

Economic Evaluation of Preparedness, Response, and Recovery Strategies

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Abstract

The presentation addresses some of the economic issues related to allocation of resources across pre event preparedness strategies and post event response/recovery strategies in enhancing homeland security. The allocation problem is discussed as a balance problem between pre and post event actions. It is discussed from the standpoint of the effects of event severity and probability, costs, co-products and effectiveness of mitigation strategies on optimal allocation of moneys to preparedness and response strategies. Examples of framework application are drawn from animal disease and hurricane evaluations. Specifically, early disease detection and animal tracking are evaluated as options that could be carried out as part of pre event preparedness strategies. We find the benefits of investing in pre event preparedness activities increase with the increase in the probability of event, increase in spread rate of the disease, increase in expected damages brought by the disease, increase in the effectiveness of and decrease in the costs of pre event options, decrease in the effectiveness of and increase in the costs of response options. In the hurricane case we show results on the desirability of permanent, preventative crop mix shifts as a management strategy that increases resilience to hurricane damages.