



Technical Specification

ISO/TS 22360

Security and resilience — Crisis management — Concepts, principles and framework

*Sécurité et résilience — Gestion de crise —
Concepts, principes et cadre*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 292 *Security and resilience*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

0.1 Context

The ability to respond to and recover from a crisis has become a primary concern of governments, public and private sector organizations, and regional, urban, and local communities. This concern has led to an increased emphasis on crisis response and governance by boards of management and business owners.

Crises conditions can manifest throughout all elements of society and significantly impact upon the goals and objectives of nations, regional and urban areas, communities, organizations (both public sector and private enterprise) and individual people.

Crises may arise from failures to manage security of assets, information, reputations or sovereign risks to governments or organizations or to provide safety and protection of members of society from personal injury, loss, or harm.

Guidance on crisis management and decision making under uncertainty is a much sought-after global commodity.

This document provides guidance on the origins of crises and their relationship to the global social, economic, and technological systems and their interaction with the natural environment. A social-ecological system (SES) model is used to define the social and environmental dependencies and how the condition of these systems can change unexpectedly. It provides the knowledge to build a framework for crisis prevention, preparedness, response and recovery.

Integral to the framework is recognition of an organizations internal and external context in which crises conditions can develop. The SES model explains the complex relationship between elements of the total systems environment in which the organization operates and achieves its objectives. The framework also establishes concepts, principles, and a structure under which all standards relating to crises can be defined and classified, creating a logical reference for the development of an ISO family of standards for crisis management.

0.2 Focus

This document provides an informative guide to the factors contributing to crises which have the potential to pose an existential threat to people, organizations, communities, government, and societies.

In relation to societal security and resilience, a state of crisis comprises an increased level of complexity with interconnecting elements and a range of changing circumstances, often under conditions of high uncertainty. Significant adverse consequences can arise that create challenges for individuals and organizations if early warning indicators of crises are not recognised and acted upon.

Understanding the nature of crises, their key elements, characteristics and traits and the way crises evolve, is an essential prerequisite for implementation of policies, strategies and plans for anticipating crises and their management during and in post crisis situations.

Crises can be viewed from a range of different perspectives. They arise out of varying circumstances and with different effect in almost any personal, community, organizational or natural environment. Often the human element is a common thread contributing to systemic failures and crises.

With a high degree of interconnectivity, a state of crisis can also create a contagion effect, transmitting the consequences of crises among people and to organizations.

Frequently, the emergence of a state of personal crises for an individual may have a direct effect on other people, creating social crisis contagion, simply by association. The inability of people to cope with difficult or intolerable personal circumstances can result in poor judgement or irrational decision making in the workplace, thereby exposing the organization to failures that may ultimately affect the operational integrity of the business and its brand and reputation.

Systemic failures such as the global financial crisis and the world-wide COVID-19 pandemic, demonstrate that crises can transition to, and transcend all boundaries of modern society.

In today's complex and interconnected society, organizations need to better understand the multiple sources and vectors of risk and how knowledge of these critical interdependencies and their influences on people, organizations and communities can contribute to more effective crisis management policies and strategies and plans.

The social-ecological system (SES) model and framework for establishing the contexts in which crises originate and how they determine a crisis, is shown in [Figure 1](#).

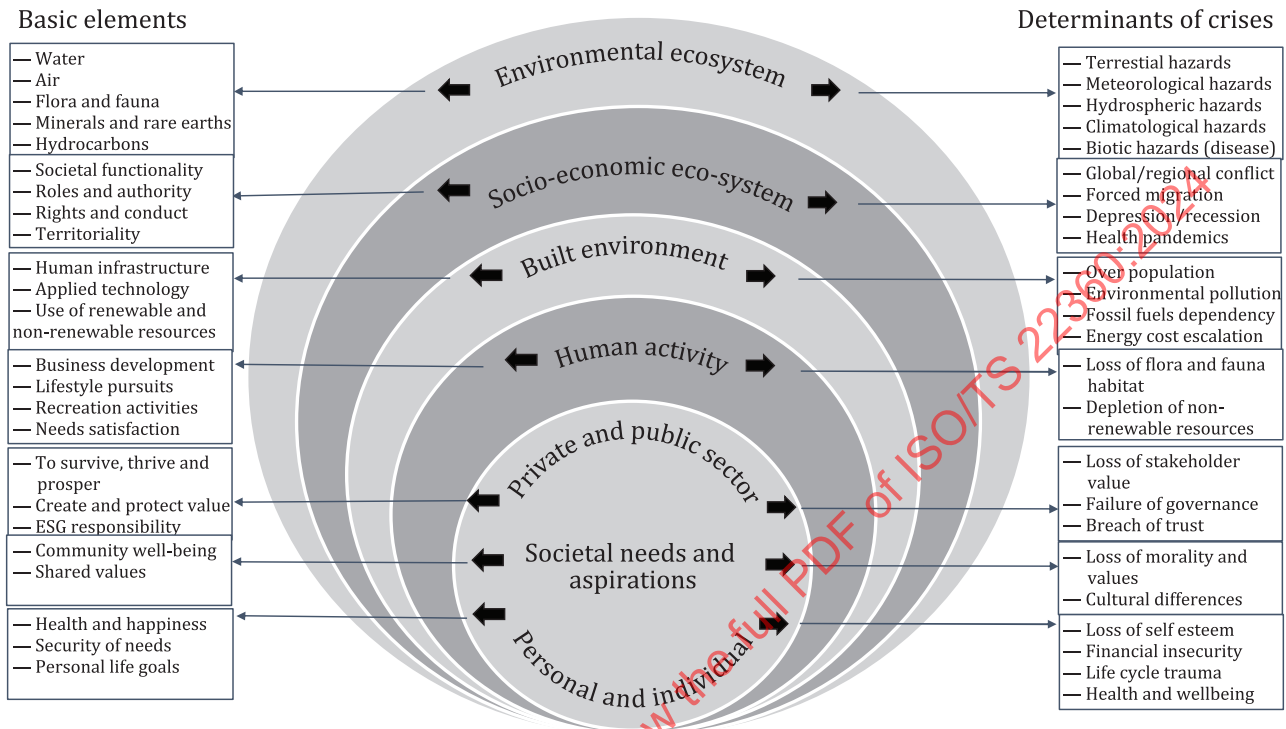


Figure 1 — Crises framework - the social-ecological system (SES) model

[Figure 2](#) provides the basis for understanding of sources of crises. It illustrates the fundamental elements of a social-ecological system and the interactions between multiple system components. Any changes in context (structure or composition) in any of the sub-systems, or changes in interconnected and overlapping relationships, can be the source of abnormal or extraordinary events, and unstable conditions leading to issues, incidents, emergencies, and potential crisis situations.

Early detection of changes in conditions within systems that are often complex, creates awareness of potential factors that can influence or contribute to crises affecting an individual, organization, community or society and the way in which they interface with the natural environment.

Issues, incidents, emergencies, and crises can emerge directly from changes in a single system component. However, the volatility, uncertainty, complexity, and ambiguity associated with unstable conditions in the connecting nodes and their links within a social-ecological system can significantly influence the rate at which these changes in the environment can transition to emergency or crisis conditions.

