Info-Gap Demo:
Model and Manage Functional Uncertainty

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Abstract   We address 3 questions:

1. When to use info-gap theory, and when not?

2. What do you learn from an info-gap analysis?

3. How to do an info-gap analysis? (briefly)

In many situations, we must make plans or decisions about a system whose dynamics are poorly understood and may be changing. More generically, in these situations we face uncertain functional relations between variables. These functions may be constitutive relations such as cost-benefit curves, or dose-response relations, or probability distributions. In some situations our models are conceptual and not mathematical at all, though we still face the same sorts of functional uncertainties.

We discuss the concept of an info-gap, and the method of info-gap robust-satisficing, with special emphasis on modeling and managing uncertainty in functional relationships. We illustrate the ideas by examining the policy dilemmas of innovative technology for ameliorating rural poverty. We explore this in both quantitative and qualitative analyses. We consider uncertainty in parameters, in functional relationships, and in fundamental conceptualization of processes.

General introduction to info-gap theory:

Barry Schwartz, Yakov Ben-Haim, and Cliff Dacso, 2011, What Makes a Good Decision? Robust Satisficing as a Normative Standard of Rational Behaviour, *The Journal for the Theory of Social Behaviour,* 41(2): 209–227.

Michael Smithson and Yakov Ben-Haim, 2015, Reasoned Decision Making Without Math? Adaptability and Robustness in Response to Surprise, *Risk Analysis,* vol.35, #10, pp.1911–1918.

Books on info-gap theory and application:

Yakov Ben-Haim, 2006, *Info-Gap Decision Theory: Decisions Under Severe Uncertainty,* 2nd edition, Academic Press, London.

Yakov Ben-Haim, 2010, *Info-Gap Economics: An Operational Introduction,* Palgrave-Macmillan.

More sources: info-gap.com

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