

## Cost-Effectiveness in Emergency Preparedness and Response: a Case for Sub-Saharan Africa

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### *Resumen*

#### ***Rentabilidad en la gestión de situaciones de emergencia - Estudio de caso relativo al África Subsahariana***

*Las destrucciones de instituciones y edificios en el África Subsahariana suelen ser la consecuencia de catástrofes causadas por las actividades humanas. Los desastres naturales suelen ser a menudo imprevisibles y difícilmente evitables, aunque sus repercusiones puedan mitigarse con planes de emergencia elaborados con antelación. Están aumentando las situaciones de emergencia debido principalmente a factores humanos diversos, comprendida la irresponsabilidad de determinadas conductas individuales (negligencias laborales y profesionales, drenajes, utilizaciones indebidas o inadecuadas de infraestructuras y materiales, etc.).*

*En esta región del mundo, los museos y sus proyectos internos no constituyen una prioridad en materia de inversiones públicas y, por consiguiente, carecen de medios financieros para realizar una gestión eficaz y poder reaccionar ante situaciones de emergencia. La lucha contra los desastres naturales y las catástrofes provocadas por actividades humanas exige no sólo formar al personal de los museos, sino también sensibilizar al público en general, y a voluntarios en particular, para que actúen sobre el terreno a fin de salvaguardar su patrimonio cultural.*

### *Résumé*

#### ***Rentabilité dans la gestion des situations d'urgence : une étude de cas en Afrique subsaharienne***

*Les destructions d'institutions et d'habitations en Afrique subsaharienne sont souvent causées par des catastrophes issues de l'activité humaine. Les catastrophes naturelles sont le plus souvent imprévisibles et difficilement évitables, cependant leurs impacts peuvent être réduits avec un plan anti-catastrophe élaboré en amont, malgré une croissance accrue des situations d'urgence dues majoritairement à l'activité humaine et au manque de responsabilisation des individus (fautes professionnelles, drainage, défaillance des infrastructures et pauvreté du matériel, etc.).*

*A l'heure actuelle, les musées et leurs projets internes dans cette région du monde ne constituent pas une priorité d'investissement administratif et manquent de moyens financiers pour mettre en place une gestion efficace et par là même répondre aux situations d'urgence. La lutte contre ces deux types de catastrophes passe par la formation des personnels des musées et par la sensibilisation du public et des bénévoles à des actions de terrain pour sauver leur patrimoine.*

This paper addresses avoidance of human-made disasters which affect institutions and homes in sub-Saharan Africa, plus cost analysis and finances. Cost-effectiveness is seen in terms of avoiding human-made disasters, as natural disasters are rare and less severe when they occur. Natural disasters in Africa are made worse by poor infrastructure, materials, engineering practices, staff practices, drainage systems, open gutters, etc. While other continents concentrate on mitigation of disasters, Africa should emphasise avoidance and mitigation in that order. Natural disasters cannot be avoided, but their impact can be reduced with disaster plans in place. Human-made disasters, on the other hand, can be avoided and the question of mitigation costs should not arise. Training and education for museum users, staff and public is a must. Lack of disaster preparedness plans in Africa is a result of poor funding, lack of awareness and mismanagement. Most museums in Africa are funded by their governments that give priority to developmental issues and money-generating programmes. Museums and museum projects are not a priority and so little funding is made available. Education of government officials through seminars, training the public through the media, public programmes, brochures and exhibitions, and better qualified staff through in-house training, etc. will play a major role in reducing the occurrence of human-made disasters, will help raise funds and promote networking as well as encourage volunteers in case of emergencies and therefore reduce the burden that would have been borne by the museum.

### **Introduction**

“An emergency is any unplanned event that can cause deaths or significant injuries to employees, customers or the public; or that can shut down your business, disrupt operations, cause physical or environmental damage, or threaten the facility’s financial standing or public image”<sup>1</sup>.

### **Nature of Emergencies in Sub-Saharan Africa**

Emergencies in most parts of Africa are human-made as opposed to natural disasters which dominate in other continents. Human-made disasters, in particular fire, are caused by negligence, e.g. poor or no maintenance of electrical equipment in buildings, poor wiring, overloading sockets, incorrect fuse ratings, etc. Floods are also human-made, being caused by poor engineering practices, inadequate drainage systems, open gutters, poor construction materials, water pipes running through storage areas, etc. The last, but the most dramatic cause of human-made disasters is war and terrorist attacks.

These human-made emergencies can be stopped from developing into a disaster if emergency plans are put in place but, more importantly, if prevention measures are taken. African museums will then remain safe, except for unpredictable emergencies such as war or terrorist attacks which cannot be prevented, although their effects can be avoided or minimised with disaster plans in place.