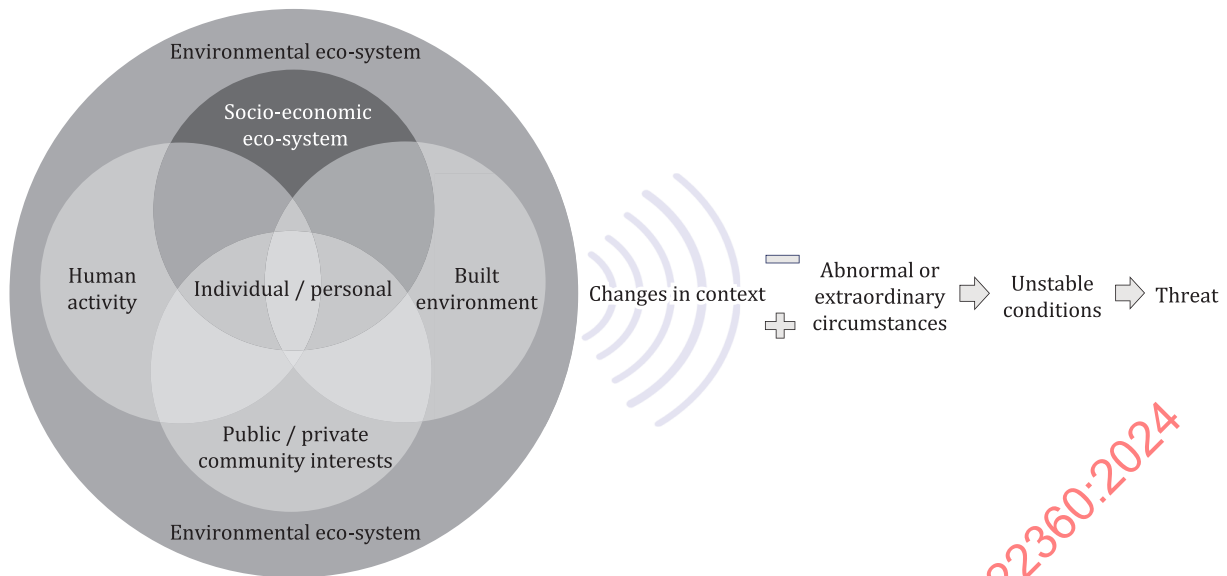


Figure 2 — Systems changes and emergence of initiating events

0.3 Purpose

This document provides information to help users understand crisis concepts and principles. It explains the inherent characteristics of crises, and identifies areas for analysis where improved policies, strategies and standards can be developed to enhance the resilience of people, organizations, communities, governments, and societies, to anticipate, prepare, respond to, recover from, or adapt to crises. It establishes a conceptual framework, applying an integrated social-ecological systems approach to contextualizing crises as they relate to the human factor, and their impact upon, communities, organizations, governments, and society generally.

Security and resilience — Crisis management — Concepts, principles and framework

1 Scope

This document provides an outline of crisis concepts and the principles that inform and support contemporary thinking on the circumstances and conditions under which crises can develop.

It specifies:

- concepts and principles, governing crises;
- the social-ecological system (SES) framework in which crises develop;
- factors that contribute to crises;
- the progression and evolution of a crisis;
- a structure for classifying crises;
- the relationship between issues, incidents, emergencies, disasters, and crises;
- a crisis taxonomy for the systematic development of policies, strategies, and standards, relevant to crisis management (see [Annex A](#)).

This document does not provide guidance on how organizations can:

- manage physiological or psychological aspects of human reactions to personal crises;
- manage personal health or public health crisis affecting individuals, communities, or having broader impacts on society;
- design, develop or implement crisis management programs or plans;
- develop a strategic capability for crisis management;
- apply crisis management techniques to specific crisis situations.

This document is applicable to all organizations. It can also be applied by standards users and standards writers and educators. It encourages a better understanding of crisis concepts and the interconnected characteristics of factors that contribute to crises through referencing the crisis controls and effects social-ecological system model. The application of the principles described in this document can encourage consistency in the use of crises related terms and definitions and complements other ISO standards for crisis management.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 22300, *Security and resilience — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22300 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

all-hazards approach

comprehensive approach to preparedness that ensures that organizational capabilities, and controls are designed and applied in such a way as to be able to respond to all types of disruptive events, irrespective of their nature or cause

Note 1 to entry: In relation to crises, the all-hazards approach recommends the use of a single set of crisis management response systems that are appropriate to any source or type of hazard and crises.

3.2

context

external and internal factors that form the setting for an event, activity, statement, idea, or concept

3.3

crisis

unstable condition involving an impending abrupt or significant change that requires urgent attention and action to protect life, assets, property or the environment

Note 1 to entry: In the broader context of society, a crisis can pose an existential threat to an individual, organization or community or have a significant impact on the viability and integrity of the party exposed to the threat.

Note 2 to entry: Crises can include a high degree of volatility, uncertainty, complexity and ambiguity which can change the context in which relevant parties achieve their objectives.

Note 3 to entry: Crises require an appropriate response at a decisive or critical control point in their development,

[SOURCE: ISO 22300:2021, 3.1.60, modified — Notes 1, 2, 3 to entry have been added.]

3.4

crisis condition

set of circumstances or measurable factors that determine the state of a crisis

Note 1 to entry: Conditions that determine the state of a crisis can change from its original inception, through stages of intervention or escalation or resolution.

3.5

crisis intervention

provision of specialist support and coping strategies to immediately stabilize individuals experiencing a personal crisis and to restore affected individuals to pre-crisis levels of functioning and cognitive ability

Note 1 to entry: Crisis intervention is an immediate short-term action with a focus on situation management rather than resolution.

Note 2 to entry: Unstable conditions are the most common cause of a situational crisis, where crisis intervention techniques are applied.

3.6

disaster

situation where widespread human, material, economic or environmental losses have occurred that exceeded the ability of the affected organization, community or society to respond and recover using its own resources

Note 1 to entry: in the context of an individual, a disaster may exceed the ability of a person to respond and recover without external support from crisis intervention specialists.

[SOURCE: ISO 22300:2021, 3.1.73, modified — Note 1 to entry has been added.]

3.7

issue

event or situation that does not currently present but can develop into a long-term or significant negative impact on the strategic objectives, reputation, or viability of an organization

Note 1 to entry: Effectively responding to emerging or current issues can result in the successful aversion of a crisis.

Note 2 to entry: In the context of an individual an issue can contribute to personal loss of reputation or self-esteem.

[SOURCE: ISO 22361:2022, 3.12, modified — Note 2 to entry has been added.]

3.8

issue management

process by which internal and external issues that have the potential to significantly impact performance of an entity or individual are identified, prioritized, analyzed, and resolved with the goal of preventing crises and taking advantage of opportunities

3.9

personal crisis

unstable state or physical condition that threatens an individual and is beyond the individuals' ability to cope with transitions or changes necessary to eliminate a threat or return to normal functioning

Note 1 to entry: Personal crisis can relate to transitions or changes in normal life events.

Note 2 to entry: Personal situational crises can be sudden experiences related to personal loss.

