

An Introduction to Urgent Emergency Project Management ¹

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Abstract

Unexpected, uncertain and uncontrollable events specially in unstable environments would require either quick project intervention or complex project adjustments. The aim of Urgent Emergency Project Management (UEPM) is to properly conduct actions in unstable and uncertain crisis-driven / unfavorable disastrous environments. The idea is to pilot operations before, during and after the event in order to arrive to a favorable situation – or at least adapt to the existing one. In other words, UEPM establishes both a proactive (vigilance) and reactive (resilient) strategic approaches to project management. The article aims to introduce Urgent Emergency Project Management (UEPM), its foundations, dynamic, planning, processes, and outcomes.

Key Words: Emergency Management, Ad Hoc Projects, Unstable Environments, Emergency, Urgency, Crisis Management, Instant Project Management

1. Introduction

1.1. Background to Research

Historical experiences have shown us that usually, in the event of a major crisis or catastrophe, emergency projects were usually done by government agencies (most notably the army, law enforcement, and fire departments), with the support of public health and civil defense organizations (Bosher et al., 2007).

In more complex situations (e.g., war, terrorism, natural disasters, pandemics, etc.) where the state is unable to fulfill its obligations (disruption of government and other institutions) the

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private and associative sectors (both local, regional and international) will intervene in order to cope with the disaster and its outcomes (e.g., loss of life, property damage, etc.) (Wearne, 2002; Wearne, 2006). Due to the gravity of such events have sparked new interests in crisis management where proactive and reactive plans for urgent deployment actions must be pre-implemented into organizations to face such critical situation (Davies & Walters, 1998; Wearne, 2006):

- **The Proactive-Vigilant Approach** is about contingency and is engineered based on preventive measures and precautions taken before the occurrence of unexpected and unpredicted events – with the aim to effectively minimize their outcome.
- **The Reactive-Resilient Approach** usually concerns recovery response and reconstruction on all levels of the concerned impacted society.

In unstable environments, vigilance and resilience programs can be perceived as a good step when it comes to managing a crisis in case of an unfortunate event. Such contingency plans must pave the way for cooperation between different entities to plan and prepare for potential emergencies (a coalition of key agencies and bodies) to effectively manage the crisis.

Such actions of giant proportions which are called Urgent and Emergency Projects (UEP) must be implemented because natural disasters and manmade crises situations will take place inevitably despite proactive measures which are never “bulletproof”. Therefore, it becomes necessary for governments, industries and associations to strengthen the reactive process to properly respond and counteract the events and their outcomes. Such undertakings will help in the quick restoration of the socio-economic and political situation and develop a confidence in government and non-governmental institutions (both private and associative) that constitute UEP undertaking agencies (Schenker-Wicki et al., 2009). In this context, it should be noted that crises and disasters constitute development opportunities for the community (especially the vulnerable and deprived ones) as well as for the engaged entities (Dror, 1993).

1.2. Aim of the Study

The intention of this work is to investigate and provide a literary overview of the various aspects and dynamics of Urgent Emergency Project Management (UEPM).

The study attempts to address the project management challenges and obstacles (both internally and externally) that are faced during a crisis – and how such projects are managed successfully – by elaborating on the existing literature.

The work will be conducted in order to answer various research questions:

- *What is an urgent emergency?*
- *What characterizes a project as being both urgent and emergency?*
- *When should a project be considered as an urgent and emergency one?*
- *What makes it different from other projects?*
- *How should such projects be both deployed and piloted?*

Such work will provide valuable insights to practitioners who are studied and / or working in unstable environments and crisis-prone entities.

It is a theme that has been largely neglected by academic research – as it was largely treated by international entities experts (Wearne, 2002). Therefore, a broader and deeper research is needed into such a theme.

1.3. Objectives

In order to achieve the cited above aims, there are many work objectives that were set to assess their effectiveness and determining the processes and procedures (as well as specific particularities) for successful project management:

- ***Critically analyze the available and accepted literature*** on Urgent Emergency Project Management to develop a general guideline to improve them.
- ***Provide a conceptual framework*** for effective and efficient Urgent Emergency Project Management.
- ***Propose an integrated practical approach*** for successfully managing Urgent Emergency Projects.

2. The Foundations of Urgent Emergency Project Management

2.1. Context

Within the framework of unwanted, uncontrollable, and unstable situations (and/or environments), many concepts emerge such as crisis, disaster, urgency, emergency, etc. That said, scholars and field experts alike have worked to review how organizations and implicated stakeholders can respond to such events – within an Urgent and Emergency Project (UEP) (Yu et al., 2006).

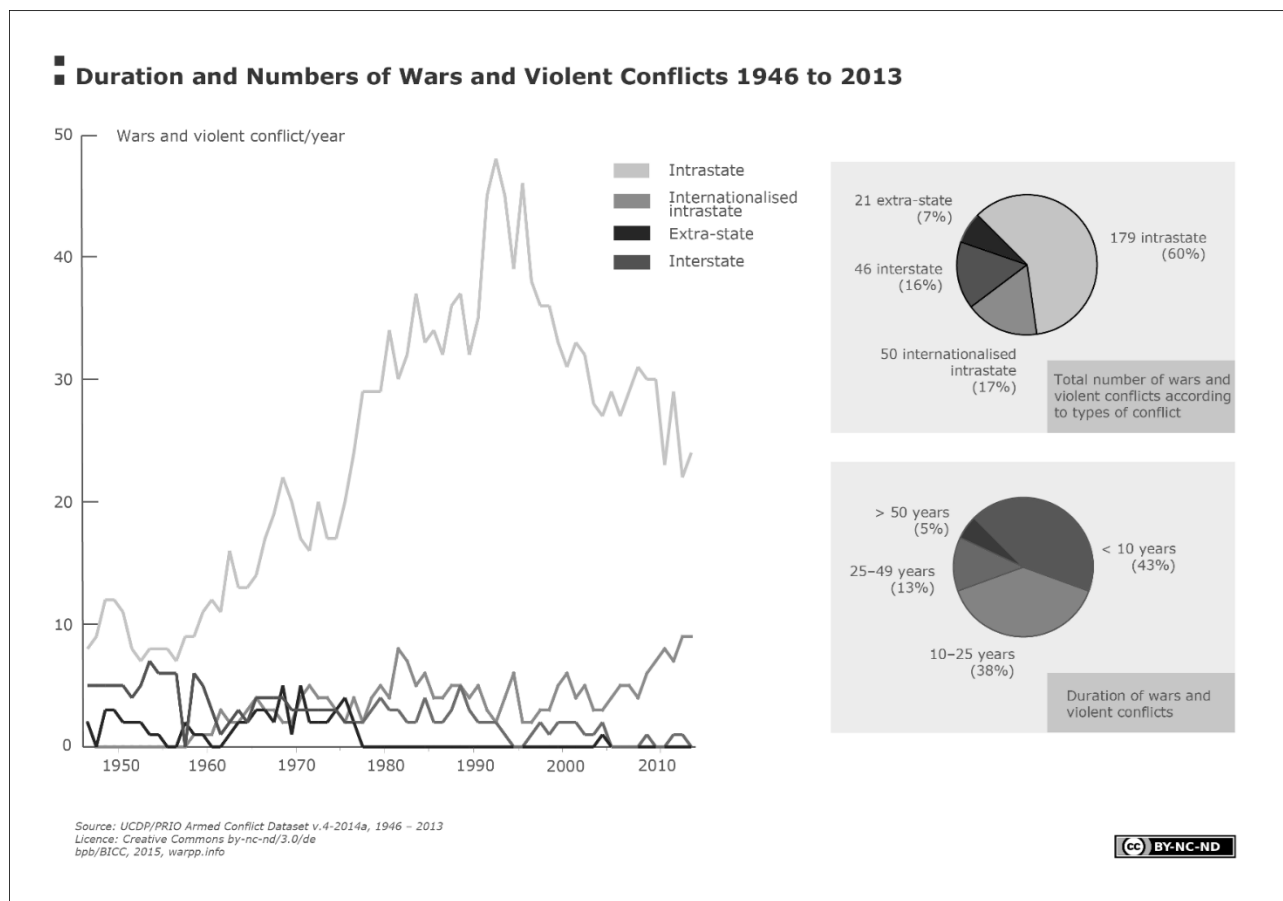
Their reflections were framed by the following questions:

- Which ought to be the scope of UEP plans?
- What are the UEP dynamics?
- What must be managed for each UEP phase?
- Is it enough to be reactive or does one need to be proactive?
- How are the different systems and components of UEPs management managed?

