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Use of Benefit/Cost Analysis for FEMA Programs

This is a position paper prepared by the Association of State Floodplain Managers, (ASFPM), a non-profit professional organization dedicated to the reduction of flood losses in the United States.

Background

It cannot be debated that a proposed project for flood damage mitigation should be found cost effective before taxpayer funds are expended. Therefore, the benefit/cost analysis (BCA) is an important step in the determination of a proposed project's eligibility for federal funding assistance. With the advent of nationwide competitive programs that rely heavily on BCA ratios to rank applications, the importance of the BCA has been boosted.

In the past, Office of Management and Budget (OMB) and Government Accountability Office (formerly the General Accounting Office or GAO) reports have railed against the Federal Emergency Management Agency's (FEMA's) hazard mitigation programs because of their alleged lack of cost effectiveness (U.S. General Accounting Office, 1999). Indeed, even if projects had been cost effective, FEMA was not able to conclusively demonstrate that fact, within the framework required by the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (P.L. 93-288) and Part 44 of the *Code of Federal Regulations*.

Since the BCA is a central focus for FEMA's mitigation programs, the Mitigation Committee of the Association of State Floodplain Managers sought comments about FEMA's BCA requirements from its committee membership and from the network of State Hazard Mitigation Officers. Concerns were raised about a standardization of the BCA process across FEMA's mitigation programs, how the BCA software modules are used, and the limitations placed on FEMA by Congress, which restrict the determination of a project's true cost effectiveness.

This white paper addresses several of the primary concerns and offers recommendations on how to address them. The issues and recommendations discussed here fall into two groups: short term and long term. The short-term issues are those which may be initiated with few resources and have relatively short periods of completion once they are started. Resolving the long-term issues will require a more systemic approach—there is no “quick fix” for them, and by their nature they will necessitate more time and effort. By upgrading the use of the BCA with these recommendations, Congress and OMB will be able to distinguish what those in the mitigation profession already know: that mitigation works, and it is very cost effective.

Short-Term Issues and Recommendations

Other Federal Agencies are Afforded More Liberal BCA Procedures

Policy guidance from OMB (Office of Management and Budget, 2006) applies to FEMA and to most other federal agencies that do benefit/cost analysis, but specifically excepts the U.S. Army Corps of Engineers (Corps). The economic analysis for Corps projects for navigable waterways is separately mandated by legislation and includes a broad range of long-term regional economic impacts, reflecting the large-scale and long-term regional economic effects of many Corps projects. Thus, Corps benefit/cost analysis may include benefits that are not countable for most other federal benefit/cost analyses.

The Corps and FEMA have traditionally had separate roles in the federal agency landscape. The Corps has been charged with more flood control and structural protection while FEMA has been directed toward response and preparedness, non-structural flood damage reduction, and hazard mitigation planning. However, the Corps has been starting to explore non-structural solutions and also is authorized to complete flood mitigation planning under Section 22 of the Water Resources Development Act of 1974 (P.L. 93-251), as amended (known as the Planning Assistance program) and under Section 206 of the 1960 Flood Control Act (P.L. 86-645), as amended (known as the Flood Plain Management Services program).

Even though the disparate roles of these two federal agencies have been blurred, the differences in the way they are to calculate benefits for projects has been kept quite distinct. Although the Corps' non-federal matching regulations typically require a higher percentage of non-federal matching money than do other agencies' projects, the more liberal procedures afforded are making it conceivable that proposed projects can to be approved for Corps funding and implementation even though they would not meet the standard required for FEMA funds.

The flexibility that is afforded to the Corps—but not to FEMA—in considering projects for funding stems from three factors: different benefits are allowed in the two agencies' analyses, differing discount rates are mandated, and differing sets of damage curves are used.

Differing Benefits Allowed

The Corps is allowed to use environmental and recreational benefits in its BCAs. The agency is required to analyze alternative projects to solve a problem, and the project that is chosen for implementation is called the National Economic Development, or NED, plan. As in FEMA's analyses, national benefits under the Corps' procedures are oriented toward increasing the national wealth through damage avoided, future cost savings, or other benefits. The Corps officially recognizes as Regional Economic Development (RED) benefits any benefits created by a project, including employment and local multiplier effects—both of which are prohibited from consideration under FEMA's procedures for awarding funds.

