Humanitarian Complexity, Analysis, and Decision-Making

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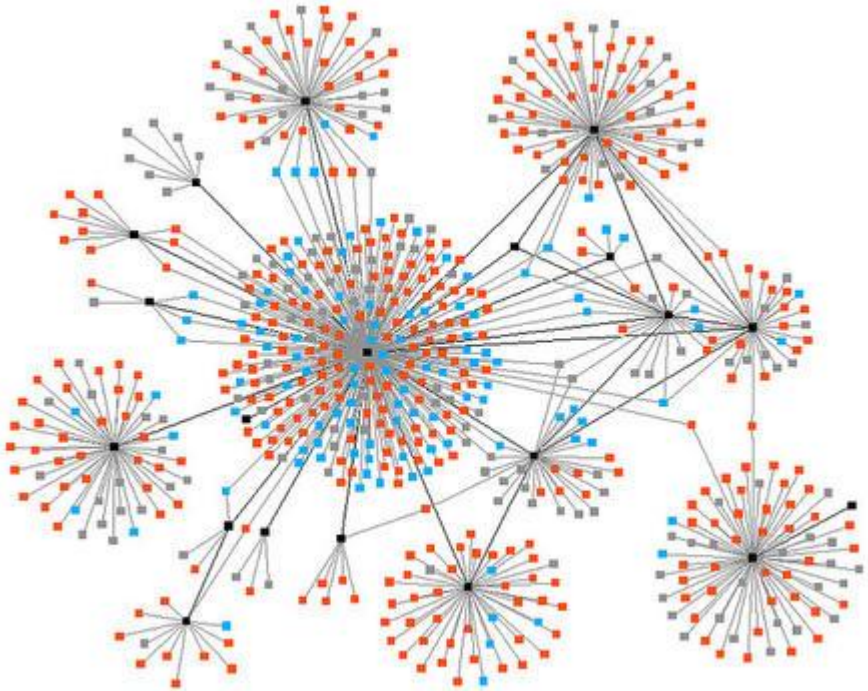
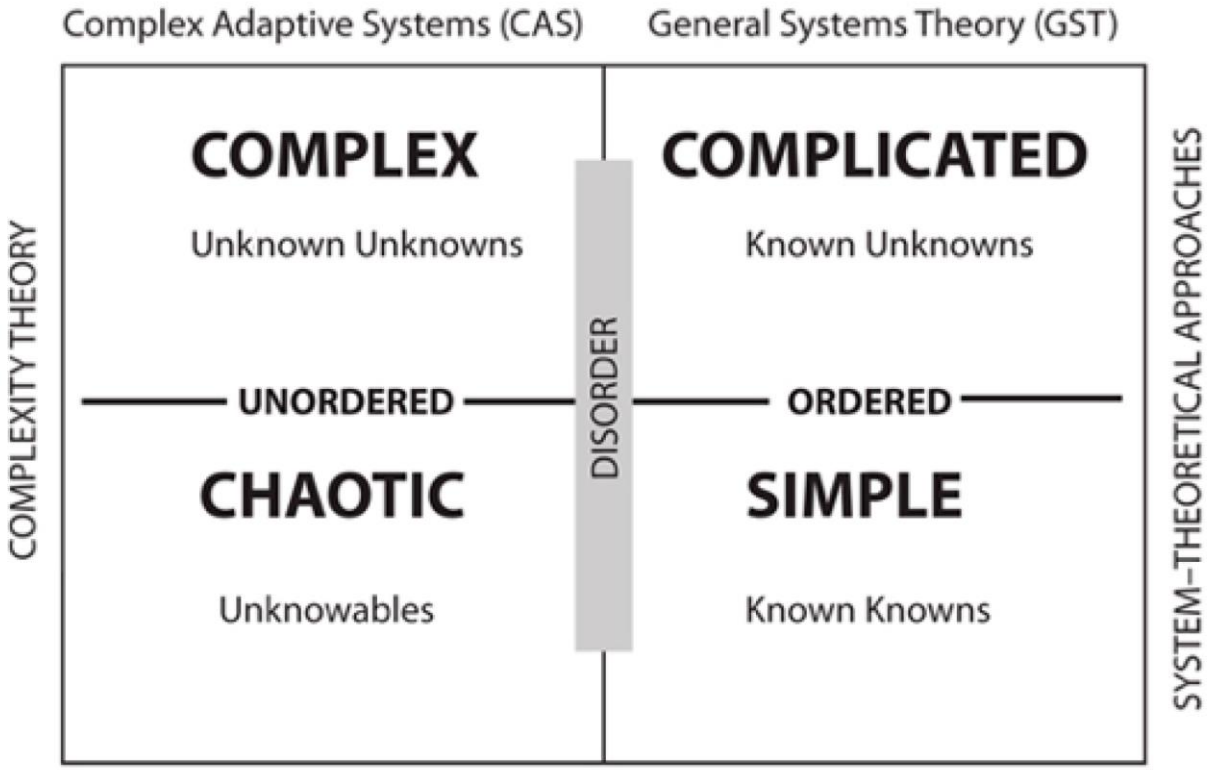
Humanitarian Complexity