3.10

situation

combination of events, circumstances and conditions that characterises the state of an individual, community, or organization or its context at a particular time and place

4 Principles

4.1 Guiding principles relating to crises

Principles provide the foundation for understanding the beliefs and behaviours governing crises in the context of societal safety, security, and resilience. They provide the essential guidance that sets and establishes organizational policy, strategy, and framework for managing crises. Crisis principles govern the design, development, and implementation of an organizational capability to respond to all types of crises. The success of responses to crises is dependent upon application of the following guiding principles:

- crisis is contextual;
- crises require a systematic approach;
- crisis situation-analysis is informed by the all-hazard concept;
- crisis management is a core capability;
- crises can present both threats and opportunities.

These principles establish a foundation upon which organizations can establish and evaluate a framework for crises concepts, models or standards. For an organization, community, or individual to achieve a level of resilience to crises, organizations, communities, or governments should embrace and support the following principles.

4.2 Principle 1: Crisis is contextual

Crises should be assessed and managed in consideration of the context in which the affected party operates and achieves their objectives.

Crises can evolve from one, or a combination of aspects relating to the environment in which the crisis occurs. Understanding the context and the multiple dimensions of the environment in which the individual, community or organization exists, is critical to the identification and anticipation, preparedness, intervention, response, and recovery from potential crisis events (see [Annex B](#) for the contextual nature of crises).

4.3 Principle 2: Crisis control is dependent upon a systems approach

Applying a systems approach to a crisis response concentrates effort towards achieving successful outcomes rather than a focus on process.

A systems approach to understanding crises creates an orderly, and efficient plan of action to assist crisis intervention and provides a basis for identification of controls. When time constraints are a factor, examining individual elements of a crisis for solutions should be deferred, taking a systems approach which provides a whole of crisis perspective. Viewing a crisis in its entirety, allows leaders to focus on identifying underlying trends, patterns, and likely consequences of actions. The factors contributing to crises are intrinsically linked to human behaviour, situational awareness, and system controls. Understanding systems interconnectedness can help to develop solutions to crises. .

4.4 Principle 3: The all-hazards approach informs crisis preparedness

The all-hazards principle applied to crises preparedness underscores the importance of being aware of the full spectrum of potential hazards. This enables comprehensive planning of crisis intervention or a crisis management response that is adaptable to any type of crisis.

Regardless of the nature or cause of crises, an integrated approach to crisis preparedness focuses on the design and implementation of organizational capabilities and controls that are applicable to any crisis.

Applying the all-hazards approach to crisis preparedness provides the basis of a comprehensive crisis framework capable of responding to a wide range of crises. The all-hazards concept applied to crises provides an integrated management strategy on which to build a scalable capability appropriate to manage any type of crisis.

4.5 Principle 4: Crisis management is a core capability

An organization's crisis management capability results from:

- understanding goals and objectives,
- familiarity with the impacts of interdependencies, and
- the ability of management to think unconventionally.

In relation to individuals experiencing personal crises, it is unlikely that an individual will have a self-developed capability to adequately cope with a crisis. Individuals should depend upon experienced crisis intervention specialists to provide the necessary support and to restore affected persons to pre-crisis levels of functioning.

4.6 Principle 5: Crises can present threat and opportunity

Crises can present as an obstruction, traumatic experience or threats to personal achievements or organizational objectives. Crises can also provide an opportunity for an affected party to create and benefit from successful innovation and change.

For some unaffected third parties, a personal or organizational crisis can present commercial opportunities or recognition of goods or services related to the crisis.

5 Crisis framework

5.1 The role of crisis analysis

Understanding the composition of a crisis is essential to determine how and why crises occur. Organizations should undertake a detailed analysis to provide a structural view of a crisis. Crisis analysis establishes the relationship between source, root cause, contributing, and influencing factors, and explains the transition from a change in context to the evolution of crisis conditions.

The analysis of many crises, breaking down their factors into key elements and fundamental components, provides a generic framework for effective crisis intervention strategies and crisis resolution. Understanding how crises are constructed and the interconnectedness of elements in the systems in which crises develop, can identify indicators and early warnings as crises evolve and escalate. Identifying factors that contribute to potential crisis conditions and how those conditions can change, can help to establish clear points for crisis intervention.

5.2 Structural and functional elements of a crisis

The factors contributing to crises are intrinsically connected to corresponding structures of human behaviour, situational awareness, and system controls. These structural elements have a direct correlation with functions that determine the context of systems in which a crisis not only occurs but can also cause crisis conditions to escalate.

Organizations should apply the crisis framework to consider the potential for changes in internal and external contexts and circumstances. The framework helps to indicate any early warning signals of emerging abnormal or extraordinary events and determine critical control points for intervention and management of crisis conditions.

Determining the key factors in the crisis framework and the relationship between the functional and structural elements of a crisis helps further analysis and comprehension of:

- the ways in which the major factors in the framework are interconnected;
- the interdependencies of the framework elements;
- how these factors and elements are influenced by other system related components;
- how they vary according to changes in context and different circumstances.

5.3 Framework factors and elements

Crises occur in complex systems environments which influence how they initiate, develop and pass. Common factors and their structural elements that comprise a crisis framework are:

- **Context** in which individuals and organizations interface and interact with their internal and external environments is an important consideration in understanding emerging and evolving conditions that could lead to a crisis. Context sets out the conditions and circumstances of those environments that are likely to change, either positively or negatively and can affect other parts of the sociological or ecological systems in which individuals and organizations achieve their objectives. The effects of these changes in context can create deviations from expected performance and lead to unstable conditions or situations. The perceived impact of unstable conditions is dependent upon the perspective of the parties most influenced by change. Analysing the context in which changing circumstances occur can help to better understand why some abnormal or extraordinary events are relative and can affect some individuals and organizations differently to others.

- **Risk**, the effect of uncertainty on objectives, is a factor in all crises. Its key elements of source, events, likelihood, and consequences are essential aspects of crises. Unexpected and unanticipated changes in context can give rise to latent, emerging or realised threats to individual or organizational goals and objectives. These changes can create situations or issues that could lead to incidents, emergencies or escalate to a decisive, critical control point of crisis with potential adverse consequences.
- **Human behaviour and integrated systems** factors are critical components of the crisis framework. As part of a complex social ecological environment, changes in context can influence integrated systems (including operating systems) and human performance. and their influence on changing conditions, either positively or negatively. Many crises can be directly attributable to human and systems failings, vulnerabilities often created through unexpected or unanticipated changes in conditions. Conversely, human and systems capabilities play a pivotal role in anticipation, preparedness, intervention, response and recovery from crisis situations,
- **Variables and parameters** (quantitative factors) are key determinates of the evolution of crisis conditions. Variable aspects of time, velocity, volatility, visibility, and prominence describe the properties of crises. When quantified, variables make important contributions to understanding time and place of changing circumstances, the frequency at which they occur and the rate of development of crisis conditions. The following variable factors applied in the framework can influence decision making on preparedness, intervention, response, and recovery at times of crises.
 - Time interval between change in context and appearance of abnormal or extraordinary events and other noticeable changes in condition
 - Duration between occurrence of crisis conditions, intervention, and response
 - Velocity relates to the rate of change in crisis conditions or response relative to time.
 - Volatility refers to the degree of variation or the extent of fluctuation of conditions (e.g., likelihood and consequences) relating to intervals in the evolution of crises.
 - Visibility and prominence of crises has two measurable perspectives that can impact upon reputation and perceived capability, to see and be seen i.e., what can be seen by crisis participants (see 6.3) and what can be seen by others.