National Environmental Restoration (NER) projects for the Corps are those which provide environmental benefits, such as a wetland restoration project. Environmental benefits are calculated and evaluated separately from the benefits generated from the larger project. These types of benefits are not calculated as a part of project benefits, but are still used in the assessment of a project's cost effectiveness. Examples of NER benefits in a Corps analysis include values for tons of sediment captured by an engineered wetland or similar type of

retention basin, acres restored (different kinds of wetland acres can be weighted by their estimated benefits), and “habitat unit” valuations for the estimated number of animals that might move into the project area.

Other benefits often are used in Corps analyses but either cannot be used for FEMA analyses or are exceedingly difficult to quantify and therefore are rarely incorporated. These include

- Recreation benefits, which are valued according to the number of anticipated usage days of water contact;
- Avoided damage to land use, such as crop losses or land lost due to erosion; and
- Reduced costs for the federal administration of a flood insurance policy. This value is currently estimated at \$160 per policy and does not create a large amount of benefits. However, since this monetary value can be applied toward the number of “potential policies” in a project area, there is a possibility that a large value of benefits could be created.

Differing Discount Rates Assigned

The theory and application of discount rates is not uniform among government entities with economic oversight responsibility. OMB uses an “economic approach,” which examines how much it costs the government in terms of lost revenue. This view treats the government as an entity separate from society. The Congressional Budget Office (CBO) allows a “social approach,” which attempts to take into account the impact of expenditures on social welfare. The GAO recommends the use of a very low discount rate (defined as very near current inflation estimates) when analyzing policies with large intergenerational effects involving human life (Harvard Law School, 2006). The more that social factors are allowed to be considered in economic analyses, the lower the discount rate. For example, OMB requires that a 7% discount rate be used, but CBO and GAO policies may allow for lower rates—possibly as low as 2%. Hazard mitigation benefits have a real effect on the quality and safety of a society, so a social discount rate should be applicable. However, since FEMA’s discount rate regulation lies under the purview of OMB and not with the CBO or GAO, the use of a lower discount rate is not possible without first receiving the express approval of OMB.

Even within agencies, however, the use of discount rates is not uniform. OMB specifically allows the Corps some flexibility in its analyses that is not afforded to FEMA.

Both the Corps and FEMA BCA models use the concept of the “net present value of benefits.” When a project is completed, it starts providing benefits in the first year. The value of project benefits is discounted by a certain rate for each incremental future year because a benefit in the future is not worth as much as a present-day benefit. The discounted value of future benefits for all the future years of the project’s life is then converted back to a value as if all benefits were accrued in the first year. The rate at which annual project benefits is reduced is called the discount rate. As an example, \$10,000 in current benefits over a 50-year project life at a 10% discount rate would yield \$10,000 in the first year, \$9000 in the second year (\$10,000 minus 10%), \$8100 in the third year (\$9000 minus 10%), and so on for 50 years.* The future value of

* The actual calculation of future-year benefits is not a straight percentage, but uses the formula $1/(1 + i)^t$ where i is the interest rate and t is the year. The example given in the text is meant to show the basic effects of a discount rate and is not meant to be an actual, accurate calculation.

