



Work-Centered Approach to Insurgency Campaign Analysis

Paper I-029

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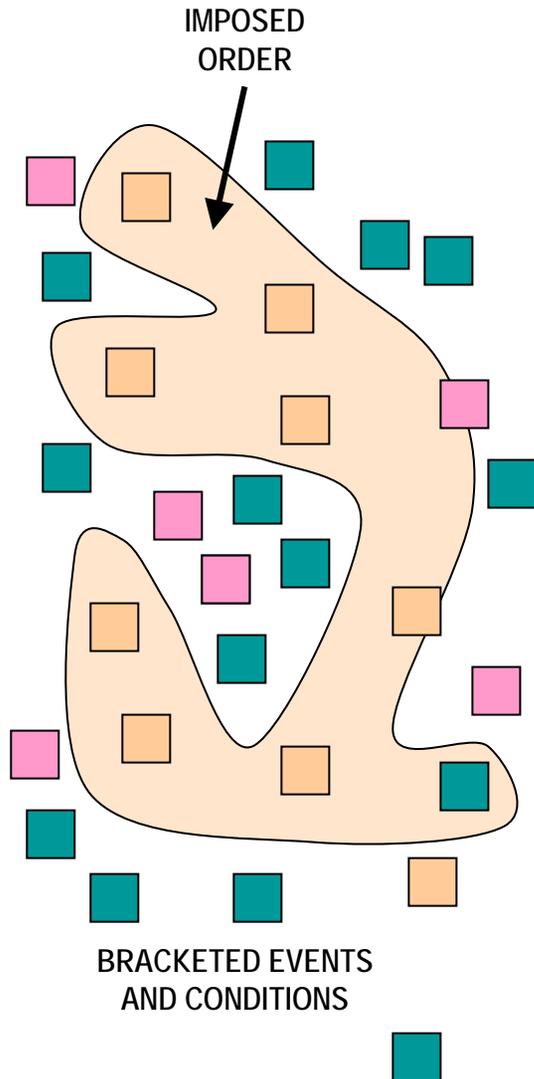
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Two basic needs of the analysts:

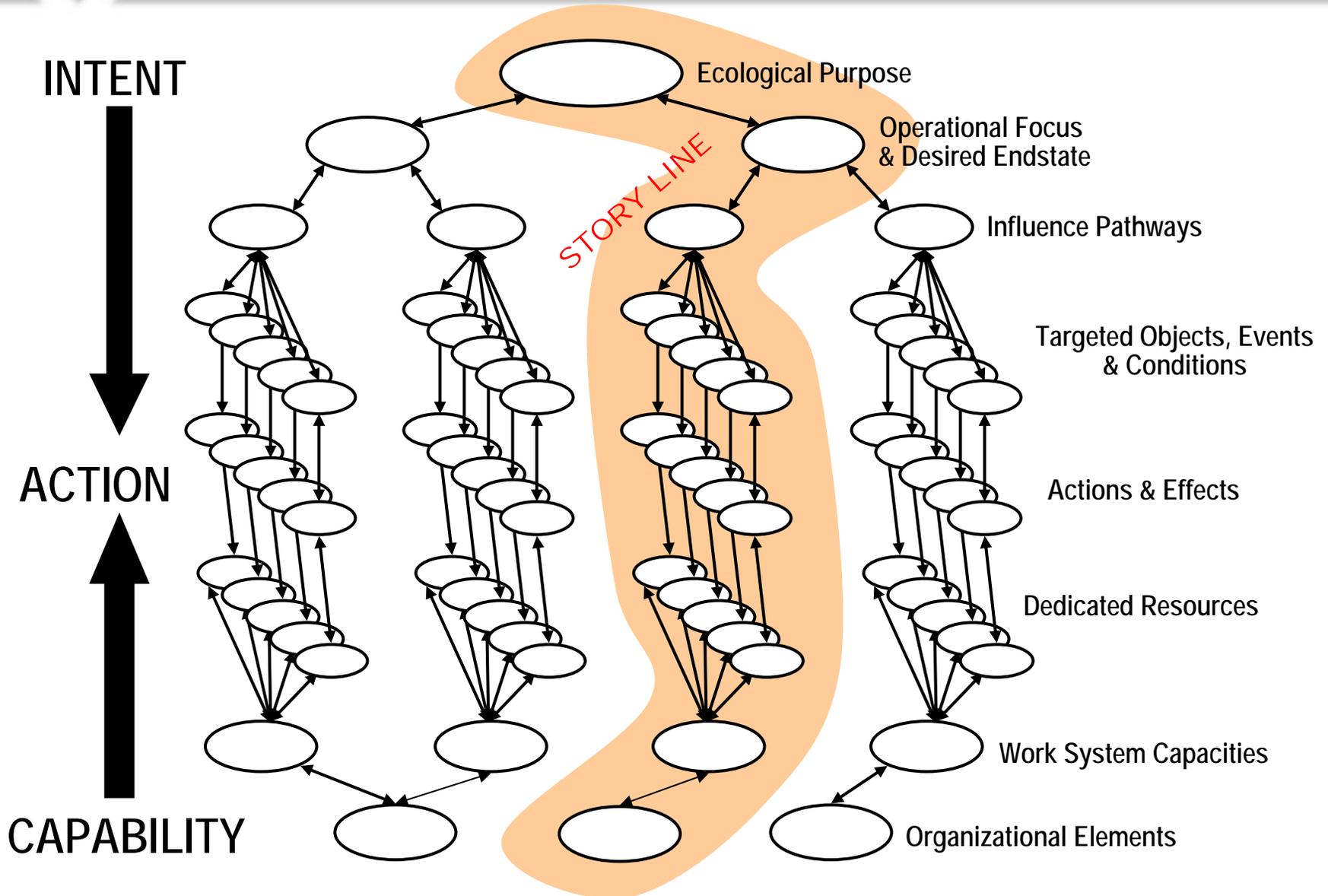
- **Reduce disorder** (ambiguity and equivocality) to provide a coherent explanation of a complex and evolving situation
- **Instantiate beliefs** to a workable level of certainty

