

Appendix

Scoring Instructions--Materials to be Used by Participants to Score Alternatives Prior to the Workshop

1. The attached influence diagrams are the “scoring ballots.” Note that there are generally 6 copies of each diagram (only 3 copies for the fairness diagram). You require six copies since you must generally score each of the 3-alternatives for two separate time periods.
2. Proceed objective by objective, with the intent of scoring each alternative on the selected objective.
3. Consider each factor in the influence diagram.* If you believe there are important factors that have been omitted, you may add such factors (remember that each diagram is specific to the objective indicated at the top of the diagram, do not add factors that are important to other objectives, but not directly relevant to achieving the top-level objective in the current diagram).
4. Identify the key factors in the diagram that, in your opinion, determine the relative performance of the indicated approach against the specified objective. Document your judgments regarding these factors (for the specified alternative) using coloured pencils and colour scale defined in Figure 4. Add hand-written notes to the diagram summarizing your reasoning and logic (see the example of Figure 5). For example, if you think that in the near-term time period (0-175 years) the on-site storage alternative has the potential of exposing more people compared to the other two alternatives, indicate so by adding a note explaining why (e.g., more people will be living near such facilities compared with a DGR or centralized site) and choose a colour for the corresponding bubble (“size of population potentially at risk”) that indicates the significance of the concern (e.g., blue = middle concern, comparable to others, orange = large concern relative to others, or red = very large concern relative to others).

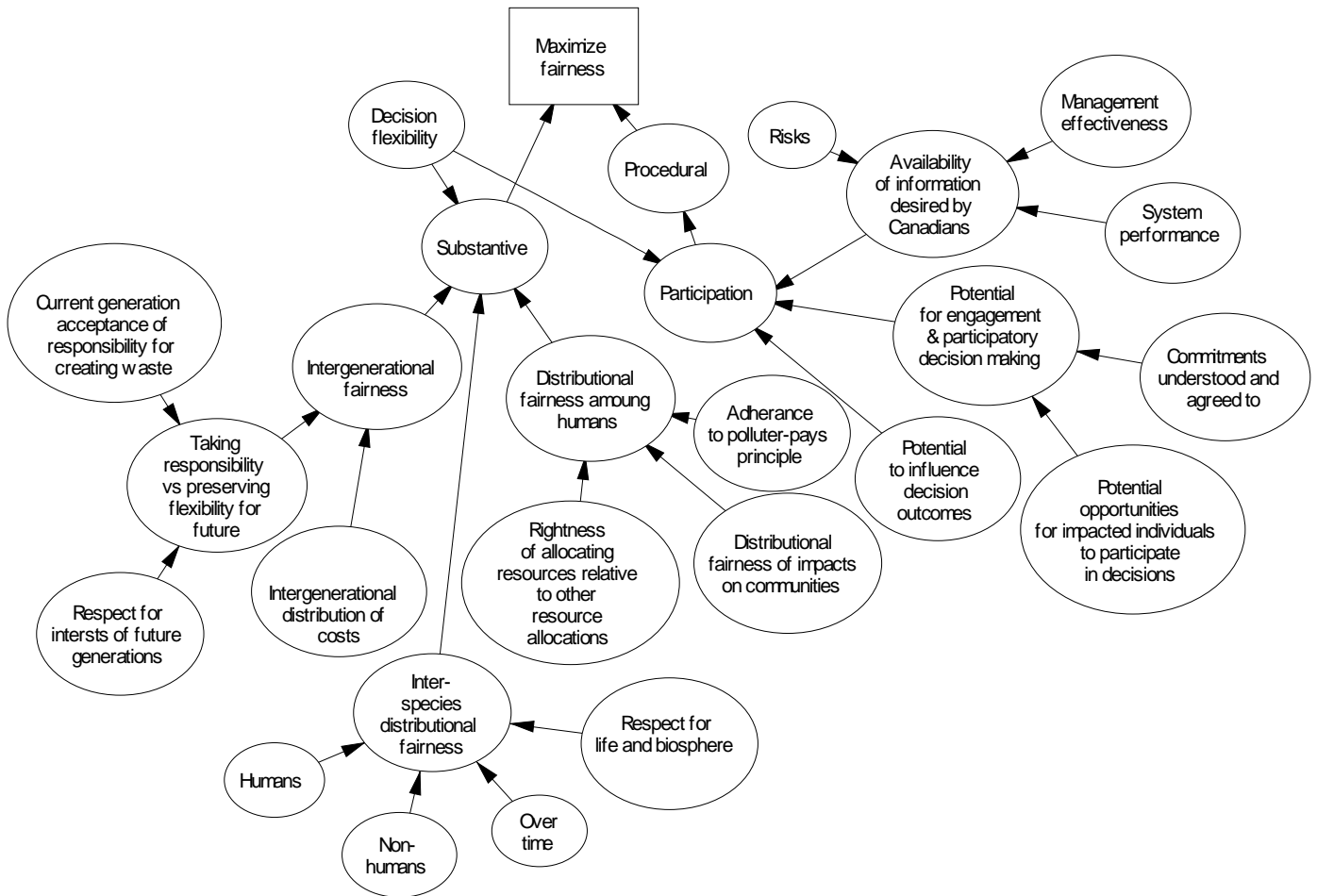
* Influence diagrams are most easily interpreted “from the top down.” For example, in Figure 5 in the main text there are 3 “top-level” factors with arrows going directly into the box representing the degree of public health and safety: (1) the size of the population potentially at risk, (2) the seriousness of the potential consequences to an impacted individual, and (3) the likelihood that an impacted individual would experience the adverse consequence. These are the factors that a risk assessor would need to know in order to quantify risk and influence the degree of public health and safety risk as follows: An approach that (1) places a larger number of people at risk, or (2) subjects people to more serious consequences (e.g., death as opposed to injury), or (3) makes it more likely that an individual within the population at risk would experience that adverse consequence, would, other things being equal, create a higher public health and safety risk.

The factors below with arrows going into the top 3 bubbles identify the factors judged to influence each. For example, each of the top bubbles is influenced by a “risk scenario.” The concept is that the assessment of health and safety risks requires identification of scenarios; that is, possible sequences of events that result in people being exposed to hazardous materials or other dangers. Thus, the logic, identified in the influence diagram, is that the risk scenarios that might occur under a given approach determine the populations potentially exposed, the nature of the potential adverse consequences, and the likelihood that the exposed individuals will experience those consequences, which, in turn, determines the risk associated with the approach.

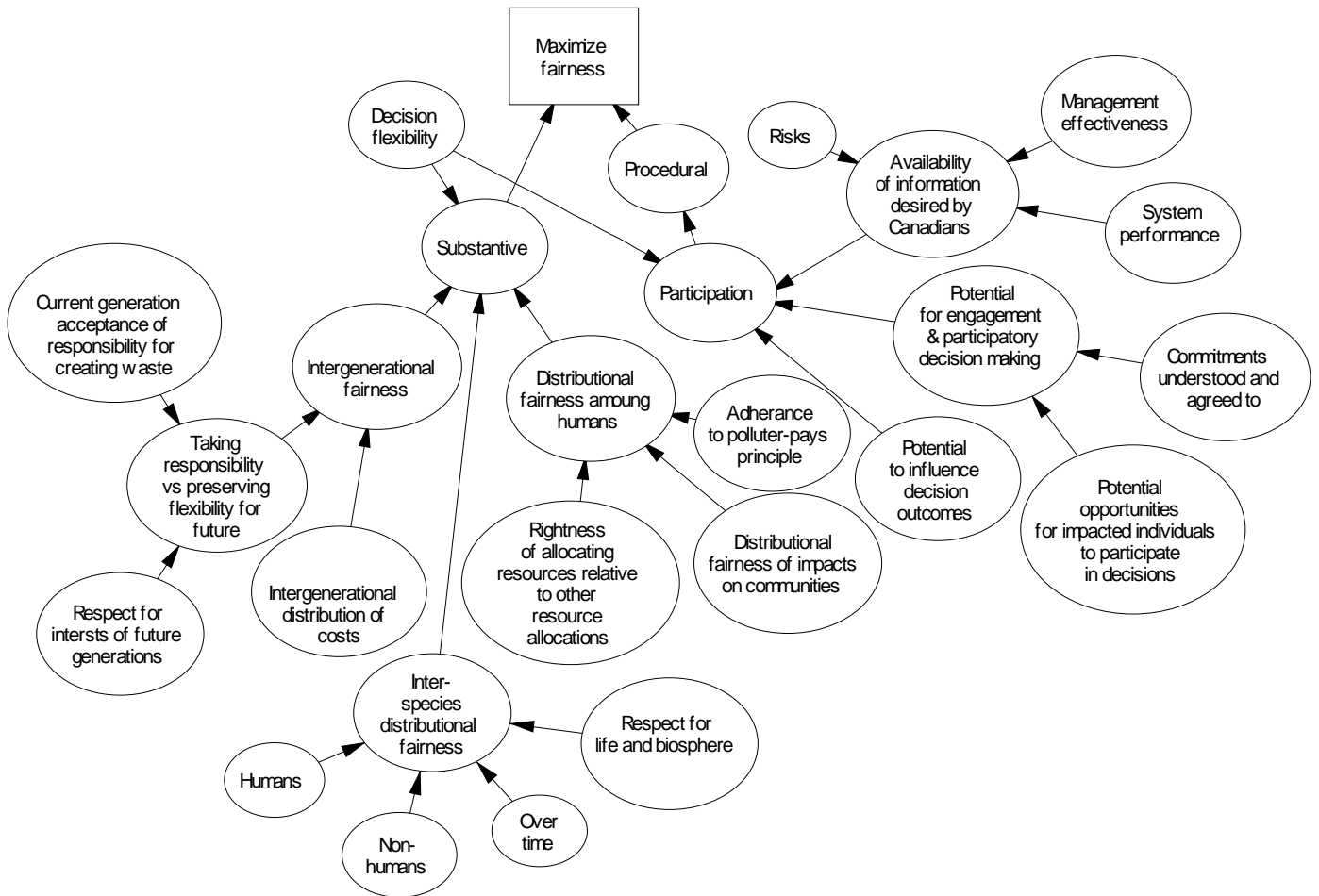
5. Repeat this process for each diagram (so that you complete all alternatives, objectives, and time frames). In other words, fill in all of the “ballots.”
6. Be sure that you have coloured in the top box on each ballot so as to indicate your overall assessment of the performance of each approach on each objective. If so, on the diagram corresponding to the time frame and approach that differs, write down (as a note near the relevant bubble) the logic for the difference, and indicate (by coloring the bubble) what your assessment is.
7. At the meeting, we will discuss and generate a group consensus for the overall assessments and the logic. We will then also generate an overall quantitative (0-100) score for each alternative for each objective.

Ballots for the qualitative scoring of alternatives are on the following pages.

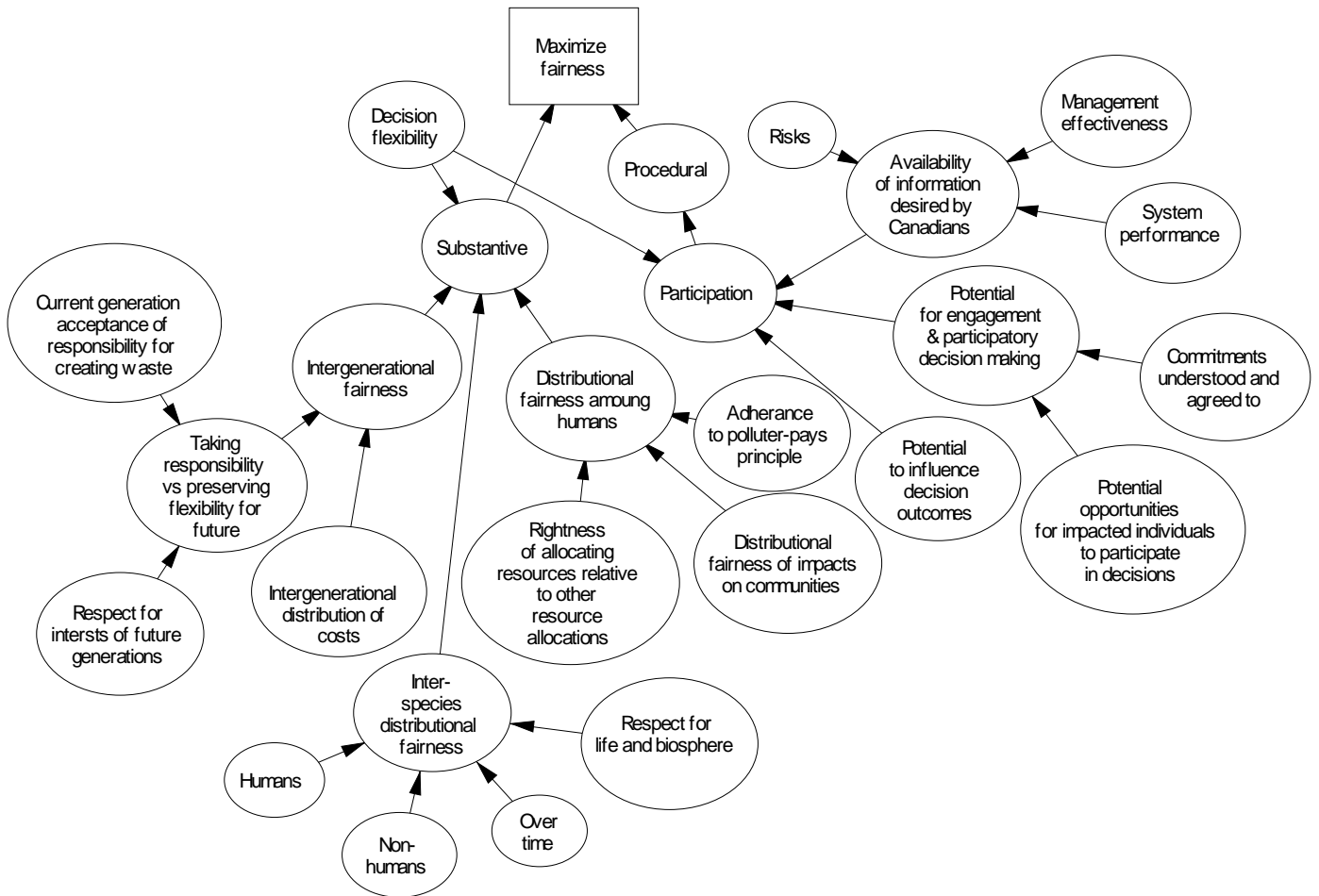
Ballot for scoring fairness – Centralized