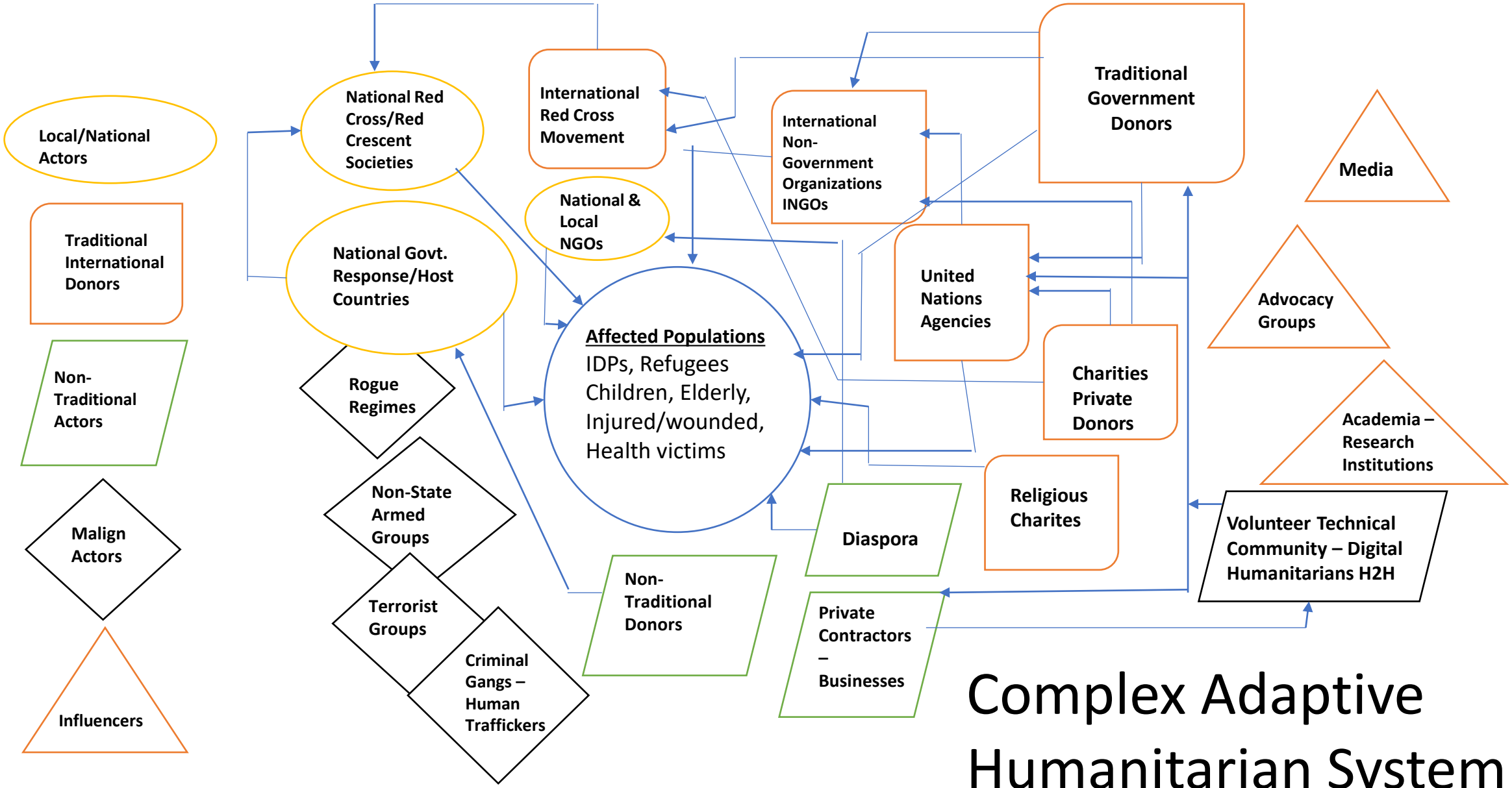


Complex Adaptive Humanitarian System

Complex Adaptive System *is a complex and dynamic network of interactions, but the behavior of the ensemble may not be predictable according to the behavior of the components. It is adaptive in that the individual and collective behavior mutate and self-organize corresponding to the change-initiating micro-event or collection of events.*

The international humanitarian network is comprised of affected populations, local and national responders, the traditional humanitarian donor community, new emerging actors, malign anti-humanitarian players, and peripheral participants and observers, all having different inter-connections, objectives, influence, capabilities, etc.