Together, organizations should use the above variables or parameters to describe the behaviours within a crisis situation, as data, information, knowledge and intelligence, providing input to decision making and aid predictions or projections about its future outcomes.

- **Knowledge** is an underlying factor that informs and influences all other elements of the crisis framework. Organizations should recognize that knowledge as applied in the crisis framework is dependent upon understanding the relationship between data, information, knowledge and intelligence and their contribution to critical and timely decision making on crises. Often there is limited data available on changing circumstances on which verifiable information can be based. Knowledge is gained by interpreting information and shared and communicated as intelligence that can be applied throughout the evolution of crisis conditions or as input to critical decision making at the control or turning point of crises.
 - Changes in context provide the set of conditions or circumstances for collection and analysis of data and identification of early warning signals. Crisis conditions are often latent, lying dormant or hidden until changes in context are suitable for crises to develop or manifest. Context changes and uncertainty of effects create challenges for data verification and to interpret information on which decisions can be made.
 - Managing risk of crises is dependent upon available knowledge. Crises situations can often emerge under conditions of deep uncertainty, when data and information may not be available, and knowledge of likelihood and potential consequences is limited.
 - Human behaviours and systems performance throughout the evolution of crises is dependent upon interpretation of information and knowledge gained and applied as intelligence. Anticipation, preparedness, intervention and response and recovery capabilities are knowledge-based attributes.

- Understanding the influence of variables and quantitative parameters on crises evolution is intrinsically linked to data collection, analysis, and information. Knowledge gained during periods of uncertainty with event velocity, volatility of change and decisions on visibility and other crisis variables, provides the essential intelligence for an effective crisis intervention and response.

The above crisis framework factors and elements exist within operating environments that are often characterized by unpredictable volatility, deep uncertainty, network complexity with rapid rates of change and ambiguity of information (VUCA). The crisis framework establishes the critical factors and elements that help to understanding their relationships and interconnectedness when developing a crisis management response capability.

6 Classification of crises

6.1 No crises are the same

Diverse types of crises require different levels of understanding. Specific knowledge is important to identify a critical control point at which critical decisions can be made. These decisions are dependent upon information, knowledge and intelligence that can be applied to the unique elements of a social-ecological system in which the crisis occurred, and the extent to which they have, or can, influence existing or future crisis conditions.

Classifying types of crises, whether personal or organizational, is an important tactic in crisis intervention and crisis management. It provides the basis for comparisons and enhances the understanding of the relationships between the source of crises, primary participants and affected parties, potential consequences and a logical structure on which critical crisis decisions can be made.

6.2 Source of crisis

Origins of crises, or root causes, can generally be traced back to two primary sources:

- a) The occurrence of natural events relative to global, regional, or local environmental hazards;
- b) Human (anthropogenic) activities.

Crises related to natural occurrences are characterised by physical damage to the natural or built environment or harm to people from natural hazards that require immediate intervention. These types of crises can exceed the response capabilities of an individual, organization, community, government or whole of society. The inability to respond effectively can lead to an unstable situation or critical moment when important decisions are made to avoid escalation of a crisis to a situation which can be described as a disaster.

In addition to the physical environmental sources of natural hazards, crises relating to natural occurrences can originate from human activities and behaviours. These include:

- failures in planning for urban development,
- infrastructure design,
- population densities,
- resource management,
- inadequate emergency management response capability,
- absence of effective crisis management policies and plans to deal with natural hazards in populated areas.

The effects of human or anthropogenic activity can be intentional, purposeful, conscious of surroundings, accidental or unintentional.

Human activity can initiate a set of circumstances that precipitate a crisis or as a source of actions that escalates its' consequences. Positive actions or human intervention can avert a crisis or minimise the negative outcome of a crisis or capitalise on any opportunities.

Sources of crises from human activity can be related to political, economic, cultural, demographic and social systems in which an individual, organization, community or government achieves its objectives. Personal crises can be caused by traumatic situations, threats to personal development or conflicts and anxiety, influenced by an individuals' reactions and the ability to cope psychologically or adjust to changing circumstances.

Sources of broader organizational, community or government crises can be related to failures of environmental, social or governance responsibilities and the capability to respond to existential threats to wider strategic and operational objectives. Malicious actors, such as individual or state sponsored terrorists or cybercriminals, or third parties that initiate deliberate assaults on personal or organizational reputation, seek to exploit vulnerabilities that can be present in an entities values, culture or systems or perceived weaknesses in policies, procedure or practice.

6.3 Crisis participants

6.3.1 General

Crisis situations, including the magnitude of the crisis and its potential consequences, can be perceived differently among those parties primarily responsible or affected by the event and other minor interested parties that either suffer minimal consequences or those specialists directly involved in supporting crisis intervention or crisis management activities. Understanding the distinct types of participants in a crisis provides the context in which their influence on crisis intervention and crisis management can be determined, evaluated, and measured.

Some personal crises only involve one or two people directly affected by the event, while crises that threaten broader personal or organizational objectives can have wide ranging implications for whole of organizations, communities, governments, and societal interests.

Generally, both direct and interested parties with the highest level of interest in outcomes from crises can be grouped into four main classifications:

- a) Primary initiator or contributor to the event,
- b) Respondent to the crisis (both positive and negative influencers),
- c) Active third-party antagonists, and
- d) Passive third-party supporters.

6.3.2 Primary initiator or contributor

The primary initiator or contributor to an event leading to a crisis can be an individual, organization, community or government or arising out of some form of natural occurrence or natural hazard. In some crisis situations, determining the primary initiator responsible for contributing to a crisis can be difficult with several factors combining to either cause an event or escalate the severity of an incident or ultimately the outcome of a crisis. Understanding the characteristics of the primary initiator and the circumstances surrounding a crisis, provides context for the origin of crises and the initiatives necessary to manage a crisis.

6.3.3 Crisis respondents

Respondents to crises are dependent upon the origin of the precipitating event, the nature of its participants and the crisis conditions as well as the type of response or reaction required. Respondent to individual personal crises can include emergency services, crisis intervention professionals, or in the case of employees, an inhouse specialist crisis management capability. Organizational crisis is usually dependent upon an internal crisis management capability and response teams, with support as necessary from emergency first responders or third party providers such as communication, employee assistance programs, public relation

specialists and legal advisers. Respondents to communities in crisis are primarily community or public services.

It is important to note that poorly executed responses to crises can contribute to escalation of crisis conditions.

6.3.4 Third-party adversary

Not all crises have a passive primary initiator as a contributor to the cause of a crisis event. Many crises are caused by planned actions of a third-party aggressor, such as a physical terrorist attack or the outcome of a cyber security breach. Deliberate attempts to create reputational or image damage to organizations by wilful acts include arson, product contamination, loss of data integrity or information security.