### **Disaster Plans in African Museums**

With this brief background, it is evident that African museums require disaster plans, as does any other museum on any other continent

contending with natural risks and human-made disasters. The question that remains unanswered is why disaster plans are not available in these museums. The answer lies mostly in arguments for financial justification, ignorance and management.

### **Financial Justification**

Museums in Africa are run by government ministries and as such are funded partially or solely by the parent ministry. For example the National Museum of Kenya receives 60% of its funding from the government and raises the remaining 40% to cover day-to-day running and salaries. African governments deal with issues of survival for their citizens and will fund and encourage money-generating projects and development issues. Consequently, museums and other non-profit making institutions are seen as an expense for the government. A strongly argued case for financial justification with cost-effective actions is required.

To make a financial argument justifying funding for a museum, one has to look at what the museum stands to lose in the event of an emergency and compare it with the benefits to be gained from making a disaster plan. Unfortunately, the true impact of disasters in museums is intangible and disaster management plan benefits are not quantifiable. Loss of life in a severe disaster and loss of cultural objects (which are the very reason for the museum's existence) are some of the losses that cannot be valued. The value of the collection may be too high to be replaced, or worse still, these may be the last pieces.

Financial justifications for a profit-making company with aggressive sales growth goals will focus on criteria different from those applying to a non-profit or government organisation driven by the need to deliver high quality service. While profit-making organisations have financial justification based on financial gains, museums need to be justified in terms of the reason for their existence.

The following questions may need to be considered when preparing the case for the financial justification of a museum:

- is the cost of the disaster preparedness plan the best way of using the funds?
- is the disaster preparedness plan necessary?
- how will the staff and collection benefit from it?
- have the risks been identified and emphasis put on the most vulnerable areas?
- have the professional experts from the different professions and relevant organisations been involved?
- ignorance.

In the 21<sup>st</sup> century, it will be impossible to say that African museum professionals are not aware of terms such as "disaster planning and management for museums". What they may not have taken time to learn is what can be gained from having such a plan. As mentioned earlier (with the exception of war and terrorist attacks), emergency situations arising with human-made disasters in Africa are not severe and disaster planning is not set as a priority.

## Management

Every day museum managers are faced with financial challenges requiring immediate attention, but have very little money at their disposal. This makes it very difficult for them to give priority to unseen events, when they cannot handle the immediate problems of routine running of a museum. Apart from money difficulties, some museums are managed by untrained professionals through political appointments; they do not know the true value of a museum collection or how it should be guarded. Such appointees concentrate on impressing their "makers" through handouts designed to keep their newfound positions and partnerships, or by giving tenders to undeserving companies, thereby mismanaging funds and worsening the financial position of the organisation in question.

With proper arguments, justification and cost-effective strategies, however, management can be convinced.

### Thinking about Cost-Effective Disaster Preparedness and Response in Africa

"Cost-effective" is defined in the *Longman Dictionary of Contemporary English* as "bringing the best possible profits or advantages from the lowest possible cost".

While museums in the first world think about mitigation, African museums must think about protection and mitigation in that order. African museums require efficient and effective resource allocation that takes into account risk reduction actions, rather than having to expend resources on emergency response, reconstruction and rehabilitation.

Given that most disasters in Africa are human-made, nothing will be more cost-effective than improvements on maintenance programmes (cleaning gutters, roofs regular checking of drainage systems, etc.), having building codes instituted for museums, training staff on the safe handling of chemicals and electricity, raising their awareness of the importance of the museum collections and making them feel accountable to the public.

These actions will not only reduce the risk of human-made disasters, but will also be arguments for lower deductibles and reduced insurance premiums. It is very important for museums to have an insurance policy as insurance can certainly be useful after a major disaster. It is one form of protection against unintended consequences of extreme events. It acts as a mechanism for spreading risks by sharing the costs of recovering from events and, depending on contractual arrangements, can quickly pay a set amount to repair damage. It works most effectively for events that occur frequently, with minor financial impact, e.g. traffic accidents or theft, and these can be quantified and monitored over time.

Most institutions discover they are not insured only after they have suffered a loss. Lack of appropriate insurance cover can be financially devastating. For it to be cost-effective, the following points need to be fully understood: how your type of property will be valued, how much insurance you will be required to carry, what your policy cover will be, how your emergency management programme will affect your insurance rates, etc.