Analytic strategy:

- **Incrementally build understanding in a “top down” and “bottom up” manner simultaneously**, so as to construct and maintain a feasible story regarding an insurgency campaign’s lines of operation and tactical actions
- **Stories are epistemologically framed by a work control structure** that coherently connects an insurgency’s intent with its capabilities and provides a cause/effect context for explaining observed and predicted events and conditions
- **Incorporate multiple perspectives**, so as appreciate the breadth and complexity of the operational and tactical problem space impacted by the insurgency campaign
- **Construct situational meaning** of observed events and conditions as a function of their **negotiated placement within an overall story** –i.e., understanding is autopoietic in nature
- **Treat beliefs as nonpersistent, situation-dependent propositions**, not static, universal truths –i.e., beliefs will change in relation to the emergent and opportunistic strategies and tactics of the insurgency movement

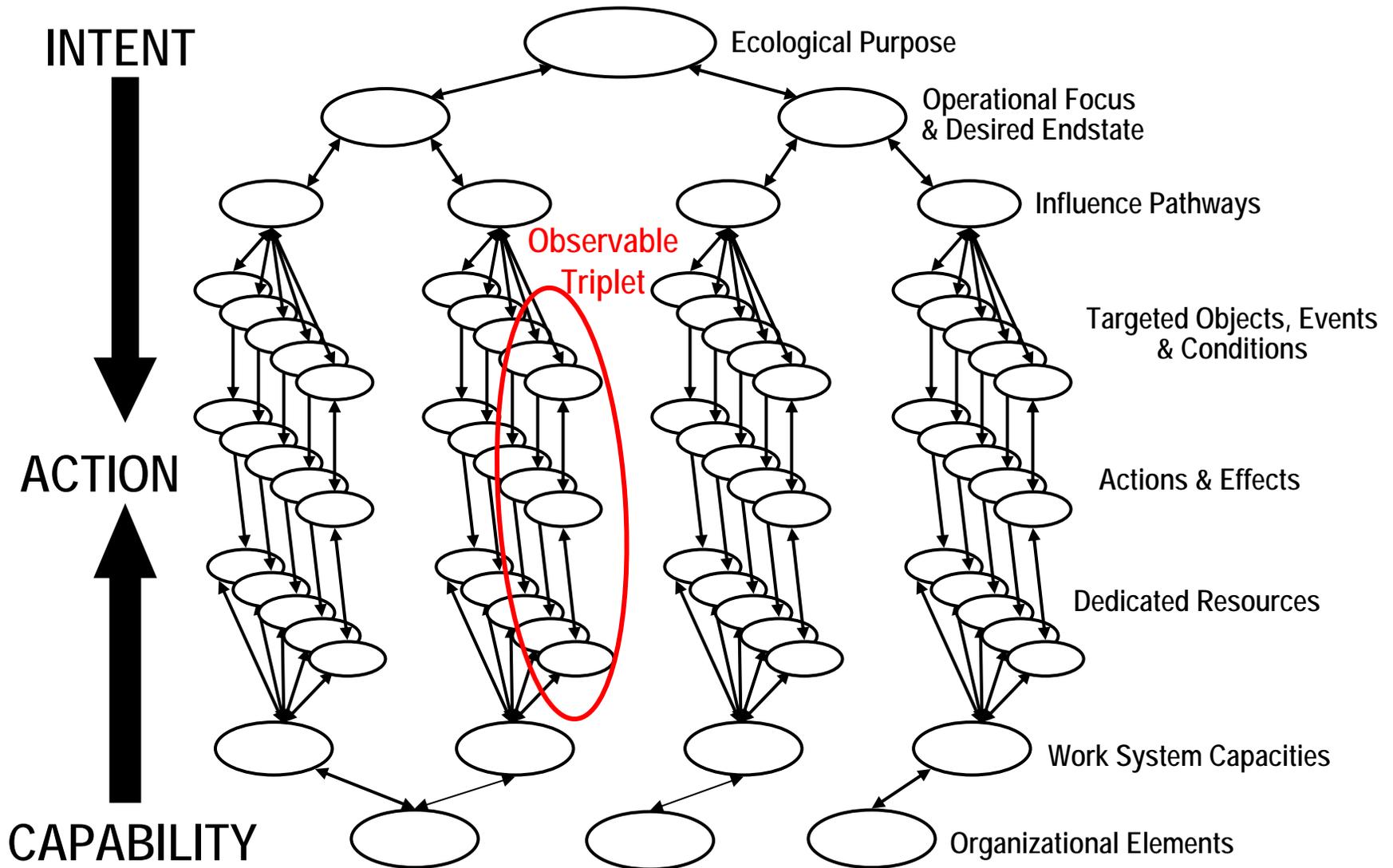


Epistemological Structure



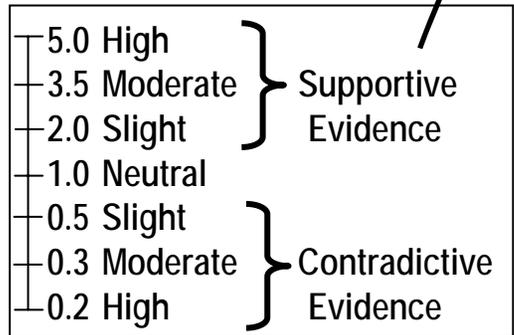
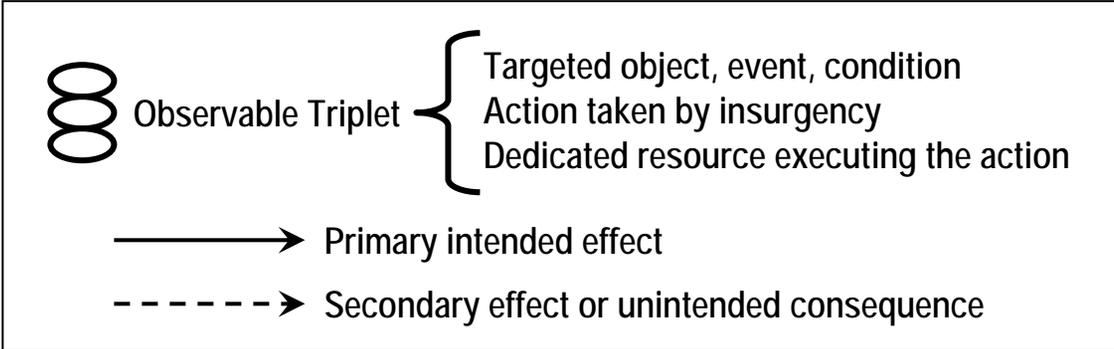
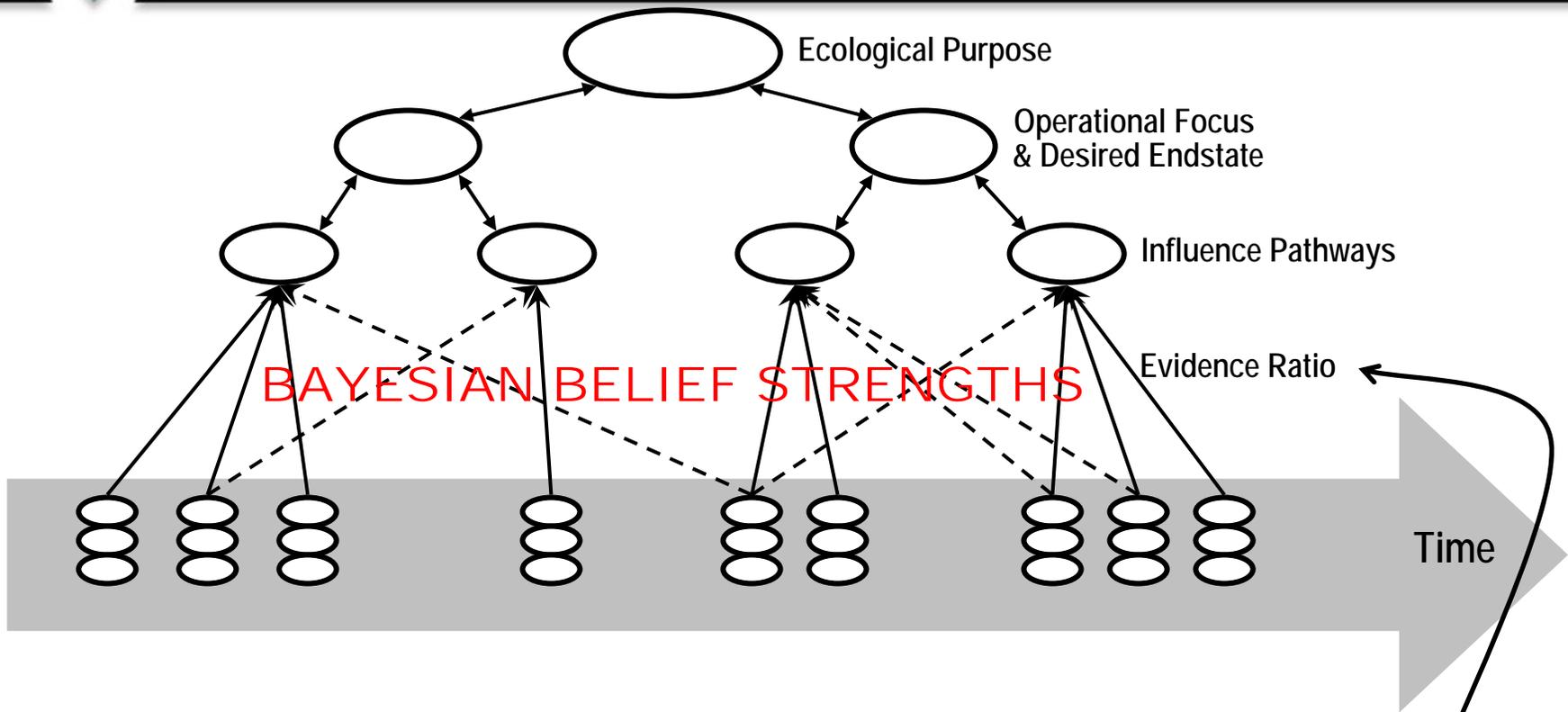