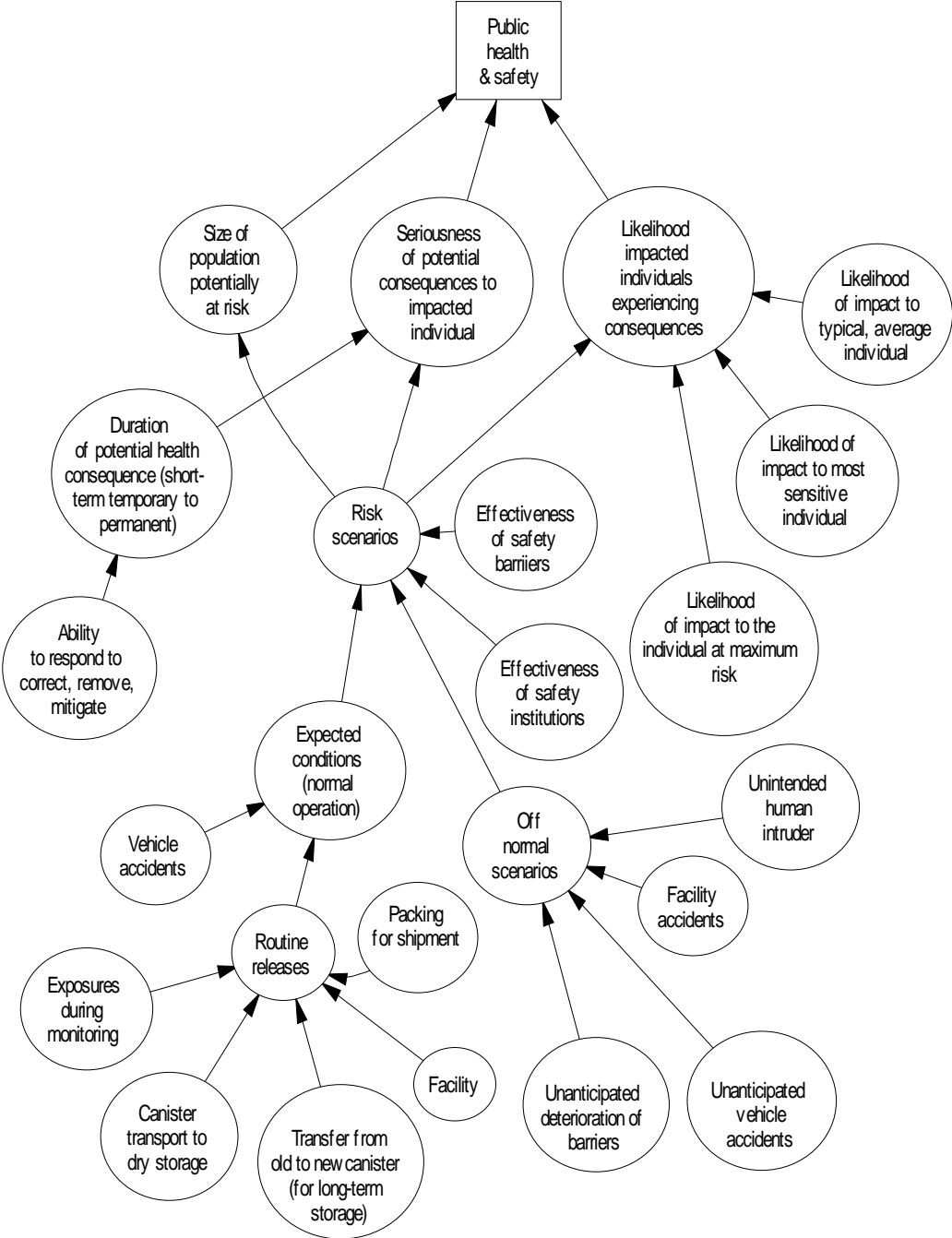
Ballot for scoring fairness – On-site



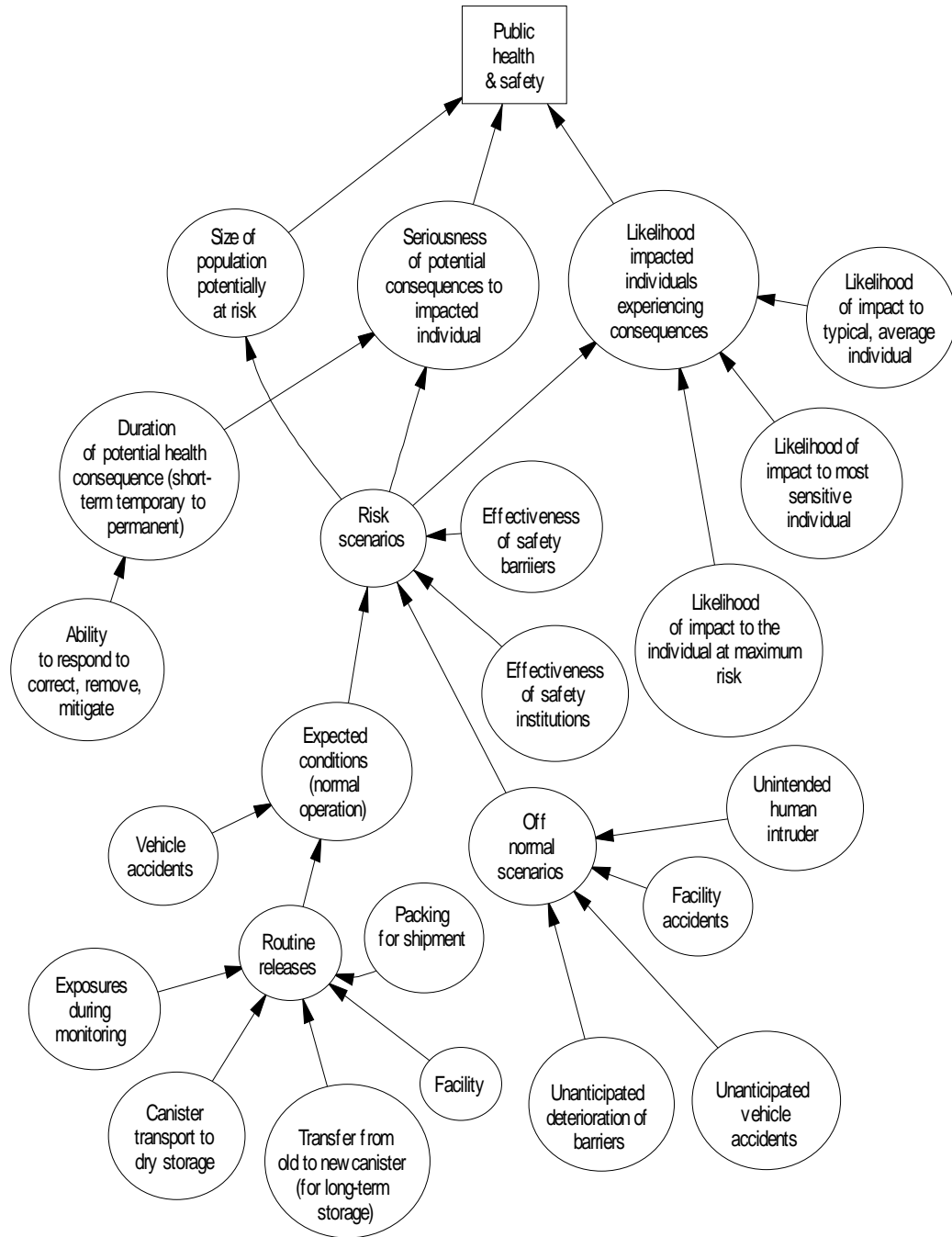
Ballot for scoring fairness – DGR



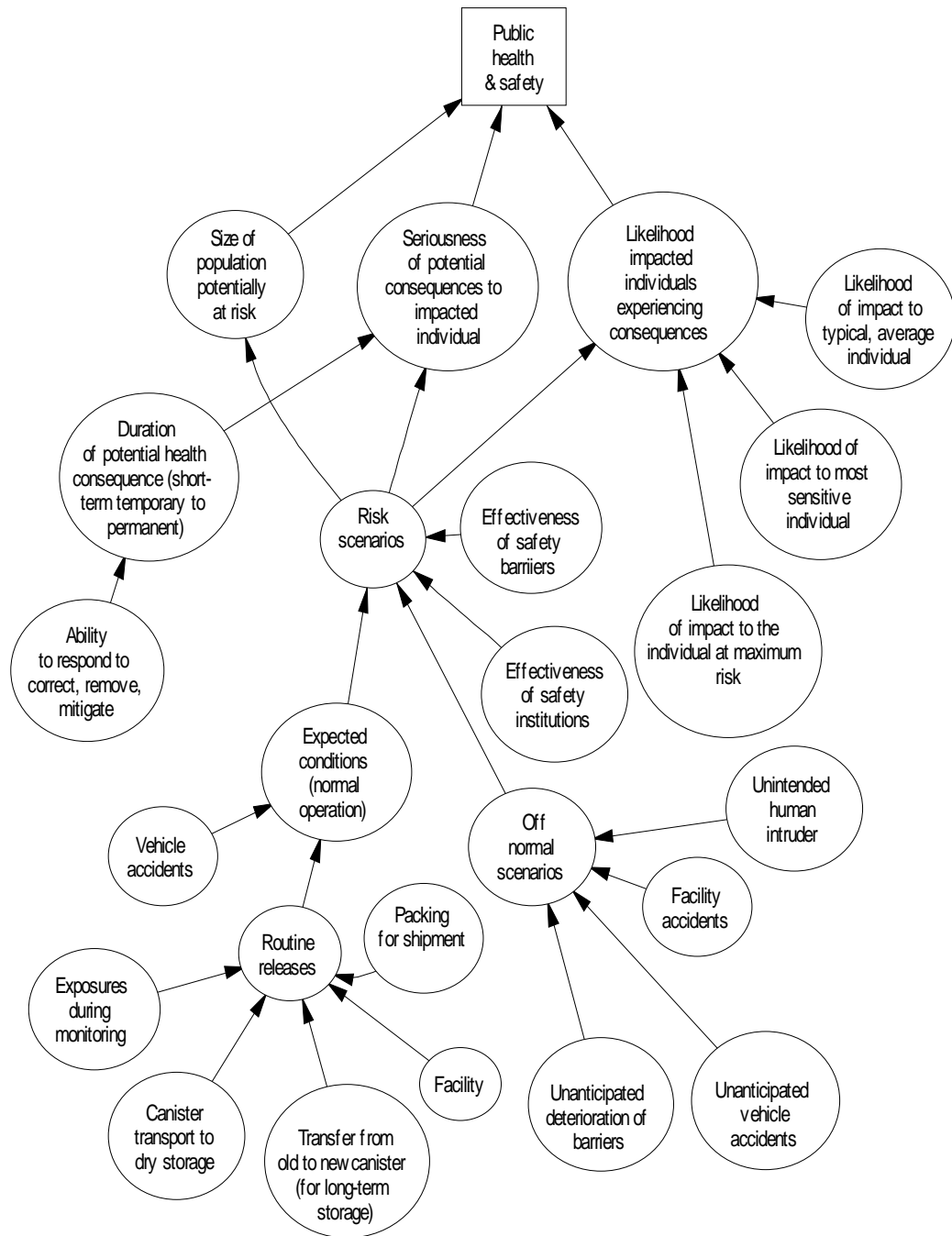
Ballot for scoring public health & safety – Centralized, 0–175 years



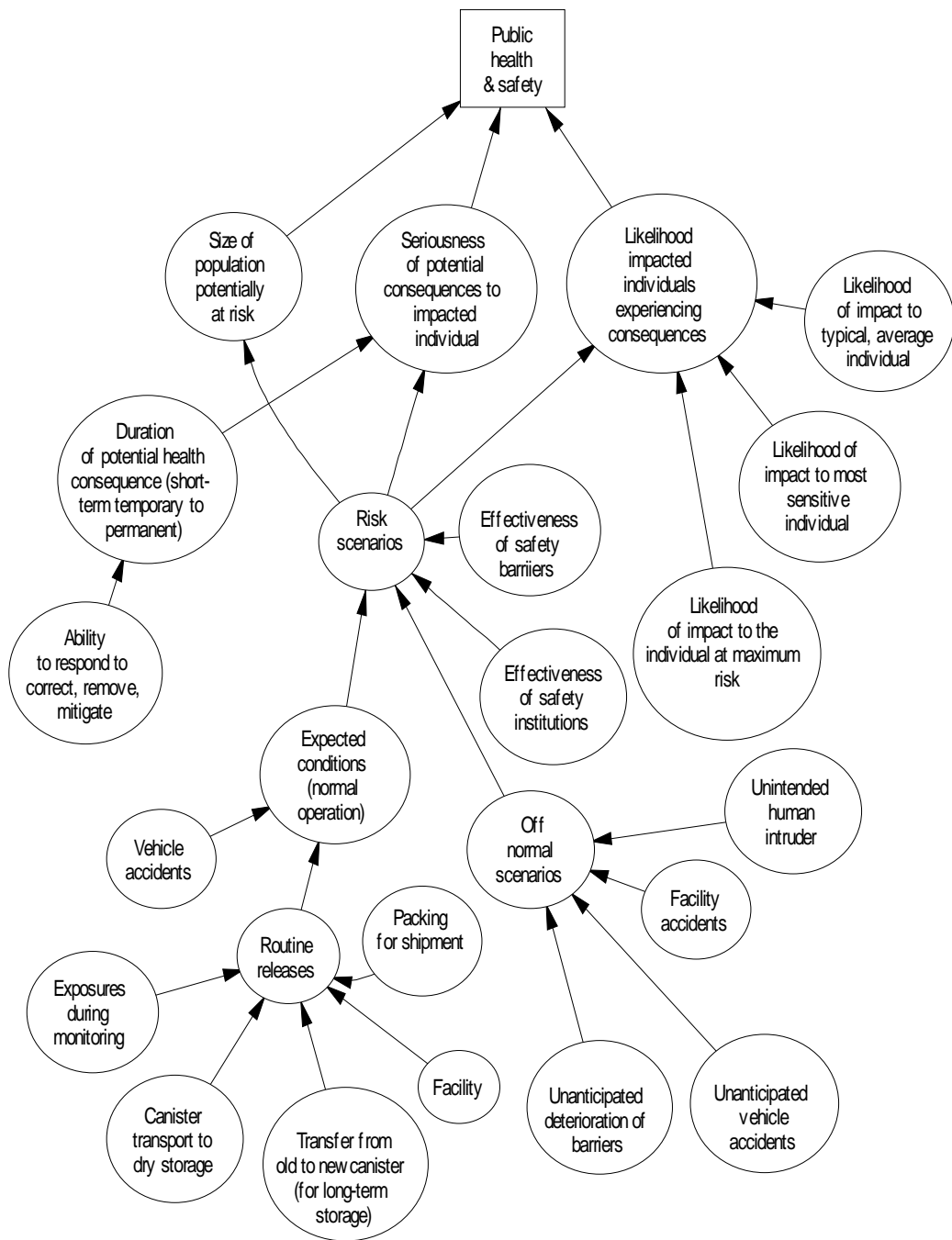
Ballot for scoring public health & safety – On-Site, 0–175 years



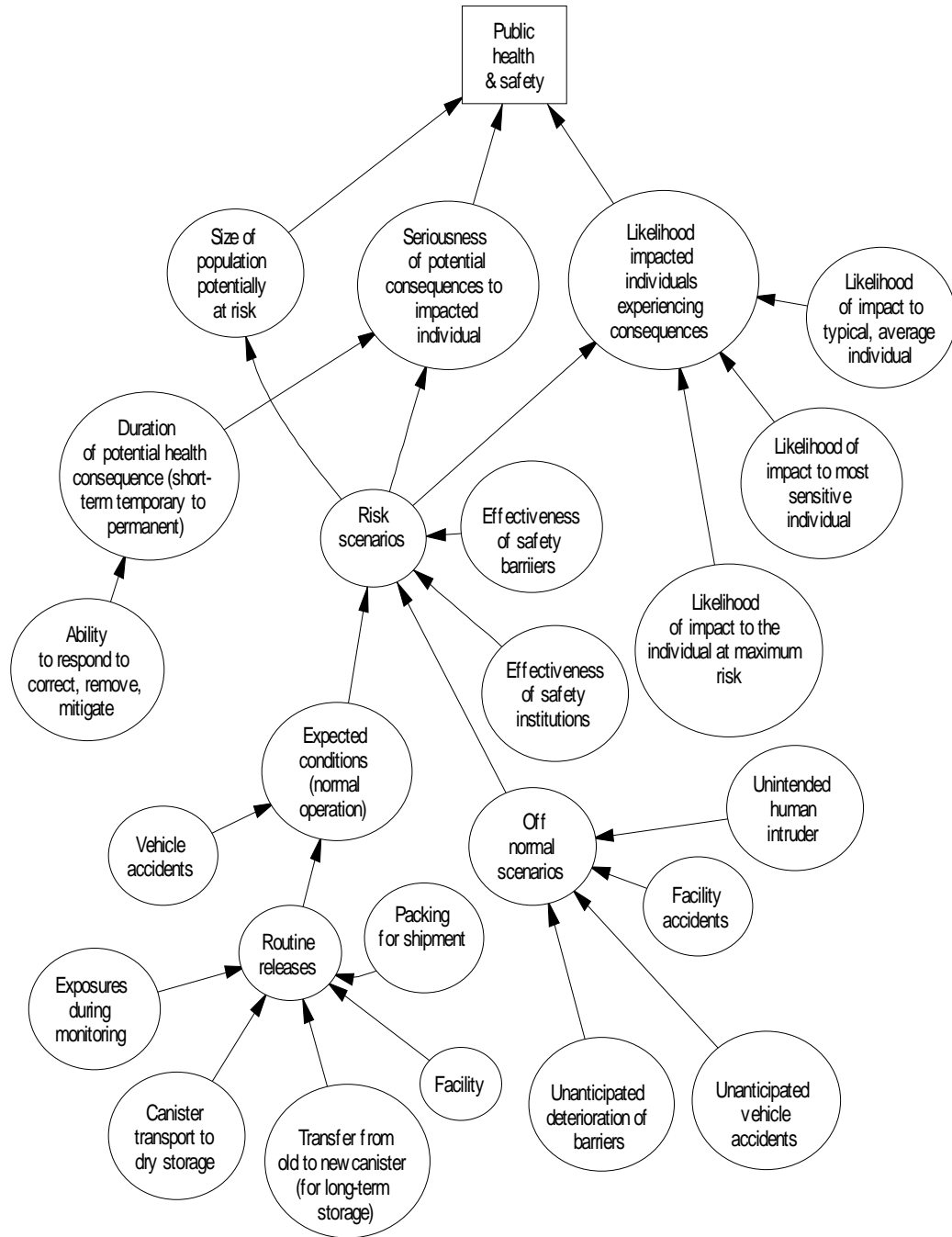
Ballot for scoring public health & safety – DGR, 0–175 years



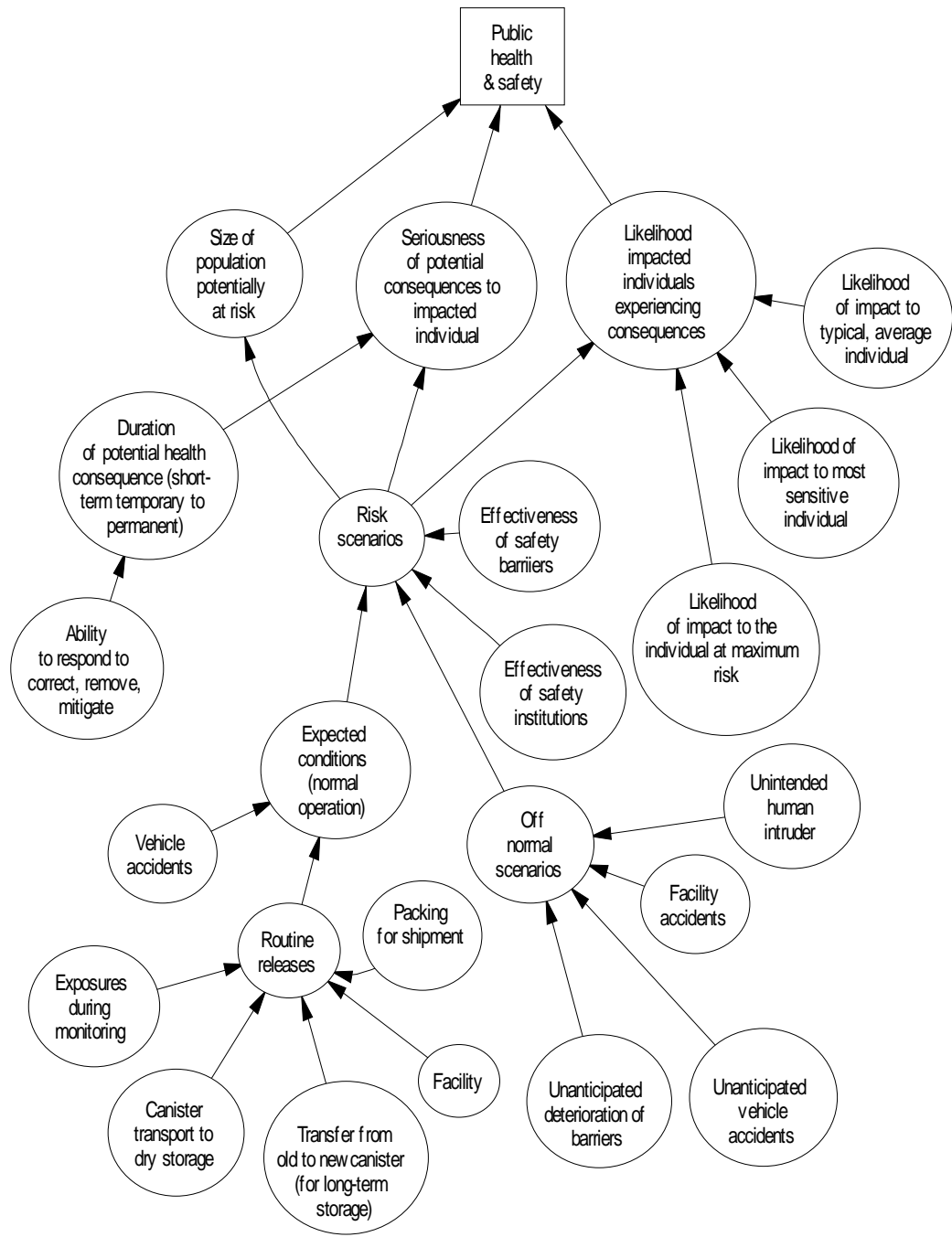
Ballot for scoring public health & safety – Centralized, >175 years



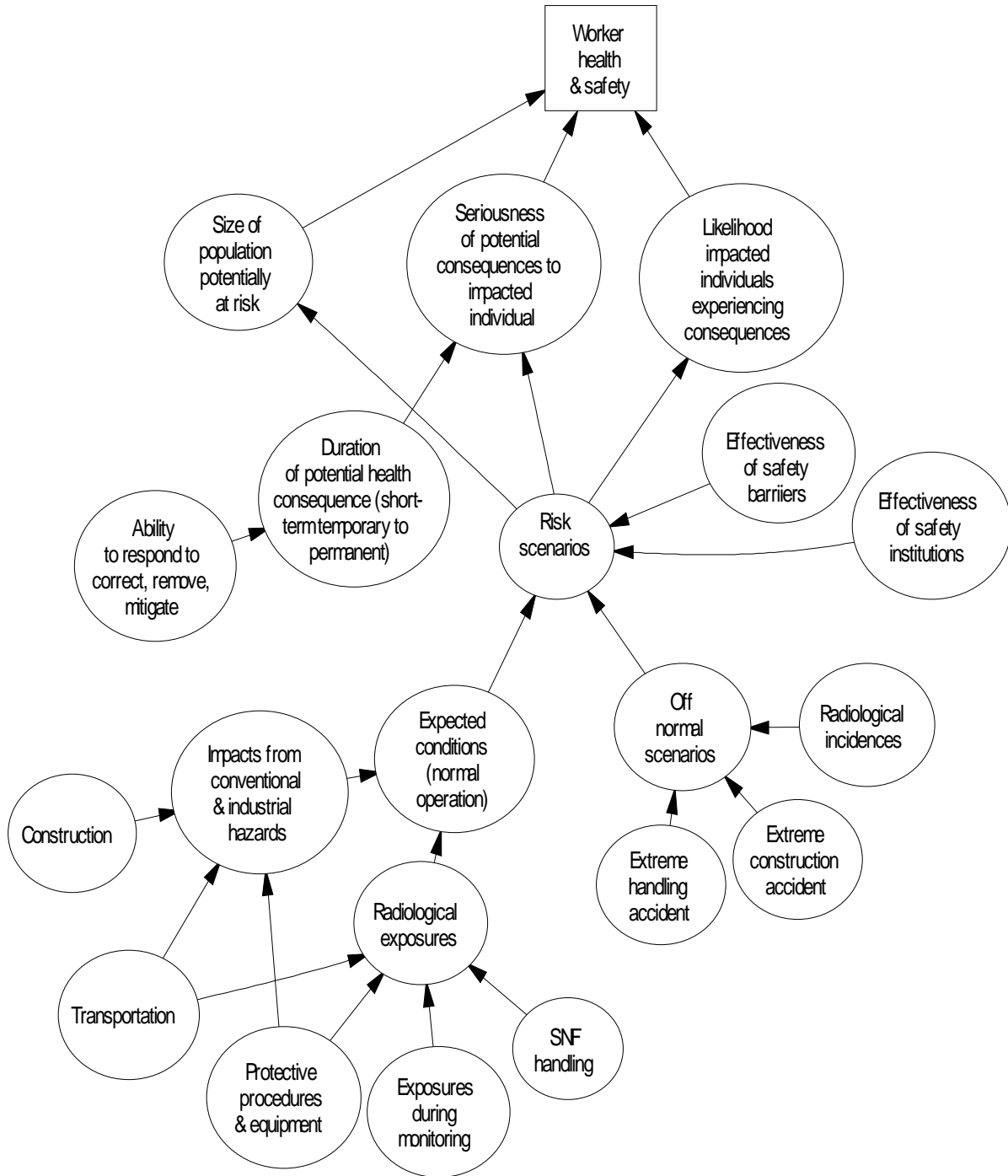
Ballot for scoring public health & safety – On-Site, >175 years