Self Organization/Adaptations: Humanitarian Cluster System (2005), Gender-Based Violence, The Grand Bargain (2016), Localization, Cash-Based Assistance, Anticipatory Action, Volunteer Technical Community/digital humanitarianism, etc.



Complex Adaptive Humanitarian System

Emergent Complex Humanitarian Crisis

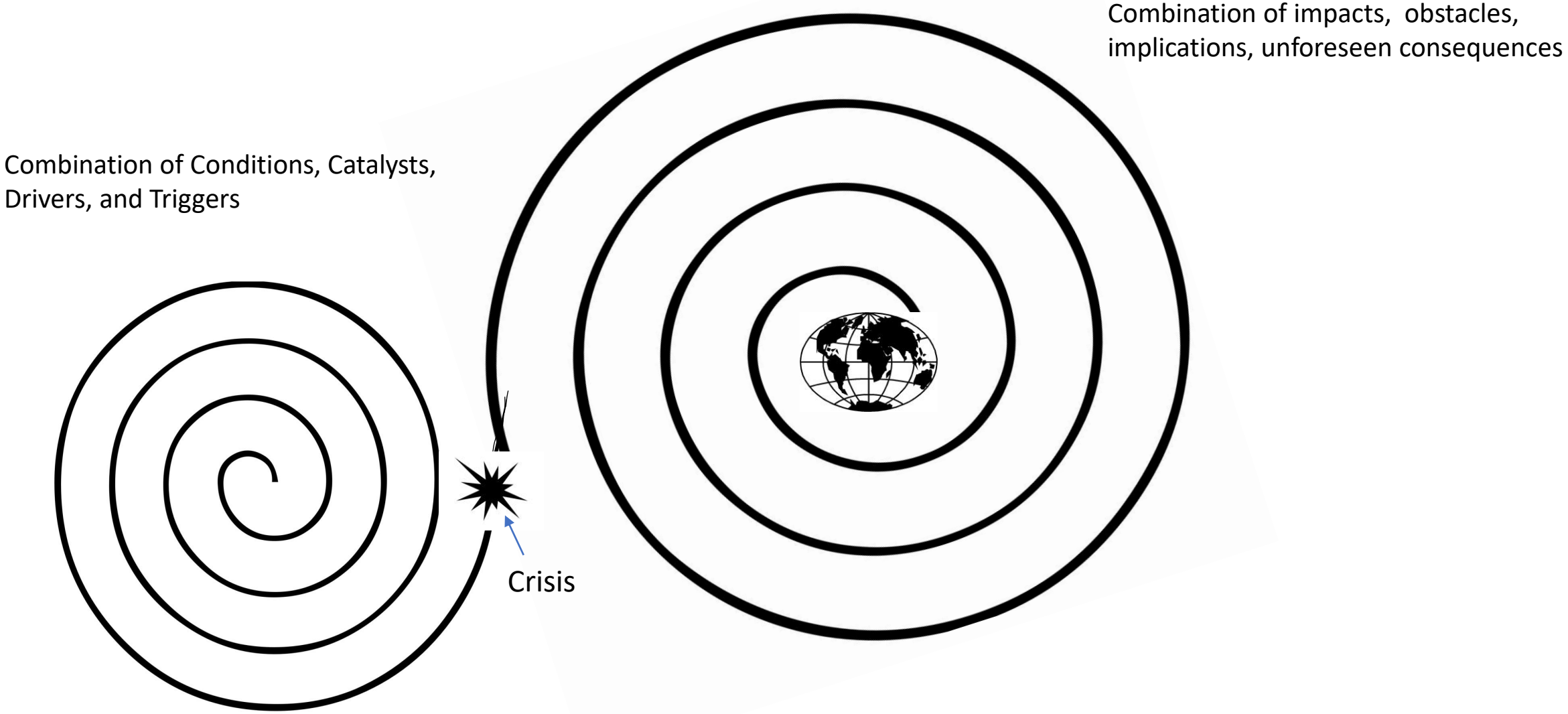
Emergence *is the observation of an effect that lacks a sufficiently clear or apparent "cause" as normally understood in how the system behaved previously. "The whole is greater than the sum of its parts" Emergence occurs when these interactions disrupt, causing the system to differentiate and ultimately coalesce into something novel.*

