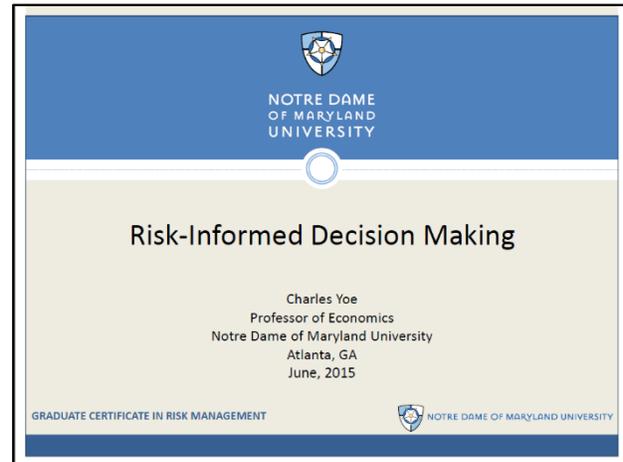


Q&A: Risk-Informed Decision Making

5 August, 2015

This webinar, part of a series of information-sharing webinars hosted by the Planning Community of practice, discussed uncertainties in the planning process, and how to manage risk with Risk Informed Decision Making. Charles Yoe, Professor of Economics and Program Director for the online Graduate Certificate Program in Risk Management at Notre Dame of Maryland University, presented and responded to questions from the field. For more information about Risk Informed Decision Making in the planning process please visit the [Planning Community Toolbox](#)



The questions and responses below are not a direct transcript; they have been reordered and edited for clarity. Additional questions and feedback are always welcome via email to hqplanning@usace.army.mil

Risk-Informed Decision Making Across USACE

How do we get everyone on board with this transition to risk informed decision making?

USACE has already done a good job with this transition in the Dam Safety Program, Levee Safety Program, and the Risk Management Center. These are really models for the nation. There is a graduate certificate in Risk Management at my university, and we have 22 people from the Corps who are working together toward that certificate; it's been a phenomenal experience. The Corps is building a bigger group of people that have expertise in risk management, but change takes a long time. The transition really started in 2006 and USACE is actually moving pretty quickly through this process, though there will hopefully be more improvement in the future.

How do we evolve toward an enterprise where responsible risks are not punished?

It is true that there are a number of people that see no room for risk-taking and only consider risks in terms of loss. But in ecosystem restoration, you have to consider how much money you're going to spend on uncertain gains. Same thing with navigation, when you to deepen a channel, and everyone else is deepening channels and you are seeking transportation cost savings, and you'll have to take a risk. Across the enterprise, you have to be able to do this without fear of punishment, otherwise the whole organization won't really take risks.

Risk-Informed Decision Making in Planning

Will the Corps have a difficult time implementing risk management planning as there are risks differ geographically?

There are some risks that we're more successfully implementing risk management planning. The Corps' work in flood risk, starting in 1936, is one of the country's first risk management programs, long before this concept had a name. The Flood Risk program is pretty mature, the Levee Safety program has also

evolved and their thinking in terms of risk is pretty mature. Navigation is also expanding its risk management, but have always considered marine casualties. Inland waterways have different levels of maturity in terms of risk management, so this is going to evolve differently for different project purposes. This concept is also coming up in other parts of the Corps, so there is a need for enterprise risk management so that directions can come from USACE. This would begin to direct and bound how this concept is currently developing locally and within fields.

You recommend focusing on outcomes. For USACE, would that mean that in studies we set benchmark levels of flood protection (e.g., 50 year, 100 year) and not focus on optimization during plan formulation?

If you're doing risk management, maybe you're moving away from benchmarks and targets. We're looking for outcomes. We're trying to avoid the situation where we figure that if we provided 100-year level protection then we've hit the benchmark and we've done what we need to. Really some communities might need more protection than the National Economic Development (NED) plan might provide and others might not need as much protection as the NED plan will provide. That's not going to fit neatly into benchmarks, this requires a transition to outcome-oriented planning.

