insured are actually negotiating a programme. As during any form of negotiations, both parties must give and take. The buyer may not necessarily want everything that the insurance agent suggests.

The insurer, in turn, may require certain changes in the design, space allocation, or location. Underlying their discussions, however, the overriding goal should be to create a real estate facility that is safe for shoppers and employees. Real estate managers need to concern themselves essentially with two types of insurance:

- Property insurance is to protect the owner from direct and indirect losses to the property
- Liability insurance offers protection for claims made because of injury to others and for which the owner is legally and financially responsible

The two are often packaged into a single contract. Many businesses now purchase a Special Multiperil Policy (SMP). This policy offers the insured both property and liability insurance as needed in one convenient package, as well as optional crime insurance and boiler and machinery insurance. The SMP simplifies the administration of insurance.

10. PROPERTY INSURANCE

- Basic coverage for property is often established under a fire and extended insurance policy with an *extended coverage endorsement* that covers not only damage from fire and lightning but also damage caused by windstorms, civil commotion, vehicles, aircraft, hail, explosions, riots, and smoke.
- Property policies can also cover consequential losses – income losses that occur because of the insured damage – and so – called specialty losses.

A standard fire policy offers only limited coverage. It essentially provides the insured with coverage only for damage caused by fire, lightning and the removal of property from the premises.

We first will discuss the provisions of a standard fire policy and move on to the other types of coverage that a commercial property investor can purchase to broaden coverage. Fire is a constant threat on any type of property, and it is one of the main reasons that property owners buy insurance:

- Fire kills and it puts people out of work.
- It destroys property.
- All property owners need protection against the financial consequences of fire.

Lightning strikes properties less frequently than do fires. Nevertheless, when lightning does strike, it can destroy property. Most insurance policies provide coverage for damage to property caused by lightning and consequent fire.

It is advisable that specific information be provided in the fire insurance policy, for example:

- Terms of the policy:
- Description of the property.
- Losses covered.

- The standard fire policy protects the real estate owner from losses caused by fire or lightning. The insured may choose and pay for coverage for other items.
- No insurance policy covers damages caused by war or nuclear attacks. It should be noted that a terrorist attack in my view, is not an act of war and should be covered in this day and age. In this regard acts of terrorism need to be classified, frequently the terror peddlers claim they are soldiers

Amounts covered. A fire insurance policy is intended to pay the insured for the amount of the damage – no more and no less. The standard fire policy attempts to put the insured back in the same financial position as when the contract was signed or when the loss occurred.

Suspension. The standard fire policy's suspension, not cancellation, occurs in either of these situations:
- a hazard increases in some way, with the insured's control or knowledge;
- period that the property, for any reason, stands vacant for more than 60 consecutive days.

*Cancellation***.** A standard fire insurance policy holds that both the tenant and the landlord have cancellation rights, provided that both parties adhere to the specific guidelines that are stated in the contract.

Subrogation. Most insurance companies insist on this clause in their contracts. Basically, the clause states that the insurer assumes all rights to recover amounts paid to the insured for damage caused by third party.

Apportionment. This is the pro rata distribution over several policies held by the same insured.

11. EXTENDED COVERAGE

Extended coverage provides the insured with coverage beyond the perils of fire and lighting. This includes the perils of windstorms, hail, riots, civil commotions, vehicles, explosions, aircraft and smoke. Intentional, destructive acts of vandalism done to the property can be insured under a vandalism and malicious mischief endorsement. Many other property insurance covers can be considered to provide as broad based protection as is needed:

11.1 Crime Insurance

In Kenya in general and Nairobi in particular**, t**he crime rate continues to rise, yet it is estimated that only about 10 percent of all crime that occurs is insured. It is advisable to obtain coverage for burglary, robbery, theft and employee crime. Coverage should be tailored to needs.

11.2 Special Coverage

This covers specific risks in their areas:

- Flood insurance is an example. A flood is overflow of water that comes from a lake, river, or ocean. Floods can devastate regions and destroy properties. Flood insurance is available from the federal government. In Kenya, we do not have such a facility. Government emergency services will step in to deal.
- Earthquake insurance is another example of special coverage. Earthquakes occur because of movements in the earth'' surface. They are possible in almost any region but mainly in those areas located along a geologic fault.