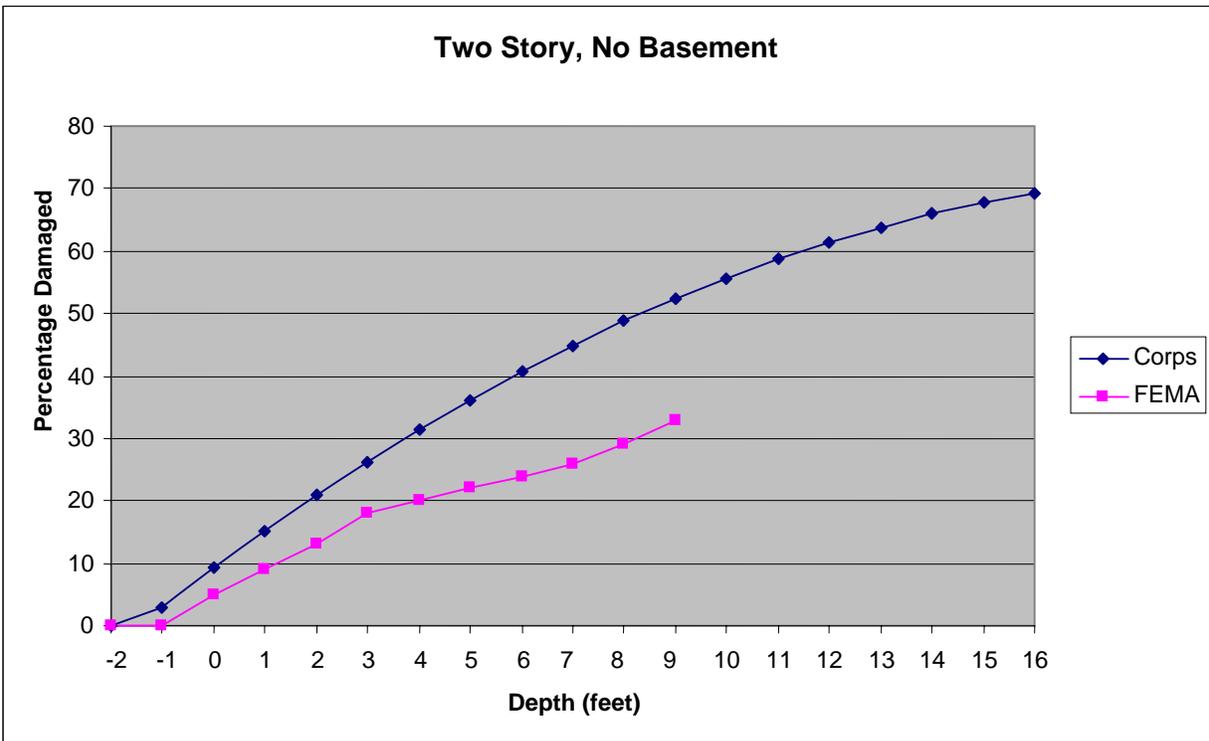
benefits declines rapidly, and by the 50th year in a project's life, 10% of a very small amount essentially has no impact to the project's total benefits. The higher the discount rate, the more rapidly the annual benefits decline, which results in a lower BCA ratio. The lower the discount rate used in an analysis, the longer the damage avoided is extended into the future, which results in a higher BCA ratio.

In order to calculate the net present value of all future benefits, the analyst (or software module) must determine the expected annual benefits, then multiply that value by a present-value coefficient that corresponds to each discount rate. The Corps can use a "reasonable" discount rate, but is encouraged to use the default rate listed in Appendix C of OMB Circular A-94, which gives the most-often-used discount rate as 5.125% (Office of Management and Budget, 2006). The same OMB guidance requires that FEMA BCAs use a discount rate of 7%. The present-value coefficient of a 5.125% discount rate is 19.38, while the coefficient for a 7% discount rate is 14.27. All else being equal, the lower discount rate afforded to the Corps yields 36% more expected annual benefits than does the FEMA formula. This means that if FEMA analyses were permitted to use the same discount rate that the Corps currently uses, benefits for mitigation projects would be 36% higher. If a social discount rate of 2% could be used, the present-value coefficient would jump to 43.10, which would increase benefits by 300% over OMB's mandated 7% discount rate. Changing FEMA's guidance to allow it to use a discount rate similar to that used by the Corps would have a significant impact on the BCA and would be easy to accomplish.