Third-party antagonists can be the cause of many personal crises experienced by individuals. These can include threats of extortion, exposure to domestic violence or unsubstantiated character claims or false allegations of discrimination or impropriety. Antagonists or adversaries can initiate a crisis, impede efforts to resolve a crisis or encourage its' escalation through the behaviours of other parties.

6.3.5 Interested party participant

Some interested parties that are directly involved in crisis events, by exposure to the negative consequences of a prolonged period of crisis (such as a shareholder or corporate sponsor) could provide support to the primary initiator of the crisis (either an individual or organization) through efforts to resolve the crisis or lessen its intensity and impact on brand and reputation.

Conversely, an interested party participant can escalate elements of a crisis with attempts to minimise financial exposure to loss by partial withdrawal of funding, or to distance their image and reputation from the primary initiator responsible for the crisis by disassociating its brand from the tarnished image of an individual or organization.

6.4 Crises by extent of impact and contagion effects

Although most crises and their consequences are confined to the crisis participants described in 6.3, a considerable number of crises and their impact can be transmitted to other unrelated third parties by what is known as the contagion effect.

Crisis contagion can occur among organizations, communities, and governments through an interdependence between an external party and the primary initiator or contributor to a crisis (see 6.3.2).

Interconnectedness between parties operating in shared markets or conducting business in the same financial or commercial sectors can frequently result in a crisis contagion effect, with adverse impacts on the objectives of an innocent party.

Similarly, a personal crisis can impact upon family, friends and associates of the individual more directly affected by the crisis.

From an organization, community or government perspective, an entity can appear to be isolated from an external crisis, however the following provides examples of the crisis contagion effect:

- a) Financial: The contagion effect from the Global Financial Crisis occurred when the interdependence of international financial markets suffered from the transmission of stock market crashes, affecting worldwide economies.
- b) Consumer confidence: Product contamination or product tampering crisis of specific food or medical supply manufacturers products resulting in loss of consumer confidence across all products in that category, irrespective of manufacturer brand, place, nature of ingredients or methods of production.
- c) Product safety: Failures of products by a manufacturer in a specific category with substantial loss of life (e.g. aircraft) resulting in crisis conditions flowing on to travel and hospitality industries related to the product, its services and locations of the crisis.

- d) Public health: Human health crises created by global pandemic spread of disease and its transmission across international borders, also resulted in a contagion crisis effect from border closures and resultant economic crisis impacting on countries and community sectors dependent upon commerce and trade and labour of international travellers.

6.5 Classifying sources of crises from natural hazards

Crises related to natural hazards are almost exclusively related to some form of human activity, other than irreparable damage or loss to flora and fauna and other elements of the natural environment.

The following classification is used to categorise the typical natural hazards cause that can lead to a crisis, excluding anthropogenic (man induced) hazards.

- a) Terrestrial (geological) hazards
- volcanic eruption
 - earthquake
 - ground erosion
 - landslip (secondary hazard to erosion)
 - layer collapse and downslope avalanche
- b) Extra-terrestrial hazards
- asteroids, meteoroids, comets
- c) Atmospheric (meteorological) hazards
- windstorm (cyclone, hurricane)
 - hail, snow and sand storm
 - natural electrostatic discharge (lightning)
 - wind erosion
- d) Hydrospheric hazards
- wave current and tidal action
 - flooding and inundation
 - tsunami (secondary hazard to earthquake or volcanic eruption)
 - erosion (secondary hazard to hydrological disturbances)
- e) Climatological hazards
- drought, extreme temperatures, natural wildfires
- f) Biotic hazards
- flora and fauna induced disease (epidemics, pandemics)

7 Characteristics of crises

7.1 Characteristics as a source of knowledge

While every crisis can be different in many ways, some common characteristics are present during the evolution of any crisis. Recognizing the commonly recurring features and distinguishing qualities of crises

helps to understand their influence on how crises develop and can escalate. Characteristics of a crisis can vary as context and nature changes, i.e., the distinguishing features and qualities of a personal crisis can differ from a crisis in the context of an organization. Understanding crisis development and escalation makes an important, practical contribution to building and applying knowledge necessary for specialist interventions in personal crises and improving the effectiveness of an organization's crisis management plan.

Knowledge on characteristics of crises is central to the tenet that a crisis is the turning point or critical moment in a situation when important decisions are made on directions and the actions to be taken. Decision making during a crisis is dependent upon information, knowledge and applied intelligence to avoid an escalation of conditions, minimise adverse consequences and assist a return to normal functioning.

7.2 Common features and qualities

The operating environment in which crisis conditions occur demonstrates a range of common features:

- for each crisis there is a precipitating event, (often with varying rates of development),
- events can be accidental, unintentional or intentional, triggering a sequence of events that lead to a crisis,
- precipitating events arise from abnormal or extraordinary experiences during periods of instability,
- all crises present a potential unfavourable outcome for at least one participant,
- without positive intervention, crisis situations can continue to deteriorate,
- the outcome of any crisis is uncertain and is dependent upon decisions made at the critical control point,
- although variable in nature, all crises have components of source, initiating events, participants, interested parties, decision making and consequences

While crises have a range of common features, the variability within these characteristics is such that intervention and crisis management techniques are tailored to meet the unique context and circumstances of the precipitating event and affected party in the crisis.

Depending upon the status of a crisis, from an initiating event to de-escalation and resolution, some characteristics can change according to its state of development.

7.3 Characteristics of a crises in a vulnerable systems state

An abnormal or extraordinary event or situation can often occur when an individual or organization, community, government, country or region is in a state of extreme vulnerability or weakness, and prone to situations or circumstances where a crisis seems to be inevitable.

During these periods an individual may be experiencing feelings of anxiety, fragility or simply overwhelmed due to pressure strain or stress. Any potential events could exceed the persons' ability to cope with even minor diversions from normality. What can appear to be a looming crisis situation to some individuals under these circumstances can often be resolved by other people through rational, logical and experiential decision making. The characteristics of crises occurring during periods of personal vulnerability can include increasing frequency and severity of contributing factors, decreasing likelihood of early intervention and resolution and potentially life-threatening consequences.

Socially or economically disadvantaged communities, least developed countries and regions are often comprised of vulnerable people. Poverty or frequent exposure to threats from natural hazards, overpopulation or displacement, food shortages or other regional, demographic, or humanitarian conditions, including war and conflict, often arise in developing economies. Due to circumstances, resources can be scarce, and access to finance is often not readily available for disaster prevention, mitigation, recovery, or restoration. The characteristics of potential crises occurring during a continuing vulnerable state are:

- the circumstances of the precipitating event are usually well known in advance,
- an inherent inability to prepare or respond to the direct consequences of a precipitating event,

- the emergence of a crisis can be swift and escalate rapidly, with limited intervention,
- likely communication failure at a critical point in decision making,
- crises can create flow-on effects outside of the immediate vulnerable parties,
- extra-territorial development aid or assistance is often a requirement for managing crises.