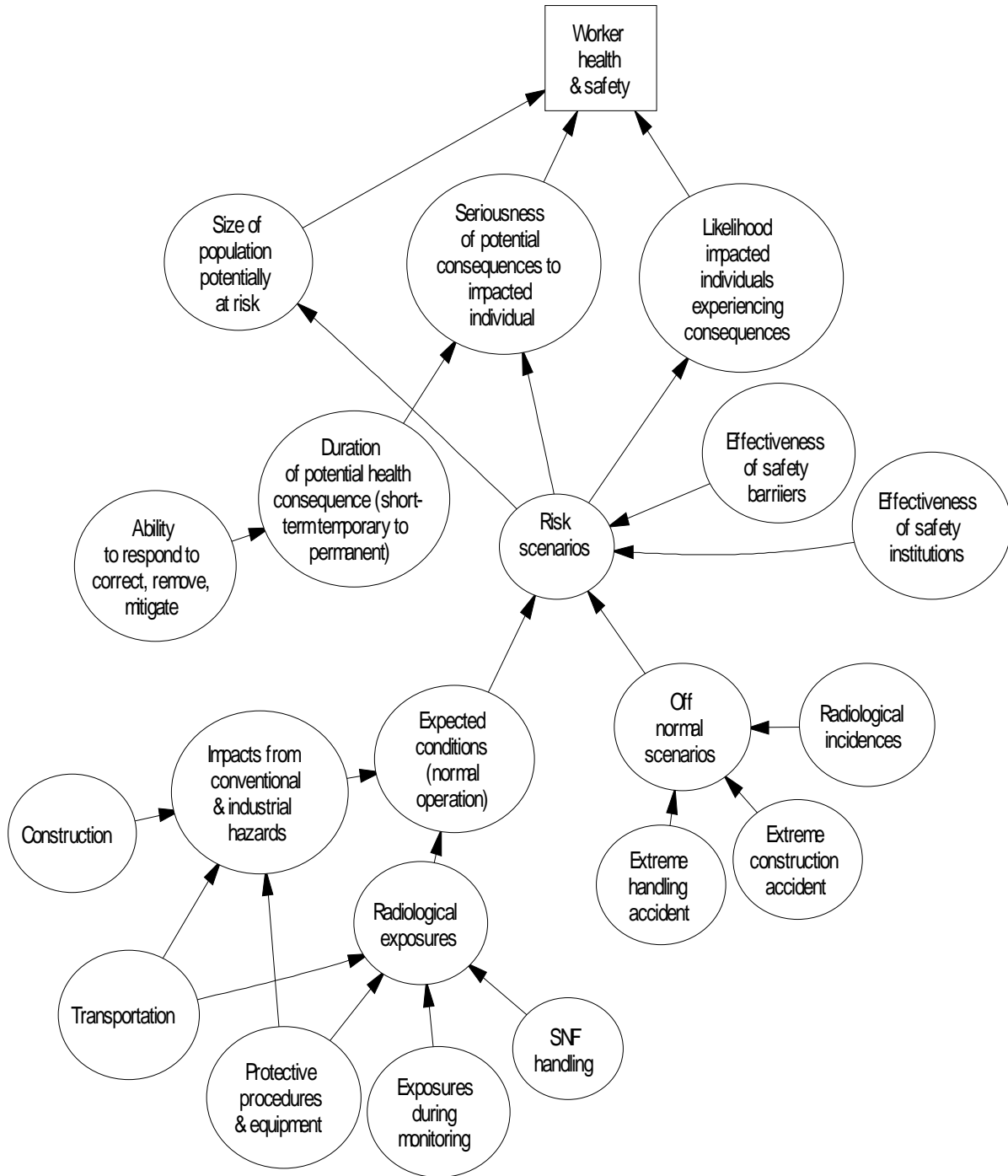
Ballot for scoring public health & safety – DGR, >175 years



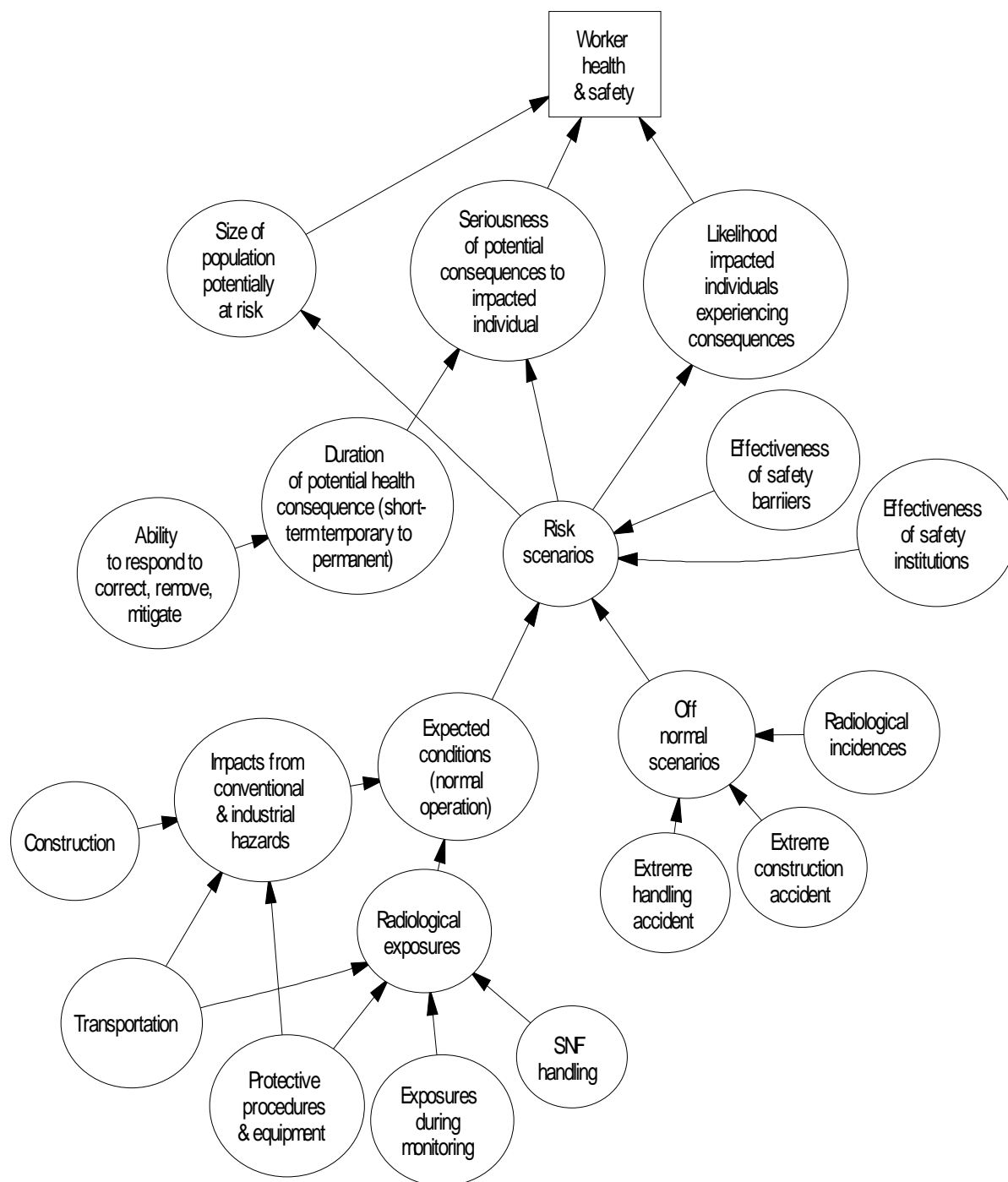
Ballot for scoring worker health & safety – Centralized, 0–175 years



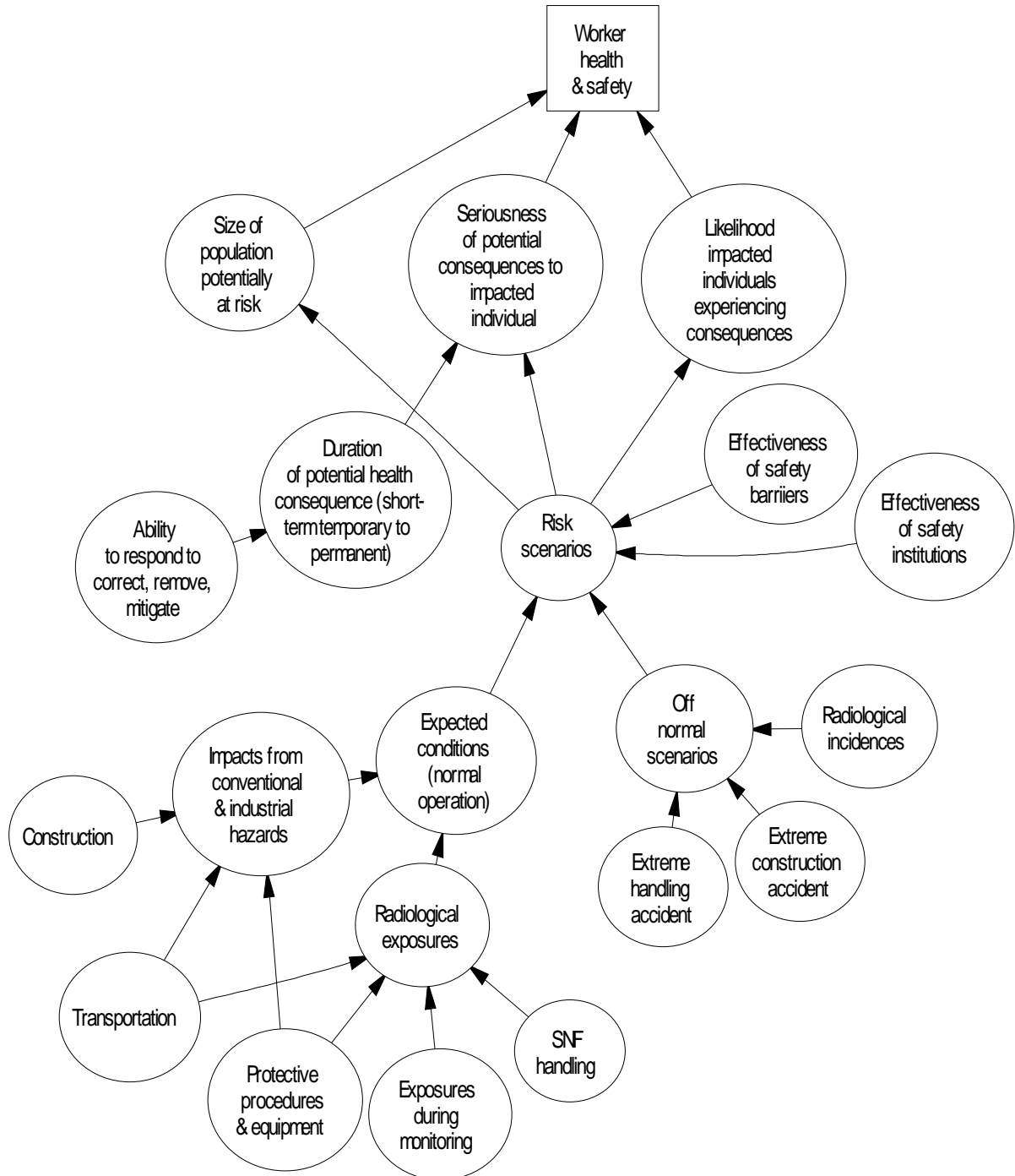
Ballot for scoring worker health & safety – On-Site, 0–175 years



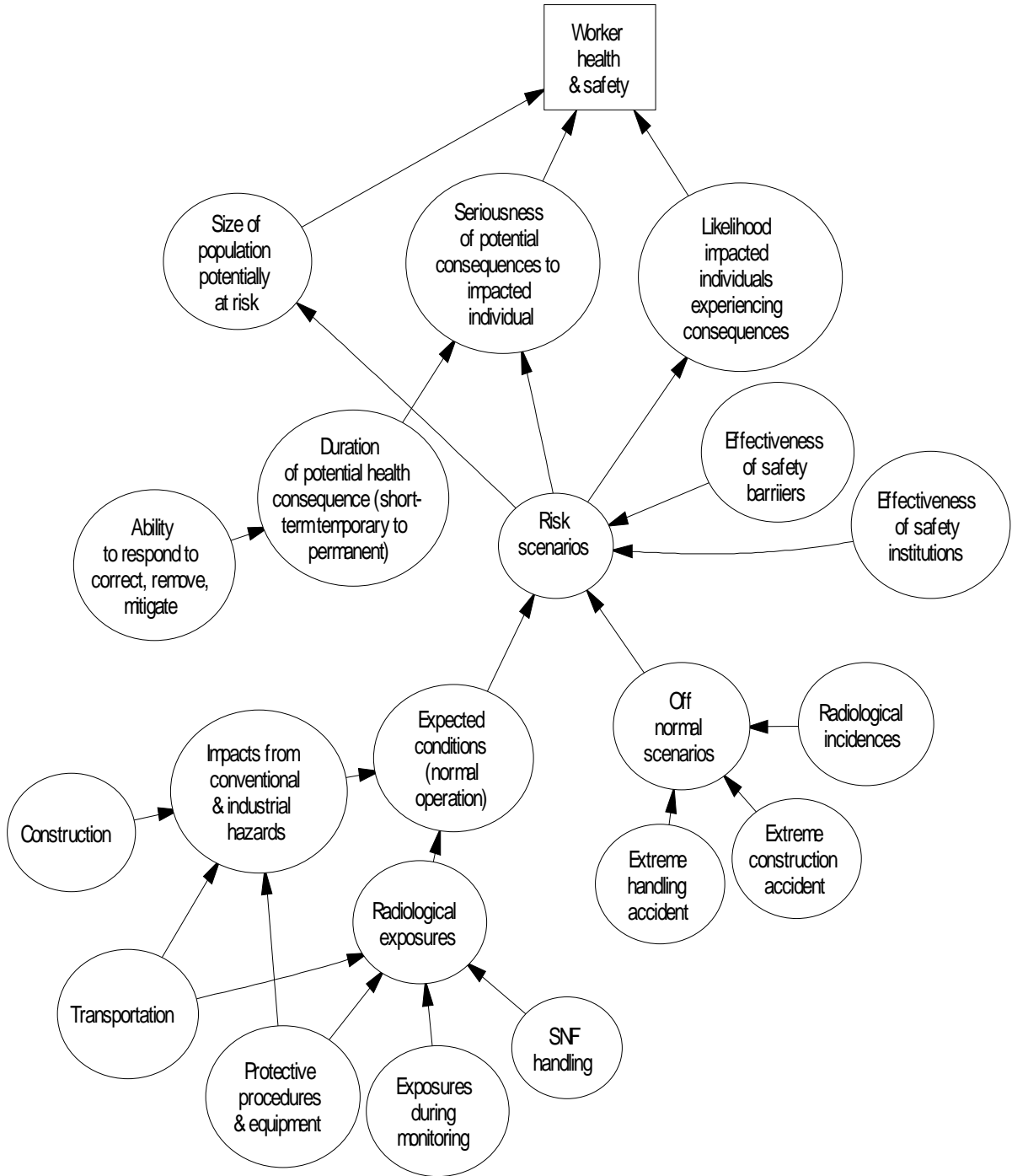
Ballot for scoring worker health & safety – DGR, 0–175 years



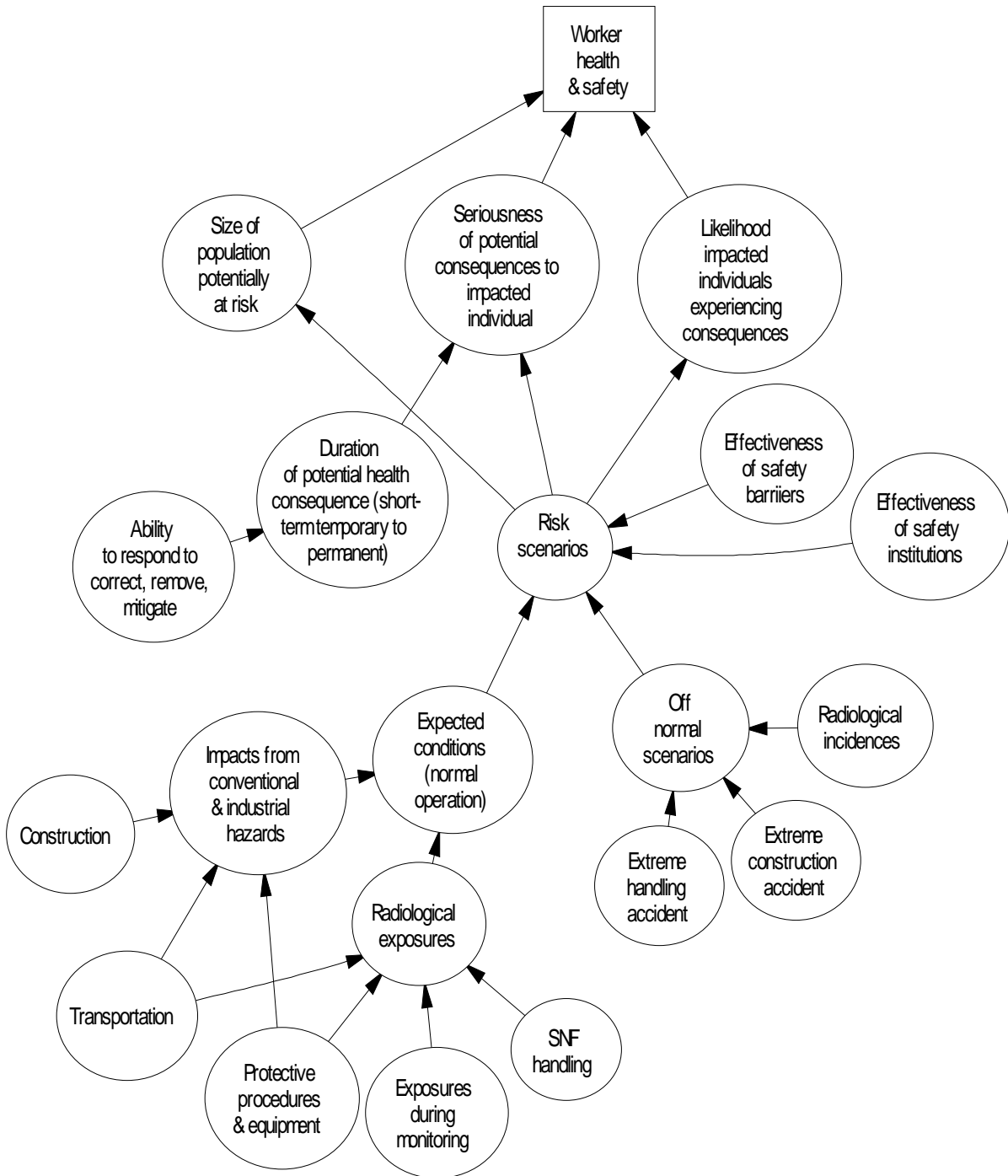
Ballot for scoring worker health & safety – Centralized, >175 years



