2. The Community

2.1. Introduction

This chapter outlines the social aspects of community resilience – i.e., defining a community's social needs and systems, acknowledging that these needs will require time-sensitive prioritization after a disaster, and identifying the functions required of community social systems to meet these prioritized needs within disaster recovery timeframes. Pre-event planning for ways to meet the desired functions (referred to in this chapter as performance goals) will increase a community's resilience to disaster events.

[Note to reviewers: In a future draft, this section will tie into the rest of the Framework which will define performance goals for the built environment.]

2.2. The Community Defined

For the purposes of this Framework, a community is defined as "a cluster of people who live, work, learn, and/or play together under the jurisdiction of a governance structure, such as a town, city or county." We acknowledge, however, that the term "community" can also refer to groupings of people based on a number of other factors, including geography, demographics, values, common interests or goals, economics, etc.

[Note to reviewers: In a future draft, this section will discuss other definitions of a community.]

2.2.1. Levels of a Community

Communities are made up of various levels (or units), consisting of the individual, groups (e.g., households or businesses), community systems, and society/culture. Figure 2-1, based upon Bronfenbrenner's Ecological Systems Theory, provides an example of various levels within a community.

[Note to reviewers: In a future draft, this section will expand upon the idea of micro-, meso-, and macro levels – and articulate the different possible units of analysis within these]

2.2.1.1. Society (or culture)

This section is under development. Text to be included in a future draft.

Figure 2-1: Levels of a community

2.2.1.2. Community Systems

Community systems are the social, economic, and physical/environmental infrastructure provided for individuals, households, and/or businesses within a community. A list of possible community services includes:

- Human or Social/Cultural services
  - Healthcare (physical and mental health)
  - Education
  - Local governance
  - Social services (e.g., welfare)
  - Public safety and security, including emergency management
  - Arts and recreation
  - Spiritual
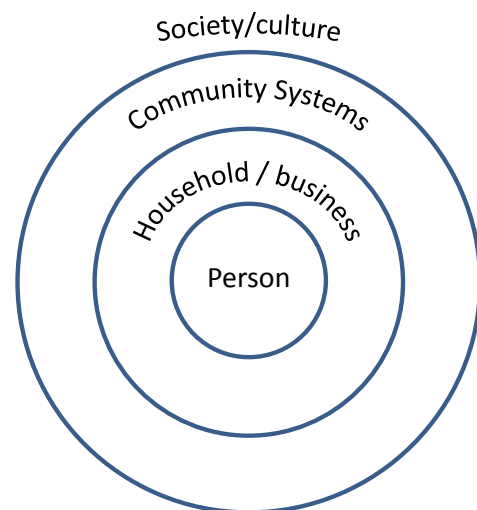- Economic or Business/Industry services
  - Financial

- - Businesses
  - Industry (including manufacturing and agriculture)
  - Trade
- Physical/Environmental services
  - Transportation
  - Natural Environment
  - Water/wastewater
  - Energy
  - Communications
  - Housing
  - Air quality

[Note to reviewers: In a future draft, this section will describe each system, linking to other Framework chapters. It will also discuss other services, systems, or other ways to categorize.]

Communities can operate these systems in different ways based upon leadership, government policies/procedures (state-local levels), public vs. private, geography (e.g., different locations in the U.S. specialize in certain industries/business), social connectedness of the community (social capital), finances, budgeting, tradition, culture, wealth, religion, etc.

[Note to reviewers: In a future draft, this section will describe these differences in more detail.]

2.2.1.3. Households or businesses

This section is under development. Text to be included in a future draft.

2.2.1.4. Individuals

Individuals with certain traits, roles, and affiliations; for example; demographics (i.e., socio-economic status, educational background, age, gender, race/ethnicity, home ownership, special needs/disabilities, employment status), previous history/culture, individual relationships with family, etc.

[Note to reviewers: In a future draft, this section will describe individuals in more detail].

2.2.2. Interaction among Community Levels – Addressing Needs

The purpose of community systems is to meet certain needs of the individuals, households, and groups in a community, shown in Figure 2-2, which then aid in meeting needs at the community level[1]. These individual/household needs are presented here in a hierarchical manner (Figure 2-2), showing the most fundamental need at the bottom (survival), followed by safety and security, belonging, and growth and achievement.[2]

[Note to reviewers: In a future draft, this section will describe needs/hierarchy in more detail.]

The first and most fundamental need in Figure 2-2 is that of survival. The survival need includes the physical requirements necessary for human survival, including air, water, food, shelter, and clothing. If these needs are not met, the human body cannot sustain life, since people can live no longer than 3 to 5 days without water and 6 weeks without food (assuming inadequate water supply)[3]. Also included in this is protection of life from the disaster itself.