In relation to vulnerable organizations, susceptibility to unstable conditions that could lead to a crisis can be related to failures of leadership, systems and structures and the responsibilities for the organizations environment, social, and governance policies, procedures, and practices. Weaknesses in any of these management controls provide the opportunity for crisis conditions to come into existence, emerge, thrive, and escalate.

Organizations that exist in a vulnerable state and are exposed to a potential crisis often fail to recognize early warnings that may arise in the context in which the organization operates. Such organizations can be unable to detect new threats and do not recognise opportunities for modern technology that could help to avoid crises or limit their likely consequences.

Characteristics of potential crisis that can threaten vulnerable organizations can be:

- a) related to operations in markets prone to systemic shocks or long-term stresses;
- b) threats from commercial and industrial activities in developing countries within known natural hazard zones;
- c) related to geopolitical instability, low societal values or war and conflict;
- d) Initiating events emerging from management, technical or procedural weaknesses;
- e) related to processes that create adverse impacts upon the natural environment.

In summary, characteristics of personal or organizational crises that occur in a vulnerable state can be related to events that have been slowly developing, are not anticipated or prepared for. Crisis intervention and response can be delayed, and crisis conditions can rapidly escalate with significant consequences, requiring an extended period for recovery of normal functioning.

The most notable characteristic of crises occurring during a vulnerable state is the likelihood of an existential threat to affected individuals or organizations and their ultimate resilience.

7.4 Characteristics of a crises in a defective systems state

Individuals, organizations, communities, and governments displaying signs of extreme vulnerability are more likely to transition to a defective state and become prone to crises once these weaknesses are exposed and threatened by negative influences. During a defective state, an individual or organization's early warning systems can fail to detect signs of changes in the context in which they operate. The potential negative affect of these changes in conditions and increased vulnerability, could create periods of instability and situations, which if not controlled can be a precipitating factor in emergency situations, or contribute to a subsequent crisis occurrence.

The characteristics of a crisis while management capabilities and control systems are in a defective state, are:

- possible slow initiation of crises from undetected early warning signals of changes in the environment in which the issue, incident, or emergency, evolves and develops;
- reduced opportunity for early engagement by crisis intervention specialists;
- an unchecked issue, incident, or emergency, with likelihood and consequences of crises increasing.

7.5 Characteristics of crises in a failed systems state

Systemic failures of management systems and controls for issue, incident and emergency management significantly reduces the capability to anticipate, prepare for, respond and recover from crises. Individuals, organizations, communities and governments with ineffective policies and strategies for environmental, social and governance responsibilities relative to the context in which they aim to achieve their objectives are operating in a failed state. Under circumstances in which incident and emergency management systems are defective, unstable conditions can arise which increase the likelihood of threats, with a corresponding increase in the potential for crises to evolve.

In the context of extreme volatility, uncertainty, complexity and ambiguity, the transition from unidentified emerging issues, poorly managed incidents, and inadequate emergency management responses, crises can occur more frequently and escalate more rapidly.

The characteristics of crises that can be present while management and control systems capabilities are in a failed state, are:

- The primary cause or precipitating event for a crisis can be difficult to determine;
- Crisis situations can emerge suddenly and without any prior warnings;
- Crisis development and escalation from unstable conditions or situations can increase in velocity due to lack of anticipation, preparedness, and response;
- Absence of effective intervention can allow crisis situations to continue to escalate;
- Impairment of the ability to make effective decisions at the critical control point or critical moment.

In relation to an individual, a failed state is represented by an inability to cope with perceived threats and insurmountable sets of personal circumstances that can have a profound effect on normal life events and personal functioning. These changing conditions can have physical and psychological effects, creating an existential crisis, with rapid deterioration of an individual's health and well being.

7.6 Characteristics of an effective crisis response

7.6.1 General

Distinguishing features and qualities associated with an effective response to crises are founded upon the fundamental principles of governance, ethics and moral values, a developed capability, managing risk and decision making, with each element supported by knowledge and a commitment to continual learning.

Key components of an effective crisis response have specific features and qualities that are aligned with the unique characteristics of crises emanating from abnormal or extraordinary events and unstable conditions. These events are related to the social-ecological system in which individuals, organizations, communities, and governments exist and achieve their objectives.

7.6.2 Identification and assessment

- Scanning for changes in social-ecological system context;
- Potential for multiple system impacts;
- Emerging abnormal or extraordinary events;
- Unusual or unexpected changes that increase vulnerabilities;
- Recognizing pre-crisis conditions;
- Crisis indicators and early warning;
- Assessing likely outcomes of crises.

7.6.3 Crisis intervention

- Short term situation management;
- Adaptive and responsive to unique conditions;
- Stabilization of event circumstances;
- Restoration to pre-crisis levels of functioning.

7.6.4 Crisis communication

- Information, knowledge and intelligence;
- Empathy and the impacts on affected parties;
- Information sharing and transparency;
- Clarity and accuracy;
- Target audience engagement.

7.6.5 Decisive critical control point actions

- Timely and ethical decision making;
- Flexibility and adaptation;
- Tailored to context and circumstances.

7.6.6 Crisis recovery and restoration

- Recovery;
- Restoration to pre-existing state or condition.

8 The development of crisis conditions

8.1 Transition from a state of normal functioning

The context in which an individual or organization achieves their objectives is dynamic with frequent changes occurring in the social, ecological, economic, and organizational systems which comprise the environment in which they exist. During periods of stability, individuals and organizations can continue to operate in a normal functioning state, with systems free of an immediate threat, defect, or deviation from usual activity.

Changes in context can affect internal and external systems within the total environment. These changes can create abnormal or extraordinary circumstances, which are lead indicators or early warning signals of conditions that can escalate to situations and incidents and can further develop into emergencies and crises.

Understanding changes in context that can adversely affect systems controls with unanticipated and unexpected consequences, is an important attribute applied to scanning of context. The identification of latent, emerging or impending conditions that can contribute to a crisis is a key outcome from scanning of context. The development of conditions that can contribute to crises and how they transition from a normal functioning state through vulnerable, defective, or failed states, can help determine the course of a crisis.

8.2 State of vulnerability

Vulnerability is a state or condition of systems and human factors from which future crises can originate. Individuals, organizations, and the broader socio-economic and ecological systems can be susceptible

to threats and hazards that have the potential to impact purpose, goals, and objectives. Within a normal functioning state, some threat exposures can be latent without any visible signs of unusual conditions or adverse events.

A state of vulnerability occurs when threats manifest, or new threats emerge and begin to explore and exploit weaknesses in systems, processes, and people (human factor). Individuals, organizations, systems, and processes each have the potential to exhibit vulnerabilities to threats, including the development of situations that can lead to a crisis. During periods of vulnerability, organizational resources, capabilities, and capacities to anticipate, prepare for, respond to, and recover from crises can be prone to systemic failure.

A vulnerability exists in an environment in which system weaknesses can contribute to unexpected and unanticipated events, situations, incidents, and emergencies. Combined with the emergence of threats, the potential for an escalation of situations can ultimately lead to a crisis.