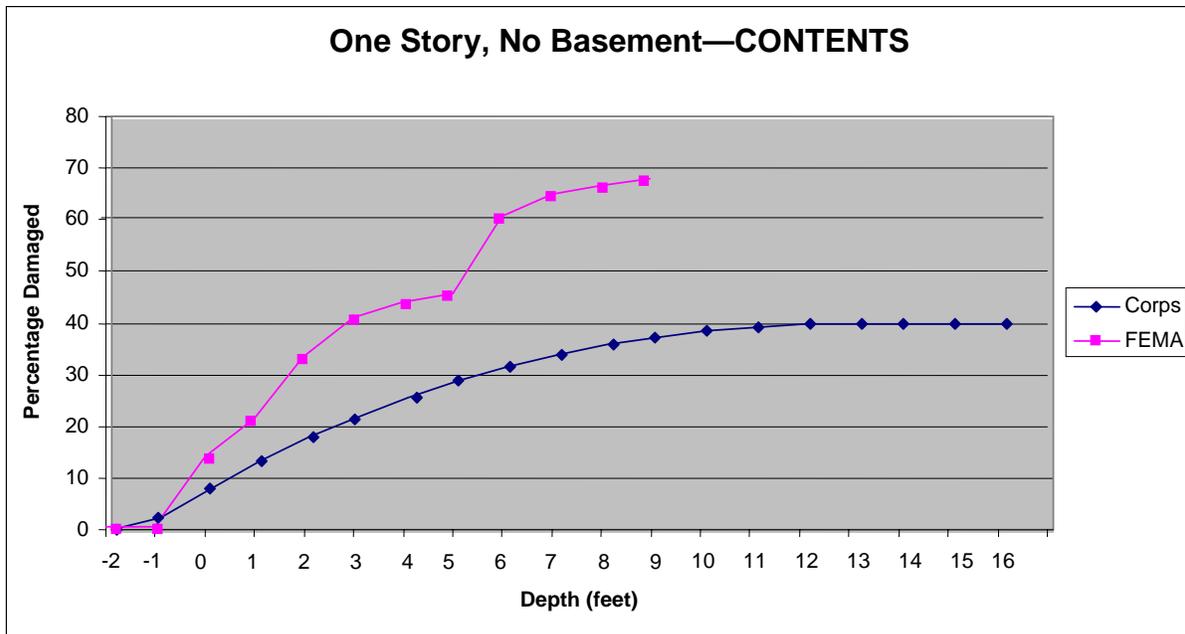
Differing Sets of Damage Curves Used

There is also a wide discrepancy in the damage curves used by the Corps and by FEMA. The Corps developed residential depth-damage tables in the 1990s and further expanded and updated the tables in 2003. In partnership with replacement cost specialists Marshall & Swift/Boeckh, the Corps has developed the Corps of Engineers Floodplain Inventory Tool (CEFIT), which complements the Hydrologic Engineering Center's Flood Damage Analysis (HEC-FDA) package. In contrast, FEMA's depth-damage curves were taken from old National Flood Insurance Program databases, of questionable accuracy and reliability. These damage curves have not been updated since the 1980s. This is especially troubling because more modern damage curve information is readily available to FEMA—one source would be the databases associated with the Residential Substantial Damage Estimator computer program.

Because the Corps damage curves are more likely to be correct, if all else is equal a Corps BCA will return a substantially higher ratio than a FEMA BCA for the same proposed project. This is true for all structure types, but comparisons of projected damage to one-story and two-story buildings are shown below as examples. For these charts, the FEMA damage curve statistics were taken directly from the BCA module's "Default DDF (%)" in the Level Two Data menu. Corps damage curve data were obtained directly from the Corps in spreadsheet format. The same pattern of higher Corps damage curves can be seen in comparisons for the split-level structure types with basements, one- or two-story structures with basements, and mobile homes. (Note that the Corps has damage curves extending to 16-foot depths, while FEMA's data do not exceed 9-foot depths because depths higher than nine feet are considered to be in excess of the 50% damage threshold for demolition.)



However, FEMA curves for contents values are almost always higher than Corps damage curves for contents. This means that damage to contents is assessed at a higher rate for FEMA BCA analyses than in Corps analyses. It is not clear why this is the case. The higher the contents damage, the higher the BCA ratio will be. However, since more benefits accrue to a project from its damage reduction than from the reduced contents damage, this is a secondary factor in the use of depth-damage curves.



The Corps is using newer, better information that is readily available. If FEMA were to use similarly updated information for its programs, more accurate and higher BCA ratios would result.

Recommendations

- OMB should reduce the discount rate to at least 5.125% for FEMA benefit/cost analyses to make it consistent with the discount rate used by the Corps of Engineers.
- The old and outdated damage curve values being used in FEMA’s BCA software modules should be reassessed. This could be done using Hazard Mitigation Technical Assistance Program funds and such an assessment could be completed and integrated into the software modules quickly. FEMA should engage the Corps in an exploration of how to obtain better damage curve data.
- In addition to a reassessment, FEMA should develop a system to periodically update the damage curves used in its BCA software modules. This would prevent the problem of using outdated curve information in the future.
- A joint committee should be formed, charged with finding a mutual standard for estimating damage. The discontinuity between Corps and FEMA estimates of damage and their models is serious enough to warrant this action.
- While FEMA accepts alternative depth-damage curve data, it is important that FEMA determine approved alternatives, such as curves obtained from the Corps. FEMA may accept alternative BCA methods from its applicants if they have obtained prior approval from FEMA to use a different technique (FEMA, 2001), but this alternative has not been incorporated into standard guidance and training, nor has it been publicized. Thus, states and communities that have become aware of the better and higher damage curve data have enjoyed an advantage in competing for funds from some of FEMA’s mitigation

programs. This is something that should be analyzed by future reviewers in order to ensure an equitable assessment of all applications.