Constructed Story Lines





Hypothesis Instantiation

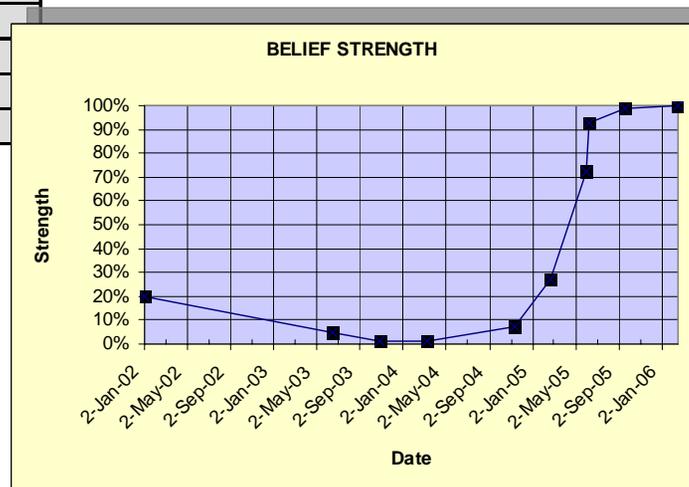




Dynamic Evidence Strengths

Bayesian analysis maintains evidentiary strength of each influence pathway based on stream of supportive and contradictory evidence

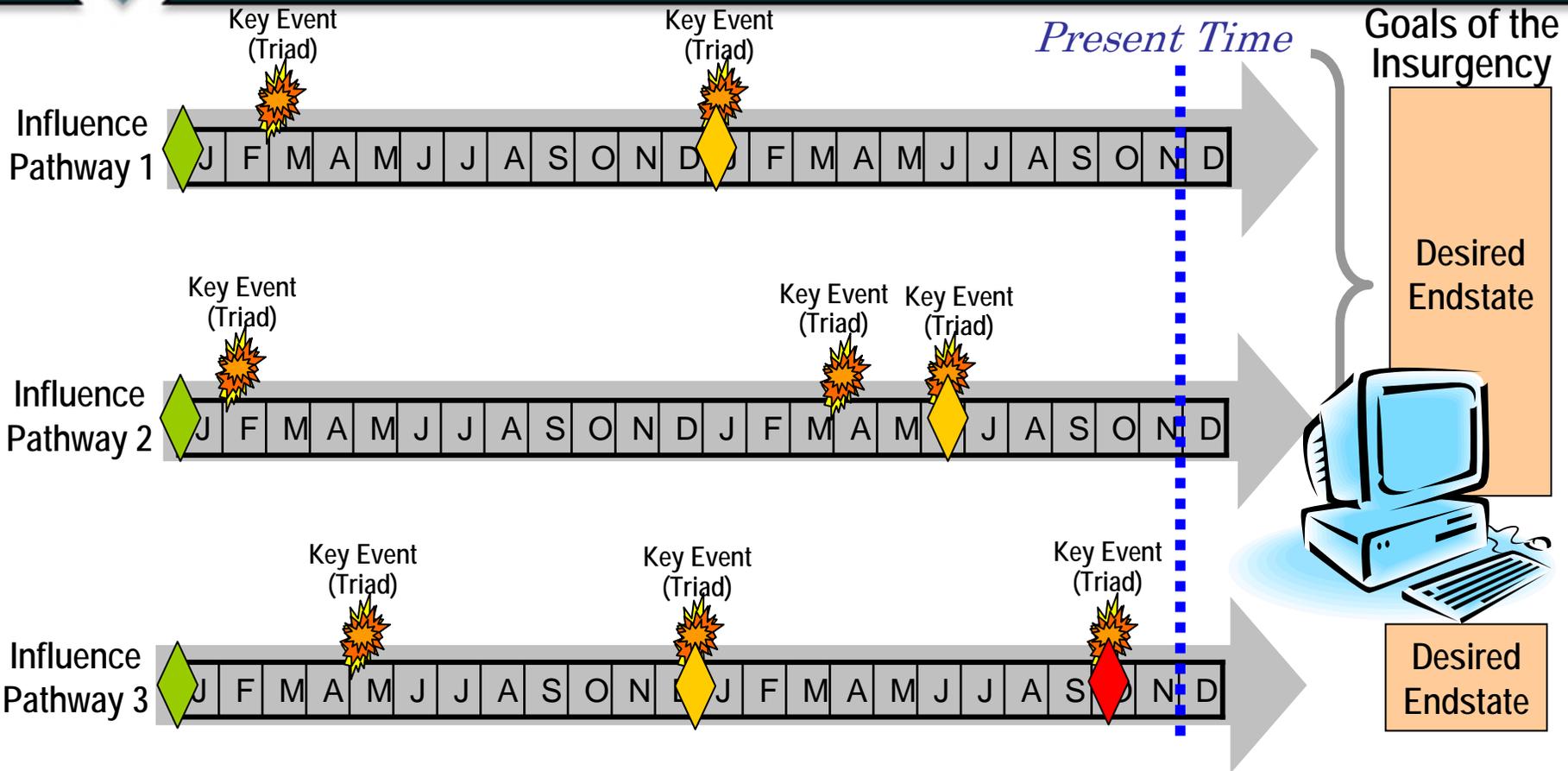
Item	Evidence Ratio	Date	Current Likelihood
		2-Jan-02	20.0%
1	0.2	15-Jun-03	4.8%
2	0.3	25-Oct-03	1.5%
3	1	8-Mar-04	1.5%
4	5	10-Nov-04	7.0%
5	5	20-Feb-05	27.3%
6	7	30-May-05	72.4%
7	5	10-Jun-05	92.9%
8	6	18-Sep-05	98.7%
9	6	14-Feb-06	99.8%