Disasters and conflict crises are usually the result of a combination of conditions, drivers, catalysts and trigger events that result in different impacts, levels of severity, obstacles, unforeseen circumstances, etc. Each crisis is a unique situation, requiring multiple types of humanitarian action (food aid, shelter, health/medical assistance, etc.) A "polycrisis" is a cluster of related global risks with compounding effects, such that the overall impact exceeds the sum of each part. (World Economic Forum 2023)

Nonlinearity *means that the causal links of the system form something more complicated than a single chain where small changes in initial conditions can have large consequences, where uncertainty is high, and where there are discontinuities in normal events and shared responsibilities for action. Small, localized disturbances can evolve into critical states that impact the entire system. A* nonlinear system is *a system in which the change of the input is not proportional to the change of the output.*

Natural disaster and conflict humanitarian emergencies do not follow a linear progression or cyclical timeline. Humanitarian impacts spiral in and out, complications emerge and obstruct, participants adapt to changing circumstances. This makes planning and implementing strategies extremely difficult.

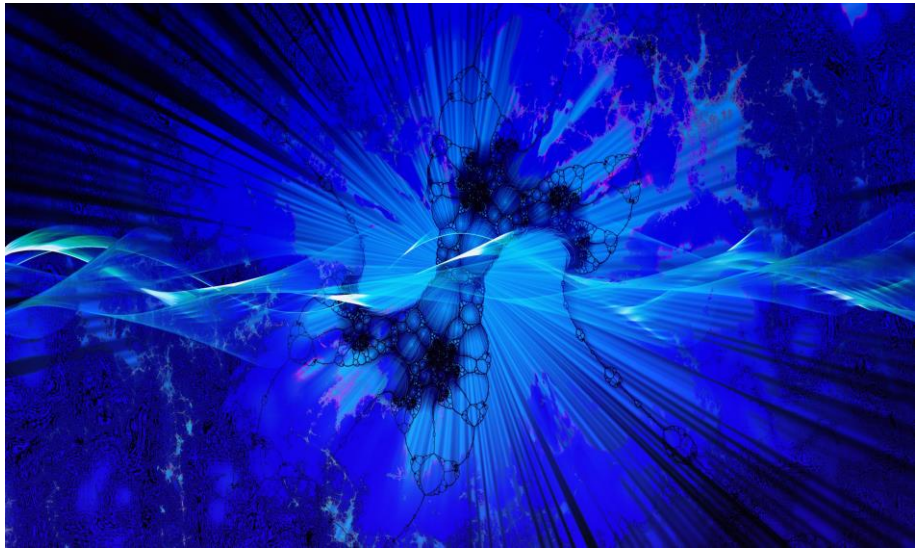
Visualization of an Emergent Complex Humanitarian Crisis



Edge of Chaos and Butterfly Effect

The **edge of chaos** is a transition space between order and disorder that is hypothesized to exist within a wide variety of systems. This transition zone is a region of bounded instability that engenders a constant dynamic interplay between order and disorder.

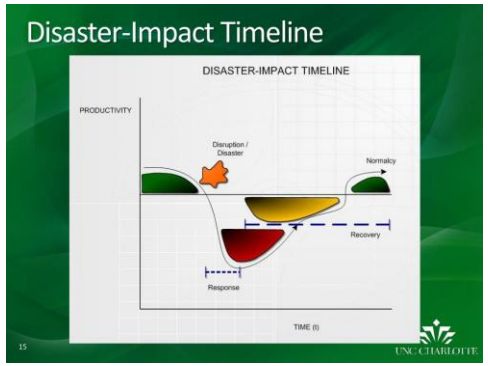
The **butterfly effect** is the idea that small, seemingly trivial events may ultimately result in something with much larger consequences – in other words, they have **non-linear impacts on very complex systems**.