8.3 Defective and failed state

Circumstances and conditions conducive to crises can transition from a vulnerable state (in which human and system weaknesses are prone to threats) to an environment that is susceptible to error, defect, and failure. Human vulnerabilities can expose individuals, organizations, and systems to errors of judgment, man-machine interfaces, and functionality with adverse effects on expected performance, which can have a negative influence on decision-making during a crisis.

People, systems, and processes prone to errors often demonstrate critical defects and an inability to meet performance criteria. The defects within these elements can exhibit weaknesses that can be exploited by threats, resulting in exposure to unstable conditions and potential failure of a total system.

In relation to crises, individuals and organizations functioning whilst in a critically defective and failed state are more likely to be exposed to the sudden onset of unexpected conditions and events. These events can contribute to an escalation of issues, situations, incidents, and emergencies, and can ultimately reach a decisive or tipping point of crisis.

Immediate attention to correct critical defects in people, systems, and processes can avert failures in an organization's capability to anticipate, prepare for, respond to, and recover from crises.

8.4 The progression of crises

8.4.1 Origins of crises

Context defines the environment from which all abnormal and extraordinary circumstances originate. It establishes the parameters that are subject to change and the circumstances of those changes and how they affect people, systems, and processes. A change in context sets in motion the potential for latent, emerging, and impending threats to individuals and organizations. Changes in context can cause a change in conditions that can give rise to a deviation from the planned or expected performance of people, systems, and processes. These deviations can result in threats that can exploit weaknesses in situations and can cause:

- issues and problems that impact objectives, and
- incidents that could lead to a disruption or loss or a change in conditions that can escalate to an emergency, a crisis or disaster.

8.4.2 Issues and problems

Abnormal or extraordinary changes that occur outside the normal course of events can create unstable conditions in which issues and problems affecting individuals or organizations or the environment can emerge. Identifying and defining these internal and external issues and problems and their likely consequences early and seeking resolution, can help to avoid escalation to incidents, emergencies, and potential crises. The origins of many crises can be related to underlying issues or problems with people, systems, and processes. Effectively responding to emerging or current issues can result in the successful aversion of conditions that can contribute to a future crisis.

8.4.3 Incidents

Unresolved issues and problems can be a source of threats. Many threats can remain dormant until conditions destabilize when vulnerabilities and weaknesses of people, systems, and processes become visible. The exploitation of these weaknesses and exposure to hazards can trigger system defects and failures with significant consequences. Effective treatment of systemic defects and management of unplanned or unexpected events likely to cause loss or harm is a prerequisite to preventing incidents resulting in disruptions and emergencies, which can directly precede a crisis.

8.4.4 Emergencies

Uncontrolled incidents can quickly lead to serious, unexpected, and often dangerous situations that occur suddenly and require immediate action under periods of instability. Organizational and community preparedness, response, and recovery to emergencies, usually highly visible to stakeholders, interested parties, and the public, are frequent sources of crises. The degree of preparedness, the capability of the response, and the time and costs of recovery are all subject to stakeholder and public perceptions, as well as accountability for actions. Communication on emergency management can be positive and avert the development of crises or if poorly constructed or delivered can result in an escalation of crisis conditions.

8.4.5 Disasters

Disasters, with widespread human loss and suffering, material, economic loss, or damage to the natural environment can either precede or follow a crisis. Societal expectations of disaster preparedness, response, and recovery efforts can create demands of responsible governments and organizations that may not be able to be met within the limits of those expectations. A perception of poorly managed societal expectations related to natural or man-made disasters can lead to a crisis for governments or responsible organizations.

8.4.6 The evolution of a crisis

The pathway to changing crisis conditions through issues, incidents, emergencies, and disasters does not always occur as a direct linear progression or within a regulated timeline. Factors that can contribute to crises or potential crises can arise at any time during an event.

A decisive point in development of a crisis, is the tipping point between averting a crisis or responding and recovering from a crisis. These critical control points of crises can also arise at any time, from a change in context and presence of abnormal or extraordinary situations, through issues, incidents, emergencies, and disasters.

Anticipation and preparedness for potential crises, and developing a strategic capability for crisis intervention, response, and recovery, are inherent qualities of issue, incident, emergency, and disaster management initiatives, consolidated in formal crisis management plans.

9 Crises - An integrated social-ecological system

9.1 Changes in context – the source of initiating events

The social-ecological system (SES) model described earlier in [Figure 1](#) (Introduction) demonstrates the complexity and interconnectedness of multiple system components in the broader environment in which individuals, communities, organizations, government, and society achieve their goals and objectives.

Personal, individual, and collective human activities as well as public and private sector organizational interests, interface and interact with elements of the natural, socio-economic, and built environments. The integrity and reliability of each of these multiple dynamic systems is dependent upon conditions and behaviours which are generally stable and mutually beneficial.

[Figure 3](#) describes the framework for the evolution of issues, incidents, emergencies, and crises. Over time, dynamic systems conditions can vary, either positively or negatively. These changes in context not only affect a single system but have the potential to influence the behaviour of other system elements with which

they interact, often producing early warning signals or alerts of potential abnormal or extraordinary events and circumstances.