2.2. The Need for Urgent-Emergency Project Management

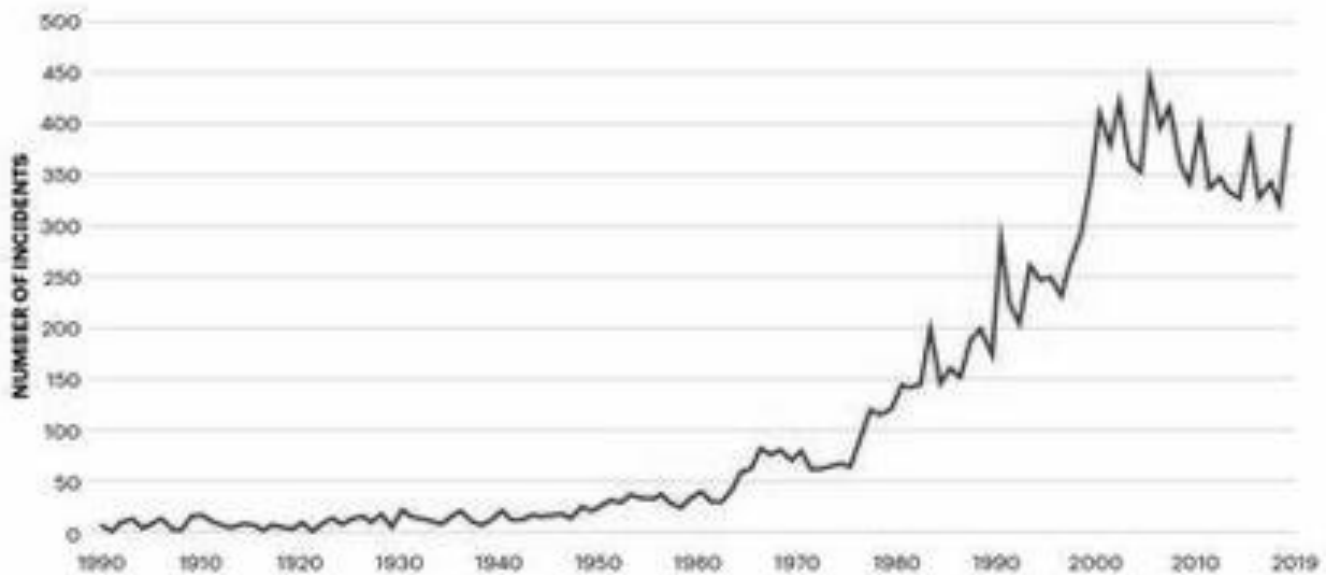
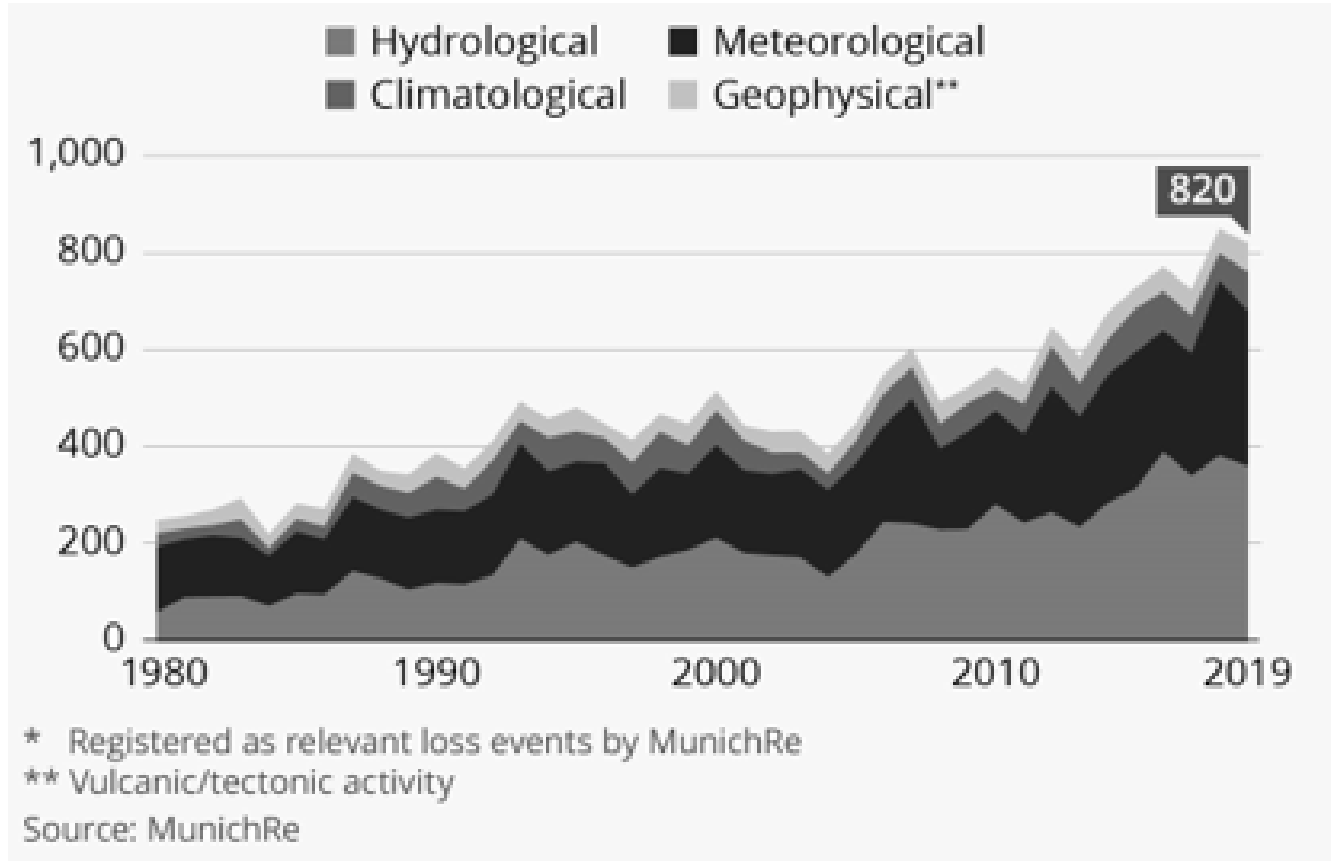
Each year thousands of people lose their lives due to natural disasters (e.g., storms, floods, etc.), pandemics (e.g., COVID, Ebola, etc.), man-made catastrophes (e.g. wars, famines, etc.) (Schenker-Wicki et al., 2009; Lv et al., 2021). The graph below (Graph 01.) shows the progress and amplification of both the number and duration of conflicts since the end of WWII.

Graph 01. Duration and Number of Conflicts (1946-2013)



The graph below (Graph 02.) shows the rise of natural disasters around the globe in all their forms (e.g., hydrological, meteorological, climatological, geophysical, etc.) due to degradation of the outcomes of climate change.

Graph 02. The Rise of Natural Disasters around the Globe (1980-2019)

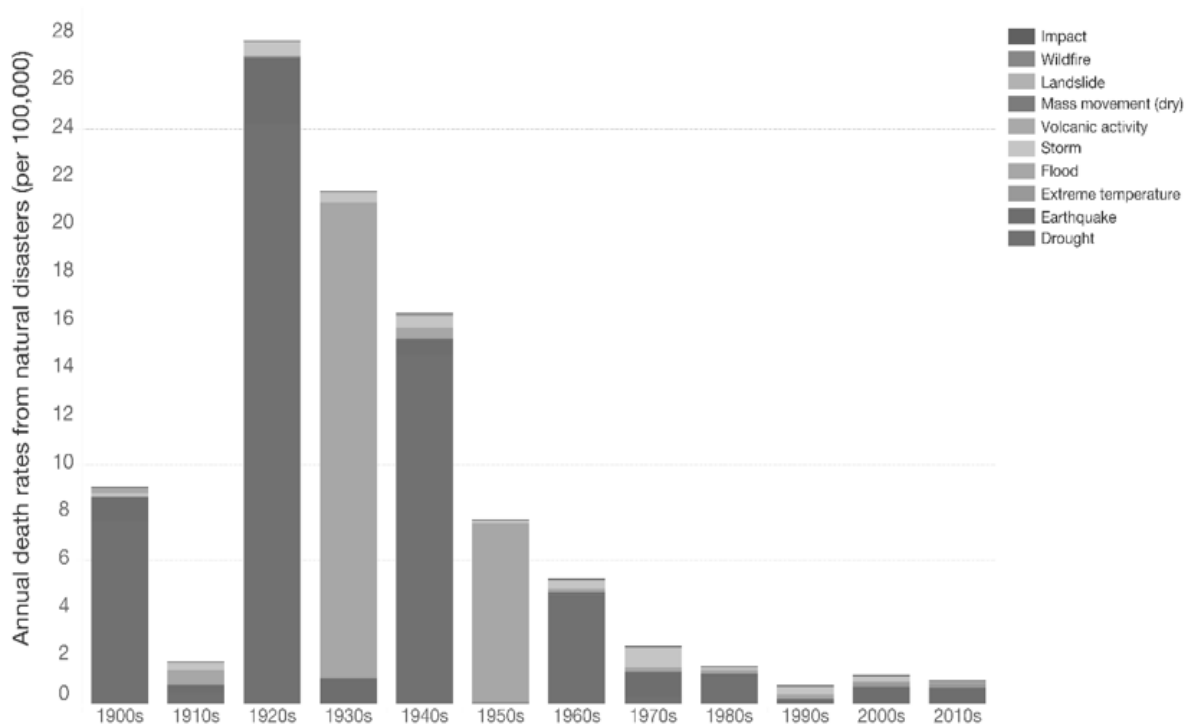


On another note, even though there has been some substantial progress when it comes to proactive-anticipative measures to counter emergencies – nevertheless, there have been some substantial losses that are in continuous mounting (Schenker-Wicki et al., 2009).

The below graph (Graph 04.) shows global annual death rate from natural disaster over the years. As the numbers reflect:

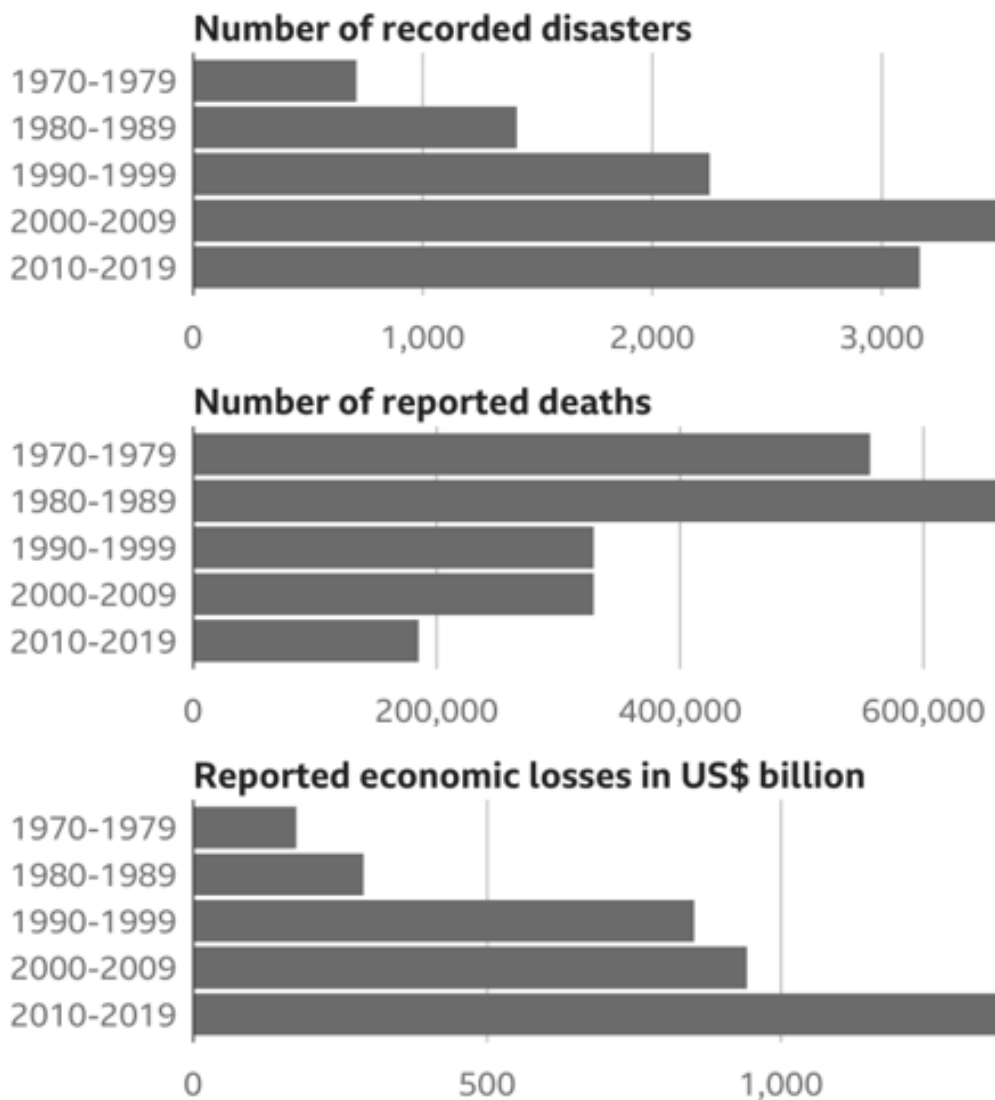
- The numbers have delivered over the years due to technological progress and appropriate planning and precautions that were taken and put into place.
- A concern since the 2000s due to the impact of climate change.

