



July 6, 2021

Acting Director Shalanda Young
Office of Management and Budget
Eisenhower Executive Office Building
1650 Pennsylvania Avenue, NW
Washington, DC 20503

Sent via the Federal eRulemaking Portal at <https://www.regulations.gov/>

RE: Cover letter for Environmental Defense Fund response to Methods and Leading Practices for Advancing Equity and Support for Underserved Communities through Government, Docket (OMB-2021-0005), FR Document Number 2021-09109

Dear Acting Director Young:

On behalf of our over 2.5 million members and supporters, Environmental Defense Fund (EDF) appreciates the opportunity to provide comments on the Office of Management and Budget's (OMB) Request for Information, Methods and Leading Practices for Advancing Equity and Support for Underserved Communities Through Government issued on May 5th, 2021. EDF is a leading international, nonpartisan, nonprofit organization dedicated to advancing climate resilience and protecting human health and the environment by effectively applying science, economics, law, and innovative private-sector partnerships. The Biden Administration has directed OMB to work with agencies across the Federal Government to equitably serve all individuals and communities, especially those who have been historically marginalized, underserved, and denied a full opportunity to participate in aspects of economic, social, and civic life. In order to meet this directive, agencies must build processes for inclusion, partnership, and seek active participation with communities in addition to removing and reforming policies, practices, and actions that reinforce or fail to eliminate differential outcomes by race or income.

In the attached, EDF will address the OMB's *Financial Assistance* inquiry and will propose approaches and methods for assessing equity in the federal administration of grant programs and other forms of financial assistance. Specifically, our goal in response to this RFI is two-fold. First, we aim to provide OMB our understanding of how benefit-cost analysis (BCA) to evaluate flood protection infrastructure and pre-disaster mitigation proposals, as currently implemented by the Army Corps of Engineers (USACE) and the Federal Emergency Management Agency (FEMA), respectively, tends toward inequitable outcomes. Second, we wish to open a dialogue about potential solutions to make BCA more equitable. For further questions or information please contact me at nsnider@edf.org or (202) 797-6864. We would like to thank OMB and the Biden Administration for their continued commitment to advancing equity across the federal government.

Sincerely,
Natalie Snider
Senior Director, Coastal Resilience
Environmental Defense Fund

Environmental Defense Fund response to Methods and Leading Practices for Advancing Equity and Support for Underserved Communities through Government, Docket (OMB-2021-0005), FR Document Number 2021-09109

Background

Flooding is the most expensive natural disaster in the United States and has caused over \$1 trillion in damages since 1980. Today, more than 14.6 million structures are at risk of flooding¹, with 40% in high-risk flood zones without flood insurance.² With rising seas and more severe weather and storm surges, the U.S. is expected to have 16.2 million structures at risk of flooding by 2050³. To protect themselves from flooding, communities can propose flood control infrastructure projects to the USACE or can propose flood hazard mitigation projects to the Building Resilient Infrastructure in Communities (BRIC) administered by FEMA. For the USACE process, the construction of a flood protection project hinges on the legislative appropriations process and inclusion in the biannual Water Resource Development Act (WRDA) passed by Congress, and requires exceeding a benefit-cost ratio (BCR) of 2.5 in a USACE-conducted BCA.⁴ The BRIC program, similar to its predecessor (the Pre-Disaster Mitigation (PDM) program), requires that flood hazard mitigation applicants submit their own BCA, and proposals are eligible for funding if their BCR exceeds a value of 1.⁵

Both methodologies weigh the discounted construction and maintenance costs of flood protection infrastructure against the discounted benefits of the project. The USACE methodology benefits include avoided property damage and losses to nationally important economic sectors. Similarly, the BCA for FEMA's BRIC program relies on avoided property losses to estimate benefits. The central challenge is that underserved communities, communities with both high flood risk and increased socioeconomic vulnerability, often do not have the property values to justify costs within both BCA frameworks. The result is that those in chronically underserved communities most vulnerable to losing their wealth and livelihoods in floods are largely unprotected.

Notable economists with deep experience with BCA are in agreement that federal agencies should not be bound by strict benefit-cost tests, and that a good analysis also identifies important distributional consequences.⁶ However, there is no consensus among economists on how to incorporate equity into a BCA methodology.⁷ Here we provide arguments highlighting how BCA in its current form is inequitable,

¹ [First Street Foundation Releases New Data Disclosing Flood Risk of Every U.S. Home](#), 2020. First Street Foundation Press Release.

