

**INDICATOR 38 – COMMUNITY RESILIENCE**  
**LITERATURE AND PRACTICE REVIEW**  
**EXECUTIVE SUMMARY**

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**INTRODUCTION**

*Resilience of Forest Dependent Communities* is a new indicator<sup>1</sup> incorporated into the Montreal Process Criteria and Indicators (MPCI) during the recent renegotiations of the Santiago Agreement. It, herein, is referred to as *Community Resilience*. Community resilience is defined herein as the existence, development and engagement of community resources to thrive in a dynamic environment characterized by change, uncertainty, unpredictability and surprise. Resilient communities intentionally develop personal and collective capacity to respond to and influence change, to sustain and renew the community and to develop new trajectories for the community's future.

The purpose of the Literature and Practice Review is to catalyze a conversation within the Roundtable regarding the development of a measurement protocol for Community Resilience. The Literature and Practice Review is part of a larger project initiated by the Forest Service to develop a measurement protocol for the new indicator. To accomplish that purpose, the information gleaned from the Roundtable discussion will be integrated with that generated from the Literature and Practice Review. Both will be analyzed by the Community Resilience Workgroup to generate the measurement protocol.

The Literature and Practice Review explores the history and context for Community Resilience both generally and within the context of the Montreal Process Criteria and Indicators. Terms essential to the community resilience construct are examined. Issues critical to the design of an associated measurement protocol are explored. Community capitals are introduced as the framework for the development of the community resilience measurement protocol. A number of on-the-ground applications and research of community resilience are presented, along with an analysis of particular metrics utilized. The Discussion and Conclusions section describes the path forward based on the findings of the literature review and the research/application projects. Finally, questions which the Indicator 38 Workgroup would like the Roundtable participants to consider are presented.

In this Executive Summary, the critical dimensions of the Literature and Practice Review are synthesized and utilized as the basis for the conclusions recommended herein for the design of the measurement protocol for Indicator 38, the Resilience of Forest-Dependent Communities. Definitions are provided. The purpose of Indicator 38 is described. Key principles are defined. The framework for the Community Resilience Measurement Protocol is presented. Finally, key questions to initiate the Roundtable conversation are offered. Evidence substantiating constructs and precepts included herein are explicated in the full text of the Literature and Practice Review.

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<sup>1</sup> Criteria 6, Indicator 38

## KEY DEFINITIONS

*Community* is defined herein as a social grouping of people residing in a specific geographic territory. The community has a particular history, specific demographic patterns and houses industries and organizations. Community members establish patterns of interaction for multiple purposes, e.g., political, economic and social, and can mobilize community resources to take collective action for the benefit of individuals and/or the community. While towns are typical communities, rural communities can extend beyond the city limits or may be unincorporated and larger cities may be comprised of several smaller communities. Forest communities are those that are adjacent to forests or are dependent on forest-based industries.

*Community resilience* is the existence, development and engagement of community resources to thrive in a dynamic environment characterized by change, uncertainty, unpredictability and surprise. Resilient communities intentionally develop personal and collective capacity to respond to and influence change, to sustain and renew the community and to develop new trajectories for the communities' future.

## THE PURPOSE OF INDICATOR 38

The purpose of Indicator 38 is to generate a national level picture of the resilience of forest communities. The specific use of Indicator 38 data for informing a national level report has important implications.

First, communities are complex and dynamic. A comprehensive understanding of them requires in-depth analysis using numerous metrics associated with various community dimensions. Developing such a comprehensive understanding of the thousands of forest communities in the United States and aggregating that into a concise national report is impossible. Hence, two modifications need be made: 1) a purposefully select group of communities needs be sampled to provide a representation of the specific dimensions relevant to the MPCI; 2) the metrics utilized need be narrowed to the 'critical few' that serve as the best possible proxies for dimensions of community resiliency.

Second, the data generated for each community may be helpful, but will not be comprehensive enough to assist communities to analyze their own resiliency. Further, the information will be reported in some aggregate form based on the stratification method selected for sampling, so individual communities will not be able to discern community specific data. The stratification method will also dictate the extent to which counties, states and regions can extrapolate findings for their needs. Three recommendations are offered to address these challenges: 1) retain community-level data and make it available to interested parties; 2) provide a comprehensive list of metrics with which communities can analyze their own resiliency; 3) retain the ability to aggregate the data in various ways to accommodate the information needs of interested parties.

## PRINCIPLES

Several critical points are distilled herein from research and practice.

1. Studying a phenomenon at different scales produces different results. Each scale utilizes different indicators and measurement protocols, produces different kinds of information and provides different perspectives on the same general question, and is of interest to different stakeholders. Studies conducted at one scale may be of little use in understanding the phenomenon at a different scale.

