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SSOCIATION OF STATE FLOODPLAIN MANAGERS, INC.

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ASFPM Comments on Draft Interagency Concept for Community Resilience Indicators and National-Level Measures   *8-15-16*

ASFPM is pleased to submit comments on the Draft Interagency Concept for Community Resilience Indicators and National-Level Measures. ASFPM is a professional non-profit: ASFPM and its 36 chapters represent more than 17,000 state and local officials, as well as other professionals engaged in all aspects of floodplain management and flood hazard mitigation. All ASFPM members are concerned with reducing our nation's flood-related losses. For more information on the association, its 14 policy committees and 36 state chapters, our website is: www.floods.org.

ASFPM applauds the Federal Emergency Management Agency (FEMA), National Oceanic and Atmospheric Administration (NOA) and the Mitigation Framework Leadership Group (MitFLG) for producing a draft document that explores defining and quantifying community resilience. We hope that the ASFPM comments contained herein will be useful to advance wise floodplain management and improve community resilience to all hazards throughout the nation.

Overall Comments

Community Resilience Concepts

While the resilience concepts are fairly clearly defined in this section, "Resiliency" is a nebulous concept and, trying to measure it (and how it changes over time) means that the specific inputs are critical. To measure resiliency, MitFLG is proposing community-level "indicators," which would be rolled-up and scored or aggregated to give resiliency scores for higher levels of government, especially national.

The biggest part missing from the community resilience concepts is the goal minimizing the need for substantial federal assistance to recover. The focus should not be on how much federal money is being used. Resilience must be driven by state and community actions, not federal funds. The community resilience concepts should support the concept of state and local actions. While the development of resilience indicators could be positive; the document should provide a clear vision on how the indicators will be used. The report seems to imply this will simply be used to measure if the nation is making progress toward resilience. ASFPM believes the value of these measures would not be to determine federal investments, but be to show actions, or lack of actions, states and communities are making to promote their own resilience.

Towards this end, **ASFPM suggests the MitFLG consider establishing a partnership work group with organizations representing your state and local partners who implement federal programs to refine and**

Dedicated to reducing flood risk and losses in the nation.

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further develop the concepts and details of these resilience indicators. ASFPM would be pleased to participate in such an effort. Additionally, alternate approaches and datasets should be considered if they provide more accurate information a community can use to track their resilience. Although this effort goes beyond natural hazards, the DM2K all-hazards planning process is a unique opportunity to incorporate a community resilience score. Communities would be able to use national, state, and local datasets for the resilience indicators and update them on a 5-year cycle. Using state and local data will also give more ownership and credence to the overall resilience measures.

Lastly, ASFPM feels the indicators and measures should be specific enough to allow communities to distinguish how they are performing related to managing different hazards. Certainly many of the measures have similar consequences regardless of the hazard. However, the probabilities of occurrence can vary greatly and different hazards will impact each community differently.

One purpose of developing this framework is to build common terms of reference across multiple disciplines. This is needed because there are multiple efforts under way to define resiliency. All of them have the same limitations of measuring through indicators and how to weight them appropriately to end up with a result that makes sense. MitFLG should assess other resiliency scoring systems (e.g., ICLEI Star Community Index, City Resilience Index, United Nations Disaster Resilience Scorecard) to see if they can be used or modified to provide reliable results without developing an entirely new system.

Beyond defining indicators that drive resilience, this effort should clearly describe the end use. Metrics and scores can be valuable tools, but they MUST be built around the end user(s) and overall goal. It seems the intent is to provide an indication of how national policies are impacting resiliency over time. National policies can influence and support resilience, but states and local communities truly drive our nations vulnerabilities. MitFLG indicates that the results are not intended to support comparative assessments between states or communities. However, there is value in a resiliency scoring system that is designed to spur action and competition for the betterment of communities. This aspect should be given additional consideration. If accurate and detailed enough, there is value in a "Resilience Score" both nationally, and at a state and community level. There is also value in scoring indicators that allow users to distinguish between hazards and other vulnerabilities. If a weighting is used, MitFLG should fully vet how the score is developed with the states and communities who are the entities which dictate resilience. The updated paper should propose how the results be computed.

Thank you for the opportunity to comment. We hope that the ASFPM comments contained herein will be useful to advance wise floodplain management and improve national flood resilience to all hazards.

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National Preparedness Goal Alignment & Proposed National-Level Measures

Comments hereafter are grouped by the proposed Indicators. Comments could pertain to descriptions of these indicators in any of the sections of this document. Please note that the Table of Contents and the Appendix doesn't contain additional indicators that are asterisked "*" in some of these sections. This is confusing.

General Comment Pertaining to all Infrastructure Related Indicators: Two elements that would help determine the current level of resiliency for existing infrastructure is 1) Its current condition and 2) Its capacity versus the current threat/risk. For example, roadways (including bridges and culverts) in severe disrepair are more likely to be wiped out during a large flood event than those that have been maintained and upgraded to reflect current risks.

Indicator 1: Housing Condition

Housing condition seems to be highly variable within each state. It is also geographically important relative to the hazard. If the most severe housing problems are in the floodplain, this provides a significant challenge to recovery.