It is a pity that most museums in Africa are not insured. Management tends to insure only the equipment which is easy to value in terms of cash rather than the collection which is the heart of a museum. For instance, the National Museum of Kenya has insured all equipment such as computers, vehicles and photocopiers, but the cultural objects remain uninsured. The reason given is that they are unable to value the collection, and the collection is not seen as an insurable priority.

### **Response**

“When faced with the horror of the 7<sup>th</sup> August 1998 Nairobi bomb blast, managers and staff performed admirably under incredible pressure. Yet their work in many cases would have been considerably easier had adequate plans been implemented to minimise the disruptions”.

Emergency response facilities, communication systems and early warning networks are invaluable assets in preparing for and responding to disasters. Yet such technologies are far beyond the means of many nations which struggle to provide even basic amenities such as water and electricity. The most effective help in these nations is the community. The community surrounding the museum may have many professionals with different roles to play in preventing disasters and helping in their mitigation. Carpenters, for example, can be trained in safe construction techniques, building firms can adopt quality control systems, local health and social service workers can prepare response strategies, provided that the museum disaster managers involve them from the beginning, thus mitigating the effects of the disaster through low-cost solutions.

While disaster planning and response may not have measurable benefits, the essence is the reduction or prevention of future property damage, injury or loss of life in a cost-effective way. It should be noted that benefit-cost analysis does not always apply to all mitigation actions because of difficulties in quantifying the benefits of some actions and the time needed. For example, it may be difficult to determine the benefits of an educational programme that uses brochures, or even to predict the changes that may occur in staff/public behaviour after they have read the brochures.

Making disaster management and recovery plans can be a costly exercise if the disaster managers do not find cost-effective solutions. The fundamental question that should guide the managers as they make the disaster plans is “to what extent will the plan help avoid the cost of damage expected from future disasters”? One does not need to have in-depth knowledge of emergency management. What is needed is the authority to create a plan and a commitment from the Chief Executive Officer to make emergency management part of the corporate culture. The disaster managers must develop an initial budget for such things as research, training seminars, consulting services and other expenses that may be necessary during the development process and try as much as possible to avoid additional expenditure.

For any disaster planning and management to be cost-effective, the managers must try to establish a work schedule, budget and plan deadlines. This will help in reducing the cost for planning committee allowances and time. It will also help the committee remain focused on

the issues at hand. Having a disaster plan, however, is simply not enough. Institutions must have methods in place for training employees in the use and proper implementation of effective disaster plans. Seminar exercises are generally low-cost activities that inform participants about the organisation and procedures which would be initiated in response to an incident.

The expense incurred in planning, running and reviewing, and in the exercises will depend on the type, location, timing and duration. There are several ways to reduce the costs of exercises. For example, messages may be passed through internal telephones or by paper instead of by the public telephone system, radio or fax, as would happen in a real emergency. To cut costs even further, it is important to gather information and assess the impact of potential emergencies and determine the need for backup systems. The following steps could have important positive financial effect. Table-top exercises, for instance, are very cost-effective and efficient method of testing plans, procedures and people. They can engage players imaginatively and generate high levels of realism.

The expense of live exercises may be reduced by limiting the number of players and by scheduling them to fall within working hours to avoid overtime payments, although some exercises have to be held outside normal hours for safety or commercial reasons.

Meet with government agencies, community organisations and utilities, ask about potential emergencies and about plans and available resources for responding to them. These could be used as partners during an emergency or could help with equipment for mitigation and recovery, making it available free of charge or at very low cost.

Identify internal resources and capabilities:

- personnel;
- equipment;
- facilities;
- organisation capabilities;
- backup systems.

The use of local materials and technologies would develop self-reliance and cut down on the cost of acquiring expensive materials. Identify opportunities for sharing resources and information, meet with neighbours to determine how you could assist each other in an emergency. Borrow ideas and experience from profit-making organisations; see where they have succeeded or failed. This would help save time and money that might be wasted on unachievable actions.

## **Conclusion**

Since all the museums in Africa are struggling to survive in the face of collapsing economies, it is imperative that museum management teams find ways of cutting the cost of making and running disaster management plans. The suggestions given here are by no means exhaustive. It is highly recommended that most efforts should be

concentrated and directed towards preventive measures in the short-term, as they will be the cheapest and easier to implement. Mitigation and response plans should be designed and practised for future and controllable events or for those events that cannot be prevented.

<sup>1</sup> T. Wahle, *Emergency Management Guide for Business and Industry*, Washington, D.C., Ogilvy Adams & Rinehart, 1993, p. 5.

<sup>2</sup> J. Hogan, *When Disaster Strikes...Will You Be Prepared?*, Nairobi, Kenya, UNHCS, 1999.

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