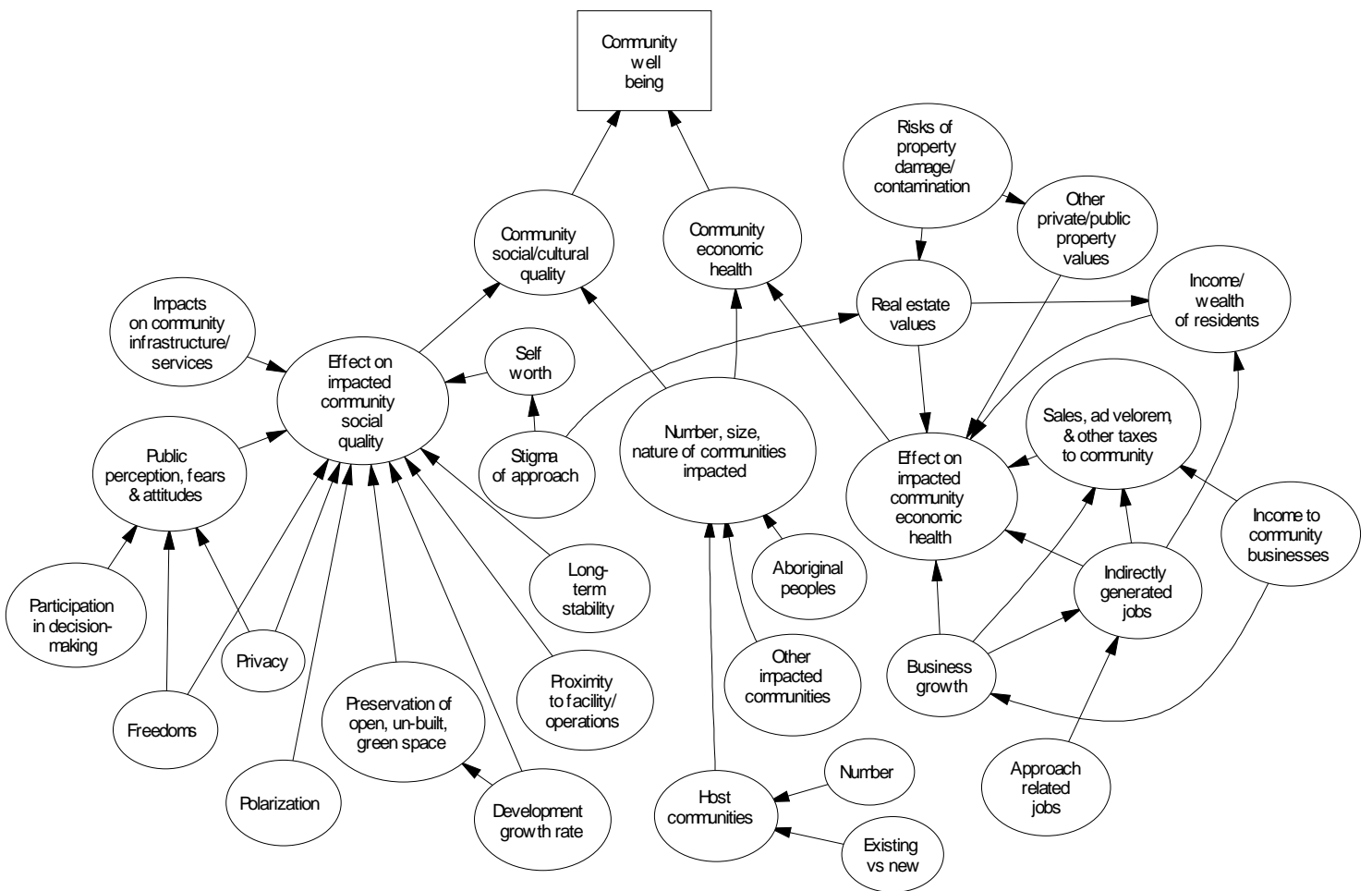
Ballot for scoring worker health & safety – On-Site, >175 years



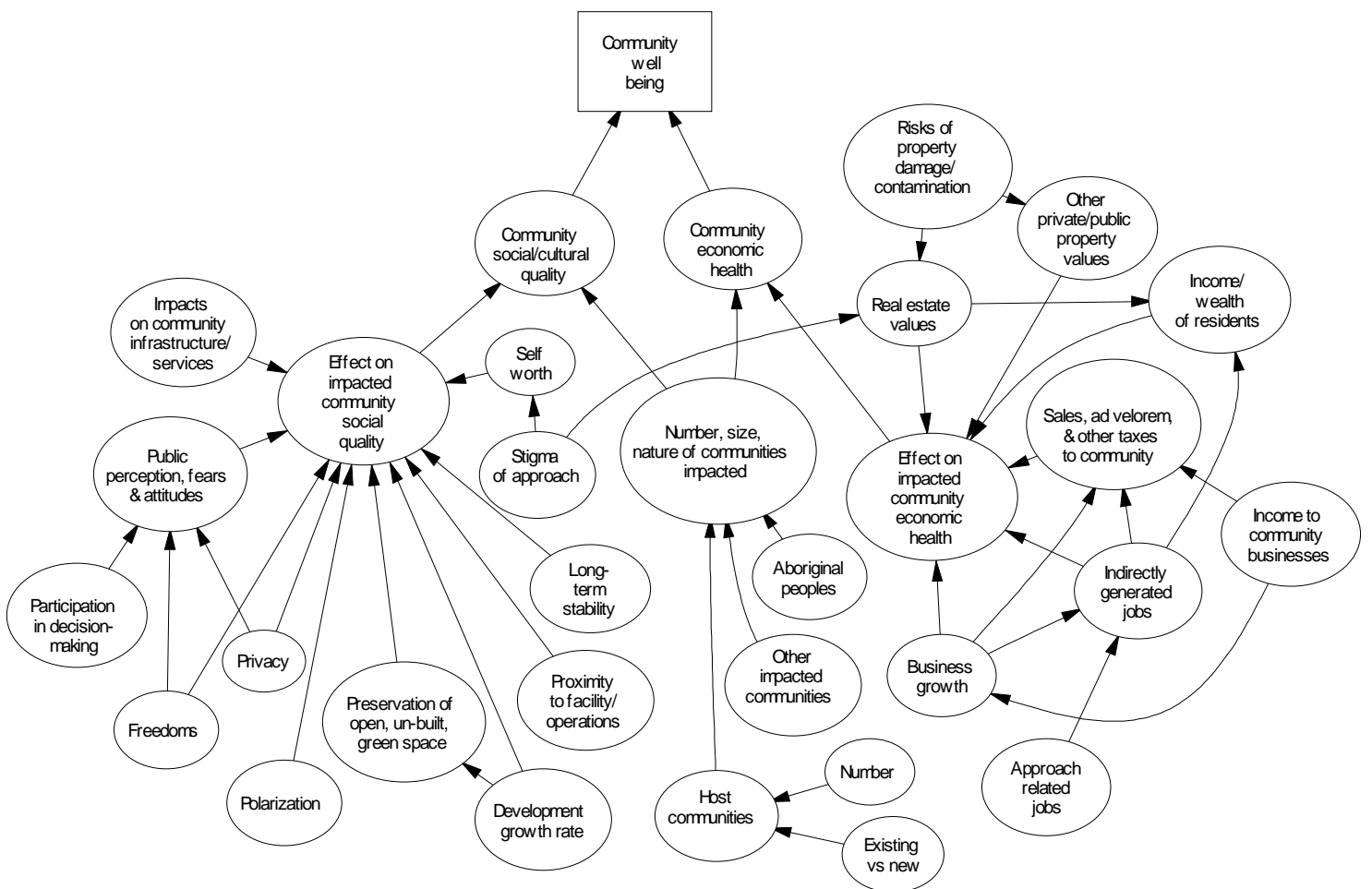
Ballot for scoring worker health & safety – DGR, >175 years



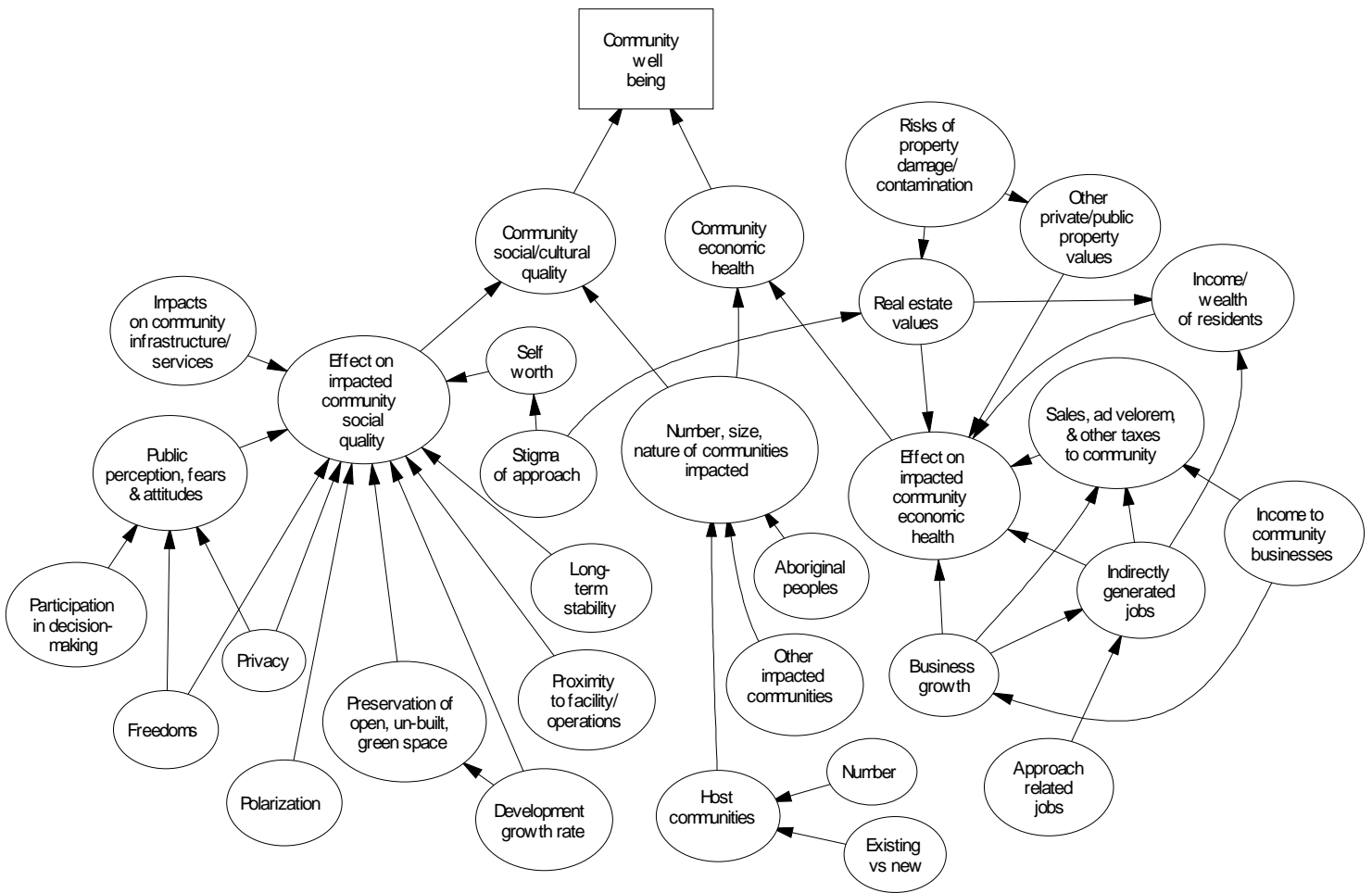
Ballot for scoring community well-being – Centralized, 0–175 years



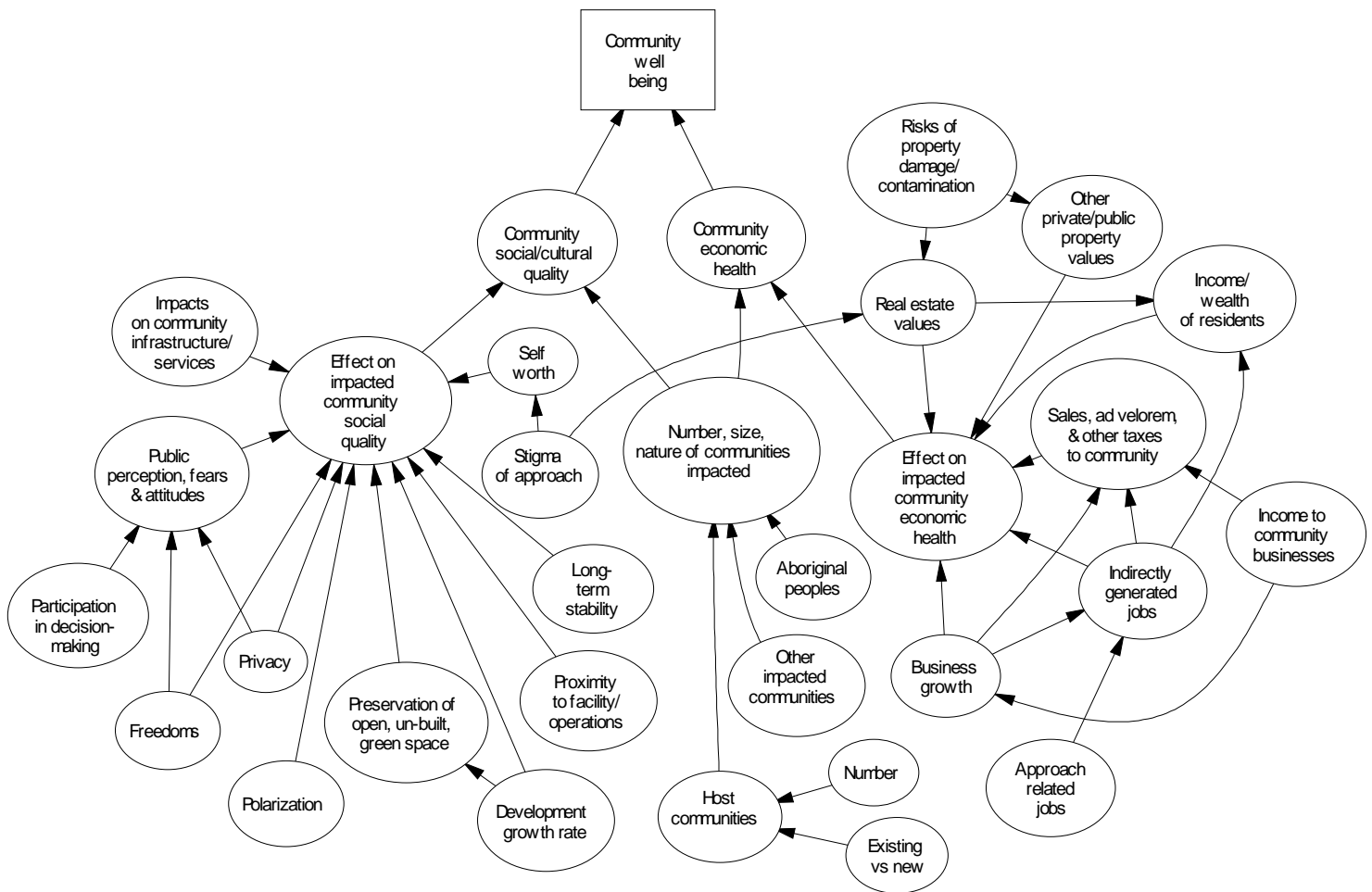
Ballot for scoring community well-being – On-Site, 0–175 years



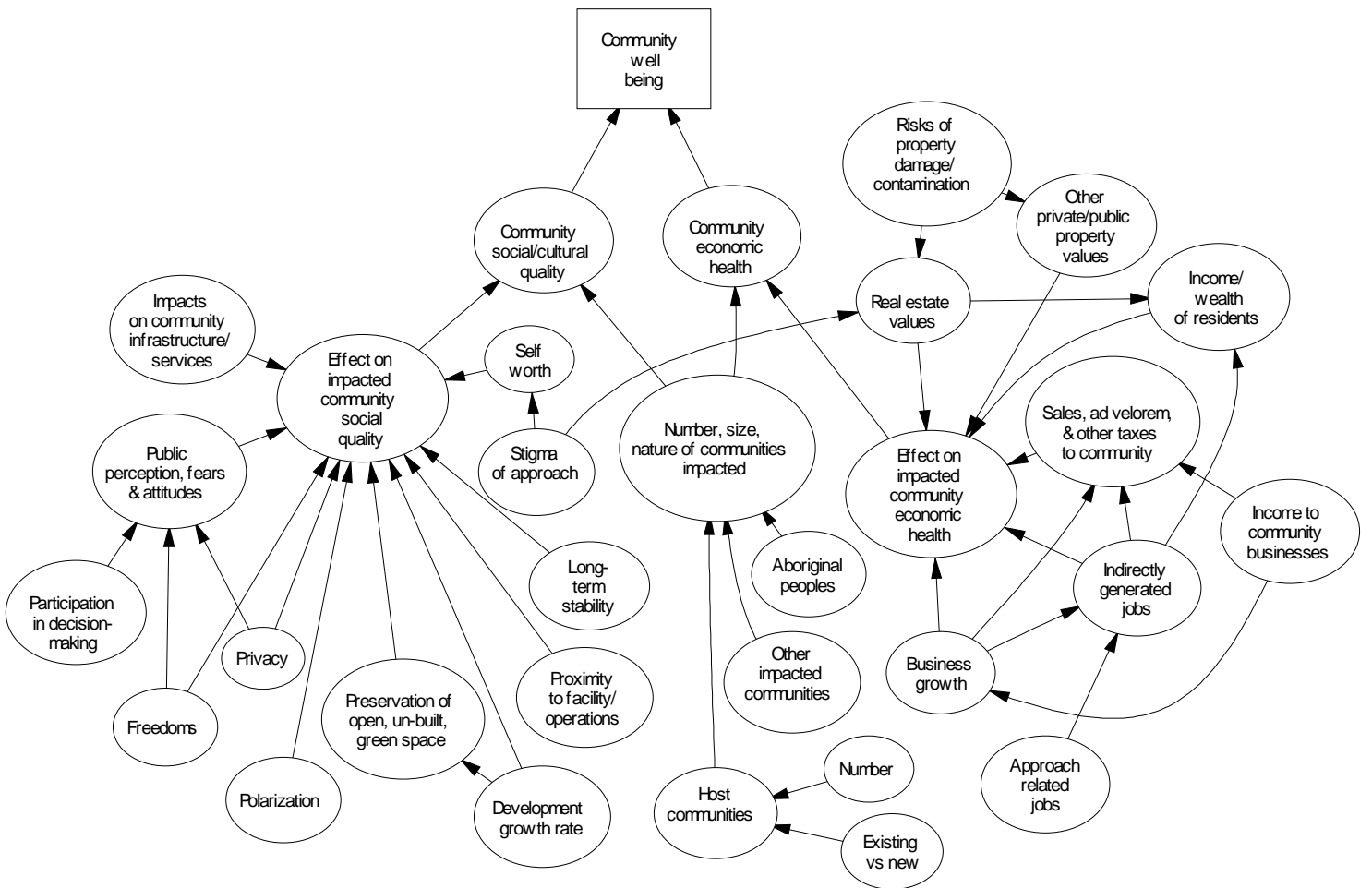
Ballot for scoring community well-being – DGR, 0–175 years



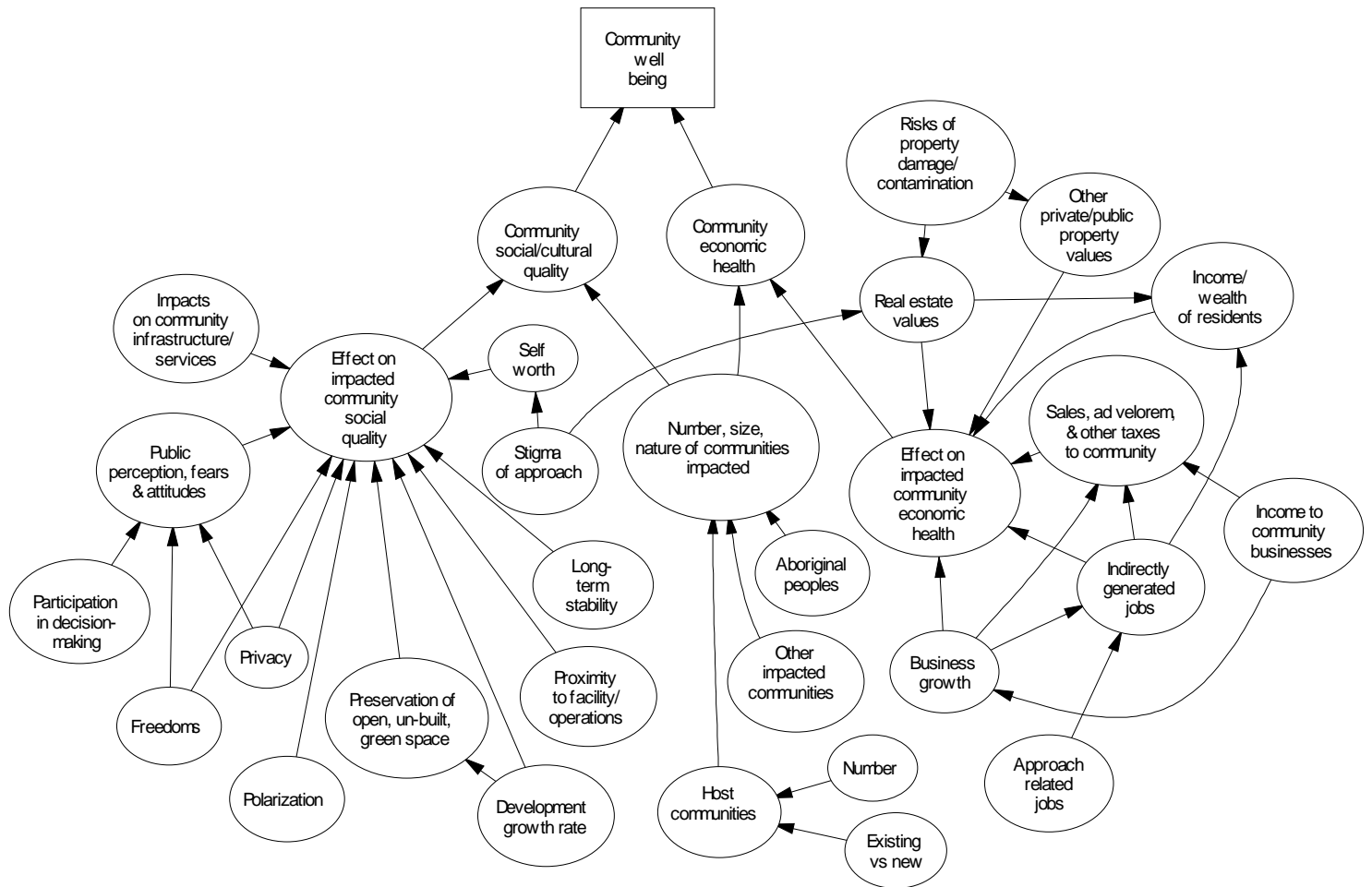
Ballot for scoring community well-being – Centralized, >175 years