Humanitarian Paradigm Shift

2001 – 2015 Complicated

- Refugees from marginalized populations in conflict-affected, low-income countries crossed borders and were settled into camps in neighboring countries
- Sporadic storms, floods, droughts
- Regional/country epidemics of cholera, malaria, yellow fever, Ebola
- Armed conflicts between a State and secessionist, revolutionary, sectarian, or terroristic non-state groups
- UN and western NGOs and donor governments dominate international humanitarian system



2015 – present Complex

- Refugees and economic migrants travel long distances to desired destinations with help from human traffickers, smart phones and social media.
- Changing climate patterns resulting in more frequent storms, floods, droughts, heat waves, wildfires
- COVID-19 Pandemic
- Unresolved protracted armed conflicts and criminal violence drive humanitarian crises
- New non-traditional donors and malign actors

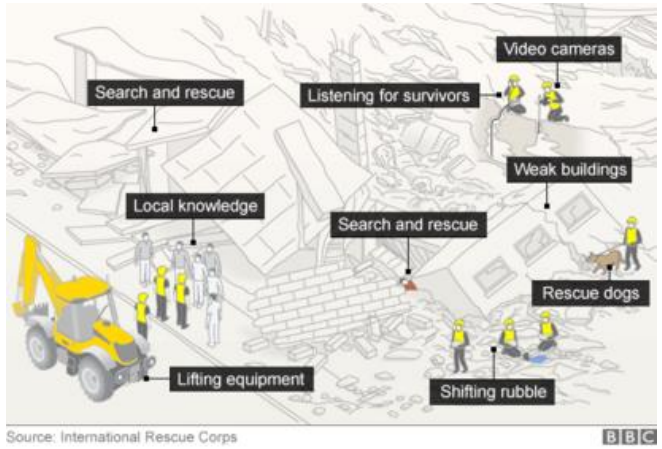
Humanitarian Decision-Making

RESPONSE/ TACTICAL

Field-level first responders at the disaster-affected site, in direct contact with the population in need. Tactical activities include search and rescue, emergency medical acre, logistics, damage assessment, etc.

<u>Field/Tactical Decision-Making Questions</u>

- What and Where are the highest priority, live-saving opportunities?
- What are the risks, threats, and constraints that aid workers face in specific crisis-affected areas?
- What are the best ways to counteract the logistical bottlenecks, bureaucratic obstacles, and environmental constraints that will hinder the fast and effective delivery of humanitarian supplies, services, and projects?
- What are the best ways to protect critical infrastructure and aid resources that are at risk during a disaster or conflict?
- How should we prioritize delivery and distribution of aid supplies and services to affected individuals?



PROGRAMMATIC/OPERATIONAL

Headquarters-level directors, program/desk officers responsible for planning, resource allocation, project implementation, coordination, and situational monitoring

Programmatic/Operational Decision-Making Questions

- What donated supplies, services, and projects will best serve the unmet needs and alleviate the suffering of the affected populations?
- How effective are the affected national government and local civil society groups that are responding to this disaster? Which organizations should we work with and/or support?
- Who are the other donors, international organizations, and NGOs providing aid to this crisis, what are their capabilities and motivations, and how does coordination take place?
- What are the lessons learned and best practices from specific past disasters that can be utilized in future humanitarian responses?

POLICY/STRATEGIC

Headquarters-level policy makers responsible for strategy and policy development, anticipatory preparedness, and geopolitical/diplomatic coordination

Policy/Strategic Decision-Making Questions

- What are the likely threats and challenges that aid organizations will need to prepare for in the future?
- How bad are the latest severity indicators (deaths, damage, displacement, etc.) and what are the unmet needs and obstacles related to this disaster/crisis that will need to be addressed?
- What policies, programs and opportunities should be supported to address future needs and strategic interests?
- What are some of the new developments (new actors, new technologies, new approaches, etc.) that will impact the humanitarian system?