How do we implement a risk-based process when Flood Risk Management (FRM) funding decisions are based primarily on explicit Benefit Cost Ratios (BCR)?

Risk management begins with planners, but if enterprise risk management is going to work it would have to influence how you all do business. This will require changes on the Congressional side in how you get budgeted. There were some changes years ago in the Center for Food Safety and Applied Nutrition (CFSAN), they went to a risk-based budget where they would be funded based on the risk reductions that they were achieving and the risk reductions they had in front of them for a year. This is not how they are currently funded, but is a good example of how organizations and their relationships with Congress would have to change.

Because USACE gets project-based funding, it would be interesting to see what would happen if the corps was given money to go out and produce these risk reduction outcomes and you had more flexibility in moving money around. If there is indeed no federal interest in a project then there is more motivation to move on to the next risk-reduction opportunity in queue.

There is momentum towards this change, but of course also large obstacles. If the Corps remains dedicated to enterprise risk management and showing value added from where you can do it, I think we could see some of these changes.

The FRM program specifically does augment the BCR data with life safety risk information. The short answer to this question is that we have to get better at articulating life safety risk issues and social vulnerability issues. It's not enough that we say they exist, we have to be able to back that up with some objective evaluation of those safety risks and social vulnerabilities and how the projects we recommend help to change those things for the better. In most cases, where we can show that the project has economic benefit but also reduces safety risk in the community, the budget process makes room for that.

Guidance and Tools

Will the new Planning Manual give more decision making authority to the Districts so they can be more innovative and efficient?

The Planning Manual is a resource to help with planning, but will not change any authorities. What it will do is provide some background on best practice for Risk Informed Planning. So if there are going to be changes to give more authority to the district level it wouldn't come through a planning manual. This question might also refer to the Planning Guidance Notebook (ER 1105-2-100), which is also currently being updated. But the same answer applies; we won't be changing basic authorities.

When can we expect the new Planning Manual or the Planning Guidance Notebook?

These are two different documents, and we are updating both of them. The Planning Guidance Notebook could be published at the end of the calendar year. We intend to release the updated Planning Manual by the end of the second quarter or the third quarter of 2016.

Do you have recommendations of tools or concepts for risk communication to sponsors and the public?

This is a broad topic so there is not really a specific tool. The Graduate Certificate Program at Notre Dame University of Maryland has a course in risk communication, which is different enough from public relations that it's important to have experts in districts on this kind of communication. Some district already have these experts; IWR has identified a number of public involvement specialists that can assist with public and stakeholder engagement and relaying risk. There are also [risk communication webinars](#) available from IWR's Risk Analysis Gateway that are a good resource.

There is work in the Levee Safety and Dam Safety Program which is oriented toward communicating the risks in those programs, but if you're doing any work in the broader flood risk management program, some of the tools and templates that they're coming up with would be applicable and transferable. Talk to your district's Levee Safety Program Managers or your Dam Safety Program Managers to find out who, locally, is doing work. If they don't have anything locally they can perhaps put you in touch with regional experts that can help.

Has USACE adopted any tools or templates to simplify the decision making process and better convey the risk?

The Corps has done a good job in developing new risk assessment tools and tools that can produce probabilistic outputs. There has been less work to transfer those concepts and tools over to the risk management area. This is an area where we're depending on this generation of planners to figure out how to do that. There are ways to improve the decision-making process and the most important thing you can do is that when there is no one concrete number, then begin to convey information in a realistic way – bound numbers that are unknown and help decision makers understand that there is no number. This is a steep hill to climb but we need to get decision makers and the public used to the idea that we don't know some things for sure, but can still convey that we know ranges and parameters instead.

As we try to better convey and incorporate risk into decision making, this won't necessarily simplify the process, but it will improve the conversation to incorporate what the risks are and who bears them in projects.