Uncertainty and Failure to Account for All Benefits

In a BCA, floodplain maps are seen as a “snapshot in time” of a flood hazard that, in reality, is constantly changing.. Properties close to the floodplain today could be in the floodplain the next time the maps are redrawn. Over time, there is a tendency for floodplain maps to underestimate the true flood hazard because

- Development tends to increase runoff because rainfall does not have as much opportunity to infiltrate into the ground. This is especially true for rapidly developing urban areas.
- The process for creating new floodplain maps goes through a lengthy review and comment process. Even when a new floodplain maps become effective, it is likely that it depicts a flood risk that is at least two years old.

Future-conditions floodplain maps show how the floodplain would look in a fully built-out scenario for watersheds and subwatersheds. In the absence of these maps, there is an inherent uncertainty in the BCA because of the implicit assumption that the flood risk of today will remain the same in the future. Since flood risk for most locations worsens over time, an analysis completed without taking future conditions into consideration underestimates the amount of benefits that will accrue over the life of the project.

Another limitation with the BCA module is that it fails to account for all benefits. This is a very important issue because past OMB and GAO reports have expressed disapproval of the apparent lack of cost effectiveness of FEMA’s hazard mitigation programs (U.S. General Accounting Office, 1999). Many of these government reports cite Congress’s concerns about escalating costs of disaster assistance when effective hazard mitigation is one of precious few viable ways to reduce future disaster costs. It should come as no surprise, then, that publications from non-governmental groups have found that hazard mitigation projects have consistently provided benefits in excess of project costs. For example, a report recently released by the National Institute of Building Sciences notes that mitigation projects provide \$4.00 in benefits in the form of savings to society for every dollar in costs and \$3.65 in benefits to the U.S. Treasury for every dollar spent (Multihazard Mitigation Council, 2005. p. 5, 6). This report has continued the lineage of the four editions of Mitigation Success Stories (Association of State Floodplain Managers 2000, 2002) and FEMA’s Mitigation Best Practices and Case Studies web page (FEMA, 2006). One of the reasons why Congress may not be receiving a complete view of the benefits of mitigation is that all benefits are not being counted under the methods FEMA is required to use.

“Federal benefits” are direct benefits that accrue to the federal government, and usually take the form of any damage that the federal government avoids reimbursing through its disaster response and recovery programs after a disaster. There are non-federal benefits that could be documented for the completion of a BCA, but many of them are disallowed because they are “indirect” benefits—those that accrue as an indirect or secondary result of the project. Indirect benefits are usually not federal benefits because they do not have an impact on the federal budget, even though there may be a benefit to the local or regional economy.

There are two types of indirect benefits: indirect damage avoided and indirect benefits. Indirect damage avoided includes all losses other than direct losses, including economic losses due to dislocations in otherwise undamaged factories or commercial ventures, banking and insurance losses, temporary unemployment, business interruption, losses due to economic “ripple effects,” environmental consequences, non-financial losses such as loss of historical resources, and psycho-social effects suffered by persons involved in a disaster (Multihazard Mitigation Council, 2002). An indirect benefit is a secondary aspect of the project. An example of an indirect benefit would be the recreational opportunities and enjoyment that is generated by a hiking/biking trail on property cleared after flood-prone structures have been acquired and removed. It is not debated that additional benefits are accrued through mitigation actions; what is being argued is whether indirect benefits should be allowed in the official BCA.

The official guidance that dictates which benefits may be counted in a BCA is found in OMB Advisory Circular A-94:

Analyses should include comprehensive estimates of the expected benefits and costs to society based on established definitions and practices for program and policy evaluation. Social net benefits, and not the benefits and costs to the federal government, should be the basis for evaluating Government programs or policies that have effects on private citizens or other levels of Government (OMB, 2006, p. 5).

According to OMB, then, direct benefits and non-federal benefits may be counted in addition to direct damage avoided. However, at the same time, Circular A-94 prohibits the use of indirect benefits:

Employment or output multipliers that purport to measure the secondary impacts of government expenditures on employment and output should not be included in measured social benefits or costs (OMB, 2006, p. 6).

In simpler terms, this means that the possible impact of a mitigation project on local or regional employment or on overall economic output or economic activity should not be counted. Therefore, items like the change in employment revenue, economic growth or development, tourism, or future tax revenues may not be considered in a benefit/cost analysis for FEMA programs.

There are two problems with this approach. First, the National Institute of Building Sciences report notes that, “Capturing the full range of benefits requires an assessment that defines societal benefits broadly,” and “both intangible and tangible benefits and costs should be recognized” (Multihazard Mitigation Council, 2005, p. 14). Congress, OMB, and GAO are rightly concerned about the wise use of federal funds for hazard mitigation, but at the same time, disallowing indirect benefits hinders the process of determining the true cost effectiveness of a project by restricting allowable benefits.