$$ES_{posterior} = \frac{ES_{prior} \cdot RATIO_{evidence}}{(ES_{prior} \cdot RATIO_{evidence}) + 1 - ES_{prior}}$$



Assessment of Campaign Progress



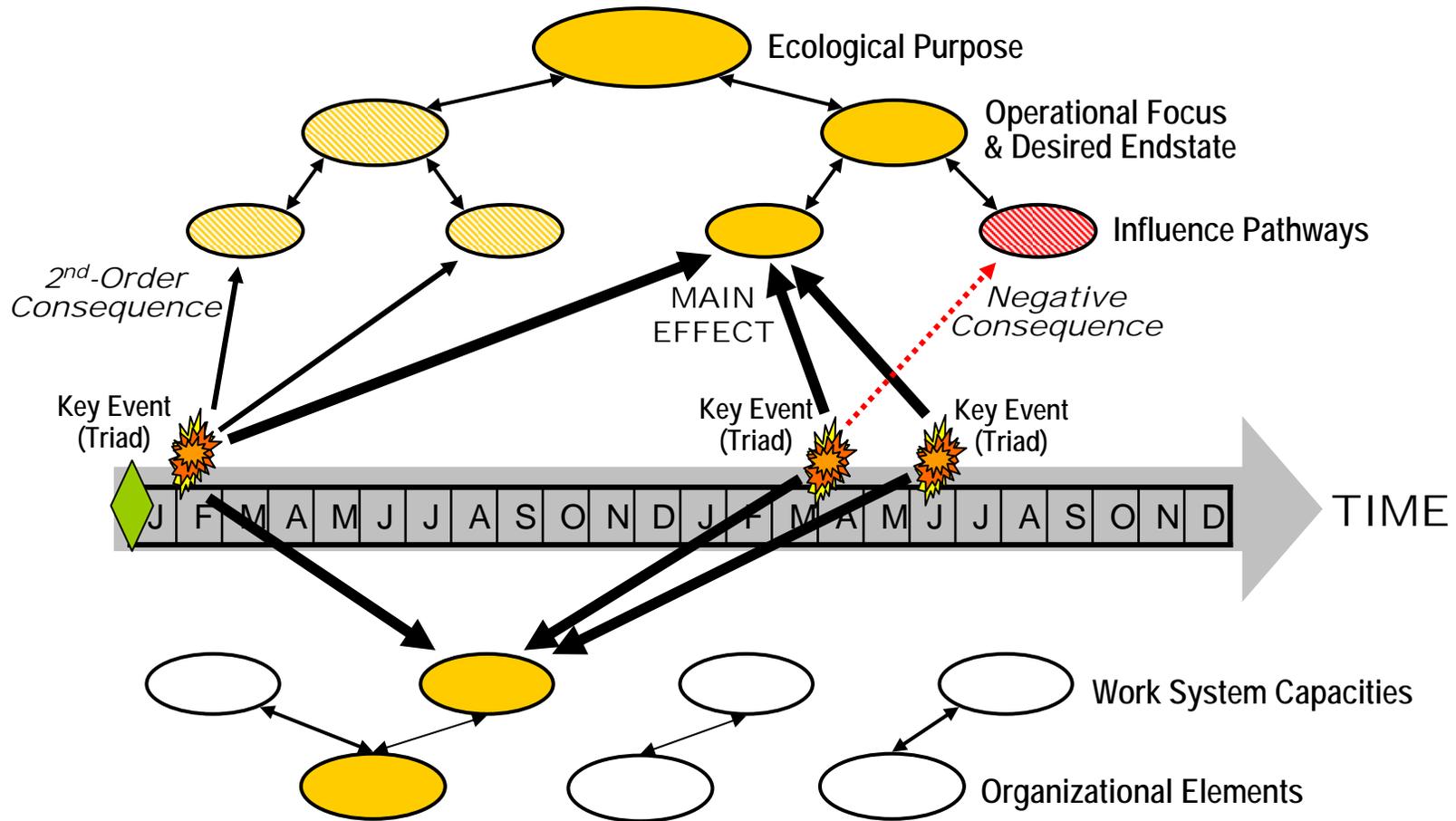
Story lines are constructed around hypothesized lines of operation. Triads are graphically displayed along a temporal scale and compared with key progress milestones to define the history and current state of the insurgency campaign.