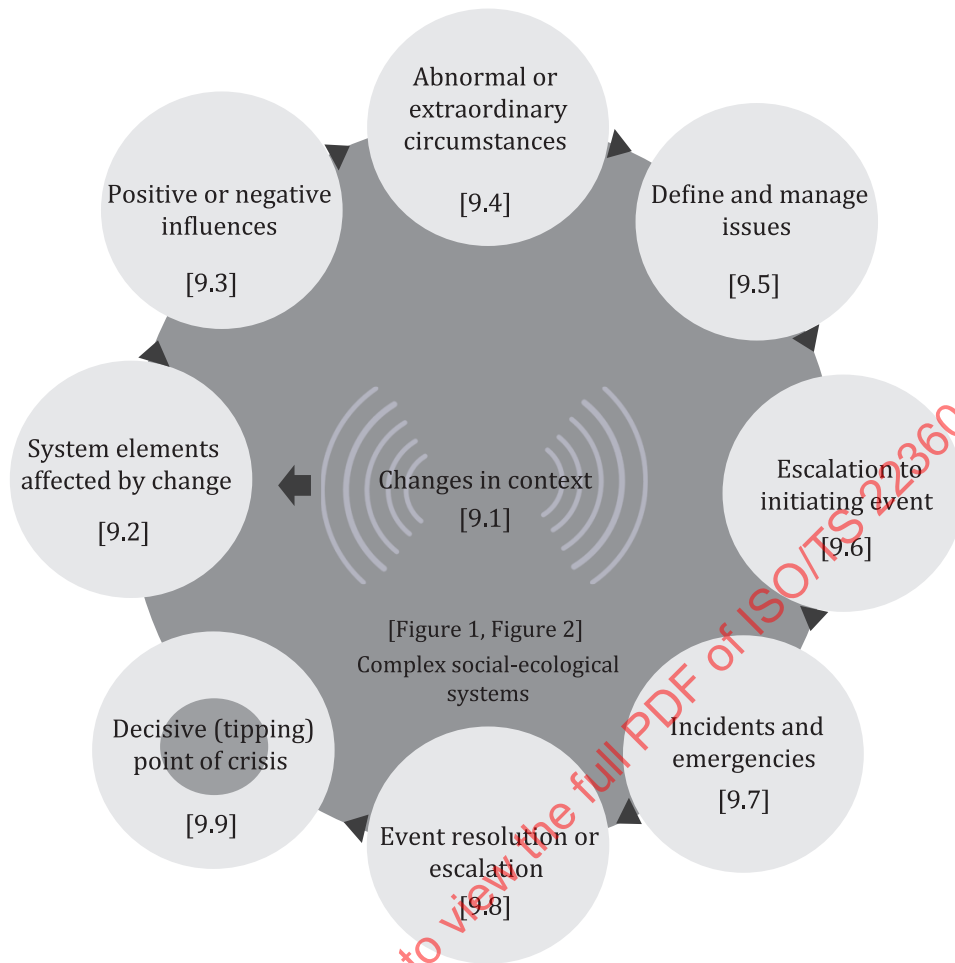


Figure 3 — Source and evolution of crises

9.2 Systems affected by change

Dynamic changes in context in any element of the broader social-ecological system can have far reaching effects on other components of the total system. Often these effects can be reciprocal or create flow on effects to other systems in the context of the broader environment. Human activity and effects of climate change can impact upon weather patterns with widespread loss of life and damage to the natural and built environments. The flow on effect of these changes in context impact upon peoples physical and psychological well-being as well as disruption to organizations, communities and government and the integrity of socio-economic systems.

Not all negative changes in context have such visible impacts on society and its systems of government. Minor incremental changes can result in longer term system deficiencies and influence the behaviour of individuals, communities, organizations, governments, and sovereign states.

Factors that contribute to, and escalate dynamic states and conditions, can influence behaviours of interconnected components of the total environmental system. Continuous scanning of the nature and characteristics of the natural environment, human activity, socio-economic systems, and behaviours of people is essential to identify changes in context within these systems. Collating information on systems affected by change develops a body of knowledge and creates intelligence to be applied to potentially unstable conditions as a source of issues, incidents, emergencies, and crises. These system changes can affect asset values, people, reputations of individuals and organizations and the broader effect on stakeholders,

community, and society generally. The state of nodes and connecting links in the total systems environment can provide an indication of vulnerabilities to emerging crisis circumstances.

9.3 Positive and negative influences of change

Changes in conditions or circumstances in any element of the social-ecological environment can create positive and negative influences. Some changes in context can have both positive and negative effects such as pandemics and their impact upon the physical and psychological wellbeing of populations or conversely, opportunities for pharmaceutical manufacturers and health service providers who benefited from increased profits, higher equity investments and government research funding. This standard recognises the positive and negative influences of change however the humanitarian and societal consequences of crises on a global scale directs the focus primarily towards understanding crisis concepts, principles, and framework.

9.4 Abnormal or extraordinary events

Unexpected changes in the nature, characteristics, composition, or functions of elements of the natural, socio-economic, or built environments can create deviations from normal or usual behaviours in single or multiple system contexts. Changes in contexts in a way that is undesirable or concerning can influence system performance or create deviations from expected outcomes that impact upon the effectiveness of system controls.

Frequently changing conditions, characterised by volatility, uncertainty, complexity, and ambiguity, can lead to unstable conditions and a source of threats influencing a crisis.

These changes in context of the natural, socio-economic, and built environments, the changes in human activity and the effect of changes in personal physiological or psychological conditions, determines the source of future issues, incidents, emergencies, and crises.

9.5 Issue management

Scanning and monitoring of contextual changes within the social-political environment and critical observation of the appearance of abnormal or extraordinary events or situations can identify contentious emerging trends within a system.

These identified trends can evolve as unstable conditions or issues that have important consequences for individuals, communities, organizations, governments, and society generally. Issues are typically described as evolving through five phases: formative, emerging, current, crisis and dormant.

Detecting issues from observed trends as early as possible and providing the basis for issues definition, likely consequences and a timely and effective response can limit the transition of issues to incidents or emergencies or escalation to a point of crises.

9.6 Initiating events

The source of issues, incidents, emergencies, and crises can be traced to initiating events arising out of changes in context and the development of abnormal or extraordinary set of conditions. Initiating events are random and seldom one dimensional with a single proximate cause.

Often, initiating events that lead to undesirable outcomes are a consequence of an aggregation of multiple contributing factors occurring in combination with a sequence of complex system and management failures in the presence of enabling conditions.

An initiating event is any occurrence that disrupts normal system behaviour or human activity sufficiently to require intervention. An initiating event establishes the starting point for analysis of incident, emergency, or crisis situations, using systems engineering tools such as event tree analysis (ETA) and fault tree analysis (FTA). Analysis of potential initiating events from changes in context in the broader social-ecological system is an essential prerequisite for effective crisis intervention and subsequent crisis resolution.

9.7 Issue, incident, emergency (non-linear relationships)

Simple linear relationships exist when two event variables have a direct connection. When linear relationships exist among variable event factors or circumstances such as issue and incident or incident and emergency, changes in one set of circumstances, proportionally influences the other.

How an issue is managed can determine the frequency and severity of incidents related to that issue while emergency situations and crises can demonstrate a similar dependency. Although there is some sequential relationship between these events, not all issues result in incidents, nor do all emergencies escalate to a decisive or tipping point where critical decisions are made to avoid an existential threat.

In this context there is a degree of non-linearity, or the absence of normal sequential, straight-line development, between issues, incidents, emergencies and ultimately crises as each situation can be influenced by different internal and external circumstances and multiple complexities and uncertainty.

In addition to the variability in context between issues, incidents, emergencies and crises, the factors of volatility, velocity, scale, and consequence play an important role in evolutionary relationships.

9.8 Resolution or escalation

Successful resolution and closure of issues, incidents and emergencies is dependent upon:

- situation analysis;
- early intervention and prioritization;
- analysis of available options;
- timely and adequate response;
- effective communications;
- behaviour of stakeholders and interested parties;
- quality of proposed solutions;
- removal of latent or dormant abnormal or extraordinary system changes.

In many cases long term sustainable solutions cannot be immediately achieved and the circumstances of an initiating event can continue to escalate with increased intensity and more severe consequences.

Event escalation can occur rapidly or over time, the duration depending upon the nature and complexity of the event, competencies and capabilities of the response organization and the potential magnitude of the event consequences.

Escalation of issues, incidents or emergencies can continue until resolved or a condition is reached where the event circumstances exceed the response capacity or capability of the individual, organization or community exposed to the threat.

9.9 Decisive (tipping) point

When unresolved issues, incidents or emergencies escalate to a level in their development beyond which the direct management capability to control circumstances of an event is no longer possible, the critical event warning phase has passed, and a state of crisis has been reached.

Known as the decisive control (or tipping) point, it is a time when critical decisions are made to minimise or avoid further loss or damage to affected individuals, communities, organizations, governments and sovereign states, or the broader built and natural environments.

Decision making during a crisis, occurs during periods of extreme volatility and under highly complex and uncertain conditions. Often important decisions are made under circumstances where there is ambiguity in available information, or where information bias occurs from self-interested parties and media reports.

Effective and timely decision making at the event climax or tipping point is at the heart of a crisis response.

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