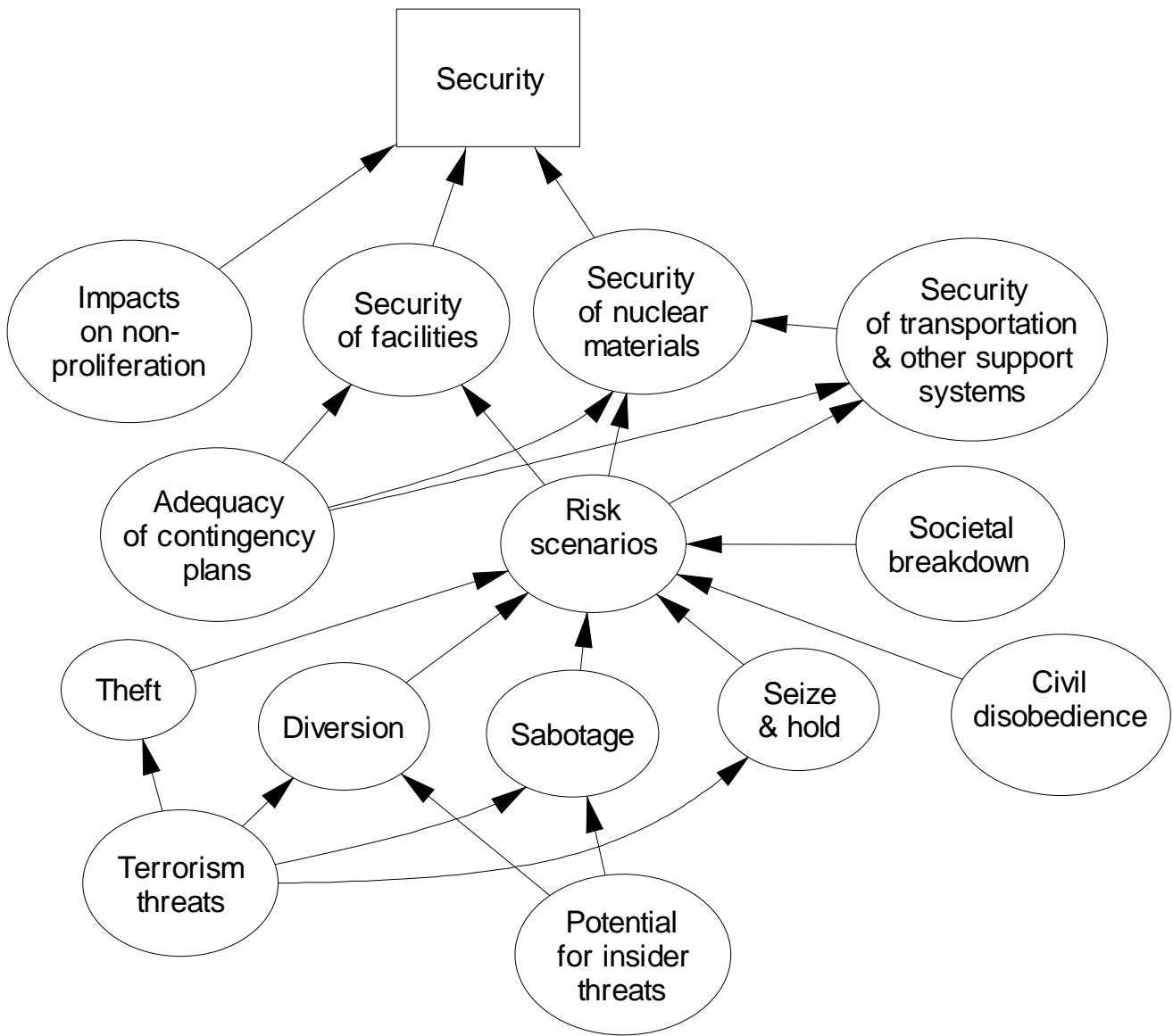
Ballot for scoring community well-being – On-Site, >175 years



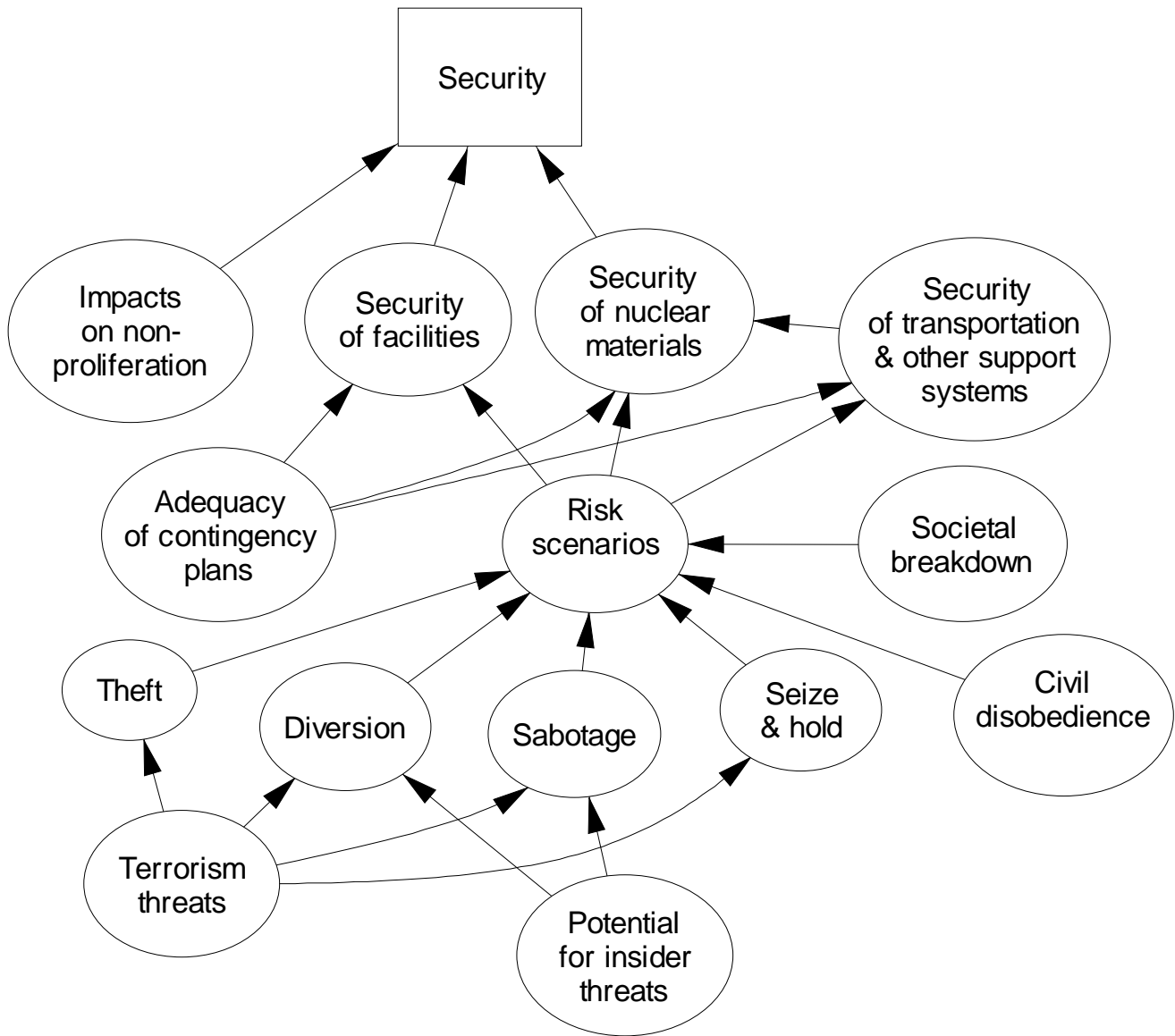
Ballot for scoring community well-being – DGR, >175 years



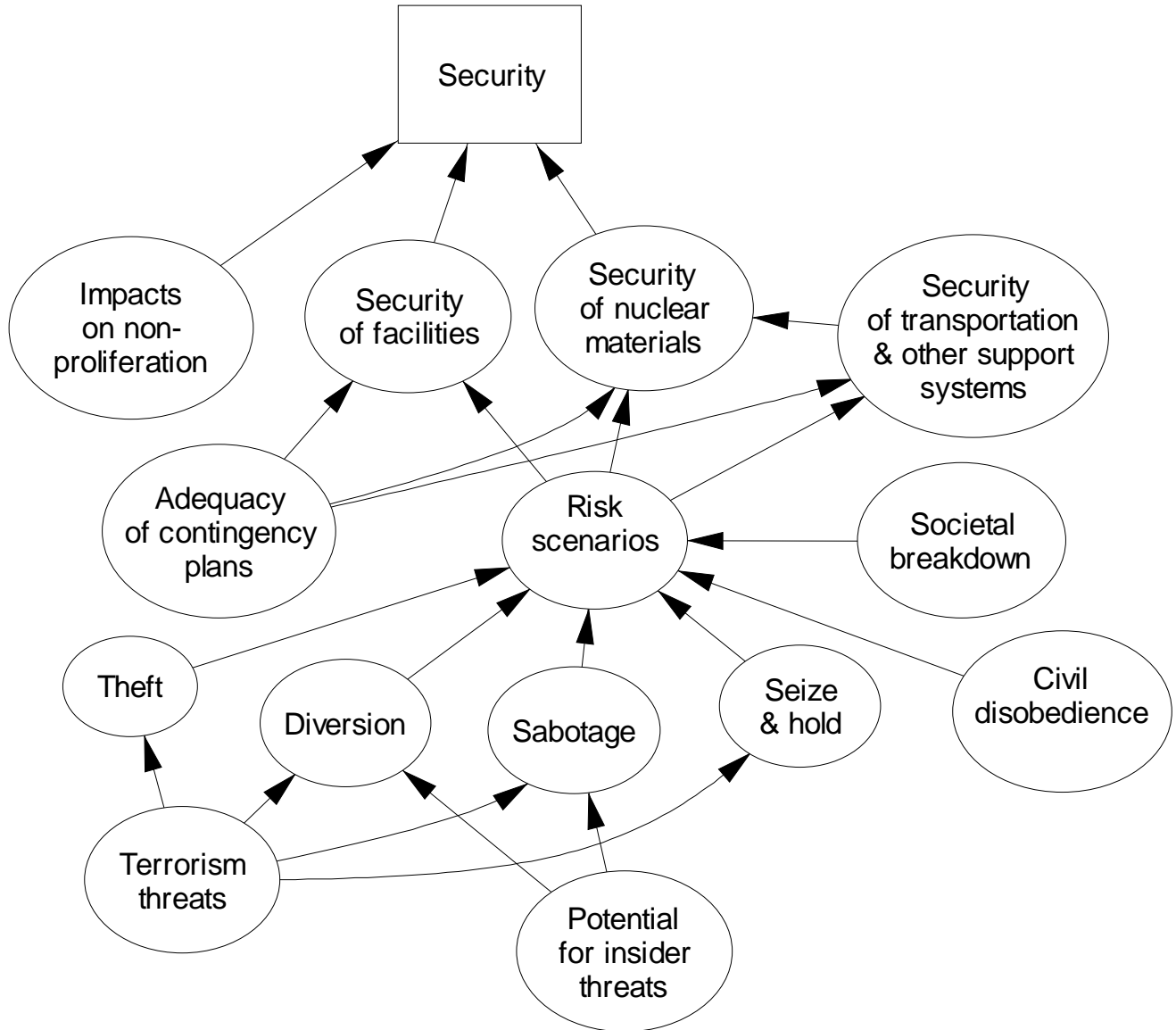
Ballot for scoring security – Centralized, 0–175 years



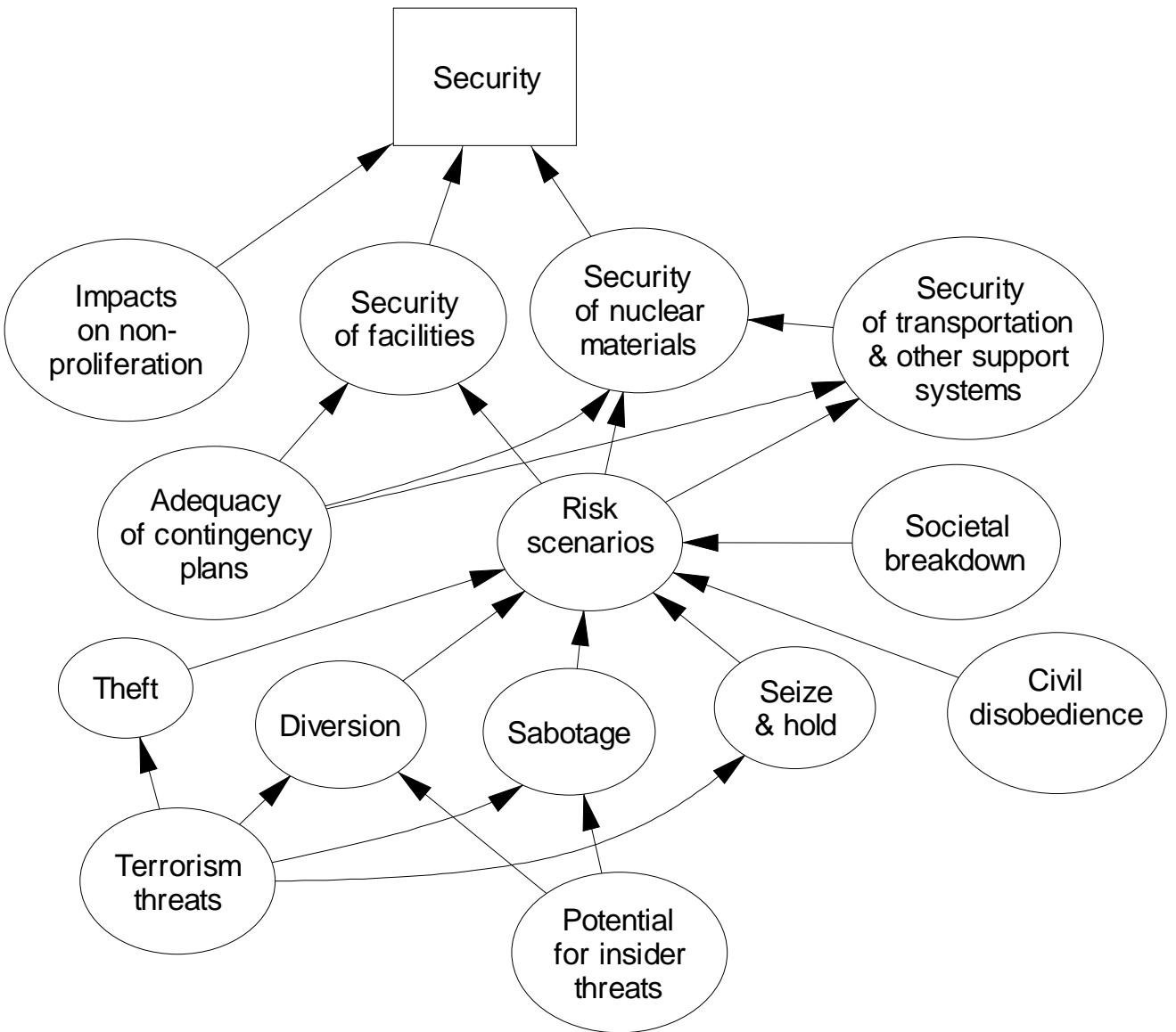
Ballot for scoring security – On-Site, 0–175 years



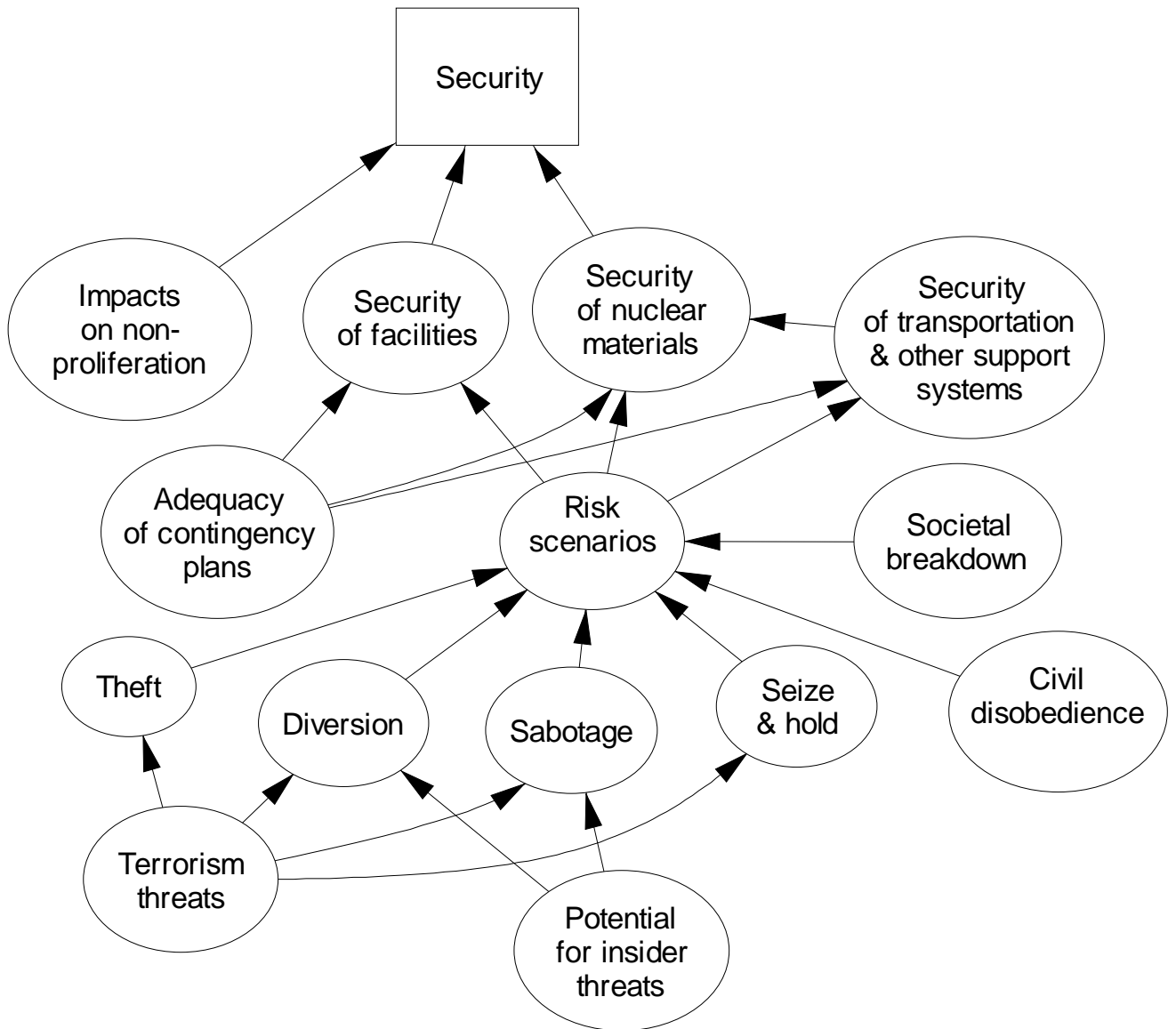
Ballot for scoring security – DGR, 0–175 years