The second problem with prohibiting indirect benefits is that it is these very benefits that are frequently the impetus for local governments to sponsor or undertake mitigation projects. FEMA funds routinely pay for acquisition projects, which clear buildings from a flood-prone property and create permanent open space. The direct damage avoided identified by BCA analysts in these types of projects is usually limited to the future costs avoided by the federal government for disaster assistance or flood insurance payouts. However, depending on the secondary use of

the cleared property, a wealth of indirect benefits is very likely to accrue as well. A few might be:

- Increased real estate values based on proximity to open space (Crompton, 2000);
- Intrinsic value of open space—nine separate open space values have been identified (Rolston, 1988) and analyzed (Faushold and Lilieholm, 1996);
- Recreational benefits for secondary uses after an acquisition project such as a hiking/biking trail, camping, hunting and fishing, community gardens, or other activities along the created greenway (Nebraska Department of Natural Resources. 2000, p 33);
- Environmental benefits for wetland protection or creation, ecosystem restoration and connectivity, flood control, groundwater recharge, and water quality; and
- Revenue generation potential from ecotourism, agriculture, forestry, wetland education, bird and wildlife watching or studying, and additional revenue for businesses adjacent to these areas (Rivers, Trails and Conservation Assistance Program, 1995, p. 3-5).

In addition to the above benefits, acquired structures are commonly used by SWAT teams to practice structure invasion practice and by fire departments for practice burns. There is value to the community in the provision of this real-life training experience to these public safety groups.

There is also a question as to whether the OMB Circular A-94A (Identifying and Measuring Benefits and Costs), which FEMA uses for guidance, was prepared based on earlier versions of the Stafford Act. Language in Section 6, page 4 of the Circular appears to open to interpretation of the social benefits when it states that

Social net benefits, and not the benefits and costs to the Federal Government, should be the basis for evaluating government programs or policies that have effects on private citizens or other levels of government.

Additionally, subsequent amendments of the Stafford Act have added language to the effect that

Hazard mitigation measures reduce the risk of future damage, hardship, loss, or suffering in any area affected by a major disaster (404 §5170c).

Therefore, especially in the wake of Hurricane Katrina, OMB needs to revisit this Circular and to assess whether the current wording reflects the intent of the Stafford Act.

Finally, at one point over the last several years, FEMA headquarters undertook an initiative to quantify environmental benefits for its mitigation programs. It was being conducted in the Mitigation Directorate, but it is not clear if an official publication or finding emerged or if the initiative was finished.

Recommendations

- FEMA should approach OMB to seek a reassessment of the regulations governing benefit/cost analyses and to determine whether current OMB circulars need to be updated. The time has come for uncertainties and all benefits to be considered in a BCA. For example, there has been extensive modern research done in the public and private sectors to place values on open space. By disallowing the calculation of indirect benefits

in an analysis, FEMA, OMB, and GAO have not only devalued the true economic benefits of a project, but have also created the situation in which projects that may provide an immense quantity of indirect benefits may not even be approved.

- If indirect benefits were allowed, they could be included in a BCA in an amount up to the value of the project's 25% non-federal match. Because many mitigation projects are selected for completion by the local sponsor because of the indirect losses avoided and the proposed secondary uses of acquired land, federal funds could be applied toward the federal, direct benefits while non-federal funds could be applied toward any indirect, non-federal benefits.
- From a programmatic and procedural standpoint, a second option would be to require a benefit/cost ratio of at least 0.75 instead of 1.00. This would officially recognize that at least 25% of a project's benefits accrue from uncertainties and indirect benefits, and would ease the burden on analysts to research and to provide documentation on modern BCA options. Several years ago, a FEMA regional office approved projects with a BCA ratio of 0.70 as long as the application also included justification to show that there were adequate indirect benefits. Apparently, once this regional practice was made known to FEMA headquarters, it was criticized and was immediately changed.
- If the aforementioned initiative to quantify environmental benefits was completed by FEMA's Mitigation Directorate, the results should be made public and a determination made of whether the findings are applicable to mitigation programs today. If the initiative was not completed, FEMA should consider re-initiating the study to determine the environmental impacts of projects funded through its mitigation programs.
- There is a need for significant research to develop methods and obtain data to develop accurate default values for indirect benefits, including flood injuries prevented, open space, recreation, and other benefits.