² Wagner, Katherine RH. "[Adaptation and adverse selection in markets for natural disaster insurance](#)." Available at SSRN 3467329 (2019).

³ See footnote 2.

⁴ [U.S. Army Corps of Engineers: Information on Evaluations of Benefits and Costs for Water Resources Development Projects and OMB's Review](#), 2019. US Government Accountability Office.

⁵ [When You Apply for Building Resilient Infrastructure and Communities \(BRIC\) Funds](#), Federal Emergency Management Agency, accessed July 5th, 2021.

⁶ Arrow, Kenneth J., Maureen L. Cropper, George C. Eads, Robert W. Hahn, Lester B. Lave, Roger G. Noll, Paul R. Portney et al. "[Is there a role for benefit-cost analysis in environmental, health, and safety regulation?](#)." *Science* 272, no. 5259 (1996): 221-222.

⁷ Revesz, Richard L., and Robert N. Stavins. "Environmental law." *Handbook of Law and Economics* (2007): 499-589.

and offers a non-comprehensive list of potential solutions whose appropriateness and success depend on the conversations, involvement, and partnership with underserved communities.

Responses to Area of Inquiry

4. Financial Assistance. Approaches and methods for assessing equity in the administration of agency grant programs and other forms of financial assistance

1. *How might agencies identify opportunities to adjust current practices in grants and other financial assistance programs to expand access for underserved communities and to achieve equity-oriented results?*

Here we discuss six opportunities to adjust current BCA practices to expand access and achieve equity-oriented results in grants and financial assistance for flood protection. The six opportunities are: a) revisiting cost-sharing requirements; b) redefining underserved community in practice c) avoiding overreliance on property values and simple aggregation of benefits; d) adjusting BCR thresholds; e) emphasizing natural infrastructure alternatives, and; f) overcoming costs of BCA preparation for municipalities.

- a. The USACE designs, builds, and maintains flood control infrastructure. This program requires that local entities share the costs of feasibility studies over \$100,000 (50% non-federal share), plan preparation costs (35% non-federal share) and construction costs (35-50% non-federal share), and does not differ based on ability to pay.⁸ Some underserved communities may face capital constraints and be unable to raise the monies necessary to qualify for federal assistance for flood protection infrastructure. This barrier requires examination to determine if it prevents underserved communities from even applying for assistance.
- b. The BRIC program administered by FEMA does have a differential cost share based on the size and economic status of a community (90% federal to 10% non-federal cost share);⁹ however, its definition of small impoverished community is problematic and overly restrictive. FEMA defines a small impoverished community as a community of 3,000 or fewer individuals that is also economically disadvantaged, as determined by the State in which the community is located and based on criteria established by the President.¹⁰ The BRIC program also scores projects higher if they incorporate these small and impoverished communities. Overall, the BRIC program definition encompasses a very limited number of communities and leaves many underserved communities out. Additionally, tribes are often grouped as one tribal population, even when individual towns or subsets of populations are geographically very rural and separated. The definition for underserved communities in the BRIC program differs widely from that used by other federal agencies, and requires reexamination to ensure it is serving its intended populations.
- c. Each USACE BCA calculates most heavily relies on avoided property losses to calculate the benefits of flood control infrastructure. This is inequitable as underserved communities often

⁸ [Section 205 1948 Flood Control Act as amended](#)

⁹ [Before You Apply for Building Resilient Infrastructure and Communities \(BRIC\) Funds](#), 2020. Federal Emergency Management Agency.

¹⁰ 44 CFR § 201.2 - Definitions - [Small and Impoverished Community](#)

have lower property values as a result in part of government-led redlining, segregation and other national, state and local policies. The BCA methodologies that rely on property values to determine who receives flood protection are therefore perpetuating this inequity, and further contributing to a widening of the wealth gap.

Similarly, the USACE BCA methodology that relies on depreciated replacement values (DRV) to construct benefits from flood protection infrastructure relies on the condition of the structure. The ability of a household to maintain the condition of their structure is dependent on their income and is therefore inequitable, as income has often been a function of segregation policies and discrimination in hiring throughout US history.