Figure 2-2: The hierarchy of human needs (Adapted from Maslow's Hierarchy of Needs – a psychological perspective)

[Note to reviewers: In a future draft, this section will be expanded and discuss which community systems address survival needs.]

The second need is that of safety and security. This need includes all aspects of safety and security, including personal, financial (economic), and health and well-being. People require safety in their personal lives from situations of violence, physical or verbal abuse, war, etc. Individuals also require financial safety, which can include job security, a consistent income, savings accounts, insurance policies, and other types of financial safety nets. Finally, people require safety from negative health conditions, so that they can enjoy life and consistent well-being in their communities.

[Note to reviewers: In a future draft, this section will be expanded and discuss which community systems address safety and security needs.]

The third need is one of belonging. In society, individuals need to feel a sense of belonging and acceptance among various groups of people; including family, friends, and other types of social groups (e.g., within neighborhoods, schools, work, religious community, sports teams, etc.). In sociological literature, the concept of social capital within a community is often discussed. Social capital includes the extensiveness of social networks within the community (i.e., the interconnectedness of social groups),
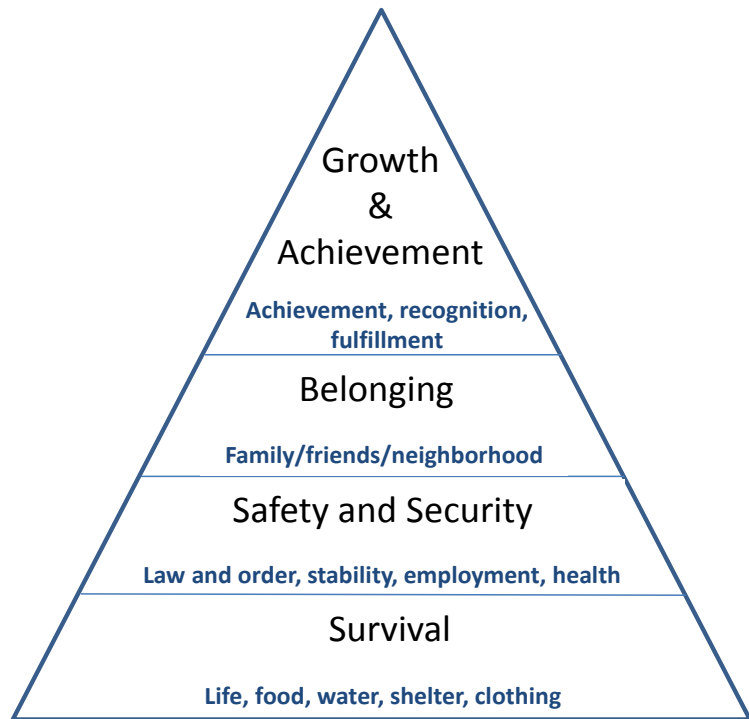
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[1] *Note: Businesses and communities also have needs; e.g., a community needs economic activity, employment in manufacturing, etc. Authors will explore this in future drafts.*

[2] Adapted from Maslow's Hierarchy of Needs – from a psychological perspective

[3] Scientific American. http://www.scientificamerican.com/article/how-long-can-a-person-sur/

civic engagement, and interpersonal, inter-organizational, and institutional trust[4,5]. The inclusion of all three of these aspects of social capital (networks, engagement, and trust) can increase the feeling of belonging among people in a community.

[Note to reviewers: In a future draft, this section will be expanded, especially the importance of social capital within a community and what that might mean for different places around the U.S. Additionally, it will discuss which community systems address belonging needs.]

The fourth need, at the top of the Figure 2-2, is labeled "growth and achievement." Humans need to feel a sense of achievement; that they are respected in society. In Figure 2-2, this need is accompanied by the need for continual growth and exploration within society. This includes the ability for an individual to realize his/her full potential – to accomplish all that one can within his/her lifetime. Although these needs may seem less tangible than others, growth and achievement are equally as important as other needs and are often accomplished through educational achievement and/or participation in arts and recreation.

[Note to reviewers: In a future draft, this section will be expanded and discuss which community systems address growth and achievement needs (other than education, arts/rec).]

Based on societal norms, not all people use these systems and/or are provided access to community systems in the same ways. Therefore, interactions of individuals/households with community systems can introduce inequalities among certain subpopulations of a community. These inequalities can be carried over, and even exacerbated, in certain types of situations, such as disaster/disruption events.

[Note to reviewers: In a future draft, this section will be significantly expanded, particularly with respect to social vulnerability. Case studies will be added.