Graph 03. Global Annual death rate from natural disasters by decade



Also, there is a clear increase when it comes to disaster-related losses in the last decades – as shown in the graph below (Graph 05.).

Graph 04. The Correlation between natural disasters, reported deaths, and economic losses

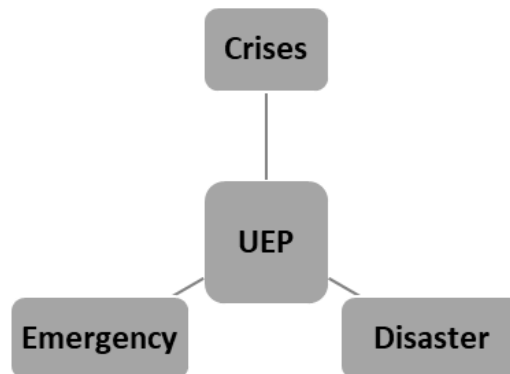


The above graphs indicate the increase in the number of conflicts and disasters as well as the amplification of their outcomes (deaths and losses).

2.3. Conceptual Clarification: Crisis, Disaster and Emergency

Within the spectrum of our work, there are many concepts that due emerge that need to be clarified. These include “crisis”, “disaster” and “emergency” that emerge both unpredictably and uncontrollably (Moe & Pathranarakul, 2006; Wearne, 2006). Indeed, they set the foundation for UEPs. Hence, such events / situations are unforeseen occurrences – where contingency action plans and operations are not specially provided for.

Figure 01. The Cornerstones of UEPs

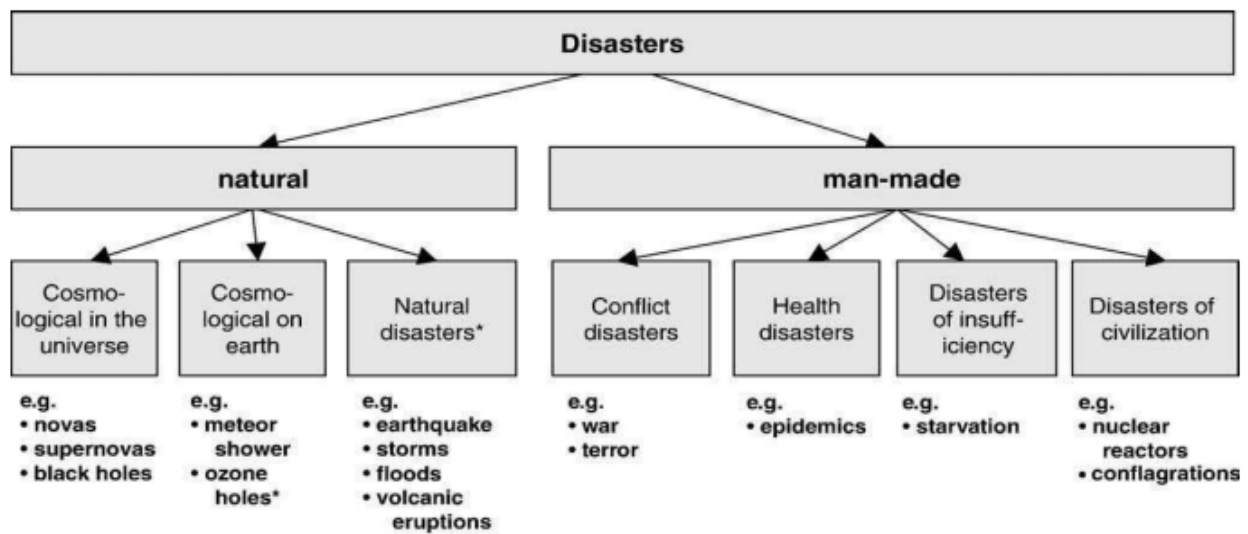


Indeed, scholars and field experts alike have given different definitions and interpretations of the cited-above terms – which were based upon their focus of work, the impact of the studied events, and how their were faced.

The existing and accepted literature makes it available to differentiate between the cited-above three concepts (Loosemore, 1998; Wearne, 2000; Moe & Pathranarakul, 2006; Wearne, 2006)

- **Emergency:** An emergency is the situation of crisis that is generated when a disaster occurs thus developing life threatening situations leaving agencies with insufficient resources to cope with it.
- **Disaster:** A disaster occurs when an emergency goes uncontrolled and encountered. Hence, a disaster and an emergency usually call for government’s emergency defense systems as well as private and associative entities to act upon.
- **Crisis:** A crisis can be defined and perceived as the turning point for a disaster where it progresses to a worse situation given that no contingency plans were effective or even put into place (where the situation reaches its critical phase).

Figure 02. Classification of disasters (Schenker-Wicki et al., 2009)



* Can be caused by humans in part or total

An Urgent-Emergency project is usually carried out for:

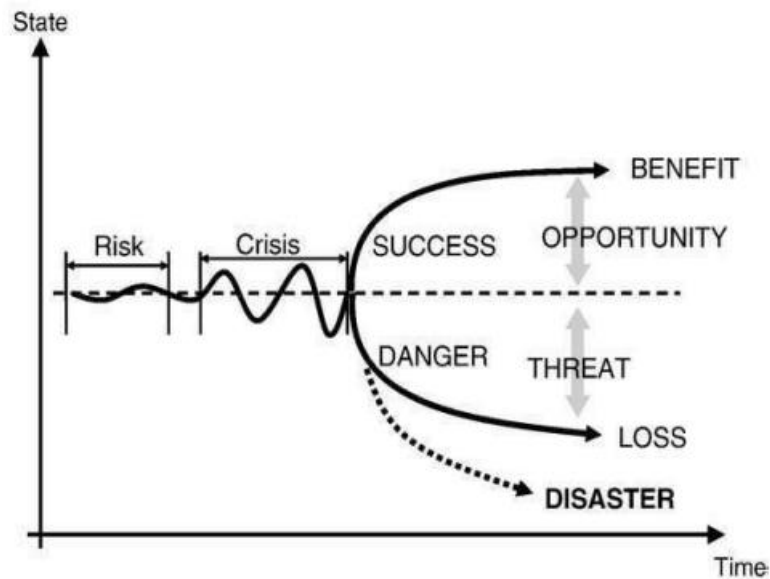
- A fairly predictable and urgent crisis; or
- A totally unexpected emergency.

There are some crises that were caused by a combination of unfortunate events or pre-conditions that can turn a simple non-hazardous event into a critical chain reaction (Davies & Walters, 1998). Hence, further escalation could result in a disaster.

A crisis usually occurs sequentially, in a relatively orderly manner, while a disaster is an uncontrollable process, which can lead in some cases to a permanent and non-reparable damage.

Risk, crisis and disasters are thus possible states of one and the same problematic systems (Schenker-Wicki et al., 2009). The figure below depicts a summary of the relations between various stated terms.

Figure 03. Relationship between crisis and disaster (Schenker-Wicki et al., 2009)



UEP project management is a developing area that seeks to both counter and ease the impact of events that are caused by both natural and man-made disasters (e.g., damage to infrastructure, loss of lives, loss of resources, financial crisis, social development, etc.).

UEP comports many components of Crisis management as it involves (Wescott, 2007):

- Identifying a crisis;
- Planning a response;
- Responding to a sudden-unexpected event that poses a threat to a status quo;
- Limiting the damage;
- Selecting a project team;
- Resolving the crisis through interventionist operations and activities.

Appropriate prevention measures can avoid man-made crises whereas the effects of natural disasters cannot be completely avoided but mitigated through an appropriate UEP management (Schenker-Wicki et al., 2009).