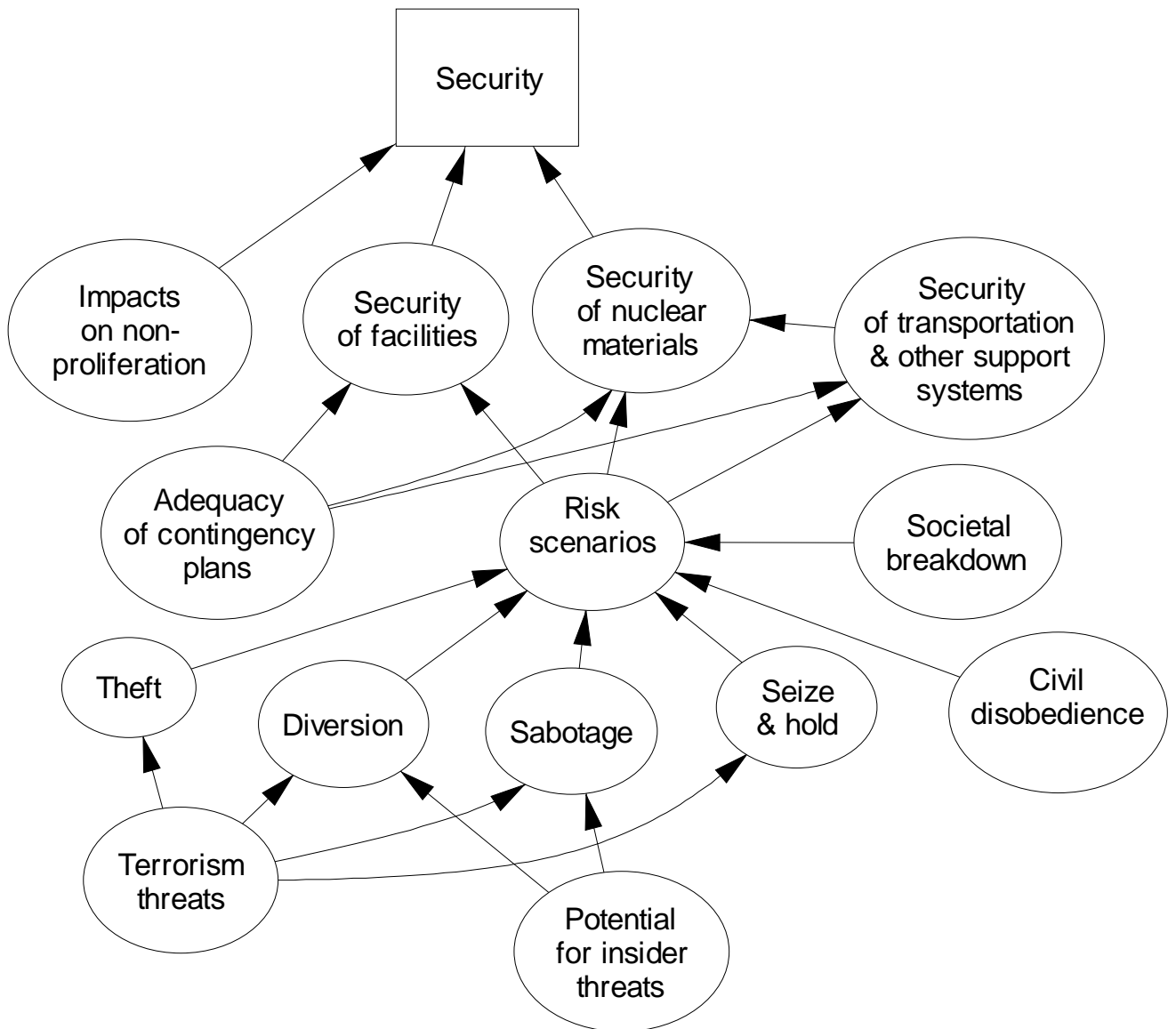
Ballot for scoring security – Centralized, >175 years



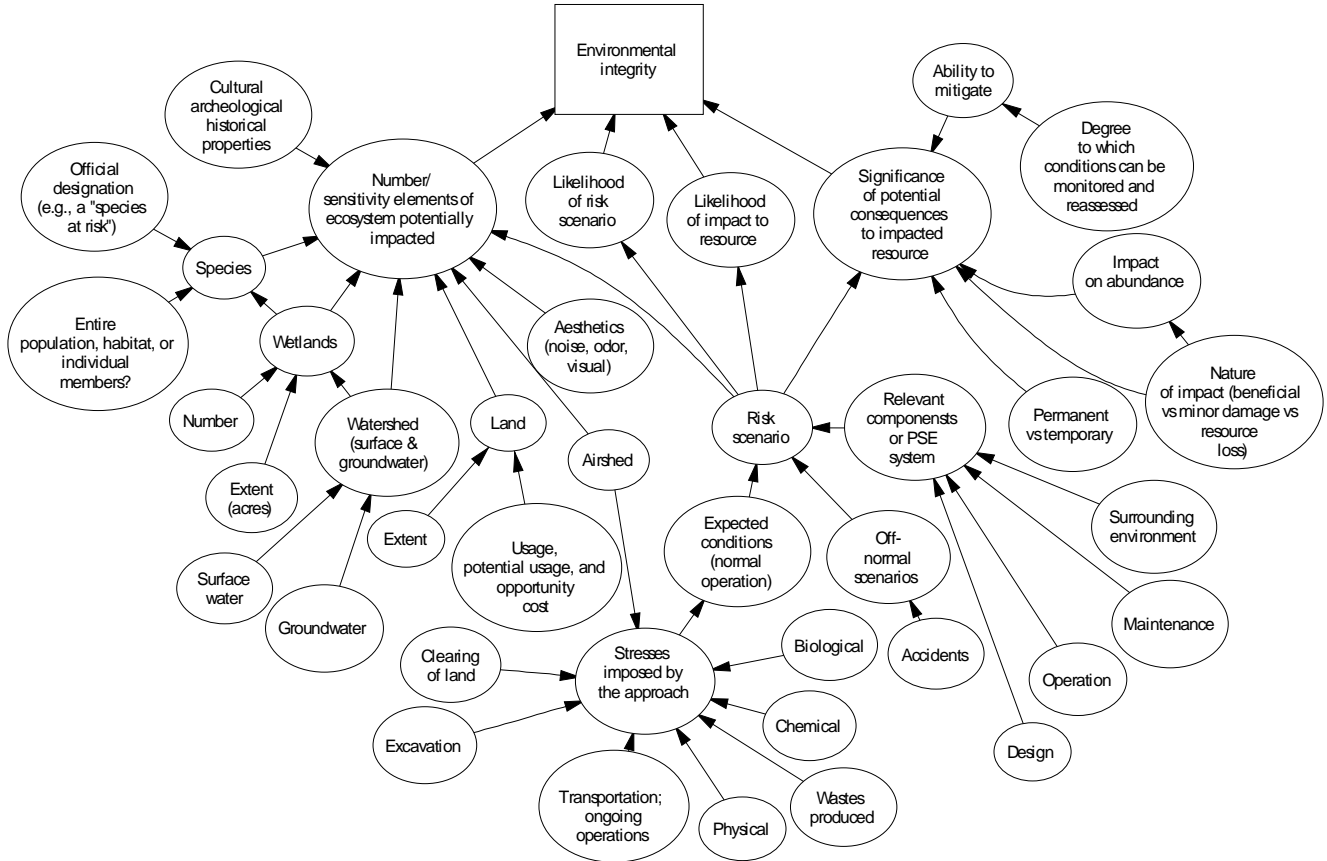
Ballot for scoring security – On-Site, >175 years



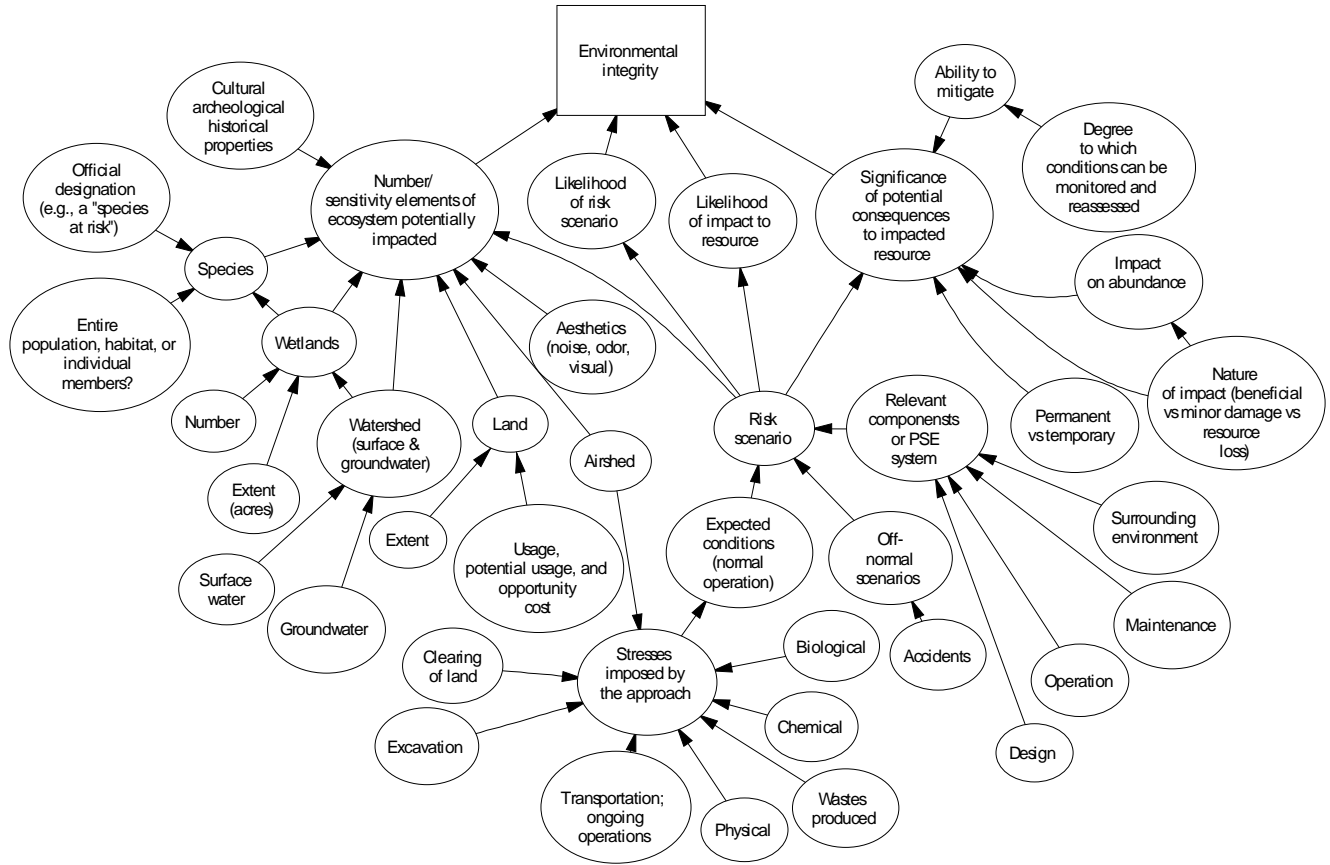
Ballot for scoring security – DGR, >175 years



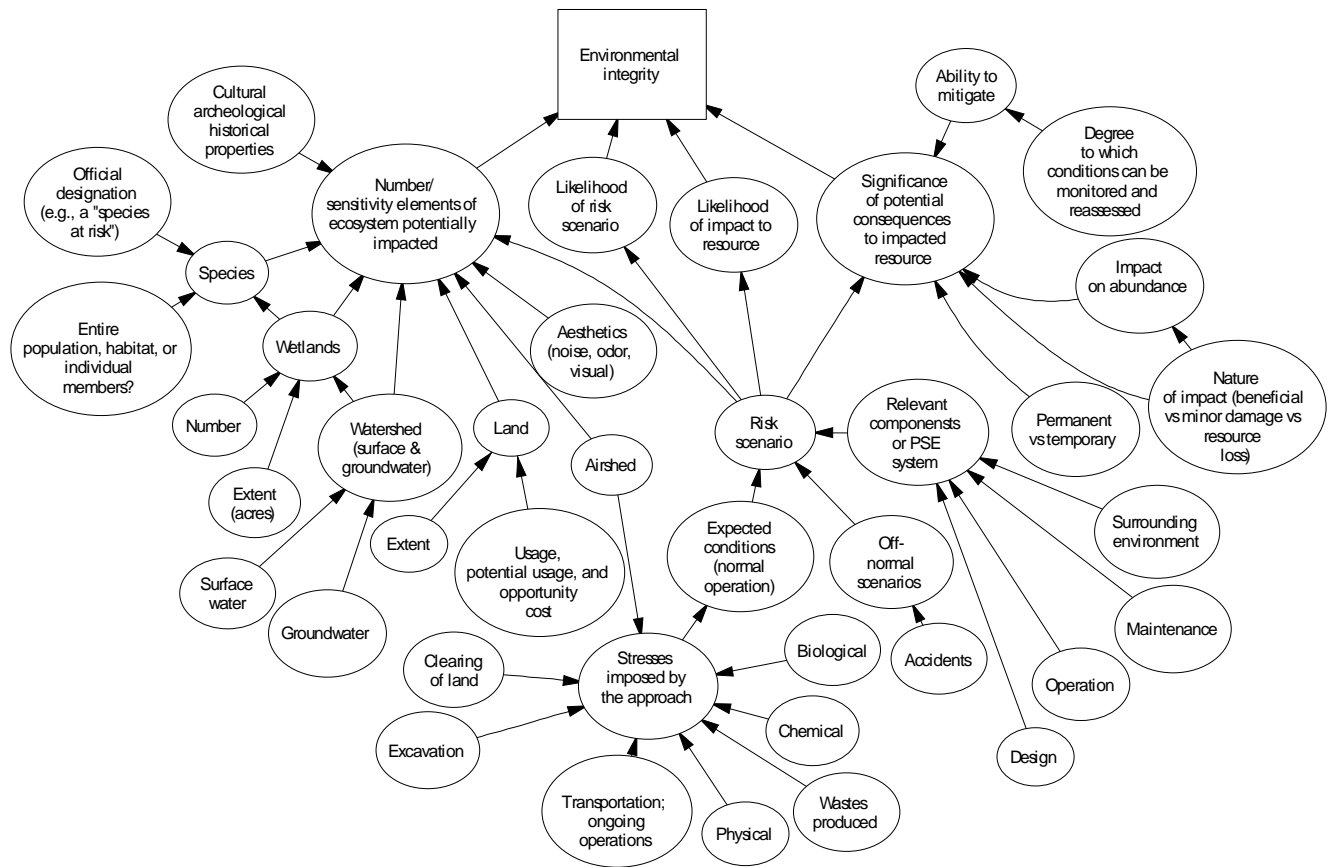
Ballot for scoring environment – Centralized, 0–175 years



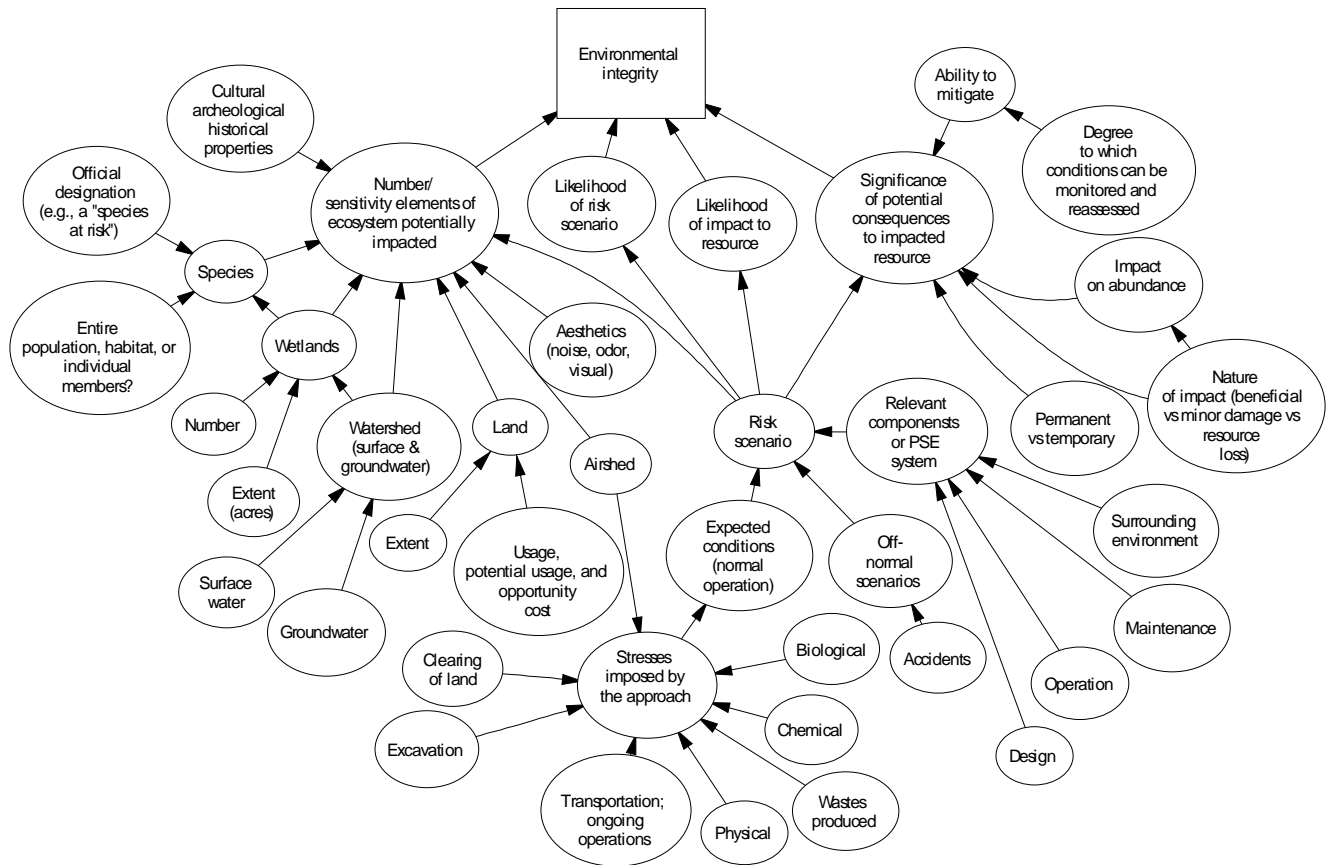
Ballot for scoring environment – On-Site, 0–175 years