Use of Hazard Mitigation Technical Assistance Program Funds

The HMTAP is a nationwide contract that may be used to support post-disaster program needs in large, unusual, or complex projects; situations where other resources are not available; or where technical assistance is needed.

FEMA can authorize the use of HMTAP funds when projects are too technical for the average analyst. While HMTAP funds have proven valuable in assisting with BCAs for complex projects, their use also has created several concerns.

It is our understanding that the grants management staff at FEMA are making decisions about the BCA procedure that they perceive to be in the interests of fairness or equitability. The restrictions growing out of these decisions are resulting in FEMA's program staff not being allowed to provide any assistance to applicant communities in the preparation of their BCAs, follow-up or otherwise. It is difficult to see how FEMA's coming back to applicants to get better information can be viewed as something bad or unfair, and such restraints are very counterproductive.

- A growing reliance on the HMTAP contractor is showing states that there is a lack of BCA expertise at the FEMA regional office level. Although it may be difficult to keep qualified regional staff, there needs to be a commitment to having well-trained regional

staff in addition to the HMTAP contractor. It is short-sighted to allow expertise in a particular field to be pooled in one entity, especially when that expertise is for an in-house program.

- States have received the impression that, once a project BCA has been forwarded to the HMTAP contractor, FEMA regional offices can no longer step in to provide guidance to a community applicant. It almost appears as though FEMA regional offices view this as a conflict of interest. On the contrary, mitigation programs are administered by FEMA and the HMTAP contractor is the agency's consultant. Therefore, FEMA personnel should be made aware that they are free to provide technical assistance to the communities in their applications, whether or not the BCA is handled by a contractor.
- In most cases, the HMTAP contractor is not allowed to complete the BCA or propose new or different methods for the applicant, but instead will inform the applicant of ways to improve the analysis. This is counterproductive because the project application is delayed when the contractor merely details the problem instead of supplying a solution. It is especially disingenuous in instances when the project applicant has already shown an inability to complete a complex BCA.

Recommendations

- FEMA should analyze its regional capability to handle complex BCA questions and target training for FEMA staff, as needed.
- Once the HMTAP contract is in place, the contractor's services should be used to help the applicant in determining the BCA ratio for the proposed project.
- If needed, FEMA and the HMTAP contractor should work together to ensure that a complex BCA gets the attention it needs.
- FEMA should remove institutional hurdles between the HMTAP contractor and the applicant.

Standardization Ignores Important FEMA Program Differences

Those who have been completing BCAs for the last 10 years recognize the changes that FEMA has been making in documentation requirements. In earlier years, an analyst could sit down with a telephone and flood insurance study and complete a BCA for an acquisition project within a short timeframe. With the advent of the PDM program and its meticulous approach to documentation, this has changed. Now it is feared that FEMA's move to standardize the BCA process will result in more stringent documentation requirements for all mitigation programs. In a nationwide competitive program that places so much importance on the BCA, it is natural to require a large amount of specific information to ensure that applicants are justly analyzing a project's true benefits.

However, the HMGP and Flood Mitigation Assistance (FMA) program funds differ from PDM funds because the states are not competing with other states or communities for those program funds.

Further, requiring high levels of documentation for non-competitive grant programs implies distrust of states as FEMA partners. For example, when a local official certifies lowest floor elevations by submitting an HMGP application (the application must be signed by the local

official as true and correct), FEMA should not be requesting additional documentation/explanation of how the elevations were obtained if the state, having conducted its review of the materials, found them to be reasonable. There must be a recognition and some inherent value placed on the judgment of state staff when doing BCA analyses, especially when the *Code of Federal Regulations* explicitly states that BCA analysis is a state responsibility under the HMGP.

There is a related concern that, since engineering costs are an eligible expense for HMGP funding, a PDM-level analysis may result in funds being spent on engineering reviews that otherwise could have been spent on actual mitigation projects.

Recommendation

- FEMA should develop and publish a document that states the different levels of BCA requirements for its competitive and non-competitive mitigation programs. Such a document would create consistent procedures for analysts to adopt across the country and would enable different FEMA regions to apply similar standards in their review of BCAs. A lower threshold should be required for non-competitive mitigation programs.