Notes for further discussion:

Pre-disaster vulnerability structures/norms exist and then have an impact (potentially negative impact) on the new "structure" or norms that are created post-disaster.]

2.3. Social Performance Goals for Community Resilience

Performance goals for the social systems of a community provide the foundation for accompanying performance goals for the built environment, in order to increase a community's disaster resilience (see Chapter 3). In this chapter, a performance goal refers to a statement of the desired performance of a particular social system within a community, and the requirements of that system within a particular time frame (or time period) during the recovery process. These performance goals would be set, in advance, by communities to aid in recovery and resilience planning before disaster events.

In this Framework, three types of hazard levels are set for resilience planning: routine, expected, and extreme events (see Chapter 3 for more detail). Performance goals for any community should be set for all three hazard levels before an event occurs; however, the examples provided in this chapter reflect those necessary to prepare/plan for an "expected" event.

When a disaster occurs, it takes time, people, and resources to physically and socially rebuild (or foster the rebuilding of) a community. With that said, the hierarchy of social needs helps to prioritize those needs that are most important to address immediately after a disaster, and then those that can be addressed later in the recovery timeline. In this Framework, we consider three major time periods during the recovery process:

- Response phase: 0-3 days,

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[4] National Research Council of the National Academies. 2006. Facing Hazards and Disasters; Understanding human dimensions, National Academies Press, Washington, DC.

[5] Aldrich, D.P. and M.A. Meyer. 2014. "Social Capital and Community Resilience" American Behavioral Scientist, Published online 1 October 2014.

- Workforce/Neighborhood Recovery 1 to 12 weeks
- Community Recovery: 4 to 36+ months

This chapter identifies example performance goals for social systems that should be set (pre-event) in order to meet individual/household needs that arise during each of the three recovery phases. Additionally, this chapter discusses the subpopulations that might become (or remain) more vulnerable in the process of meeting these performance goals.

[Note to reviewers: In a future draft, this section will describe performance goals in more detail. This section will also discuss the importance of, and the difficulties in, assigning time frames to performance goals.]

2.3.1. Performance Goals for the Response Phase (0-3 days)

During the Response time period (i.e., 0-3 days after the event), a community should focus on addressing the most basic needs of individuals: Survival/Life Safety. Therefore, example performance goals are provided here for social systems of a community, so that the survival and (basic) safety and security needs of individuals are met by community systems during the Response Phase. Figure 2-3 highlights the most fundamental needs of individuals 0 to 3 days after an event occurs.

The most basic needs of individuals during the Response Phase are:

1. Life Safety
2. Food/water resources
3. Shelter
4. Health (critical health needs only)
5. Situational awareness (i.e., an understanding of the situation)
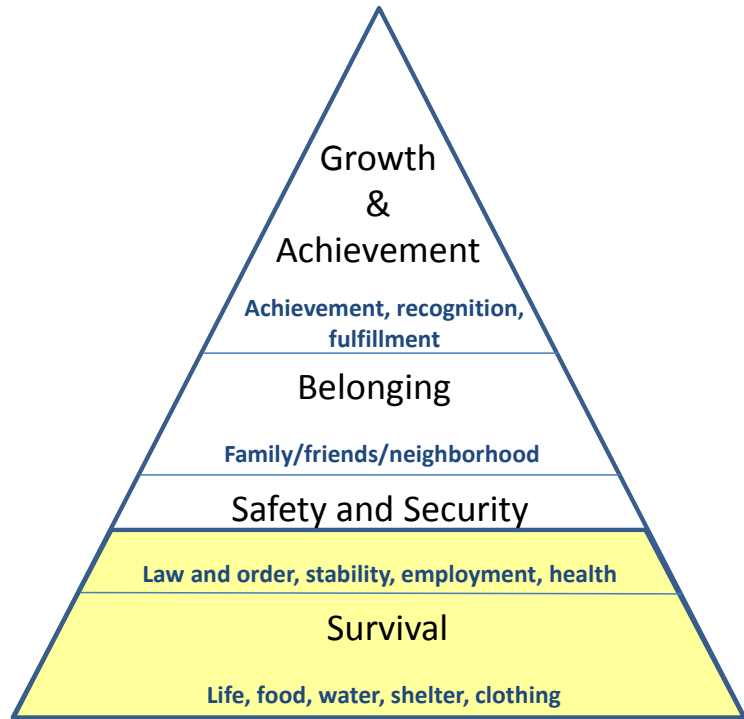

Figure 2-3: The most important needs of individuals during the Response Phase (0-3 days)

For each prioritized need, a social performance goal will be listed, an explanation of that goal, and then an identification of the subpopulations that may be more vulnerable (in meeting that need) than others during the Response Phase.