As implemented, the USACE methodology is indifferent about who or how many people benefit from or bear the costs of a project. Summing net benefits across all people in the planning area assumes that regardless of wealth or income, the value of a dollar (marginal utility of income) is equal across groups. This is an unrealistic assumption, and prioritizes protection of areas of concentrated wealth above those least able to recover from flooding events.

- d. As mentioned earlier, the benefit-cost ratio (BCR) for FEMA is 1 and the OMB mandated BCR for USACE is 2.5.¹¹ If chronically underserved communities have lower BCR scores, the BCA policy as currently implemented is less likely to pass proposals from them, leaving the most vulnerable without flood protection.
 - e. [Natural infrastructure](#) is less often considered as an alternative in flood protection in feasibility studies performed by the USACE or FEMA. Natural infrastructure projects provide benefits over long time horizons, and confer additional benefits, such as ecosystem services, improved air and water quality, and recreational benefits, on top of reducing flood risk. Natural infrastructure solutions have the potential to offer direct flood risk-reduction benefits as well as co-benefits to underserved communities. However, since both USACE and FEMA BCA methodologies are required to use the 7% discount rate set by OMB Circular A-94¹², even substantial benefits in the medium to long run do not enter meaningfully into the BCA.
 - f. The BRIC program BCA requires municipalities and states to estimate the value of ecosystem services. These calculations can be difficult and can require the expertise of expensive outside consultants. This could be a hurdle for underserved communities without funding or access to the necessary expertise to estimate potentially significant but hard-to-quantify benefits.
2. *What are some promising approaches to the award and administration of Federal awards (including, for example, the integration of program planning and design) that should be considered?*
- a. Waive some or all of the cost-sharing requirements for underserved communities would allow more communities to apply for federal assistance for the BRIC and USACE flood protection programs.
 - b. Define underserved communities in a flood protection context. In other words, the definition needs to be broad enough to identify all communities at risk of flooding that also may face

¹¹ [Discount Rates in the Economic Evaluation of U.S. Army Corps of Engineers Projects](#) (2016). Congressional Research Service.

¹² [Circular A-94](#), Guidelines and discount rates for benefit-cost analysis of federal programs

significant barriers to providing flood protection infrastructure. A possible definition¹³ would be to define a underserved community as a community in a special flood hazard zone that has:

- i. 3,000 or fewer individuals; or
 - ii. any census block group in which 30 percent or more of the population are individuals with an annual household income equal to, or less than, the greater of—
 1. an amount equal to 80 percent of the median income of the area in which the household is located, as reported by the Department of Housing and Urban Development; and
 2. 200 percent of the Federal poverty line.
 - c. BCAs should not rely on property values alone to determine benefits. Simply aggregating discounted benefits in the form of property values across many subpopulations implicitly prioritizes those with higher incomes and wealth. One alternative would be to calculate benefits using a weight for underserved communities to correct for this bias.^{14,15} Another approach could involve calculating separate BCRs for underserved subpopulations in flood hazard areas and comparing benefits across alternatives prior to project selection.
 - d. Waive a BCR requirement for underserved communities to avoid the bias from using property values and allow underserved communities in flood hazard zones to apply for and receive federal flood protection.
 - e. Require consideration of natural infrastructure alternatives in BCA¹⁶ and revisit the 7% discount rate for natural infrastructure solutions.¹⁷ The water planning discount rate is currently 2.5%,¹⁸ and there is theoretical justification in economics that to set a lower discount rate the longer the lifespan of a project.¹⁹
 - f. Provide scientifically sound, pre-calculated benefits for ecosystem services to include in BCA for BRIC and USACE flood control projects.
3. *What are promising practices for equitable grantmaking and the administration of financial assistance programs that agencies should consider in the course of their equity assessments?*
- a. Provide alternative pathways and technical assistance in the development of flood risk reduction projects and proposals. Many chronically underserved communities simply do not have the financial wherewithal, capacity, or technical resources to develop flood protection solutions or submit proposals for grants. This is particularly true as the application process for large federal grant programs such as BRIC can be time-intensive, complex, and overly burdensome for small cities and towns to undertake.
 - b. Provide flexibility in how to define chronically underserved and disadvantaged communities. Use of the median household income or home value in a “community” can

¹³ Definition for low-income community taken from [Environmental Justice For All Act \(S. 872\)](#).

