IWR Planning Suite II
October 3, 2019
Q&A Session

This webinar provided an overview of the capabilities and uses of the USACE-certified Institute for Water Resources (IWR) Planning Suite II (IWRPS-II) software, focusing on the IWRPS-II Multi-Criteria Decision Analysis module and its potential uses during execution of USACE planning studies. The webinar was presented by Shawn Komlos and Laura Witherow (Institute for Water Resources) and Cory Rogers (CDM Smith).

This summary of the Question / Answer session of the webinar is not a transcription; questions and responses have been edited and reordered for clarity.

Using Other Social Effects (OSE) in IWRPS-II

What kind of factors go into OSE within IWRPS-II – are they pre-determined, or is the user required to identify or develop his or her own? Are the OSE factors weighted?
The Planning Guidance Notebook (ER 1105-2-100) and the Principles and Guidelines (the standards for economic analysis for water related studies) should be consulted for guidance on what needs to be accounted for under the OSE account and what factors should accrue there as opposed to what factors should accrue in the National Economic Development (NED) account (or other accounts). Typically, factors that would be captured/displayed within the OSE account include effects of planning alternatives on social conditions such as: health and safety; displacement of, or other impacts to communities; and other effects of plans not captured/displayed among the other three accounts planning accounts.

As a representative of the study team, the user is responsible for entering the weights to be applied to the criteria, and the inputs (values) for each of the cost and output variables. For the example in the presentation *(see slide 18)*, we used high-level categories to reflect the types of cost and output variables that might feed into an application of Multi Criteria Decision Analysis (MCDA). Weights are not predetermined by the IWRPS-II program. If the user/team seeks to analyze or consider multiple criteria, each of the criteria will need to be assigned a weight, even if the same weight is applied to each.

Within the OSE account, how does the user weigh "historical significance" of a region or assign value to historic buildings that have not been costed out? In the example discussed in the presentation, are OSE and Regional Economic Development (RED) considered to be one in the same?
The OSE account and RED account are not one in the same; they are two separate accounts. Please see the Planning Guidance Notebook (ER 1105-2-100) and the Principles and Guidelines for greater detail and background. The relative weight applied to preservation or other potential actions related to historic buildings and properties is likely to be strongly influenced by site- and study-specific conditions; perspectives of the non-federal sponsor, potentially-affected stakeholders, and relevant State Historic Preservation Office; and a variety of other factors. If a study team is planning to apply MCDA, the team

should consult and coordinate with the relevant Planning Center of Expertise and its vertical team to ensure acceptability of the approach.

Compromise Programming

How does the Compromise Programming option within IWRPS-II come up with the "ideal" plan?
The Compromise Programming option looks at all of the alternatives within the user's decision set and uses the "best" of the values from across all criteria to build an "ideal" plan that delivers the best outcomes of all alternatives. Each of the alternatives is then compared against the "ideal" plan and the differences between the values for each of the criteria are calculated. The differences are used to characterize just how "close" the alternative is to the "ideal," across all criteria (weighted using the weights assigned by the user). The plan that is "closest" to the "ideal" across all criteria would be the highest-ranked plan. In essence, it uses a generalization of the Pythagorean Theorem to calculate distance in n-space – it is a distance function that measures the Euclidean distance from the optimal criteria to the criteria at hand. It is called "Compromise Programming" because it is a compromise between the optimal and the least optimal plan.

More information on Compromise Programming can be found in the IWRPS-II user guide (page 177) or by contacting DLL-CEIWR_IWR-PLAN.

IWRPS-II Installation and Training

Is training on IWRPS-II incorporated into any formal economics courses, such as PROSPECT?
Training on Cost Effectiveness and Incremental Cost Analysis and the IWR Planning Suite software has been incorporated into some of USACE's economics courses, including PROSPECT 348 (Planning for Ecosystem Restoration) and the Ecosystem Restoration module of the Planning Associates Program. Training on the software and/or its application to specific studies (i.e., specialized training/support) has been and can be arranged for delivery at District offices on a case-by-case basis (typically, on a reimbursable basis). For more information about training and/or technical support, please contact DLL-CEIWR_IWR-PLAN.

When a user uninstalls the previous certified version of IWR Planning Suite and installs IWRPS-II, are the underlying databases updated (i.e., will prior work transfer over to the new software)?
Due to changes in database and file structures that were made to improve the software performance (and enable MCDA and Uncertainty module capabilities), inputs to previous version of the Planning Suite cannot be directly transferred into the new IWRPS-II. To help users migrate inputs form prior versions of the Planning Suite into the IWRPS-II, the software has been adapted to facilitate copying and pasting of tabular data (e.g., from MS Excel) into the input fields of the new software.