2.4. Phases and Life Cycle of UEP

2.4.1. Context

Different scholars and practitioners have given various classifications and categorizations for the phases of crisis, disasters and emergencies – but almost all experts have agreed on some specific outlines of a crisis and how to manage it (Bosher et al., 2006; Robert et al., 2007):

- **The Urgent-Emergency:**

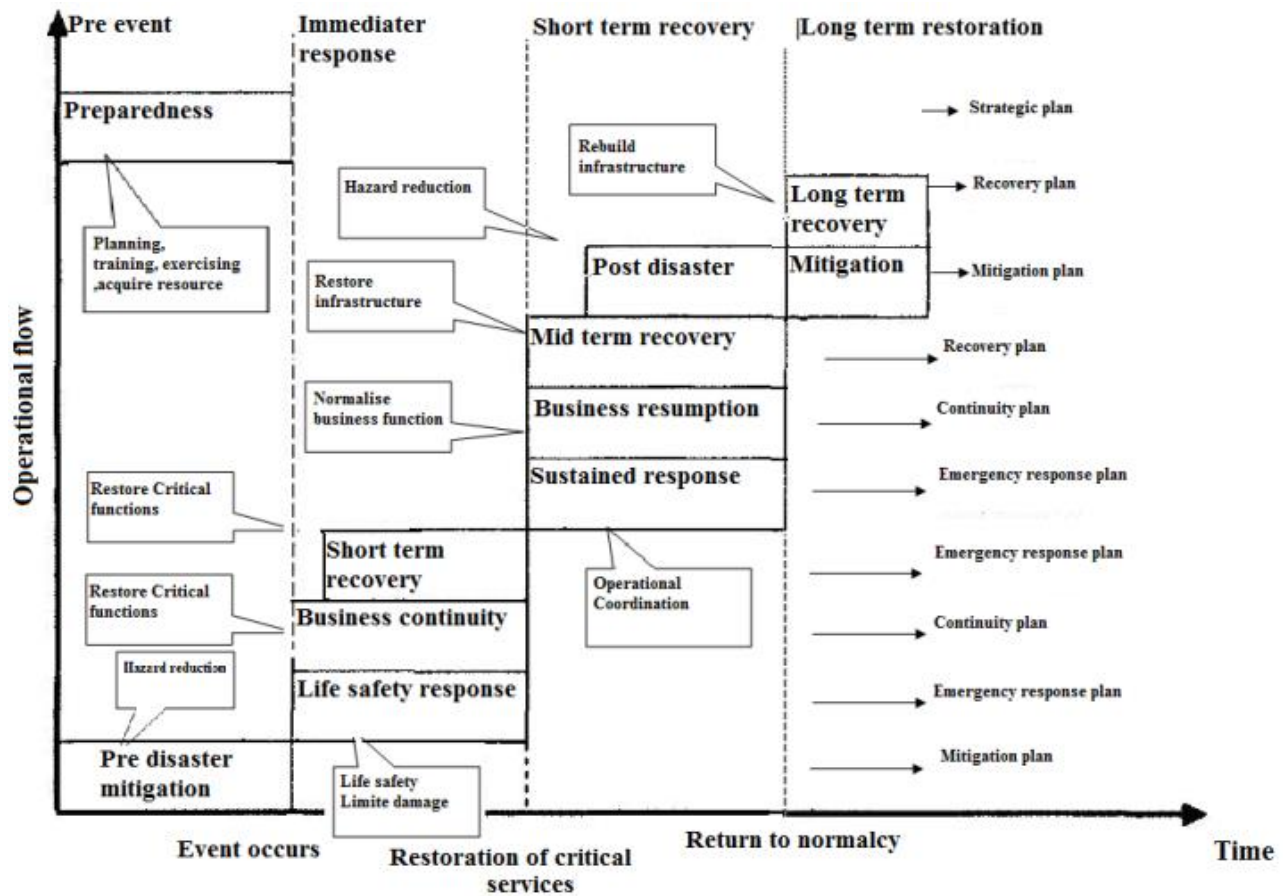
- pre-incident or a warning stage of an impending crisis takes place;
- The crisis itself or the acute crisis;
- Chronic crisis which is post-incident phase of recovery or clean-up and
- Crisis resolution which is the overall goal of the previous three stages with recovery as main objective.

- **UEP Management:**

- The formulation of emergency plans and preparedness activities;
- Chronic crisis which is post-incident phase of recovery or clean-up;
- Emergency relief interventions;
- Short-term recovery and rehabilitation;
- Longer-term reconstruction.

The process of UEP management usually involves many phases: prediction, warning, mitigation, preparedness, response, emergency relief, reconstruction and recovery. However, most experts usually consider three phases: mitigation, preparedness and recovery (Moe & Pathranarakul, 2006; Bosher et al., 2006).

Figure 04. Planning continuum (Canton, 2006)



It should be noted that multiple plans may be engineered and implemented simultaneously – which can lead to confusion over priorities and competition for scarce resources.

Table 01. Differences between a Normal PLC and a UEP PLC (Moe & Pathranarkul, 2006)

Project Life Cycle Phases	Disaster Management Phases	Time	Activities	Approach
Initiation	Prediction	Before	Mitigation	Pro-active
Planning			Preparedness	
Executing	Warning	During	Response	Reactive
	Emergency Relief			
	Rehabilitation (short-term)	After	Recovery	
Reconstruction (long-term)				
Completing				

The cited above figure highlights a comparison between normal and disaster (UEP) management processes and life-cycles.

2.4.2. Mitigation

Usually an entity’s “Mitigation” efforts are considered as the most cost-effective process when it comes to (Zou et al., 2006; Kululanga & Kuotcha, 2010):

- Preventing hazards from occurring (e.g., reducing risks)
- Preventing crisis from developing into disasters;
- Reducing the effects of disasters when they do occur.

It should be noted that “Mitigation” plans are considered as part of the all-in-all recovery process. Indeed, there is no way of neutralizing all negative impact and outcome that resulted from crises and unfortunate events. However, “Mitigation” efforts can be made in order to reduce the gravity of their impacts.

2.4.3. Preparedness

The preparedness phase will aim to ease the impact of disaster by structuring a relief plan in advance (Wescott, 2007). This phase includes processes such as: impact assessment, restoration proposal, funding applications and regulatory processes.

During the preparedness phase - efforts are spent in preparing to counter a disaster. This usually provides for a more effective and efficient management in the event of a disaster. Some of the preparedness measures include (Kelly, 1995; Gray, 2008):

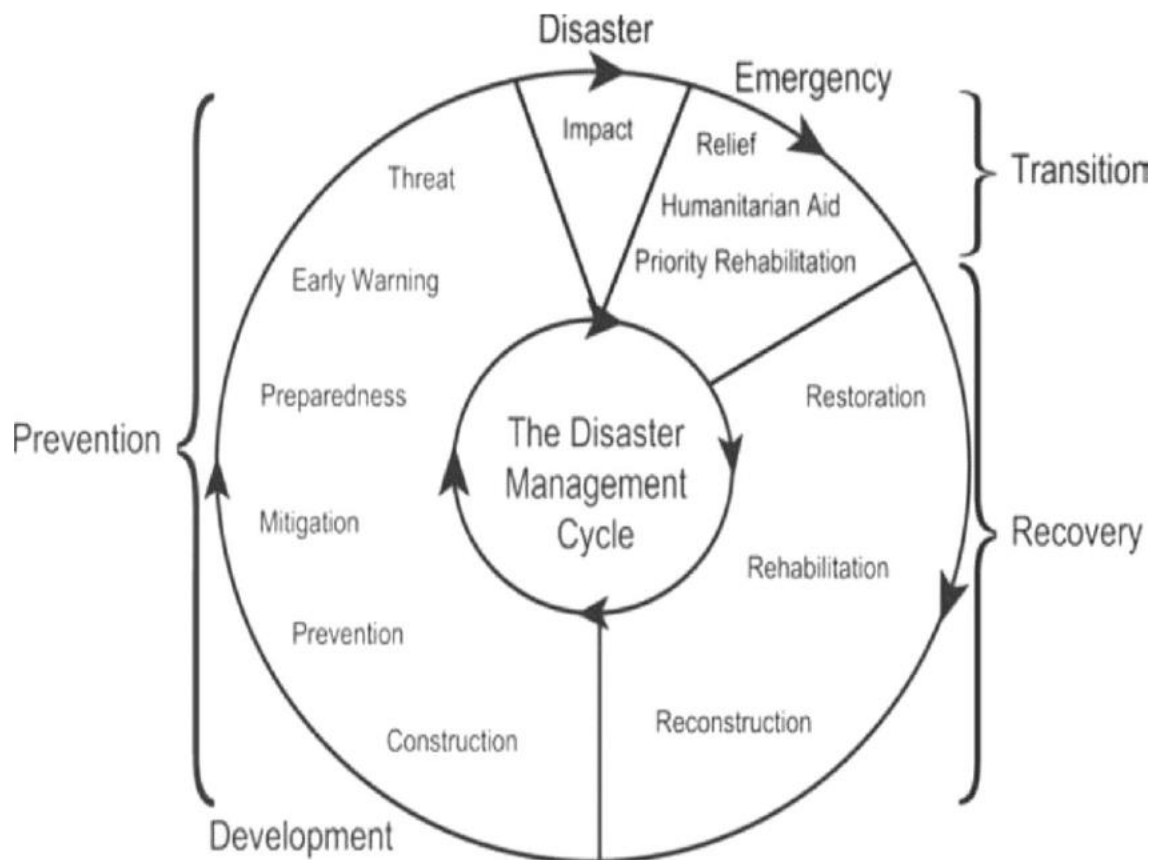
- Addressing the identified risk and help in drawing action to be taken to mitigate damage.
- Communicate plans with easily understandable terminology.
- Develop management practices that facilitate multi-agency coordination.
- Formulate training and simulation activities that will facilitate the provision of emergency services.
- Maintenance of equipment, supplies, etc.
- Inventory management.
- Identify sources of expertise, competence, skills, etc.
- Encourage cooperation with external partners and stakeholders.

2.4.4. Recovery

The recovery phase will work to restore the affected area by incubating activities primarily concerned with rebuilding destroyed infrastructure and provision of public services. That said, such programs usually aim to change the vulnerability of the concerned-affected community and at the same time ensure the sustainability of the development activities (Baiden et al., 2006).

In order to ensure an effective, efficient and a quick recovery, preparation is a crucial element in the recovery phase. Such a phase may either be temporary or permanent depending on the degree that is carried out and the duration of this stage as it (Wearne, 2007).

Figure 05. Disaster Management Cycle (Safran, 2005)



2.5. Major UEP Components

2.5.1. UEP Organization

An entity must be well prepared from a structural and organizational perspective for a crisis (Davies & Walters, 1998). That said, an organization structure can be defined as a formal well-outlined system of tasks and an ensemble of management reporting relationships that coordinate and motivates its members to work together to attain specified goals (Gonzalez-Herrero & Pratt, 1995).

An entity concerned with UEPs must be well prepared for the challenges and obstacles that it has to face. In this context, some scholars have tried to decrypt the major challenges of entities within a UEP and how to prepare to overcome them with proper response actions.