¹⁴ Atkinson, Giles, and Susana Mourato. "Cost-benefit analysis and the environment." (2015).

¹⁵ One such series of weights can be constructed by taking the quotient of average income at the state or national level divided by the income in the underserved community raised to the exponent of the marginal utility of income. See above citation, Annex 11.A.1.

¹⁶ [Army Corps of Engineers Consideration of Project Costs and Benefits in Using Natural Coastal Infrastructure and Associated Challenges](#), 2019. Government Accountability Office.

¹⁷ Reguero et al. 2018, “Comparing the cost effectiveness of nature based and coastal adaptation: A case study from the Gulf Coast of the United States”

¹⁸ [Change in Discount Rate for Water Planning](#), 2020. Reclamation Bureau.

¹⁹ See Weitzman, M. L. (1998). Why the far-distant future should be discounted at its lowest possible rate. *Journal of environmental economics and management*, 36(3), 201-208.

mask the number of economically disadvantaged people served by the project, especially in coastal areas with high value real estate. Diversity, equity, inclusion, and justice (DEIJ) experts should review proposals to ensure the grantee is properly identifying the population that will be served by the project.

4. *How might agencies engage in outreach and stakeholder engagement to identify opportunities to make Federal grants and other financial assistance processes more accessible?*
 - a. Determine, directly from communities themselves and through environmental justice (EJ) organizations, the barriers to receiving funding for flood protection infrastructure. This should occur first and should inform revisions to policy at FEMA and the USACE.
 - b. Assign FEMA Regional or USACE District staff, or embed additional staff capacity at the regional level, to inform disadvantaged communities about grant or funding opportunities (including WRDA Section 7001 proposals) and provide technical assistance in project and proposal development. This could occur through expanding established programs, such as the Silver Jackets.

5. *What kinds of training and capacity building within agencies would support equitable grantmaking and financial assistance efforts?*
 - a. Establish a DEIJ review panel for any grantmaking efforts.
 - b. See point 4b.

6. *What kinds of benchmarks and assessment techniques would support equitable grantmaking and financial assistance efforts?*
 - a. Determine whether access to credit/capital is a barrier to chronically underserved communities in applying for flood protection infrastructure.
 - b. Determine whether there is a correlation between BCR and socioeconomic vulnerability. If so, revisiting requirements for underserved communities may be needed.
 - c. Equity-weight a BCA using previously existing or recent advancements in economics (e.g. weights based on marginal utility of income²⁰ or inverse optimum weights).²¹
 - d. Rank flood exposure distributions generated by different portfolios of projects prior to inclusion in WRDA, or selection by FEMA in the BRIC context.²² This approach, or one similar, would allow for policymakers to choose a portfolio utilizing both efficiency and equity criteria.
 - e. Allow programs to provide cost-share funding, such as that in the Resilience Revolving Loan Fund, that would be forgiven once the project is completed.

7. *What kinds of data should agencies collect and use to assess equity in their grantmaking and financial assistance practices?*

²⁰ Atkinson, Giles, and Susana Mourato. "Cost-benefit analysis and the environment." (2015).

²¹ Hendren, Nathaniel. "[Measuring economic efficiency using inverse-optimum weights.](#)" *Journal of Public Economics* 187 (2020): 104198.

²² Mansur, Erin T., and Glenn Sheriff. "[On the measurement of environmental inequality: Ranking emissions distributions generated by different policy instruments.](#)" *Journal of the Association of Environmental and Resource Economists* 8, no. 4 (2021): 721-758.

- a. Construct an index to gauge both flood-risk and socioeconomic vulnerability to assess equity in flood control BCAs, and the composition of applicants. This could be mostly easily done using Census data at the block-level, however a finer geographic scale would be preferred if feasible.
- b. Compile a database of communities at risk of flooding to locate those that are also chronically underserved. This could be done using FEMA's Flood Insurance Rate Maps or potentially a third-party estimate of flood risk.
- c. Compile a database of all the communities that have been considered for flood control projects in USACE feasibility studies and those that have submitted proposals and BCAs to FEMA PDM and BRIC programs. This would enable a study into which types of communities have applied for and received flood control projects over time, as well as those that have not.