A National BCA Committee is Needed

FEMA once had a National BCA Team, but since no mention of it can now be found of FEMA's website it is assumed that this group is now defunct. With BCAs so important in mitigation program applications, a group of BCA experts who would discuss broader policy issues and recommend BCA-related guidelines to FEMA is sorely needed. A group like this would function somewhat as does a self-regulating industry that makes recommendations to better itself without outside oversight. In addition, this team might reduce the reliance on HMTAP for complex BCA issues while also empowering states and communities—the administrators and beneficiaries of these projects—to have an active voice in this important aspect of mitigation programs.

Recommendation

- FEMA should re-establish the National BCA Team. This time, however, it should include non-federal employees—including state and local personnel—to represent a broader range of stakeholders.

Long-Term Issues and Recommendations

BCA Requirements restrict Small Communities' Competitiveness in Pre-Disaster Mitigation Program

Several comments were received that smaller communities without a large staff are not able to compete fairly with larger communities with an engineering staff. Several comments noted that some smaller communities have opted not to apply for PDM funds because the application process—the BCA requirement in particular—was too onerous. This issue comes into play in the “feasibility review” of the application. To pass the feasibility review for PDM, the applicant is encouraged have a full engineering analysis completed for a proposed project. For a small, rural community this is a hefty commitment and expense with no guarantee of reimbursement. This

acts as a deterrent for small communities who are considering applying for PDM funds, which is unfortunate because many small communities have the worst problems and the greatest need.

It has also been noted that states with more mitigation staff compete better in the PDM process. One state official noted that that state was inquiring with its FEMA region about whether it could use FEMA funds to hire an engineer who would be able to work on BCAs as a primary job responsibility.

The purpose of FEMA's BCA software modules is to give analysts a standardized way to determine a project's cost effectiveness without having to be BCA experts. The ASFPM applauds FEMA's efforts to increase BCA training around the country; however, as soon as the project becomes more complex than a "simple" project like a floodplain buyout, the technical expertise required for analyses quickly pushes smaller communities out of the market.

To help with this gap of expertise and resources, the Expanded Planning Grant Pilot, which is currently being offered to some states affected by the 2005 hurricanes, could be expanded to all regions. The pilot project allows states to hire necessary resources like engineers and additional staff for post-disaster assistance out of the 7% "set aside" funds made available through the HMGP after a federally declared disaster. This program would allow states and communities to bridge the technical gap between capabilities and application requirements. The ASFPM has been watching this pilot program with great interest and stands ready to assist with developing guidance for an expanded implementation if requested to do so by FEMA. The only disadvantage to this approach is that PDM applications would not be eligible for this additional assistance since the PDM funding is not tied to a federal disaster.

Recommendations

- FEMA should conduct an analysis of approved PDM project applications from past years to determine if there is a significant disparity between larger and smaller communities in receiving the funds. If there is, FEMA should rethink training opportunities and make offers of technical assistance to smaller communities a national priority.
- FEMA should determine if the Expanded Planning Grant Pilot is successful enough to warrant expansion to all regions as official policy.

Conclusion

Mitigation funding is one of precious few options that Congress has at its discretion to stem the tide of ever-increasing natural disaster losses in the United States. Funding for FEMA's mitigation programs has waxed and waned according to the ability of FEMA to document for Congress that mitigation projects are providing a suitable return on the investment of federal funds.

With the wealth of documentation that shows the cost effectiveness of mitigation projects, it is time to lift the blinders of the federal regulations that are narrowing the true breadth of benefits that should be used in FEMA's BCA calculations. Quantifiable indirect losses avoided and indirect benefits should be eligible for inclusion in FEMA's BCA method at least up to the non-federal match amount. FEMA and OMB should be fighting for logical changes to the regulations that currently hinder an accurate portrayal of a mitigation project's real benefits. In addition, FEMA analyses—particularly in the consideration of benefits—should be allowed the same breadth and flexibility that is afforded the Corps of Engineers.

FEMA can help states and communities do their parts in improving the accuracy and consistency of BCAs by developing a set of BCA guidelines for its competitive and non-competitive mitigation programs; it can revisit the usage of HMTAP funds for the conduct of BCAs; reassess whether small communities are at a competitive disadvantage; develop a modern set of damage curves; work with OMB to reassess critical regulations; and re-establish a national BCA oversight group.

Science has demonstrated conclusively that mitigation works. Time after time and example after example, mitigation has been shown to reduce the impacts of future disasters. With this as a backdrop, all efforts should be made to promote mitigation, to show that great benefits are available for the reaping, and to remove the barriers to make this possible.

Resources

Association of State Floodplain Managers. 2000. *Mitigation Success Stories in the United States. Edition 3*. Madison, WI: ASFPM.

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