Indicator 2: Housing Affordability

Same comment as indicator 1. Housing affordability seems to be highly variable within each state and its proximity to likely hazards is important. Measuring affordability varies with place.

Indicator 3: Health Care Availability

Another metric could be the location of critical facilities like hospitals or other critical facilities per capita, that are reasonable safe from hazards. If these facilities are known to be vulnerable to flood, wind, etc. then the community's resilience will be reduced.

Indicator 4: Healthy Behaviors

This indicator is framed in negative terms (percent not participating in physical activity). Although this appears to be coming from diabetes-related data collected by the Centers for Disease Control, this and other indicators may be more effective if framed in a more positive context, i.e., levels of positive physical activity.

Indicator 5: Environmental Health

Should clearly indicate what this is intended to include or measure. There are many ways to interpret this and even without a metric some definition will help.

Indicator 6 & 7: Employment Opportunity and Income

The two indicators offered so far deal with unemployment and income. The first is drawn from an existing measure from the BLS on the number of people unemployed, which is actually the number of people actively seeking work who are without a job, but the statistical shortcoming of national data with regard to those who have dropped out of the work force is already well known.

The second reflects an average of overall income within a community, state, or nation divided by the number of people receiving all that income. This does not fully reflect resilience in the sense that income disparity can

severely affect a community's core capability with respect to economic recovery and prosperity. It would be helpful to have another indicator that deals with income variability. At an international level, the Gini coefficient is widely used as such a measure and affords comparisons of economic inequality among nations. Where disparities do exist, they can have a measurable impact on recovery in our communities.

Insurance has a significant impact on the ability for a community's residents to bounce back from a disaster. There could be a metric of insurance penetration rates for the predictable hazards in that community which would allow them to economically recover faster than those uninsured.

Indicator 8: Roadway Conditions
No measure determined. Should clearly indicate what this is intended to include or measure.

Indicator 11: Water Sector Emergency Support
To be an effective indicator, there needs to be different values for the inputs, in this case the States. With the possible exception of Mississippi, it appears as though every State is a "Yes," which would mean that it adds no substantive value to a national analysis.

Indicator 12: Dam Safety
EAPs are not a useful measure of resilience. EAPs are only useful for life safety and do nothing to ensure building or infrastructure does not suffer catastrophic losses in a dam failure. Resilience related to dams needs to measure the ability of the dam to withstand extreme forces like standard project floods, earthquakes, etc.

Indicator 14: Water Conservation
No measure determined. Should clearly indicate what this is intended to include or measure.

Indicator 15: Wetlands Conservation
No measure determined. Should clearly indicate what this is intended to include or measure. We believe this could be a good resilience measure, since natural ecosystems can reduce damages from flooding, storm surge, etc.

Indicator 16: Forest Conservation
No measure determined. Should clearly indicate what this is intended to include or measure.

Indicator 17: Habitat Quality
No measure determined. Should clearly indicate what this is intended to include or measure.

Indicator 18: Risk Identification
This section must be expanded to include risk identification metrics for each hazard. Identifying the hazard and its probability of occurrence makes up a key component of risk. Risk is a the most substantial factor in resilience. Even without a measurement available, this indicator should clearly indicate what this is intended to include or measure.

Flood mapping and development standards are the biggest tool and metric related to flood resilience. These should be a measure. Options should include using percentage of the population enabled with new or improved flood risk products and tools. Could also use stream and coastal miles for each community and state. FEMA has only mapped 1 million miles of 4 million nationally and this is what should drive flood mapping. The measures should only include the miles which have an engineering model and QL 2 level topo.

For measurement of this indicator, MitFLG should assess whether it is possible to use the percentage of stream and coastal miles for each community and State that have been mapped using an engineering model and QL 2 level topography. MitFLG should use the Congressionally-mandated term "National Flood Mapping Program" instead of "Risk MAP".

Indicator 19: Risk Data
No measure determined, however we note that a considered measure is the percentage of the area (in square miles) with elevation data that meets 3DEP base level specifications. Inasmuch as this is an essential foundation of all risk analysis, ASFPM can see value in this type of tracking and agree with the proposed measure in part. However the other part is to have risk identification data synthesized with this to create a risk analysis. Perhaps the number of communities with advanced risk assessment data (i.e. something beyond level 1 HAZUS) would be a good element for a proposed measure. Should clearly indicate what this is intended to include or measure.

Indicator 20: Risk Awareness
It is questionable whether a survey of community leaders would yield a reliable indicator, mostly because local government leadership changes frequently. Since this is the case, the data would be subject to volatility, especially in election years. It seems as though better indicators could be found, perhaps dividing the number of NFIP policies into the total areal extent of mapped floodplains in the State. This would provide risk information for the flood hazard only, but would be replicable and data-driven.

Indicator 21: Community Preparedness
More justification is needed to demonstrate a link between StormReady© and TsunamiReady© websites and actual community resiliency. There is also a "Fire wise Community" and may be seismic communities also. If a community is a member of the NFIP, that should indicate they are more prepared for flood than one that is not. These measures that don't have a direct link to resilience or are far from comprehensive, may lead to erroneous conclusions about just how much these two measures actually include. It may be wise to identify a more thorough, comprehensive measure that is not so heavily tilted to things that simply happen to share easily available datasets.