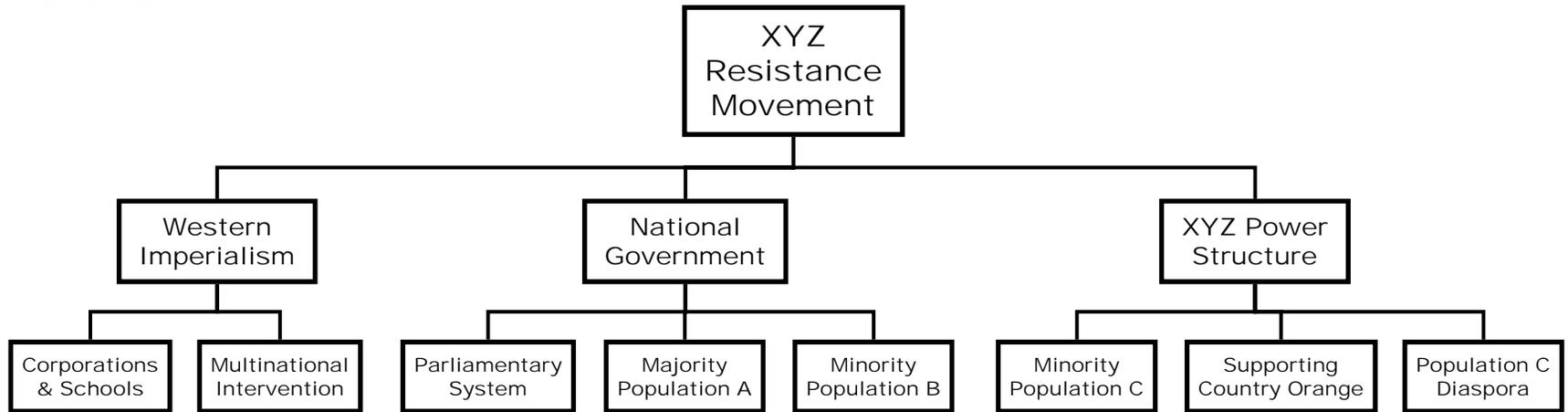
Milestone

- ◆ Non-threatening
- ◆ Significant Progress
- ◆ Critical Point



Neural Network Influences