[Note to reviewers: Listing the vulnerable populations may help decision-makers in taking these subpopulations into account when planning for disaster recovery for their community.]

2.3.1.1. Life Safety

Performance Goal 1a: Prior to an event occurring, develop emergency procedures that outline the ways/methods to protect all community residents and visitors before and during an event.

Explanation: Depending upon the type of event, a community should develop emergency plans to ensure life safety for its population (including visitors). Planning for life safety includes developing and testing emergency procedures/protective actions that individuals should take to protect themselves during

different types of disasters, as well as procedures to create and deliver important emergency-related information to the public before and during an event.

Protective action procedures might include evacuation – i.e., the ways in which a community or part of a community should leave an affected area before (or after) a disaster; or shelter-in-place – i.e., the locations where a community (or portions of a community) should congregate to remain safe during a storm or other type of event. Communities should consider questions like – who needs to evacuate or shelter-in-place and who does not, based upon certain individual-based and/or event-based factors.

[Note to reviewers: In a future draft, this section will be expanded.]

Additionally, a community may wish to create pre-scripted emergency messages to disseminate to a community based upon the types of events likely to occur, as well as the types of technology that can be used to disseminate emergency information.

[Note to reviewers: In a future draft, this section will be expanded with more explanation on message templates and constraints to providing emergency information via types of technologies. Additionally, guidance exists to help communities with emergency communication planning.

The future draft will also discuss the factors that can increase people's motivation to take protective action before/during a disaster, including appropriate, consistent, clear, specific information (from research).]

Potential vulnerable subpopulations:

- **Emergency (action) procedures:** e.g., people without transportation, people with disabilities, people with severe health conditions, etc.
- **Emergency communication:** e.g., non-English speakers, etc.

Performance Goal 1b: Provide consistent emergency response capabilities, including search and rescue, safety from secondary effects, and/or property protection, to ensure life safety for the community after an event.

Explanation: Survival of the event itself does not ensure the need for life safety has been met. For example, individuals or household members could be buried under rubble during an earthquake or a tornado, and thus, in need of search and rescue operations. Additionally, protection from secondary effects of the event (e.g., fires or hazardous materials release) is crucial for community members or visitors who endured the disaster event.

[Note to reviewers: Emergency response could come from within the community or from outside of the community (mutual aid), or from community residents/visitors; i.e., disaster research has shown that disaster survivors are often the first to provide emergency response support to other survivors. A future draft will discuss what this means for community decision-makers.

A future draft will also discuss the need for security of property and looting (and myths).]

Potential vulnerable subpopulations: *This section is under development. Text to be included in a future draft.*

2.3.1.2. Food and Water Resources

Performance Goal 2: Determine how quickly resources can be mobilized to provide food and water to community residents (who did not evacuate from the area); for example, 72 hours, and then clearly educate community members and groups/networks to be prepared for that amount of time before additional help will arrive.

Explanation: Food and water resources could come from surrounding communities, federal or state agency assistance, local businesses, etc., and the community should plan for the ways in which to meet this need before a disaster occurs. Even with the best of plans, implementing these plans takes time; and

therefore, the community population should be prepared for self-sufficiency for some period of time until resources arrive.

[Note to reviewers: In a future draft, this section will discuss who might be more self-sufficient in a disaster (i.e., people in rural communities).Case studies should be provided where this goal has been met with success.]

Potential vulnerable subpopulations: *This section is under development. Text to be included in a future draft.*

2.3.1.3. Shelter

Performance Goal 3: Determine all options for sheltering community residents (who did not evacuate the area) and provide all viable options to residents within the first 24 hours after an event occurs.

Explanation: Shelter assistance can come from a variety of sources, including sheltering-in-place, family, friends, or others who live in surrounding areas; community-designated shelter locations (pre-event); or federally provided sheltering options (e.g., FEMA trailers). Evacuation of community residents is one way to help with after-event sheltering; however, this procedure could negatively impact community members' 'sense of place', and in turn, increase the community's recovery time (*note to reviewers, this needs further discussion of sense of place, belongingness, etc.*). Communities should plan for ways to meet this sheltering need, before an event occurs, weighing both the positives and the negatives of evacuation procedures on longer-term recovery of the community.

[Note to reviewers: In a future draft, this section will discuss who might be more self-sufficient in a disaster; also what might influence people to find their own shelter (e.g., smaller, tight-knit community, family close by, etc.), strong ties with region.