Table 02. Challenges and obstacles in disaster preparedness (Grigg, 2003)

Challenge	Response
Lack of commitment—token effort results from lack of commitment. Organization has emergency plan but few other preparations.	A "champion" is needed at the top to fight complacency and improve commitment. Managers must realize need and create a plan; employees must cooperate, and partners must be involved.
Mobilizing organization and keeping ongoing attention	Requires plans and exercises; recognize excellence and overcome "token pat on the head."
Role definition—defining roles of elected officials and "emergency" roles of staff	Ordinary flowcharts do not help much with unstructured decision scenarios. Keep emergency operations close to normal operations, and script scenarios.
Staff turnover and loss of institutional memory	Constant training and preparation; become a "learning organization"; maintain a lessons-learned database.
Clear line of command	Requires clear planning and preparation, including drills.
Complexity and difficulty in preparation	Disasters are inherently complex and difficult. This can only be overcome with serious preparation.
Coordination and cooperation	All units participate, and utilities cooperate with partners. Use committees, staff meetings, clarification of roles, cross-communication, and project-oriented units.
Internal and external communication	Build good relationships internally and with other organizations that typically do not interact.
Procedures	Have emergency procedures close to normal procedures. Take all-hazard approach.
Assessment	QualServe program approach can be used, and a self-audit checklist can be developed.
Funding	With commitment, funding should follow; state and federal funds may help.
Mitigation	Take unitwide approach to mitigation.
Record maintenance	Plan for records maintenance during an emergency, especially flood and fire.
Training, guidebooks, materials	Provide program, materials, and courses; use drills and tabletop exercises.
Trauma, stimulus overload, stress, and ripple effects of disasters	After a disaster, unit requires recovery. Employee needs in disasters must be met.

Scholars and experts have also pointed out that poor management at the organization's level can lead to further crises in the case of a UEP which is already a complex and delicate one. Poor management within a UEP may include (Davies & Walters, 1998):

- Miscommunication, failure to reveal communication, retaining information to oneself, blocking the flow of information, etc.
- Restricting outlooks;
- Planning non-realistic projects;
- Following outdated regulations;
- Working with unavailable staff;
- Ignoring signals;
- Etc.

In most emergency situations – it is a common management practice to form a temporary organization for UEPs. This is usually done as UEPs are very much specific projects for rare-unexpected events (Engwall & Svensson, 2004). That said, traditionally a UEP project team is set up very quickly with few major outlines except for fixing the problem and getting things back to normal (Spink, 2004; Wearne, 2009). However, it is important for the UEP officials' to manage and utilize the available human resources even those that are temporary-autonomous-cross functional, etc. Such managerial practices that take into account the temporary aspects of UEPs can help the project succeed in its missions (Engwall & Svensson, 2004).

Another important factor of UEPs from an organizational perspective is that project teams usually constitute an extreme form of team organization with very distinct characteristics (Engwall & Svensson, 2004; Spink, 2004):

- **Explicitly sanctioned:**
 - Team members are specifically reassigned;
 - Requires senior level authorization;
 - Communication is an important aspect of team work as to emphasize the urgency of project;
 - Informal structures are unreliable.
- **UEP teams are Formed for specific mission(s) with clearly defined objectives and cross functional set up.**
- **UEP teams are dissolved upon project completion:**
 - Resources are reassigned to complete the UEP;
 - UEP project team members will resume their previous activities as soon as the project is complete.
- **Team members must demonstrate a full-time commitment to the UEP which will allow them to focus on problems generated without any distractions from other activities.**
- **The Unplanned formation nature is a key feature of UEPs:**
 - Planning and coordination carried out as the project is underway;
 - UEP team members are seldom efficient and use more resources and competencies than in normal projects.

2.5.2. UEP Risk Management

UEP management requires very complex and specific risk management planning. Such processes aim at assessing sources of risk and uncertainties, uncovering their results, determining their impact and developing appropriate management responses (Zou et al., 2006). UEP risk management will have a huge impact on the rehabilitation and reconstruction process by

identifying the damage level and thus it becomes easy in prioritizing the intervention and reconstruction operations (Kululanga & Kuotcha, 2010). Experts have pointed out that integrating disaster risk management and reduction operations in the post-crisis reconstruction activities will fortify and accelerate the reconstruction process given its particularities (e.g., long period interventionism, complicated processes, unstable environment, etc.) (Le Masurier et al., 2006; Lloyd-Jones, 2006).

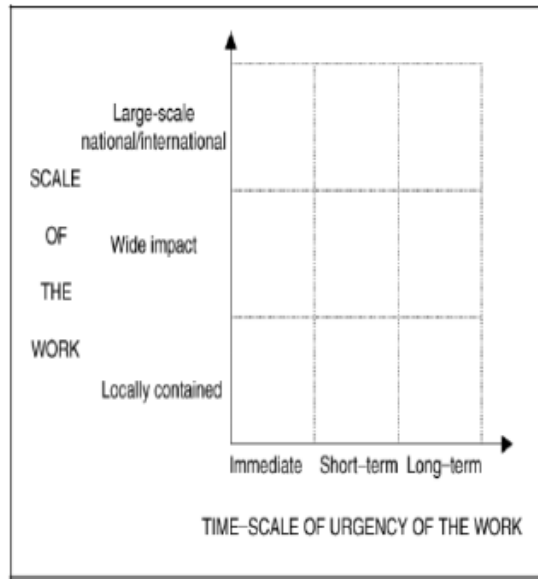
There are many reasons to apply risk management processes to UEP (Zou et al., 2006):

- It brings lot of benefits to the UEP if the associated risks are defined in the early stages of the project;
- UEP critical management decisions can be supported by thorough and calculated analysis of the required data available and therefore estimations are made with greater accuracy;
- Prospective and probabilistic scenarios are drawn to improve business project planning the “what if” question);
- Counter factual analysis and historical comparisons are made with similar past projects to allow for improved modelling for future projects;
- Help with resource allocation;
- Assist organizations when it comes to better sanctioning of capital expenditure, budget and implementing more suitable contract;
- Etc.

In a UEP – a risk matrix can be useful for classifying emergencies according to their severity and probability of occurrence. A risk matrix can incorporate the elements and impact of past events; hence, when a new emergency occurs, its position in the matrix would indicate what previous experience most relates to it (Wearne, 2002).

Similarity can be drawn between risk matrix and the Johnson’s classification for emergency events (Wearne, 2002) where past events can be placed in its appropriate position in the matrix, and when a new emergency occurs, its position in the matrix would indicate what previous experience most relates to it (PMI, 2009).

Graph 05. Classification System for UEP scale of urgency work (Wearne, 2002)



2.5.3. UEP Stakeholders

In a UEP there are different stakeholders that have different objectives, priorities and resources.

UEP involve uncertainty and work in unstable environments. Hence, a UEP requires firm confidence and collaboration of every stakeholder.

Figure 06. UEP Stakeholders (Pearson & Mitroff, 1993)



UEP stakeholders are those who have economic, statutory, social, etc. interests in a project or that can affect the performance of its objectives or are affected by the performance of its objectives.

It is of crucial importance that UEP stakeholders be able to take part in developing and clarifying a interventionist policy in a post-disaster environment.

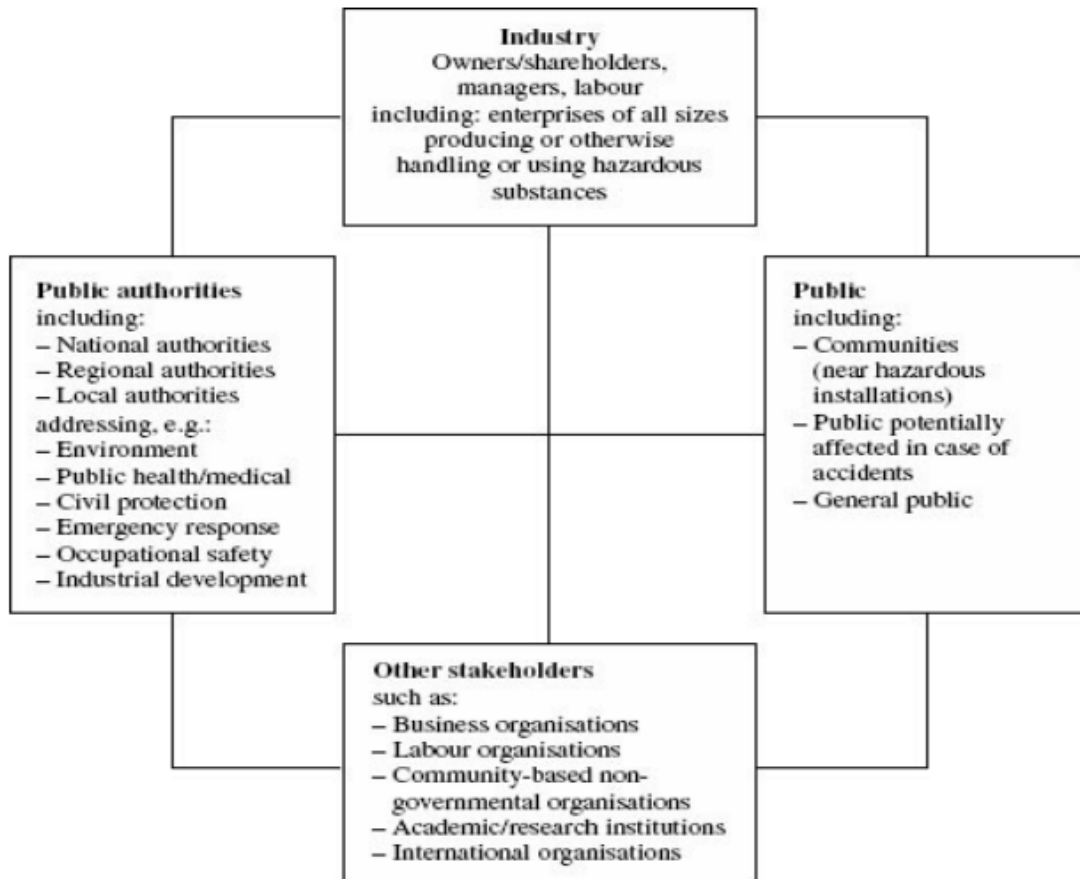
Some experts have provided their own approach when it comes to identifying how can stakeholders affect the UEP management (Dror, 1993; Wearne, 2002):

- All stakeholders and implicated parties who may be affected by the emergency must be accurately identified;
- Different implicated parties must have different objectives, priorities, and resources;
- The stakeholders' potential and required contribution to the UEP operations and activities must be assessed;
- The implicated stakeholders' interests must be assessed;
- Every stakeholders' contribution to the work must be evaluated;
- No stakeholder / implicated party should be left excluded from the overall UEP dynamic;
- Periodic and frequent meetings of key stakeholders are of great importance as such events may serve as opportunities for information and data exchange – specially given that changes may occur within the turbulent environment;
- Etc.