2. Different kinds of data are available at different scales. For example, the county level offers a rich source of secondary data via the census which is apro pos for county specific questions. County level data, however, are not appropriate for answering questions about specific communities or about community resilience.
3. Studies of human/social phenomena need be conducted at the level at which the dynamics of that phenomena are occurring. Communities are the appropriate unit of analysis for community specific issues, e.g., community resilience. Community level data can then be aggregated to examine the question from other scales, e.g., county or national.
4. Information gathered at the community level will tend to be more informal and undocumented than information collected at higher scales. It is most likely embedded in the customs, traditions and experience of community members. It will offer great variety and rich detail.
5. If secondary data availability and collection costs become the primary criteria for selection of data collection methods, the question of community resiliency will likely not be answered. Cost effective data collection methods can be designed that mine critical and salient primary data.

Recommendations following from these principles are fourfold:

1. The appropriate scale at which to study community resilience is the community level;
2. Data collection will need to include primary as well as secondary data;
3. Data collection methods will need to be effective, i.e., answer the question of community resiliency, and cost effective; and
4. Data from communities will need to be aggregated to the national level.

An important benefit of utilizing this approach is that it institutionalizes access to the unique knowledge offered by local and indigenous peoples and integrates it into national data. Hence as the national report is referenced for setting political agendas and establishing policies, the voice of local and indigenous people will be included.

#### **COMMUNITY RESILIENCE MEASUREMENT PROTOCOL FRAMEWORK**

Social indicators need include integrated sets of metrics that are organized around an explicit theoretical framework. This framework provides the context in which the measurement protocol is designed. It clarifies the expectations of the picture the protocol will produce. It provides the rationale for metric selection, and guides the design of data collection and analysis methods. Finally, it contains the criteria through which the protocol is evaluated. This section describes the framework for the Community Resilience indicator.

**Purpose:** The purpose of Indicator 38 is to generate a national level picture of the resilience of forest communities. Through successive national reports, trends in the resilience of sample communities will be discerned, suggesting similar patterns in comparable communities.

**Framework Rationale:** The framework for Indicator 38 is the Community Capital Framework (CCF). The CCF enables examination of community resilience through the integrated and comprehensive framework of community capitals. Capitals are resources or assets available within and invested in the community. There are seven capitals; natural,

social, cultural, financial, built, political and human. As community resilience is about development and engagement of community resources (capitals) to thrive in a dynamic and changing environment, tracking the existence and changes in community capitals will provide information critical to discerning the changing resilience of forest communities.

**Metric Selection:** Metrics need be selected that provide salient and accurate information regarding each of the capitals for the specific sampled communities. A number of metrics have been developed and tested in various research and application projects (see Attachment A). The metrics were analyzed to discern their fit within the Community Capitals Framework. Attachment B displays the suite of metrics organized according to the CCF. From this suite, metrics particular to the MPCCI will be selected.

**Data Collection and Analysis:** Data collection needs occur at the community level and incorporate both primary and secondary data. A stratification scheme, or typology, needs be developed to ensure the national report reflects a representative sample of communities. Appropriate community level key-informants need be identified and consulted to provide the best possible information on the community. An index needs be created with numerical codes to enable comparison across communities and aggregation of community data to the national level.

### KEY QUESTIONS FOR ROUNDTABLE DISCUSSION

Research and practice related to community resilience have established a substantial foundation from which to develop the Community Resilience measurement protocol. There remain logistical questions that simply require time and further research to address. These kinds of questions relate to specific metrics and potential data sources. They will not be addressed in the Roundtable meeting as they will not best engage the resources and expertise brought to the table by participants.

There also, however, remain questions of significance related to the purpose of the MPCCI and to the many in the Roundtable that collaborate to ensure that its administration in the United States is of the highest possible caliber. A number of these questions are listed herein to stimulate consideration as Roundtable participants prepare for the September, 2007 meeting.

These questions, or questions like them, will likely be posed during the Roundtable meeting with the hope of generating a constructive and informative discussion. Ideas generated at the meeting will then be mined by the Indicator 38 workgroup as they finalize development of the measurement protocol.

The first questions relate to the issue of scale. They include:

1. What are issues with reflecting community level data at the national level?
2. How can national level data be made useful for people interested in different scales?
3. What are the tradeoffs associated with representing the information at various scales?
4. How is the scale issue dealt with in the other indicators?

The second question relates to creating a typology of communities to be sampled.

1. What are the important dimensions of communities to be represented in the sample?