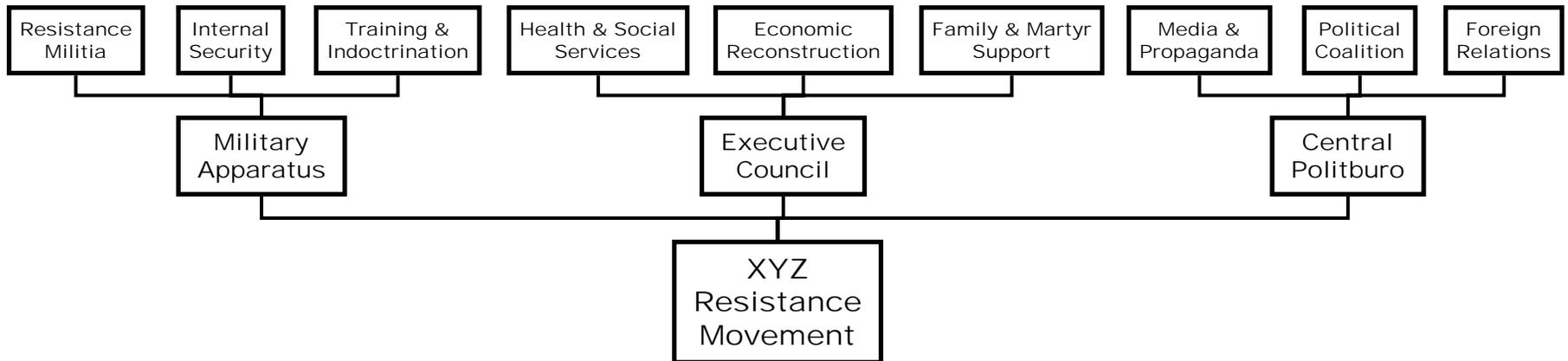




Operational Focus & System Influence Pathways

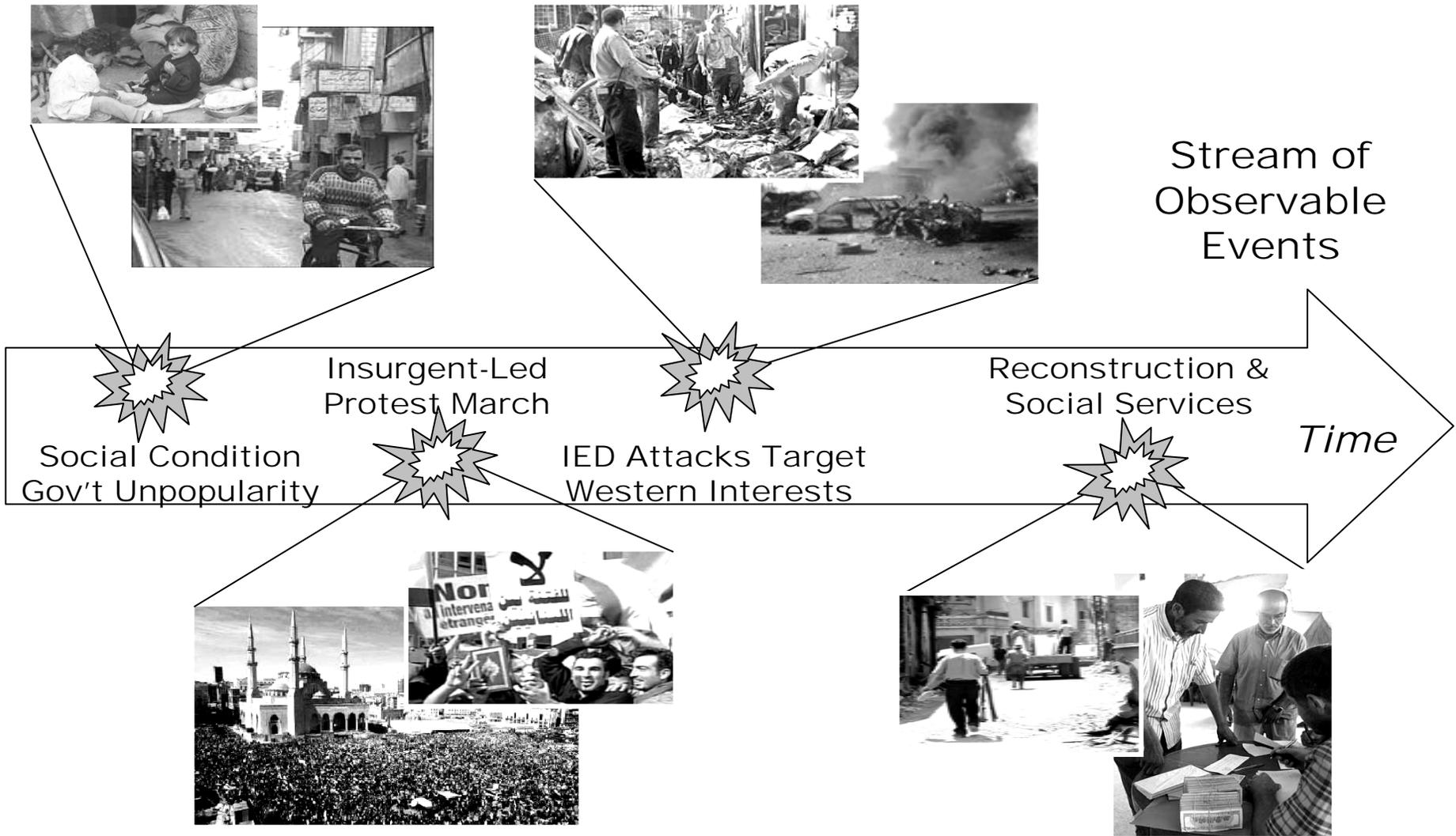
Cause/Effect Connections ?