Preparedness is broad and should be defined. This may be an indicator that requires multiple measures just because no two regions of the country will share all the same hazards and threats, and these measures are very hazard-specific.

Indicator 22: Mitigation Planning
This is a solid, readily available measure. It could be more effective to measure if the community hazard mitigation plan is incorporated into other plans, like the Comprehensive plan. In addition, some quality

measures for should be identified for such plans over time. One such measure might be to track the number of actions that were actually implemented in the previous mitigation plan.

There is a large movement coming up from historic preservation. Historic resources have been overlooked in all hazards mitigation planning. So some metric that considers mitigation of historic property as a part of resilience is important.

Indicator 23: Planning Integration
With an indicator with this title, the planning should not only refer to coastal. Any meaningful measure must somehow address this on a nationwide basis, not just coastal. There is a wealth of additional planning resources available that are not coastal-centric. Local comprehensive plans are one example if there is a national database available for these plans.
This topic is extremely important and a significant factor in long-term resilience and community recovery. It is a major step toward more holistic planning to address natural hazards. We believe APA suggestion here are of great value.

Indicator 24: Collaborative Networks
No measure determined. Should clearly indicate what this is intended to include or measure.

Indicator 30: Building Codes
The baseline references seismic, flood, and hurricane, but not wildfire. Wildfire codes do exist and should be included. Adopting building codes is only part of the solution. Enforcement is also key. Consider utilizing BCEGS score to capture more holistic picture of building code implementation.

This is the strongest of the three indicators in this Capacity. On page B-60, the Proposed Measure for measuring building codes reads, "Percentage of reporting communities that are subject to one or more hazards (seismic, hurricane, or flood) that have adopted building codes with disaster resistance provisions" and the cited data source is BCEGS data. The bigger impact on resiliency is the effectiveness that the building code is being implemented and enforced instead of just adopting the code at the local level. With the BCEGS data, there may be a method to use the BCEGS ratings instead of or in addition to the number of communities with adopted building codes. Finally, to improve this measure, a community should have adopted building codes for each hazard that has significant impact on the community (such hazards are identified in the community hazard mitigation plan). A community highly vulnerable to flooding and wildfire will not be nearly as resilient if it had building codes for flooding but not wildfire versus having adopted building codes for both hazards.

Indicator 27: Higher Standards
CRS does not seem appropriate. This group is too small compared to the 22,000 communities in the NFIP, and we know of some communities with very good higher standards who intentionally do not join CRS because their goal is to remove all building from the floodplain and CRS would deter that objective. Doesn't it seem there should be a database of which standards each community has; or at the least each state. There are communities with higher standards that do not join CRS because it makes living in the floodplain more

affordable and therefore harder to mitigate. ASFPM has some of this data, but NFIP needs to expand this nationwide.

It is not clear why this should be limited to Class 5 CRS communities and above when there is so much readily available CRS data at the federal level that could put a finer point on this particular measure of resilience. Only 113 communities in the nation that are CRS Class 5 or lower, yet many other have higher standards to varying degrees. MitFLG should consider a more graded system that inversely scores according to actual classes achieved from 9 to 1, with the highest scores for those whose development approaches keep development out of the SFHA. This would give users of this indicator a much more graduated sense of levels of resilience among the communities participating in CRS as well as null values for those who are not. Such a system would surely involve more work and more scoring, but it seems here that it would also provide a much clearer sense of what has been achieved and how much additional improvement communities in a given area can still achieve.

When measuring higher standards in a community facing a significant threats from hazards we recommend looking at both subdivision and zoning standards – both do a better job at avoiding risky areas in the first place versus building standards which show how to build in such areas somewhat more safely.

Indicator 28: Mitigation Investment
This appears to be an amalgamation of two indicators: 406 Mitigation spending and SBA Mitigation Loans. The 406 Mitigation spending was not included as a proposed measure due to concerns over 406 spending being incomplete for some applications and areas of the U.S. ASFPM also notes that implementation of 406 Mitigation is inconsistent between States and regions with different decision-makers at the Federal and State levels. Between the 406 Mitigation and SBA Mitigation Loans, however, it would seem as though the use of 406 Mitigation funding would be the more widely-used and data-rich of the two.

Make it clear that the more 406 money needed, the less resilient the community is. An ideal measure would be how much the community is spending on mitigation; compared to total mitigation needs. These measures don't account for elevation or dry flood proofing because they are not considered as "flood damage reduction measures". Elevation is not considered/mentioned for 406 funded mitigation projects. The SBA-mitigation loan program provides a limit of 20% of the loan amount.

Finally, the proposed measure should be changed to be inclusive of local and state mitigation investment which could not only be substantial, but also done in lieu of much federal support.

Data Access and Availability
On page 25 there is discussion of the inventory of dams and levees for possible use as indicator, not yet determined. What's more important is measuring the ability of the dam or levee to NOT fail! This will require some effort, but there are dam safety programs with data and the lack of a program may indicate a problem.