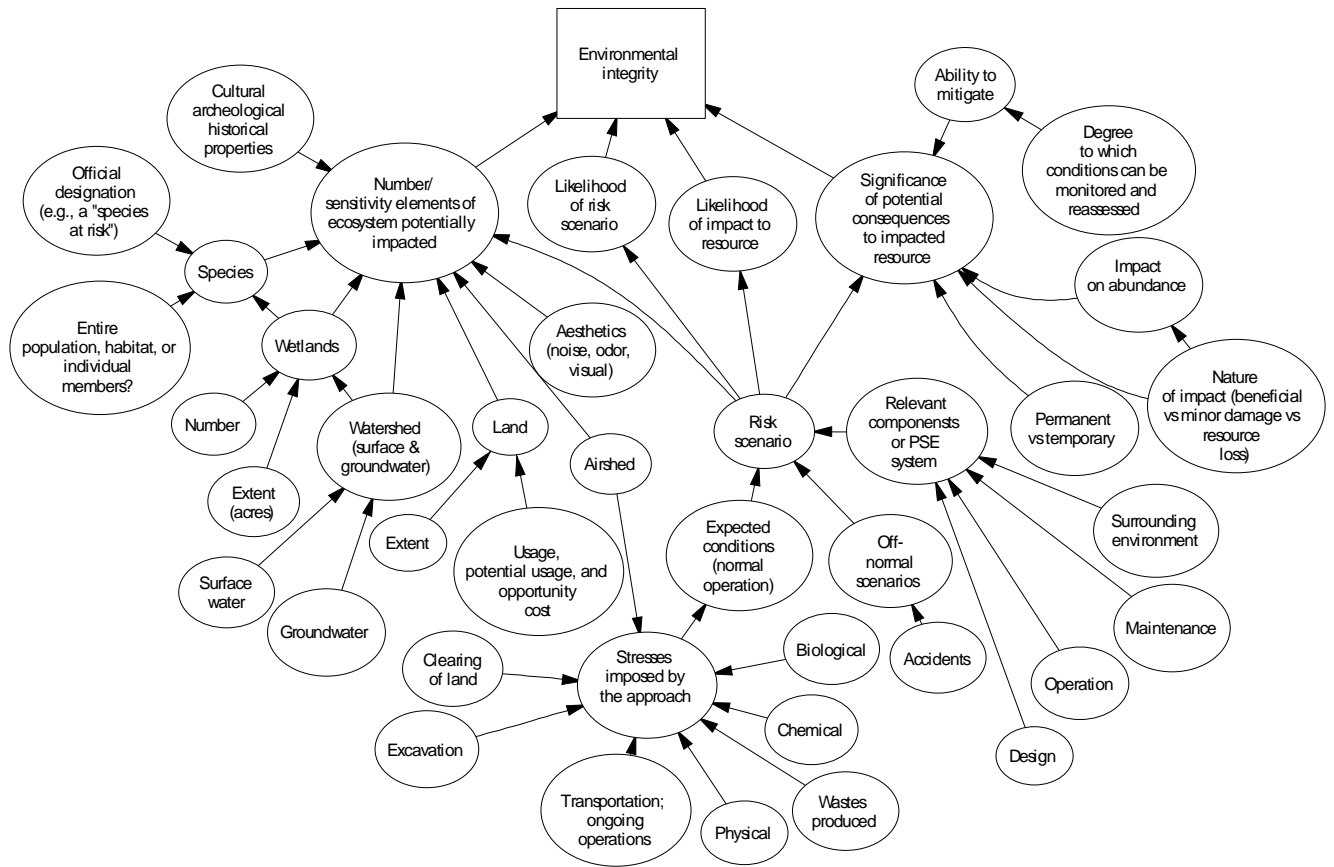
Ballot for scoring environment – DGR, 0–175 years



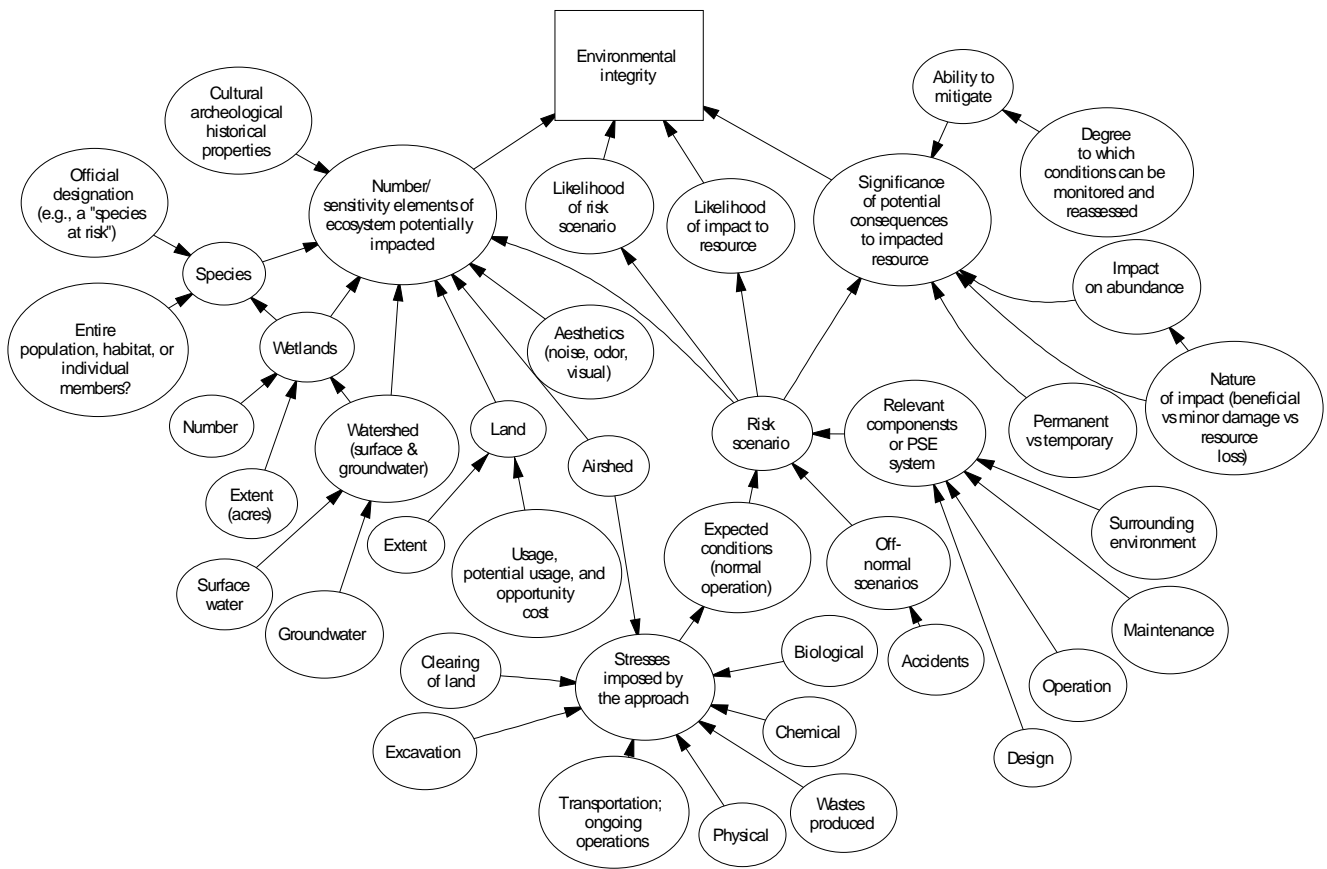
Ballot for scoring environment – Centralized, >175 years



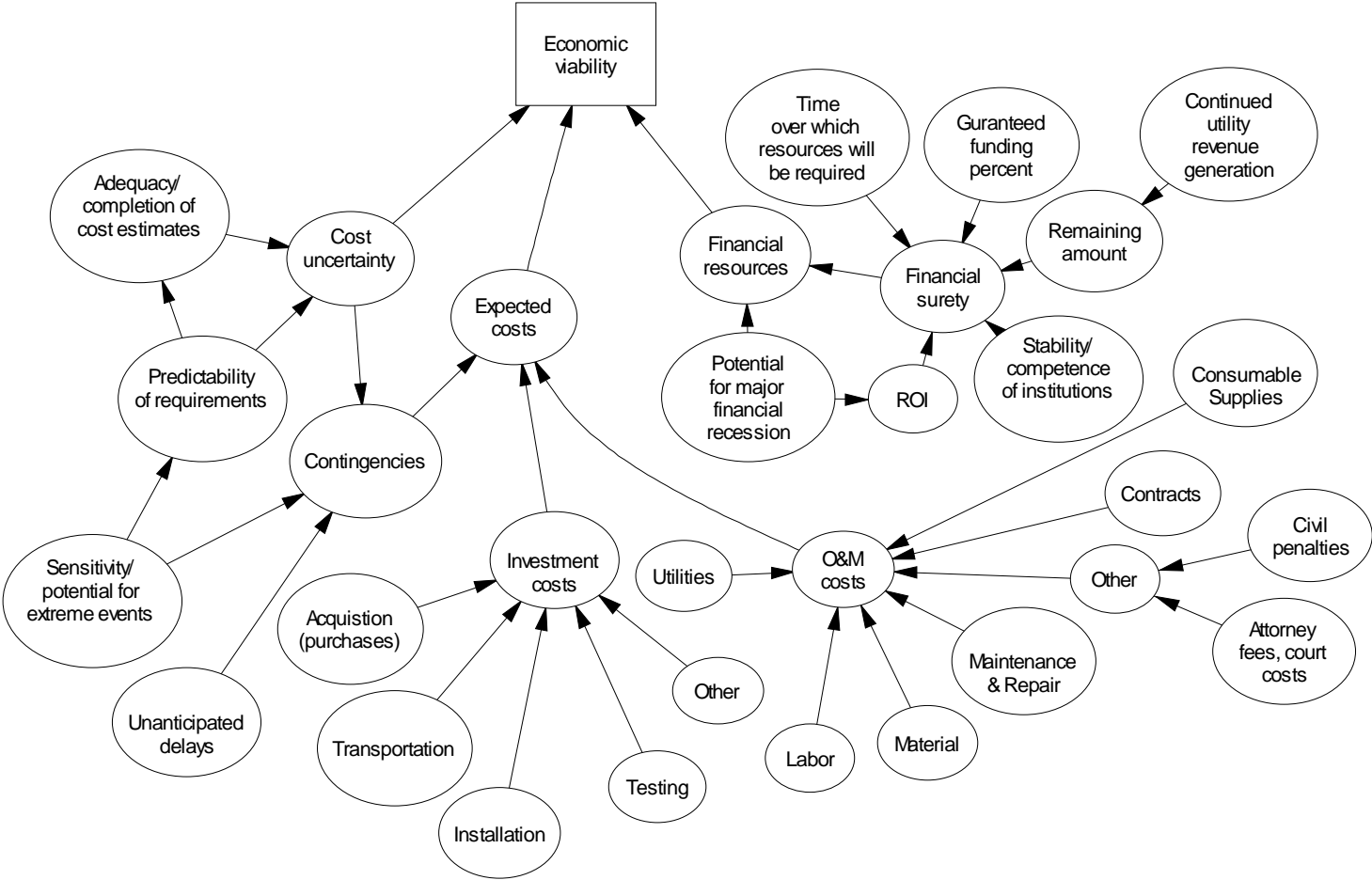
Ballot for scoring environment – On-Site, >175 years



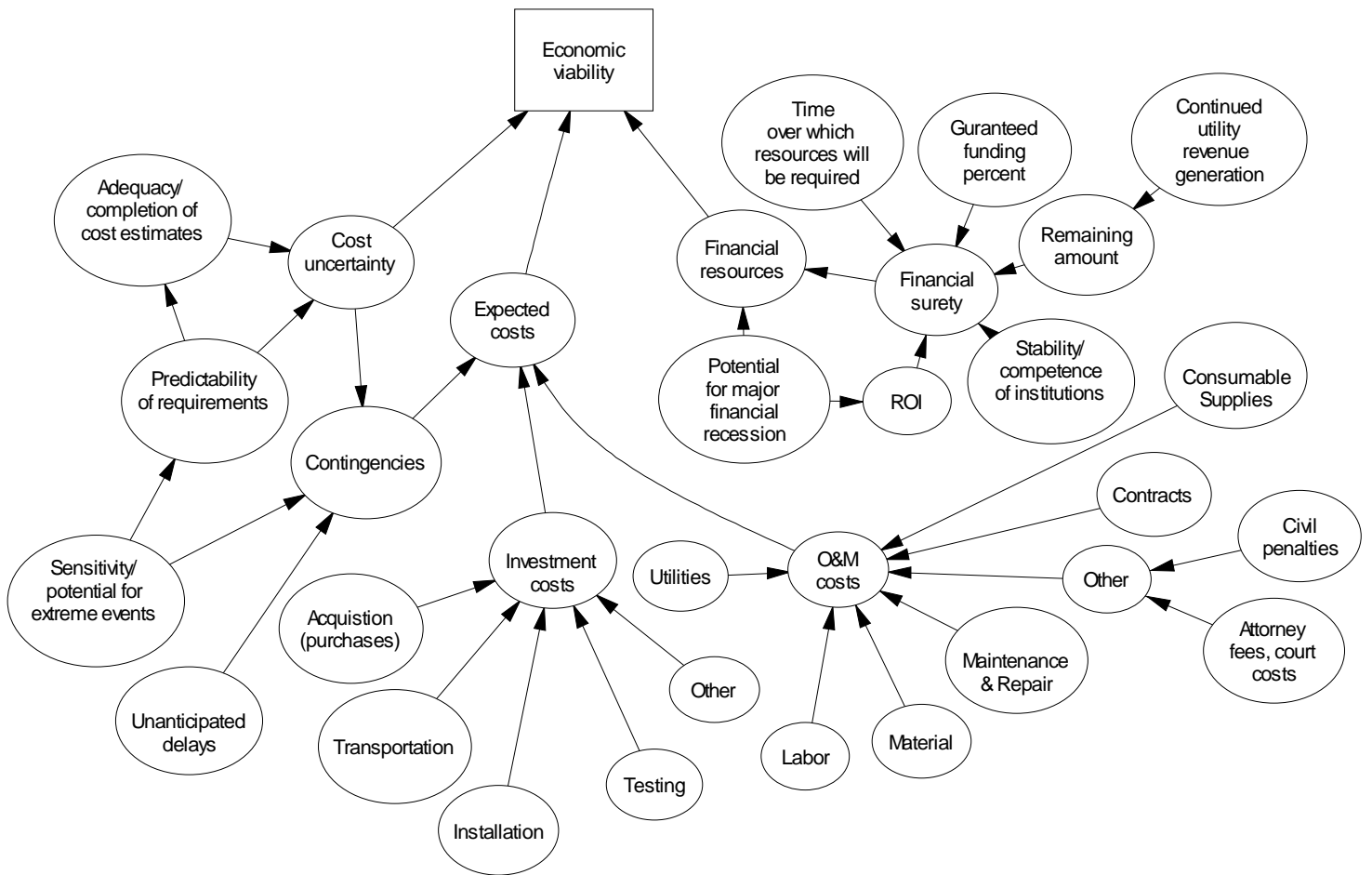
Ballot for scoring environment – DGR, >175 years



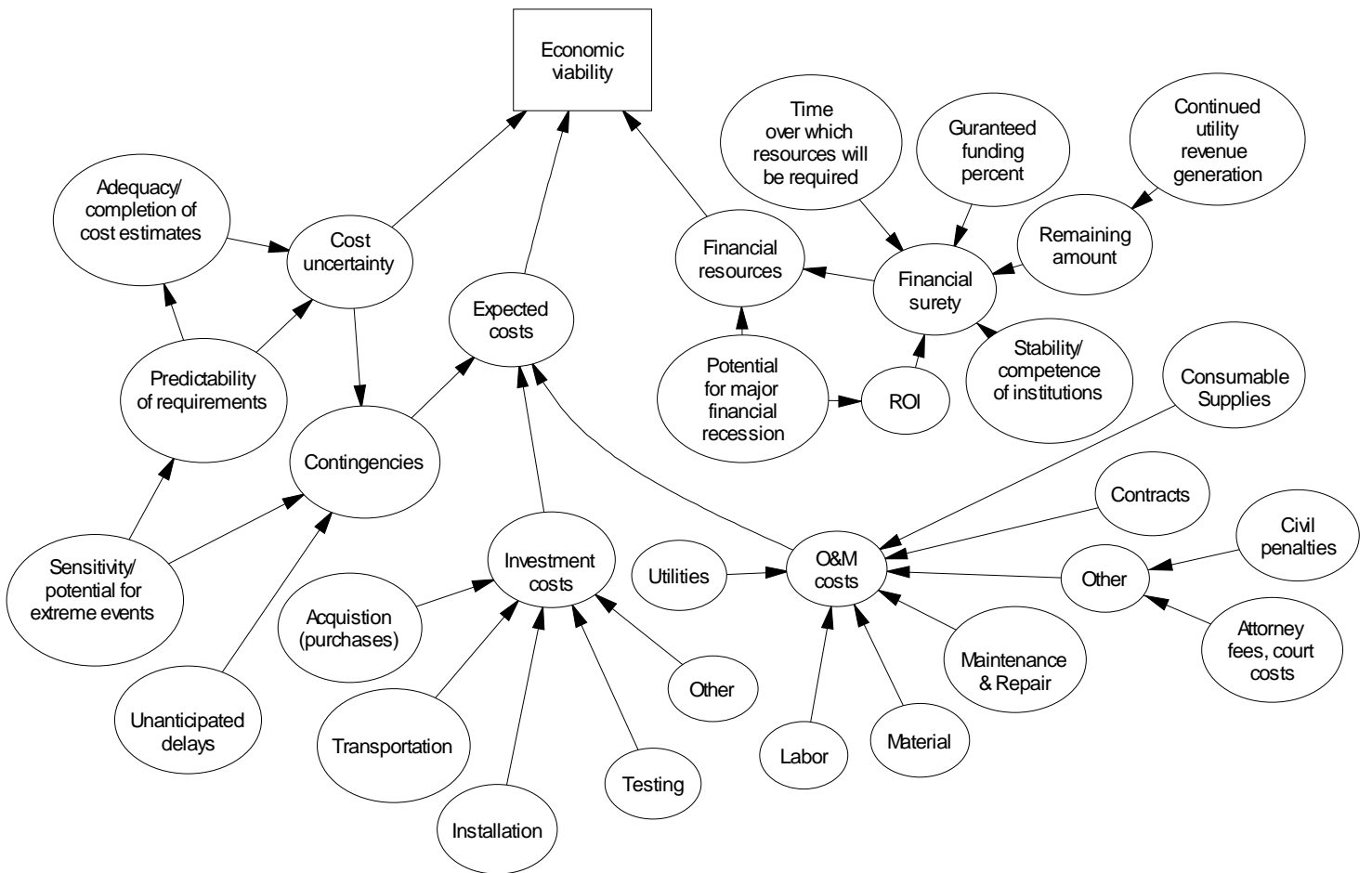
Ballot for scoring economic viability. – Centralized, 0–175 years



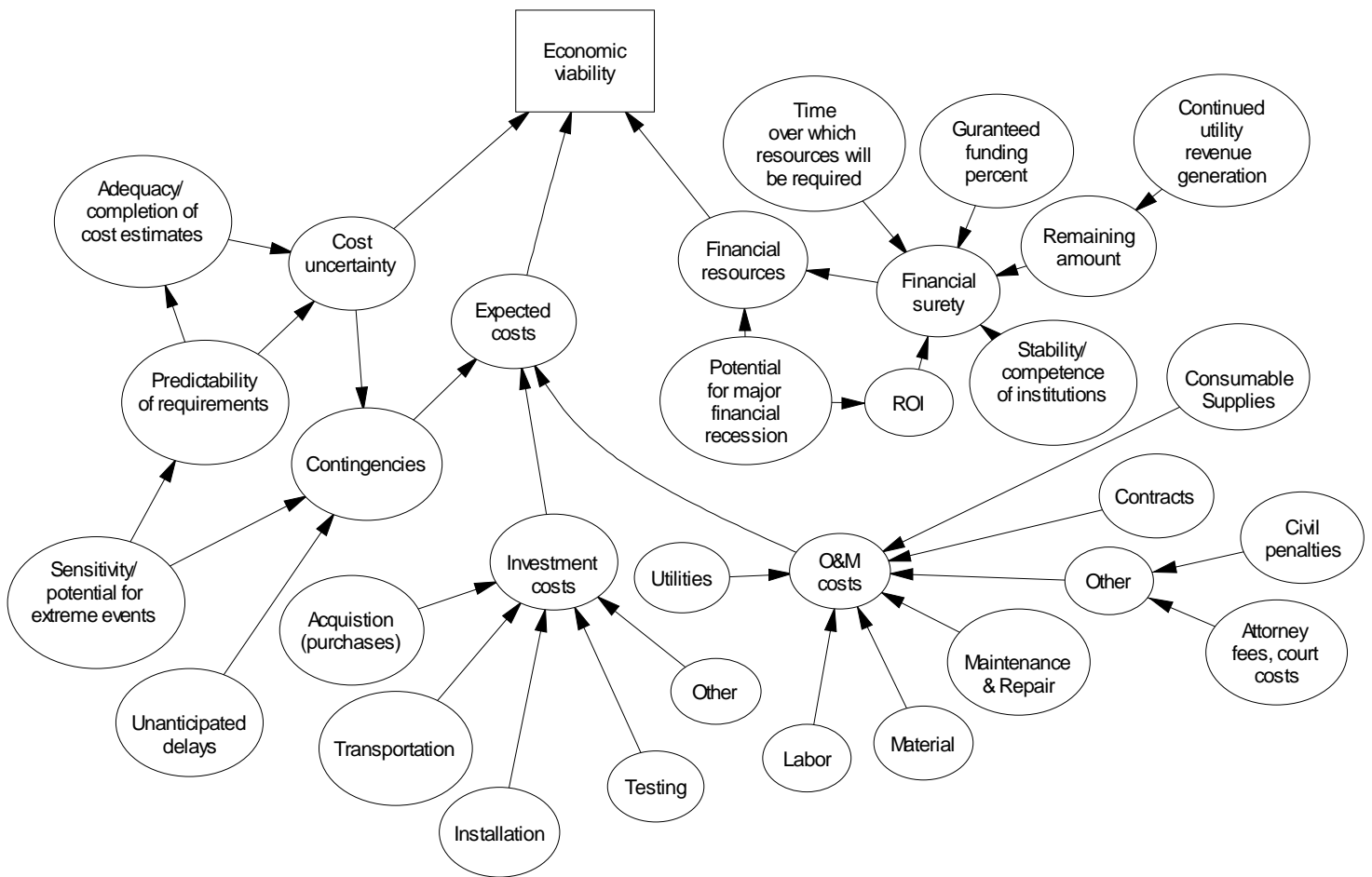
Ballot for scoring economic viability. – On-Site, 0–175 years