11.3 Specialty Contracts

- Accounts payable, which covers risks associated specifically with the destruction of payment records.
- A valuable papers contract provides protection, should the owner lose important papers, such as a blueprint or a lease.
- Many commercial properties have large plate glass windows, and to provide recovery from loss the owners or tenants purchase insurance. A glass insurance policy provides coverage for accidental glass breakage and the subsequent board-up service.
- Rent loss insurance, it will pay the contract rent to the property owner during the restoration period.

11.4 Business Interruption Coverage – Consequential Losses.

This refers to insurance to cover indirect damages, which are the loss of profits resulting from direct damage.

- The operation of the commercial property may be interrupted and tenants would lose business as a result. In this case, retailers will measure their damages in terms of their losses in sales volume.
- *Contingent business interruption*. This occurs when one supplier's product is so important that if interrupted, the insured also suffers a loss.
- *Extra expense insurance* for emergency purchases etc without due diligence

Liability Insurance: This caters for when the owner or an employee of the real estate acted negligently to cause injury to a customer, or causes damage to the property of another, the real estate may be held responsible for monetary damages. This is referred to as vicarious liability.

The person who makes the liability claim is the "thirds party" and for this reason, many insurance practitioners refer to casualty insurance as "third party" insurance. For example, Jubilee Insurance House is right opposite Nairobi City Hall. Workers and others tend to crowd and even sit at entrance to the property.

Boiler and Machinery Insurance: A boiler and machinery policy usually provides protection for damage to the operating machinery in the building, including air conditioning units, generating systems, heating systems, and electrical control panels. Coverage includes repairs to the unit, but does not cover damage caused by fair wear and tear, corrosion, and erosion.

Workers ' Compensation Insurance: The principle is that an employer must assume responsibility for injuries that arise out of or during the course of a worker's employment. Provides unlimited coverage for death benefits, medical expenses, lost wages and disability.

General Liability Insurance: A typical general liability policy provides for one or more of the following three coverage:

- Bodily injury liability
- Property damage liability
- Medical payments.

Owners, Landlords, and Tenants Liability (OLT)**:** With this policy, the insurer provides coverage for problems that arise from ownership, maintenance, or use of the insured premises an all operations necessary and incidental to it.
Contractual liability: Created when there is a signed contract through which, under specific conditions, one of the parties agrees to assume the liability involved. A lease, for example, may include a *hold harmless* clause that shifts the liability of the landlord to the tenant or by any other person, including the landlord.
Medical Payments Insurance:. This coverage reimburses members of the public who are injured on the premises, regardless of liability, for medical, hospital and funeral expenses that result from their injuries.
Personal Injury Liability: **I**ncludes libel, slander, invasion of privacy, false arrest or imprisonment, and wrongful eviction. In most business premises, where shoplifting and subsequent arrest occur frequently, personal injury liability insurance is important.
Comprehensive General Liability: Provides the broadest protection against liability claims,. It provides for premises/ operations, elevators/escalators, products, completed operations, and owners' protective liability insurance coverage. Also, many endorsements can be added for the broadest possible liability insurance.

The Principles and Practices of Insurance, Indemnification, and Damages: The owner generally carries insurance for the commercial property as a whole: Fire, extended coverage, public liability, and property damage insurance. The lease should require the tenant to carry adequate insurance independently and name the owner as an additional insured:
workers' compensation , business interruption, fire, property damage, merchandise damage

The tenant is responsible for a portion of the real estate's insurance and the percentage should be specified. However, payment of this expense does not relieve the tenant of the responsibility to carry separate insurance. Large tenants, especially major anchors may want a completely separate insurance programme. This must be adequate and appropriately documented..

The lease should further state how repairs and reconstruction will be handled in the event of damage to the property and who will be responsible for the expenses incurred. If damage to the real estate will limit or interrupt tenant's operations, the repairs are the owner's responsibility. In such situations, a tenant may also be entitled to a rent abatement, but this usually applies to the monthly base rent only and requires that the damage is not caused by the tenant, the tenant's employees, or any visitors to the tenant's premises.