Organizational Work System Capabilities



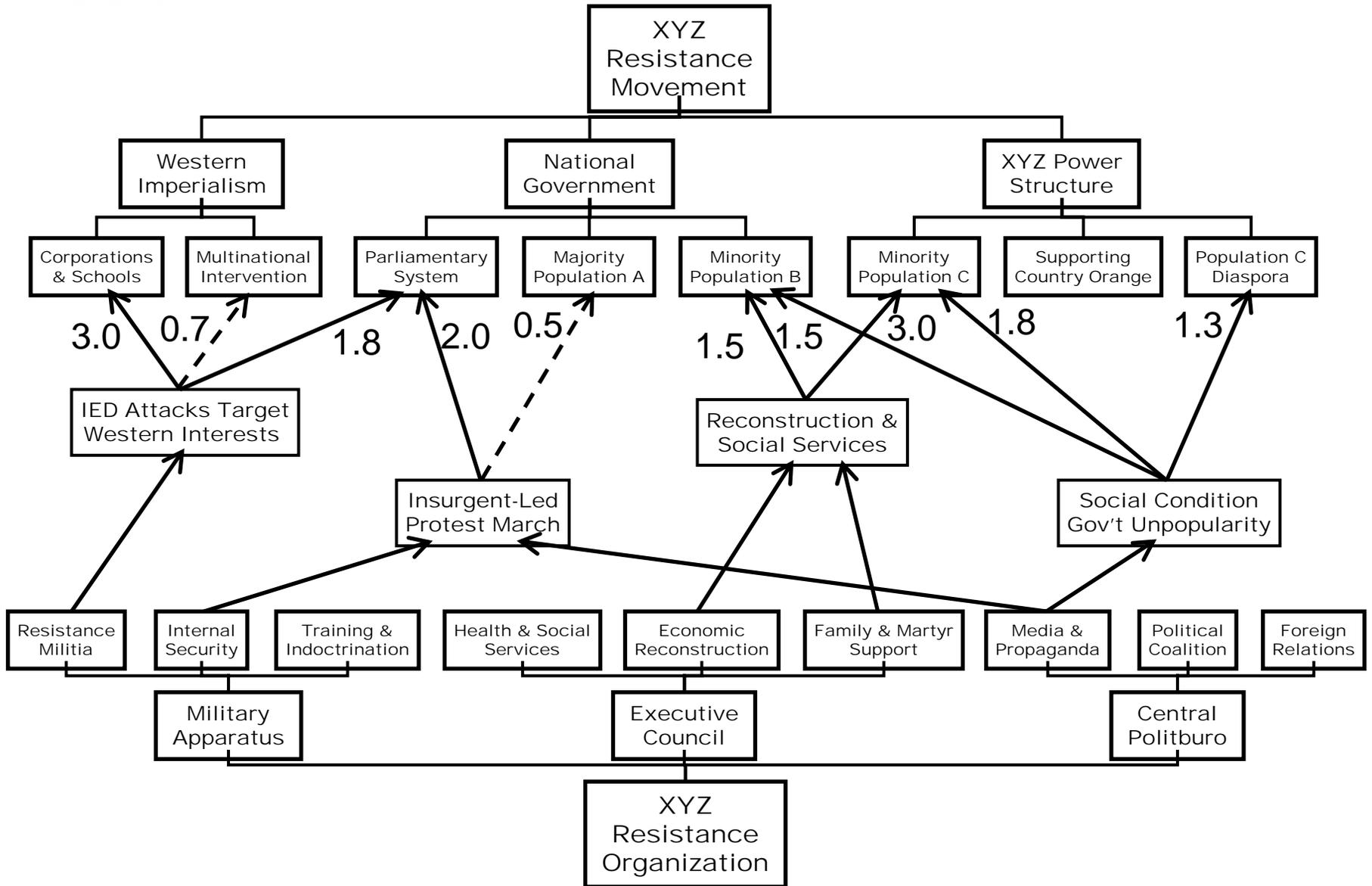


Fictitious Case Study – Observable Events





Fictitious Case Study – Evidence Ratios





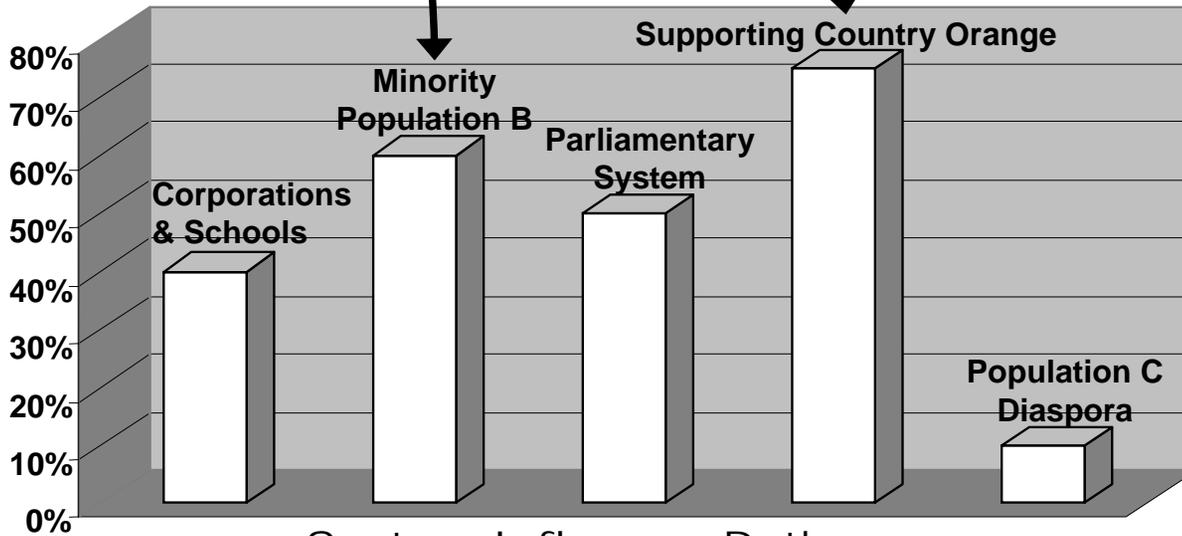
Operational
Planner



Areas of
Diplomacy and
Stability Operations
Attention

Phases of
Insurgency
Campaign

- Anarchy
- Civil War
- Warring Factions
- Declining Govt Control
- Sporadic Violence
- Major Dissension
- Minor Protests
- Stable Govt / Peace



System Influence Pathways
(Lines of Operation)

Operational
Progress
Toward
Desired
End State