Decision-Making Approaches

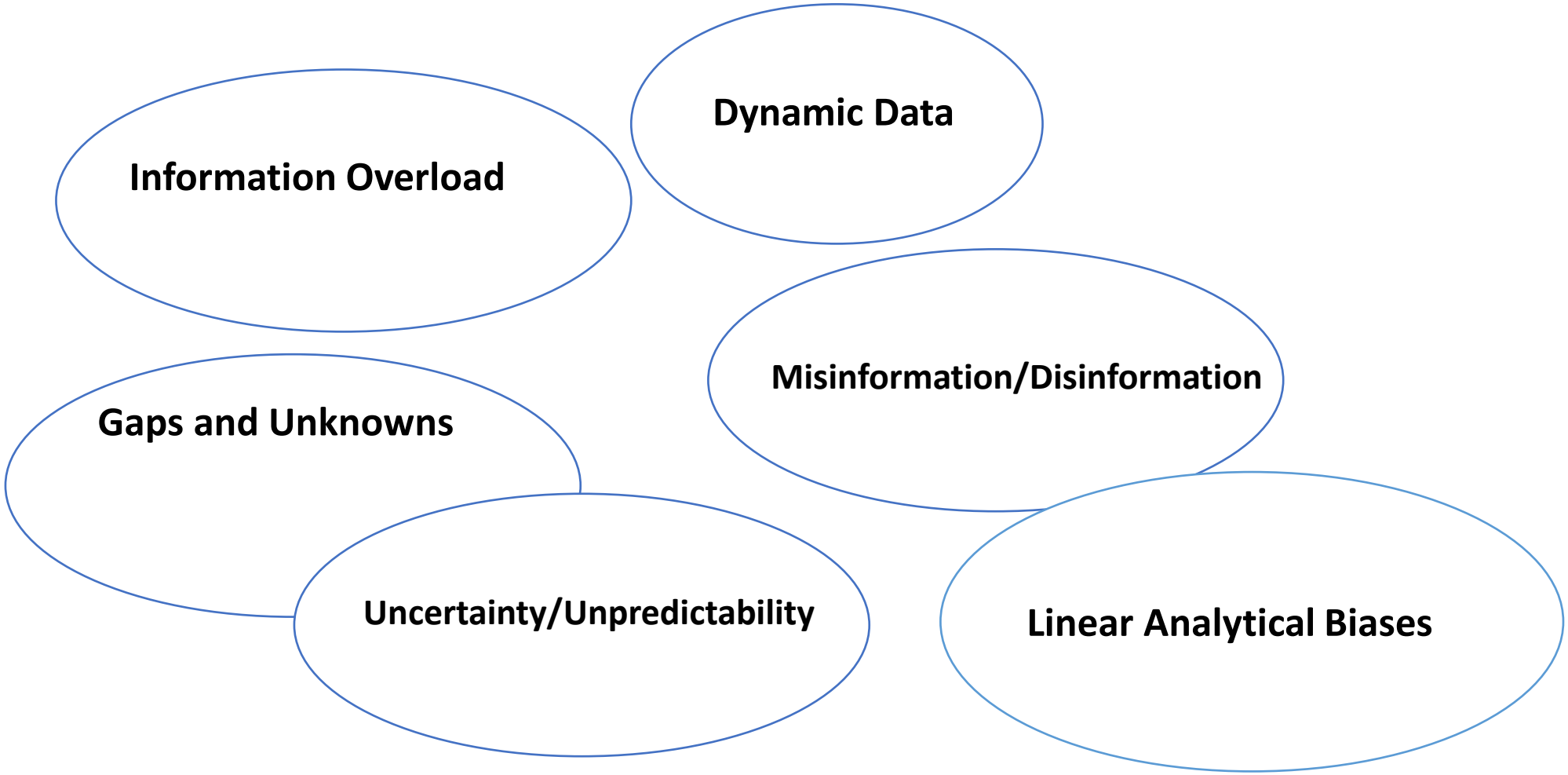
Source: Beyond Assumptions (2019) Campbell and Clarke, ALNAP

Analytical – relies on collected information and synthesized analysis to identify the best possible course of action based on provided options. Used in cases of high uncertainty.

Naturalistic – relies on intuition, shaped by previous experience and informed judgement to identify a course of action that will produce positive results. Used when there is high urgency or in more familiar situations.

Procedural – relies on codified procedures or series of steps to identify courses of action. Used in stable, repetitive, well-structured tasks.