In a UEP there is a range of potential stakeholders that may include client groups, industry groups, community groups, politicians, public-private-associative entities, etc. (Olander, 2007; Boshier et al., 2009). Hence, in an UEP planning, a comprehensive assessment and a structured system is elaborated to consult appropriate bodies since the list of stakeholders is infinite and can grow rapidly within the evolution of a project of this caliber.

Implicated parties should be involved early in a UEP were direct involvement, known objectives, distributed tasks, data flow, etc. is established between all stakeholders (Boshier et al., 2006; Wearne, 2009).

Figure 07. Stakeholders addressed in the Guiding Principles (Bosher et al., 2009)



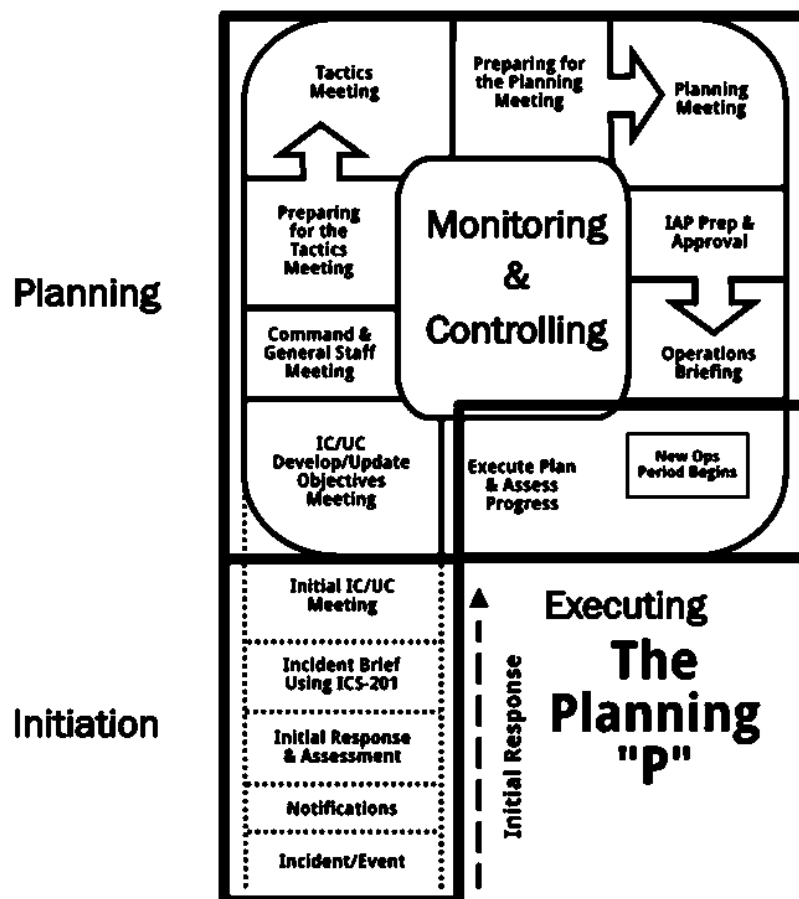
3. The Project Management Approach in Urgent Emergency Actions

3.1. Context

Within the context of today's unstable world and the natural speed and dynamism of crises (as well as recurrence) – agility, flexibility, adaptability – and more importantly a sense of urgency and precaution have become preponderant in all projects whatsoever. This reality is even more crucial when it comes to projects that are to be deployed in unstable and unpredictable environments. Changes in either the external (e.g., wars, natural disasters, man-made crises, etc.) as well as the internal (e.g. budget, deadlines, etc.) environment make the management of these projects a very risky activity. The more complex such projects become, the more the need for more meticulous and detailed planning becomes fundamental. On the other hand, the "urgency" in the planning of such activities and the injection of the "emergency" factor often directly affect the quality, pertinence, and effectiveness of the drawn project plans.

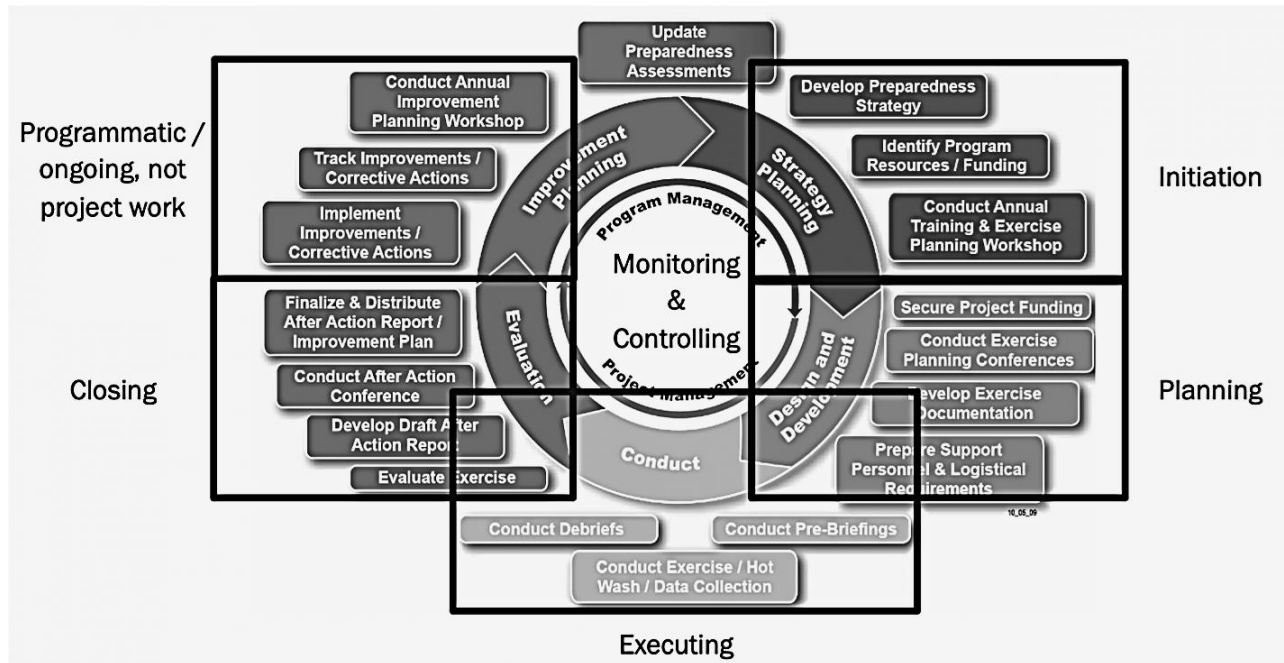
It is crucial for project managers working on Urgent Emergency Projects to master the various critical elements and conditions of their environment and adopt properly constructed projects. Here, they become Urgent Emergency Project managers who use their specific project knowledge, skills, tools, and techniques within an unorthodox situation and sometimes unwanted circumstances. This would require the development of an incident action plan (check Figure 01.), the creation of a response framework, the establishment of a technical team, the design and execution of a training exercise, etc.

Figure 08. Project Management and IAP (Tager, 2022)



On another note, some Urgent Emergency project managers make use of the Homeland Security Exercise and Evaluation Program (HSEEP). The tool actually utilizes a standard project management methodology that breaks the process down into five different phases. Specifically, the phases of project management overlap with the phased of HSEEP: initiating (strategy planning), planning (design and development), executing (conduct), monitoring and controlling (throughout all phases), and closing (evaluation) (check Figure 02.).

Figure 09. The overlap between PM process and the HSEEP cycle (Tager, 2022)



A UEP is usually carried out to produce a substantial and beneficial change in the environment. It can be distinguished by its specific three features (Davies & Walters, 1998):

1. **A UEP is Unique:** there are no equal previous projects.
2. **A UEP is New:** previous projects did not use the same approach.
3. **A UEP is Temporary:** it has a beginning and an end.

These specific features will result in certain pressures such as the sense of “urgency”, the “uncertainty” factor, and the need for “integration”. Within this context, “urgency” is directly related to the production of applicable and measurable results within the shortest possible period of time.

Table 03. Projects’ features (Davies & Walters, 1998)

Objective	Features	Pressures
To deliver	Unique	Uncertainty
“Beneficial Change”	Novel	Integration
	Temporary	Urgency

Both scholars and experts have noted that organizations must have a sense of “urgency” even when they are facing a “business as usual” / good / convenient situation (Spink, 2004).

The sense of urgency doesn’t come only from an emerging crisis, but also from the need to be ready for any situation, including opportunities. That said, it is critical that the project manager responds immediately to any need for change (even if it comes from either business-implicated parties or not) (Lechler & Grace, 2007).

Hence, the challenge of the UEP exercise become the actual balancing of the sense of “urgency” and “pressure” with time for reflection, planning, calculation, experimentation, and innovation that a new project of this caliber will require to be developed and deployed (Rothwell, 1976).

3.2. UEP Initiation

The initiating action phase is very much self-evident during a response operation – especially when the incident starts with a specific event. An event can be referred to as “boom”, “landfall”, “T-0”, etc. However, it should be noted that during all other phases of a UEP, the initiation phase is an intentional action.

The initiation stage is the reason behind the genesis of the project (Pe, 2002):

- **Precautious Interventionism:** in order to pre-face an inevitable or possible situation / event.
- **Responsive Interventionism:** in order to face, counter, etc. an existing sudden situation / event.

In the initiation stage, a UEP must be precipitated by a number of factors, including legal requirements, organizational needs, logistics’ settings, available resources, communication equipment, etc.