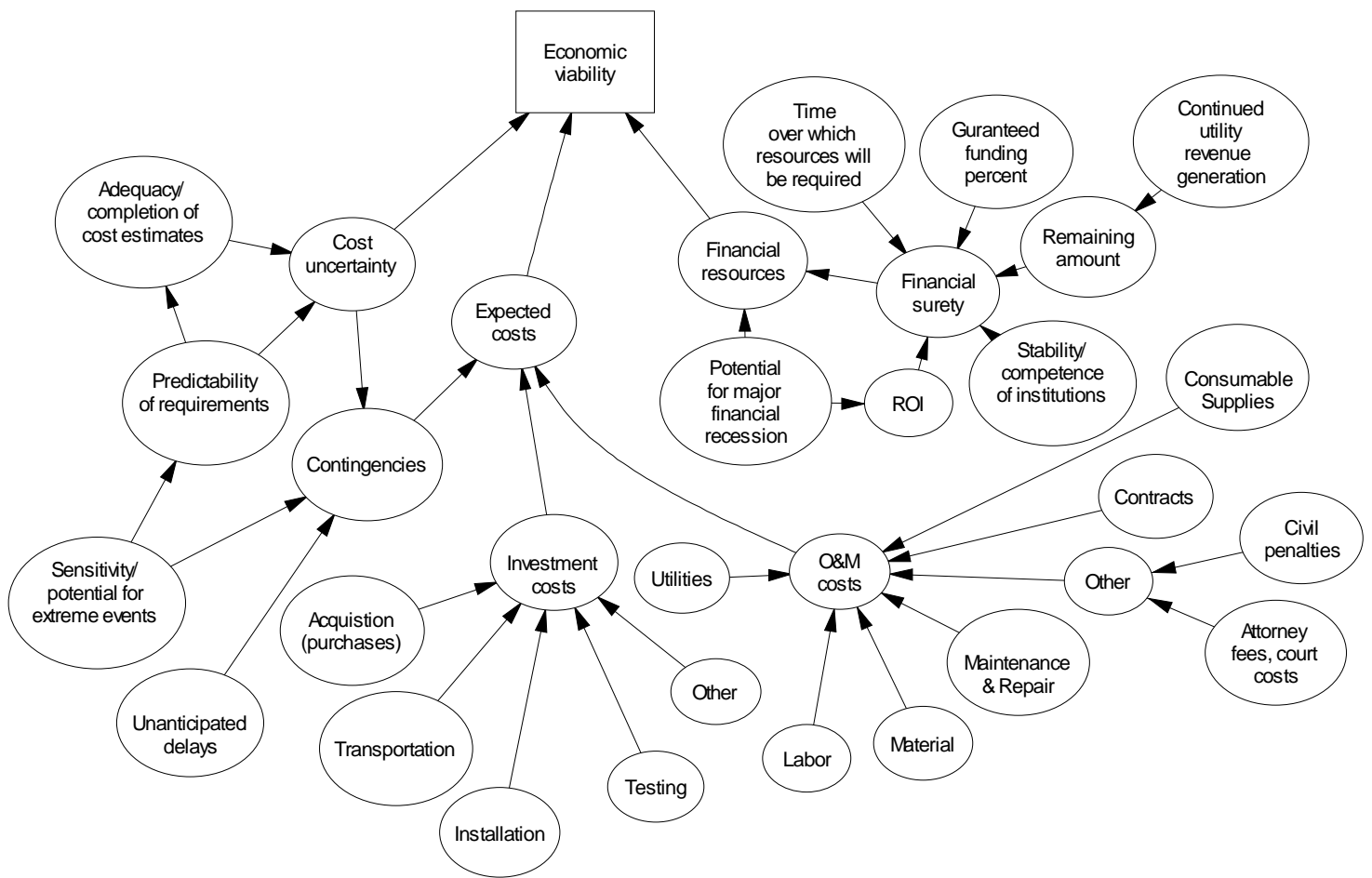
Ballot for scoring economic viability. – DGR, 0–175 years



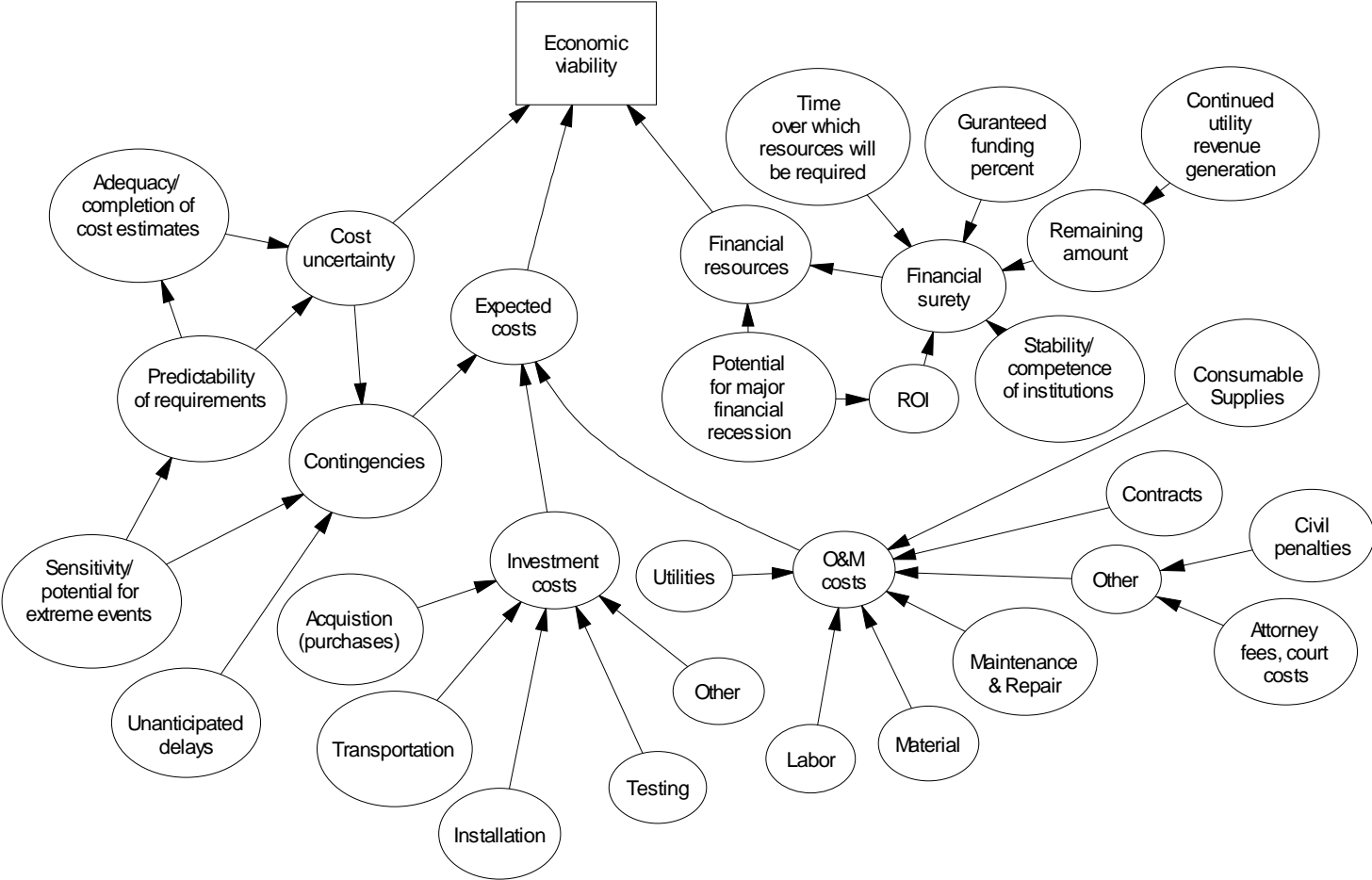
Ballot for scoring economic viability. – Centralized, 0–175 years



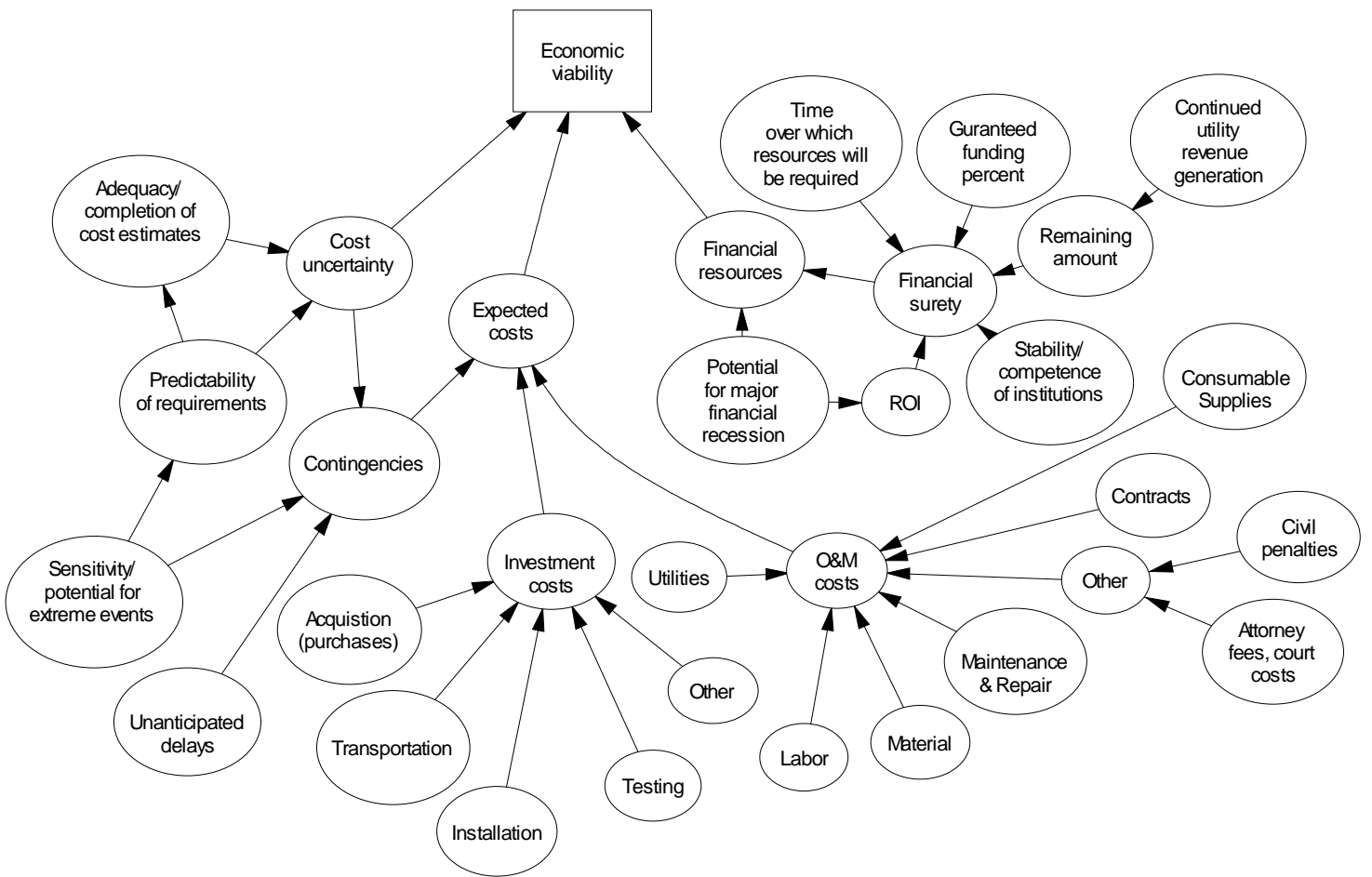
Ballot for scoring economic viability. – On-Site, >175 years



Ballot for scoring economic viability. – On-Site, >175 years



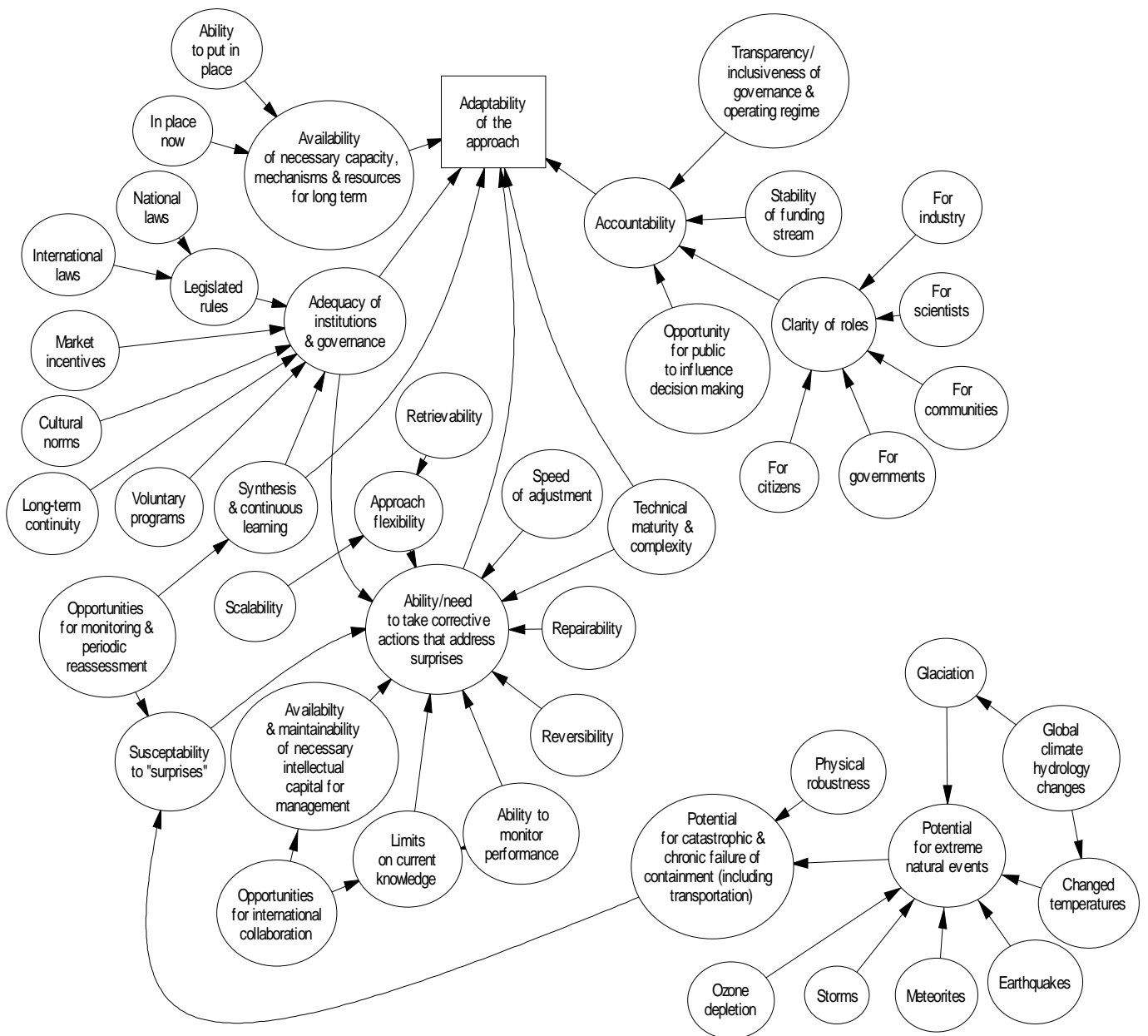
Ballot for scoring economic viability. – DGR, >175 years



Ballot for scoring adaptability of the approach – Centralized, 0–175 years



Ballot for scoring adaptability of the approach – On-Site, 0–175 years



Ballot for scoring adaptability of the approach – On-Site, 0–175 years



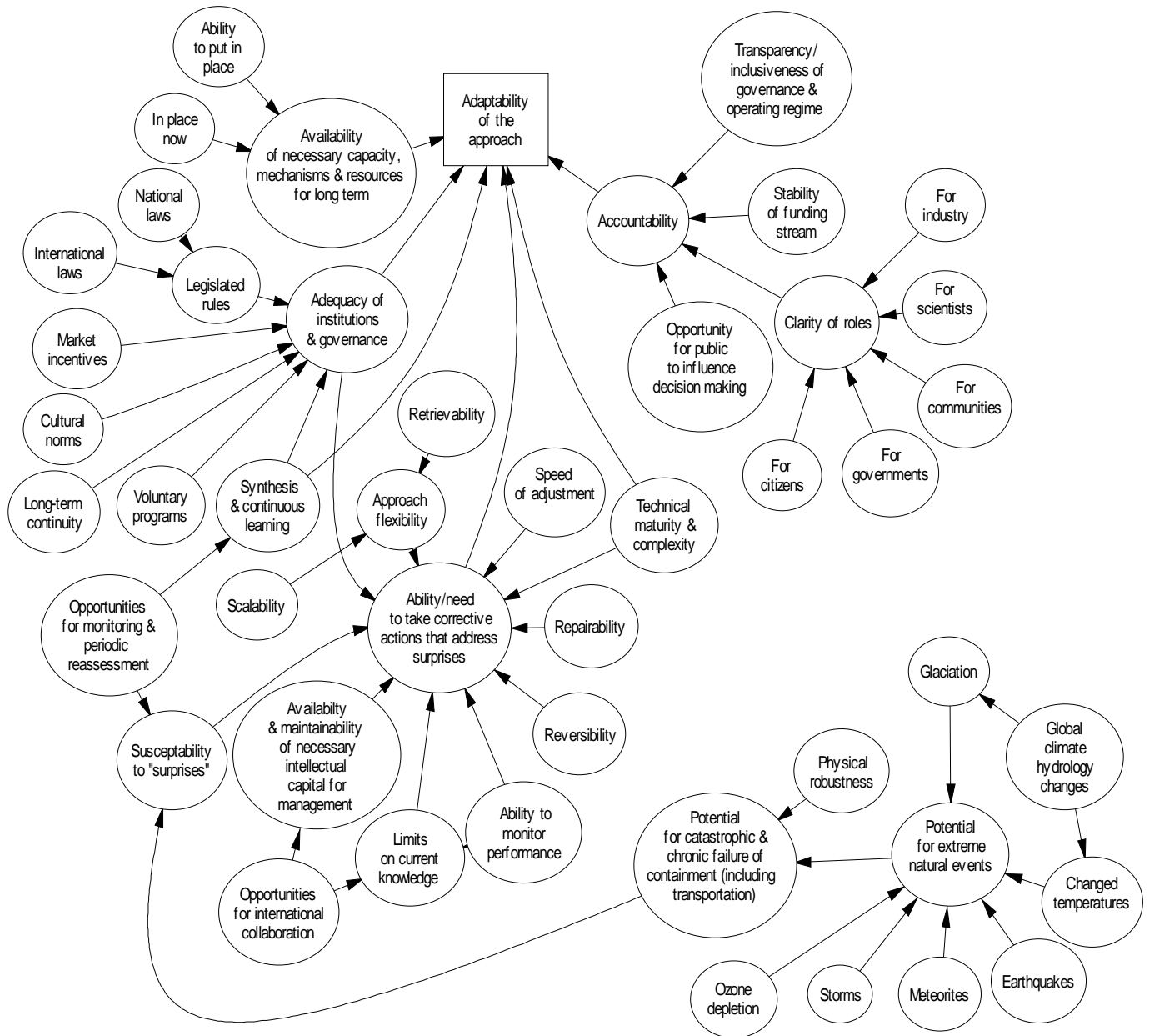
Ballot for scoring adaptability of the approach – DGR, 0–175 years



Ballot for scoring adaptability of the approach – Centralized, >175 years



Ballot for scoring adaptability of the approach – On-Site, >175 years



Ballot for scoring adaptability of the approach – DGR, >175 years