Analytic Complexity



Analytic Challenges

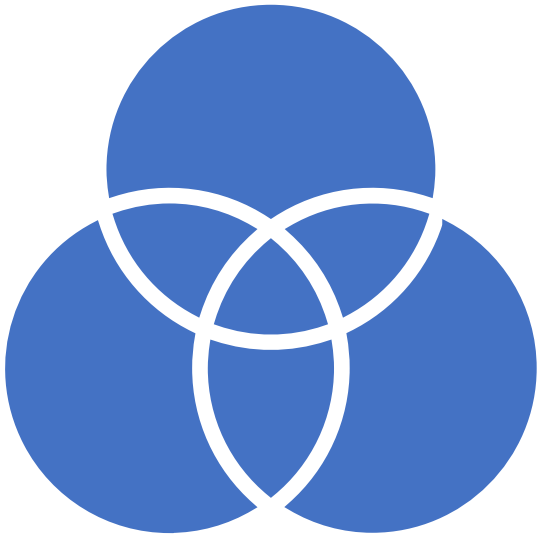
- Information Overload – so much incoming information it is difficult to find critical information for analysis and decision making
- Dynamic Data – Data(death tolls, numbers in need, aid provided, etc.) and situational assessment are constantly changing – needs to be date/time stamped
- Mis/Disinformation – incorrect information (under/overestimated) or intentionally false or misleading information – need to be verified
- Gaps and Unknowns – information unavailable due to lack of access, time constraints, not reported, internal, etc.
- Uncertainty/unpredictability - many events are unpredictable, include many unknowns. Paradoxes, anomalies, disinformation and polarization are drivers of uncertainty.

Logic Linearity Biases

- Cause and Effect – an identifiable cause has specific, certain effects. Disasters often have multiple causes and contributing factors that result in multiple side effects and unforeseen consequences
- Proportionality – there is a proportional relationship between inputs and outputs (big events have big causes). A relatively small event/input can have an enormous synergistic impact.
- Reductionist Decomposition - to study a phenomenon by breaking it down into component parts A “polycrisis” – a cluster of related global risks with compounding effects, such that the overall impact exceeds the sum of each part. (World Economic Forum 2023)
- Precedence/Path Dependency – previous events and decisions drive present or future analysis and decision-making
- Rationality – humans act and make decisions based on reason and constructive, long-term self-interest

Humanitarian Analysis

- Reducing uncertainty and making judgments based on imperfect data and information to enhance a decision-maker's understanding. Provide value-added information, insight, and warning.



Work of Humanitarian Analysis

- Select and Filter documents for decision makers to read
- Synthesize, summarize, visualize data/information/analysis for decision makers
- Present analytical judgments to decision makers in the form of written products, deep dive briefings, visualizations
- Anticipate and Alert decision makers to emerging or potential threats, risks, and opportunities
- Participate in Collaborative Analysis

Descriptive analysis - Explanatory analysis

Descriptive analysis reports on what is known about a situation, people, places, or objects, and includes periodically updated situation reporting and situational infographics. **Explanatory analysis** probes the reasons and causes of a situation, getting at why it happened or is developing at a particular time and can be visualized with timelines and link charts.

Evaluative – Comparative analysis

Evaluative analysis examines the significance of a problem or topic of interest, its implications, and often explores second and third order consequences, while **comparative analysis** compares events, situations, groups, etc. distinguishing their similarities and differences.

Predictive analysis - Anticipatory analysis

Predictive/Forecasting analysis is forward thinking identifies, describes, and forecasts events, conditions or probable outcomes that might be expected to exist months and even years hence. Forecasting – prediction of future events , usually based on data to project a linear path to the future.

Anticipatory/Foresight analysis has been defined as the ability to "sense, anticipate, and warn of emerging conditions, trends, threats, and opportunities that may require a rapid shift in national security posture, priorities, or emphasis." **Foresight** – foresee and prepare for the future, more about exploring scenarios/possibilities than predicting future events

https://www.insightandforesight.com.au/blog-foresights/forecast-to-foresight

TIPS

Brevity and BLUF (Bottom Line Up Front)

Trust and Transparency

Confidence, caveats, disclaimers, gaps, alternatives

You can’t wait for perfect data or information

Written products vs. deep dive briefings

Visualization – maps, charts, graphs, photographs/imagery, dashboards

Know Your End User/Audience – answer their questions

Target the decision maker’s circle of advisors, staff, usual sources, etc.

Try collaborative analysis (teams, brainstorming, gaming, dashboards)

Don’t Expect Feedback

Thank You

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