3.3. A Simplified Approach for the Development of UEP Planning

Once a UEP is initiated, the planning process begins in order to prepare for “known unknowns”, in other words, how to cope with emergencies which may arise and escalate and are likely to cause a great deal of harm (Wearne, 2002). Without planning there is little to no change of an effective response.

During this stage, several key questions should be answered:

- ***In terms of Actions:*** What has to be done?
- ***In terms of Exercise / Policy / Scenario:*** How should it be done?
- ***In terms of Schedule / Deadlines / Timelines:*** When will it be done?
- ***In terms of Non-Financial Resources:*** What is needed to do it?
- ***In terms of Budget:*** How much will it cost?
- ***In terms of Stakeholders:*** Whom are the engaged parties?
- ***In terms of Communications:*** Who and how should information flow be established?

To answer these questions, a comprehensive, detailed and operational document (tactical level) needs to set the guidelines that incubate the project through completion. Even though the UEP can expand, change, etc. due to assumptions, risks, etc. the plan should always outline the project approach or the method for how the work is going to be completed (Rotimi et al., 2006).

The information in the initial project plan will set the baseline for the project's operational plan (as it should be deployed) (e.g., the budget, the timeline, assumptions, stakeholders, etc.). Indeed, components will change through the project's life-cycle due to new data or unexpected changes. Hence, it is always expected for project elements and components to change and continue to be refined during both project planning and execution through a process called regressive elaboration (Vargas, 2011). Thus, it is of critical importance to have a clear and agile change management plan set in the initial planning phase for all changes to be documented in a changelog.

Another key aspect to consider during the planning stage of a UEP is the project stakeholders and engaged parties. Knowing each implicated party (and how they are engaged) will allow the project manager to determine who needs to be informed of what, when, how, and by whom. That said, it would be appropriate to establish a Responsibility Assignment Matrix (RAM) that can be included in the project plan which allows those stakeholders to concur on the information they are receiving (check Table 02.).

Table 04. Responsibility Assignment Matrix (RAM) (Tager, 2022).

Stakeholder	Info Needs	Medium	Frequency	Owner
Senior Officials	Project Status	Written report	Monthly	Project Manager
Project Sponsor	Project Updates	Meeting	Weekly	Project Manager
Project Manager	Status	Meetings	Daily	Project Team
Working Group Members	Status	Phone call	Weekly	Project Manager
Core Planning Team	Project Updates	Meeting	Daily	Project Manager

Finally, when it comes to opportunities and project risks, within the context of an UEP, it is important to identify and carefully plan for such elements. UEP response plans will typically include the set actions that be taken when a threat or an opportunity is encountered (check Table 02.). Indeed, such actions can also be used to help decide the most appropriate way to respond to an unanticipated risk or opportunity discovered during the project execution phase (Vargas, 2011).

Table 05. Potential responses to threats and opportunities (Tager, 2022).

Individual Project Threats	Individual Project Opportunities	Overall Project Risk
<ul style="list-style-type: none"> • Escalate • Avoid • Transfer • Mitigate • Accept 	<ul style="list-style-type: none"> • Escalate • Exploit • Share • Enhance • Accept 	<ul style="list-style-type: none"> • Avoid • Exploit • Transfer/Share • Mitigate/Enhance • Accept

In order to directly attain the need of the concerned and impacted society / community within the context of an urgency, it would be appropriate to set a simplified project management process. Simplification usually occurs through careful analysis of the procedures and processes that may be considered as both fundamental and essential to any project planning whatsoever. However, within the context of UEP, only the processes that are considered as crucial must be carried on – as the speed factor of development is a priority; nevertheless, this does not mean that other processes that are not cited cannot bring about results in UEP planning.

A UEP project plan will have its own specificities, dynamic and particularities – as such a plan (Wearne, 2007; 2009):

- Supports the UEP team by providing them with insight, data, and guidelines;
- It is a formal / official plan that describes how urgent-emergency accidents and their consequences have (or can) occur, should be handled, by whom and in which ways.

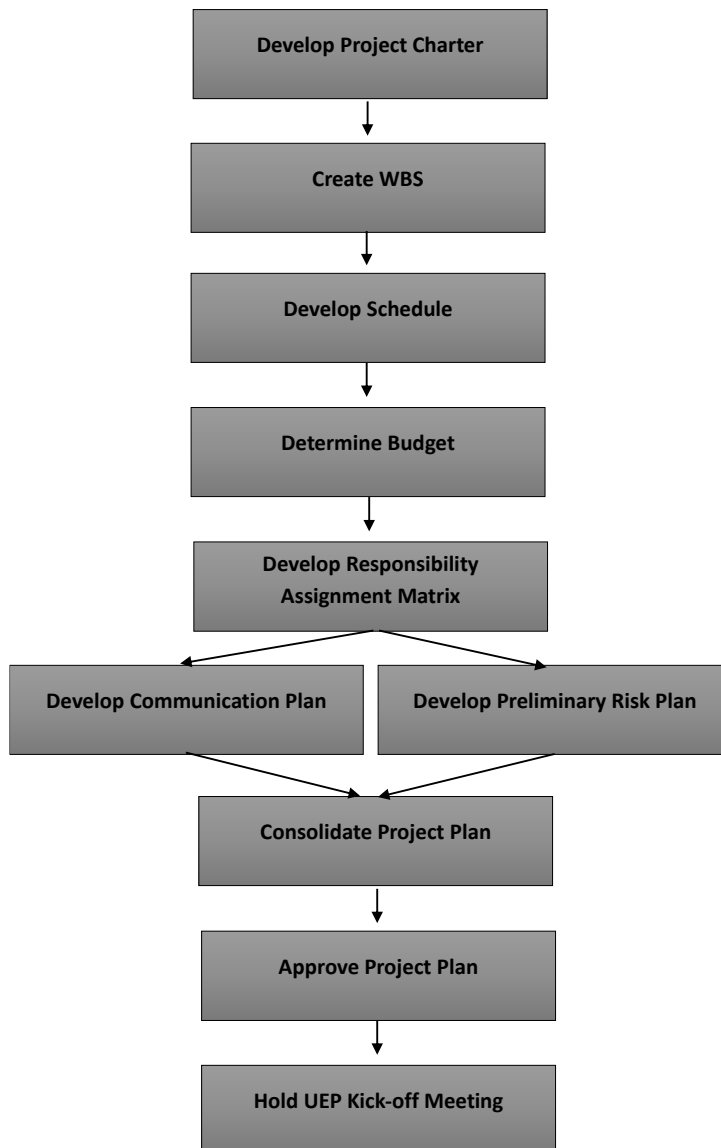
On another note, there are several factors that are ought to be considered while developing the UEP management policy (Wearne, 2009):

- The nature of situation, the concerned community and environment;
- The legislative and organizational responsibilities;

- The assignment of managerial and operational roles to the UEP team;
- The existing related policies;
- Public attitudes, expectations and perceptions of potential as well as associated risks;
- Resource limitations;
- The rights of each implicated party and concerned community;
- The accepted and shared urgency and emergency management concepts and processes;
- Health and safety-related issues that are ought to be assessed prior to project implementation and personnel assignment;
- The physical and psychological welfare of UEP responders as well as the appropriate stress reduction measures that are to be undertaken;
- The circumstances under which the UEP plan will be activated and the level of response initiated accordingly.

The proposed flow is based on the PMI guide to project planning (2008), by highlighting the different sequence of activities that make up the process – while adapting it to UEP (by taking into account its particularities). That said, we have set up a flow of ten processes (check Figure 10).

Figure 10. Simplified flow for the development of the UEP Plan



- **Develop Project Charter:** This first stage of the process will aim to document the needs that will be attended by the UEP, in addition to obtaining the commitment of areas / parties involved (e.g., NGOs, service clubs, public sector institutions, international organizations, etc.) and disseminate the official genesis of the project to all interested and / or concerned. The UEP charter should be kept unchanged throughout the various stages of the project. Of course, it can be updated in case of extreme changes of the project (e.g., budget, schedule, implicated parties, etc.) or the conditions / situation to which the project was launched in the first place (e.g., crisis amplified, etc.). On another note, the UEP charter should also incorporate some elements that traditionally should be in the “Scope Statement”. In this

case, it is proposed to develop a single document that brings together the main points of the Statement of Scope to the Project Charter.

- **Develop Work Breakdown Structure (WBS):** The UEP WBS will aim to develop the main tool of design of the entire project scope. It will work to present a visual decomposition of the UEP into smaller – more manageable sub-projects, called “work packages”. Usually, the WBS will be constructed following a “top-down” pattern and detailed initially up into approximately three levels.
- **Develop Schedule:** This stage will be consecrated to assigning very calculated and specific durations to work packages while defining the precedence relationship between these packages, which will result in the project Network Diagram and Gantt chart. Hence, at this stage, the estimated duration of the UEP is determined.
- **Determine Budget:** At this stage, the objective is to set the estimated cost of the project works that will consolidate the both the budget and the baseline costs. The UEP budget should be developed while taking into account that it is already an important one (given its urgency) and can be subjected to further raises (based on how events are developing).
- **Develop Responsibility Assignment Matrix:** At this stage, UEP project responsibilities are set. In other words, who does what ... The aim is to list the project team, implicated parties, project suppliers, etc. that are responsible for project deployment while defining the relationship between each and every one of them.
- **Develop Communication Plan:** At the stage, the aim is:
 - to draw the different information flow between stakeholders;
 - what is going to be informed;
 - who is informing;
 - when communication should be made;
 - how is communication passed;
 - where the information will be collected;
 - the reason why the communication is being performed;
 - who is responsible for the communication (at which stage);
 - how is information sharing being done;
 - what is the cost of information generation and sharing;
 - how to guarantee that data is being shared with those who are concerned;
 - how to ensure that data is being passed on time;
 - etc.