If a certain percentage of the building or common area has been extensively damaged by a cause which is not covered in the standard insurance policies, and if the repairs would take a lengthy period to complete (such as ninety to one hundred eighty days), the tenant may have the right to be released from the remainder of the lease term. This provision is also tied to the number of years remaining in the term o the tenants' lease. In addition to the time factor, the need for a construction permit and any requirement or limitations set by it would be a consideration. The clause must be worded carefully so that it cannot be interpreted that the tenant has the right to terminate the lease automatically in the event of extensive damage. The correct procedure is for the owner to notify the tenant in writing, stating the specific date of release from the lease contract. This procedure should be spelled out in the lease.

If the tenant is responsible for damage to the premises, the lease should require that repairs be done as soon as possible at the tenant's expense (or thy will be made by the owner at his or her option and charged back to the tenant). The clause should also state that the tenant will continue to operate during repairs and reconstruction, with or without a rent abatement.

An indemnification clause states that the tenant will nondt hold the owner or the owner's employees liable for any damage to the tenant's property a that any injury or other accident that is not a result of the owner's negligence will be the tenant's responsibility.

The Role of the Surveyors in this situation, (either with others or alone) range from:

- Ensuring adequate insurance cover for all the eventualities, and that the cover is adequate
- Have the property appraised regularly to ensure the value insured is maintained
- Education for the the tenants and the general public about the dangers entailing
- Awareness campaign
- At design stage some of the issues can be addressed with the aim of anticipating and preventing disasters before they occur through good choice of materials that are fire retardants
- Lobby and agitate for better legislation and its implementation
- During use:
  - Design a great preventive maintenance programme
  - Conduct a well thought out education for the tenants
  - Conduct fire drills and other emergency preparations regularly
  - Annual inspection of services and obtain certification of integrity
  - The floods are known up front so the surveyor should take the lead role in discouraging people from buliding on seasonal river beds or adjacent areas
  - All alley ways must be cleared of any obstructions

- Agitate for the creation of fire ways for the fire engines
- Agitate for more fire stations in stead of luxury cars
- Agitate for fire hydrants in all strategic locations
- Fire Hydrants must be charged at all times and should be inspected regularly
- Facilitate rain harvesting and thus generate water reservoirs in strategic locations. We could learn from the people of Ilkley in Leeds UK, who have water reservoirs in very many locations to cater for drought so thst they can have a steady supply and thus sustain forest covers
- Agitate for legislation to cater for such disasters and compel people to be more safety conscious and aware of the dangers of building on river beds
- Agitate for the creation of fire lanes in all towns that proper access.
- Overhaul all the fire departments, their staff and equipment. In this regard it defies logic when our government officials drive in large cars when their own homes and palces of work even worship are exposed
- A law must be passed that makes it compulsory to have all buildings and their services (electrical wiring etc.) inspected and audited for fitness of intended purposes. Taking special care to highlight use of fire retardant material.
- Thorough security to curb arson
- Each house and office should have proper fire fighting equipment and people trained to use them
- Kenya Bureau of Standards must be compelled by law to vet all building materials to assure only quality electrical goods are imported
- There must be a policy on vermin and rodent management
- Though investigations to discourage harzadous malicious damage by set ablaze and burning of failing business.
- Storm water drains must be periodically cleared whether there is rain or not, and blow the whistle when drains are blocked.
- The Kenya Power and Lighting Co. Ltd the monopolist power distributor must be compelled to periodically check and service its transformers to avert them catching fire
- Educate business owners on better housekeeping.
- Most domestic fires in the country and in towns are caused by paraffin stoves or gas cylinders. There must be a code of conduct and training by all producers of these products in safety standards.
- Involvement in decision making to

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CONTACTS

Mr. Wafula Nabutola, M.Sc.
The Nairobi central Business District Association
5th Floor, International House
P. O. Box 10687 00100
Nairobi
KENYA
Tel. + 254 20 3208 1065
Fax + 254 20 3208 1150
Email: Nabutola@Jubileekenya.com
Web site: jubileeinsurance.com