- **Develop Preliminary Risk Plan:** The stage concerns the identification of potential project risks while using various risk identification and countering tools, models, software and procedures. It is a critical task, especially when developing UEPs. It should be noted that during this exercise threats are identified, and weaknesses are pointed out. Hence, based on such findings the identified risks are analyzed in terms of probability of occurrence, impact and urgency – allowing for action plans to be developed in response. A UEP risk plan may be updated during project deployment should incidents occur.
- **Consolidate Project Plan:** At this stage of the planning process, the project team will group the documents that were produced in the project plan. In addition to such documents, further presentations, data, etc. can also be integrated into the plan to facilitate the process of submitting the UEP for approval.
- **Approve Project Plan:** The main objective of this stage is to ensure that project officers have reviewed the documents' contents and validated them (and sometimes added changes of their own), thus ensuring that all set deliverables are planned in compliance with the stated objectives. The project approval will provide the "green light" for the UEP commencement and turns the project plan approved at the baseline assessment of performance.
- **Hold UEP Kick-off Meeting:** The last stage of our process will involve promoting the start of the project activities and how it should contribute to achieving the all-in-all organization's strategic objectives. On another note, it will help ensure the organization's commitment to the project and is considered as the first assembly of the core project team, in which a strategic roadmap of the UEP action plan is presented.

Within the context of UEP planning, there are several factors to be taken into account:

- **Resource Management:** It is of critical importance to align the UEP resources with the overall program goal to facilitate program implementation on time and avoid ruptures of all kinds:
 - Personnel, equipment, training, facilities, funding, expert knowledge, materials, technology, information, intelligence, and the time frames within which they will be needed;
 - Quantity, response time, capability, limitations, cost, and liability connected using the involved resources;

- Establishing processes for requesting, dispatching, inventorying and tracking resources prior to and during the event;
- Contingency planning for shortfalls of resources in an emergency.
- **Procurement:** Emergency procurement should ensure that operations are occurring as usual, with minimum delay in the processes. Also, emphasis should be given to urgent issues to ensure that immediate actions are not hindered which may further hasten recovery works or UEP plan deployment. Procurement activities should be consistent to meet the tighter schedules and facilitate early resolution. Such a task is not an easy one at all in case of urgent projects initiated by unexpected disasters considering the time constraints.
- **Crisis Communication & Public Information:** Within a UEP, Crisis Communication strategies and procedures must be planned and put into place to effectively and efficiently respond to the excessive flow of information and data during pre-incident, incident, and post-incident phases. Such actions will aim to provide information to internal and external stakeholders and implicated parties. A specialized team must be set to coordinate the following activities:
 - Updating media and follow-up with extrinsic stakeholders.
 - Setting up an internal system for gathering, monitoring, coordinating and disseminating excessive emergency information quickly to the parties implicated in the UEP.
- **Developing a Safety Culture:** Given that teams will be intervening in unstable environments, it is important for organizations working on UEPs to implement a “safety culture” within their ranks. By “safety culture” we mean the sets of beliefs, norms, attitudes, roles and social as well as technical practices with an organization which are concerned with minimizing the exposure of the project-implicated individuals and the entities itself to unsafe conditions (Davies & Walters, 1998).
- **Periodic Meetings:** within the context of UEP planning, periodic meetings are a necessary for discussing the project’s details, dynamics, possible changes, etc. as well as the input of the implicated parties, suppliers, contractors, and experts. During the meeting each party can explain to the other how it will perform or improve its assigned tasks and activities.
- **Emergency Plan Document:** when it comes to emergency management, the project officials’ must collect and transmit as much data as possible and then deliver information

in the form of summary report, thereby enabling decision makers to make appropriate decision and take decisive actions. This document entitled “Emergency Plan Document” will serve as a blueprint for action to be taken in a timely manner. That said, given that we are dealing with an unstable situation – hence, the document itself should be continuously updated with new lessons and experiences. Experts have pointed out that one of the major failure factors of UEPs is the use of available and credible information that is not included in the cited report. Hence, it is of critical importance to document such information in the form of lessons learnt (Wearne, 2008). On another note, it is important to test and review the UEP plans regularly through tests, urgent situation simulation (USS), workshops, drills, exercises, etc. Empirical testing helps to assess the engineering and dynamic of the proposed UEP system; on another note, it helps to update it appropriately in light of new elements, lessons learnt, and experience. Finally, once the UEP plan is prepared and ready to use, it should be circulated throughout the implementing entity as well as among the implicated parties.

3.4. UEP Executing

When the UEP planning is complete, we can move forward with our execution. The execution of an UEP might take several days and sometimes weeks. Nevertheless, regardless of the timeframe for project execution, the project teams and implicated parties must ensure that quality, project progress, and manage change (Kerzner, 2009).

As the UEP progresses, the project management must analyze its progress, status, loopholes, shortfalls, etc. and communicate the deployment stages and events to the implicated parties and stakeholders. Also, should anything go differently than how it was anticipated, it is important to recognize the deviance and react.

3.5. UEP Monitoring and Control

Throughout all the phases of the UEP, it is of crucial importance to be constantly monitoring and controlling the project process and controlling each of the actions being taken by the concerned parties.

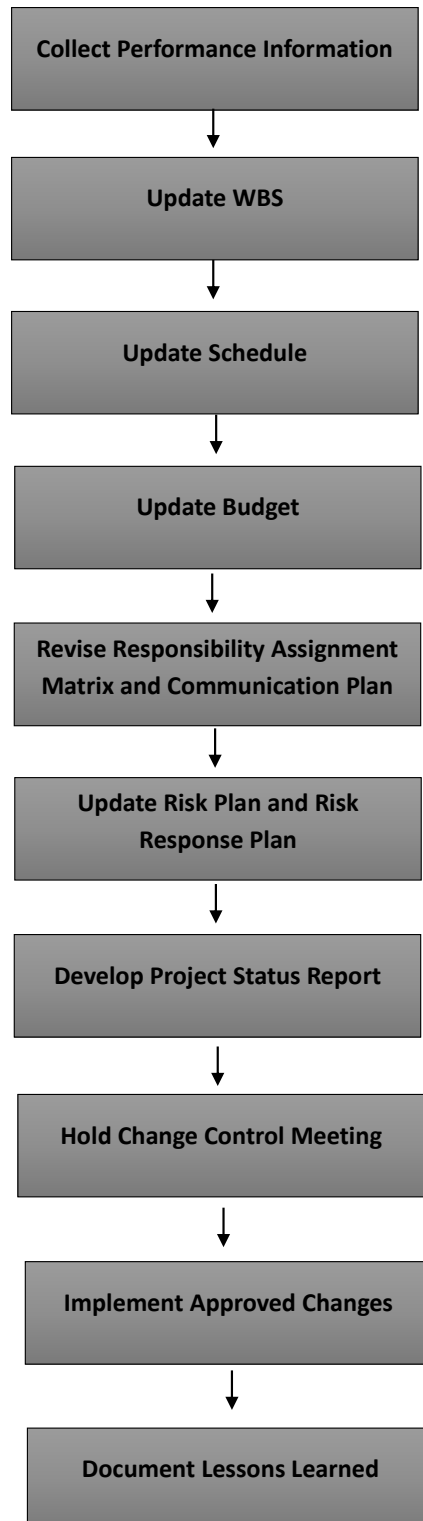
Any UEP project is a continuous process which goes through the following stages (Flannes & Levin, 2001; Kerzner, 2009; Kerzner, 2011):

- **Auditing:** All major project components and issues must be cross-checked by auditing the draft plan and by formulating a detailed checklist.

- **Further Training & Testing:** The UEP organization should develop and implement a training program to create awareness and enhance the necessary skills and competencies required to develop, implement, maintain, and execute the program. That said, the frequency and scope of training should comply with all applicable regulatory requirements.
- **Evaluations and Corrective Actions:** Continuous trainings, auditing sessions, monitoring tools and procedures should be designed to test the UEP interrelated elements and plan so that corrective actions on deficiencies identified are taken accordingly.

On another note, monitoring and control can take place both during and after the project execution. Indeed, the project plan can be reviewed and updated at each monitoring cycle. The UEP cycle time is determined by the duration of the project and organizational planning parameters. That said, a project must have a monitoring cycle at every 10% of the projected length; usually, the minimum interval between project cycles is 1 day and the maximum interval between cycles is 30 days.

Figure 11. Simplified Flow for the UEP Monitoring and Control Plan



- **Collect Performance Information:** The main objective of this process within an UEP is to obtain information on the performance of the project with the team, the stakeholders, the suppliers, responsiveness of concerned community (beneficiaries), etc. Data collection can be done in a structured way or through adaptations and simplifications of the operational models, such as parts of the dynamics model for the collection and exchange of information. It is important to emphasize that the goal of the UEP process is the collection of information and not decision making.
- **Update WBS:** The objective of this stage is to update the WBS so that it continues to reflect all deliveries that were made in the cycle. The remaining work should be evaluated, and the drawing of future objectives and deliverables should be set and attained if necessary. Great importance should be paid to the difference between detailing future objectives and setting new targets.
- **Update Schedule:** The process aims to identify the work that was already executed and their deadlines, as well as updates on the WBS, while seeking to update the schedule and determine the project deadline; The new timing and set deadlines will be compared with the approved schedule to assess the UEP performance.
- **Update budget:** The aim of the stage is to assess the financial resources for carrying out the work cycle and update the remaining budget (post-project implementation). The new set budget will be compared with the baseline to evaluate the UEP performance.
- **Revise Responsibility Assignment Matrix (RAM) and Communication Plan:** In this part of the post-UEP implementation, project assessors' must update the RAM and Communication Plan. During the implementation of the UEP, changes will occur which can result in many project refinements and RAM changes. On another note, communication results are both evaluated and checked for amendments in accordance with the concerned parties' interests and needs. Hence, only valid information and data that supports the decision and the need for information will be produced.
- **Update Risk Plan and Risk Response Plan:** Here, it is necessary to update the risk plan by identifying new risks and reviewing the already identified ones.
- **Develop Project Status Report:** During this stage of the work, the UEP assessors' must consolidate all necessary data in a simple and clear report that outlines the performance of the project cycle and recommendations for change.

- **Hold Change Control Meeting:** At this stage of UEP, the objective is to communicate the status of the project cycle, analyze the proposed “necessary” changes, and decide on their incorporation (or not) to the projects.
- **Implement Approved Changes:** Here, the project assessors’ will incorporate the approved changes to the project plan while reviewing what was already developed and implemented.
- **Document Lessons Learned:** This last step will aim to consolidate the lessons learned during the last cycle of UEP (both positive and negative ones) that will serve as improvement opportunities for the project as is or for future actions.

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