*This section will also have the addition of the SPUR example of 95% shelter in place (San Francisco) – plans to provide neighborhood centers that offer basic needs that cannot be met by homes, and people remain in their homes while the homes are being repaired. **May not work for every community**.]*

Potential vulnerable subpopulations: Renters, people without access to transportation, homeless populations, people with pets, people without insurance (finances/savings)

[Note to reviewers: this section will be expanded in a future draft]

2.3.1.4. Health

Performance Goal 4: Provide consistent emergency care for time-critical health needs, including mental health needs, and access to critical, lifesaving medication.

Explanation: The community should plan for the ways to meet time-dependent, critical health needs brought on by the event, as well as those pre-existing before the event occurred[6]. Healthcare workers, equipment, medical supplies, and medication could come from within the community or from outside (either from surrounding facilities or from federal/state agency assistance); however, these mutual agreements should be set in place before an event occurs.

[Note to reviewers: In a future draft, this section will discuss the importance of providing mental health support to disaster survivors – because a lack of mental health support can lead to negative physical health conditions and slower recovery times for the community.[7] Mental health support can also be

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[6] Chapter 5, which focuses on buildings, discusses the importance of increasing the resilience of healthcare facilities, so that critical health needs are met during the Response Phase. Other chapters in the Framework, e.g., Chapter 7 on power/energy and Chapter 9 on water and wastewater discuss the importance of increasing the resilience of the infrastructure that would support these healthcare facilities.

[7] Canterbury Earthquake Recovery Authority (CERA). 2014. "Canterbury Wellbeing Index", CERA, Christchurch, NZ.

provided (and has been shown to be provided) by other affected members of the community (add case study).

This section will also discuss the importance of providing necessary medications to community members.]

Potential vulnerable subpopulations: e.g., people without transportation, people with disabilities, people who are immobile, people with severe health conditions, people without health insurance, etc.

[Note to reviewers: this section will be expanded in a future draft]

2.3.1.5. Situational Awareness

Performance Goal 5 (Situational awareness): Provide consistent and accurate information on the status of the event and the people and places most affected.

Explanation: After an event, disaster survivors or family/friends are in need of information about subsequent protective actions to take, the methods and means to access critical systems (to meet food, water, shelter, and health needs), and status updates on people and things that mean the most to them. Additionally, disaster survivors attempt to "reach out" to their loved ones to connect and make sure that they are safe, secure, and healthy; making working communication systems crucial during this time. Using multiple forms of technology, including more traditional means and non-traditional or newer means, e.g., social media, to inform your population about what is going on and the condition of people and places within the community will encourage individuals to more closely follow important instructions and procedures set in place during the Response Phase of recovery; keeping them and others safer in the process.

[Note to reviewers: In a future draft this section will discuss the sociological importance of milling before, during, and after an event – and the ways in which the community can support this. It will also discuss the use of social media – its pros and cons. The section will discuss the technology that is most used after a disaster occurs and the reasons for that (sociological research).

A future draft will also discuss the importance of bonds within a community/neighborhood and how these should be fostered during each stage of recovery. For example, add a discussion about where, in the community, are the strongest community bonds, social support systems, etc. Also discuss that these bonds can be strained in post-disaster settings.

Future drafts will also discuss the opportunities and challenges of various kinds of technology, including social media (e.g., a challenge could be the need to monitor and correct misinformation). Note that existing technology may exacerbate social inequalities/vulnerabilities if attention is not paid.

*Include **case studies** on ways in which community bonds have been maintained after a disaster.]*

Potential vulnerable subpopulations:

This section is under development. Text to be included in a future draft.

2.3.2. Response Phase Discussion

It is important for community decision-makers to recognize that, especially in those communities with stronger social capital, community members, themselves, may provide some of these needs (e.g., food and water supplies, shelter, mental health support, search and rescue operations, and/or financial resources) during the Response Phase of a disaster event. Communities should identify, ahead of any disaster event, the ways in which community members organize, interact, and engage together in pre-disaster time periods, since these involvements can aid in decreasing disaster recovery time frames and increasing overall social well-being.

Future drafts will discuss differences between bonding social capital, bridging social capital, and linking social capital[8,9]

2.3.3. Performance Goals for Workforce/Neighborhood Recovery (1 to 12 weeks)

During the Workforce/Neighborhood Recovery time period (i.e., 1 to 12 weeks after the event), a community should focus on setting and meeting performance goals that address survival, safety and security, and belonging needs during this recovery timeframe.

[Note to reviewers: A future draft of this section will identify the prioritized needs of individuals during this phase (including employment, stability – financial, belonging, and achievement – education), stressing the need to restore neighborhoods and foster/renew/rebuild the sense of belonging within members of the community.

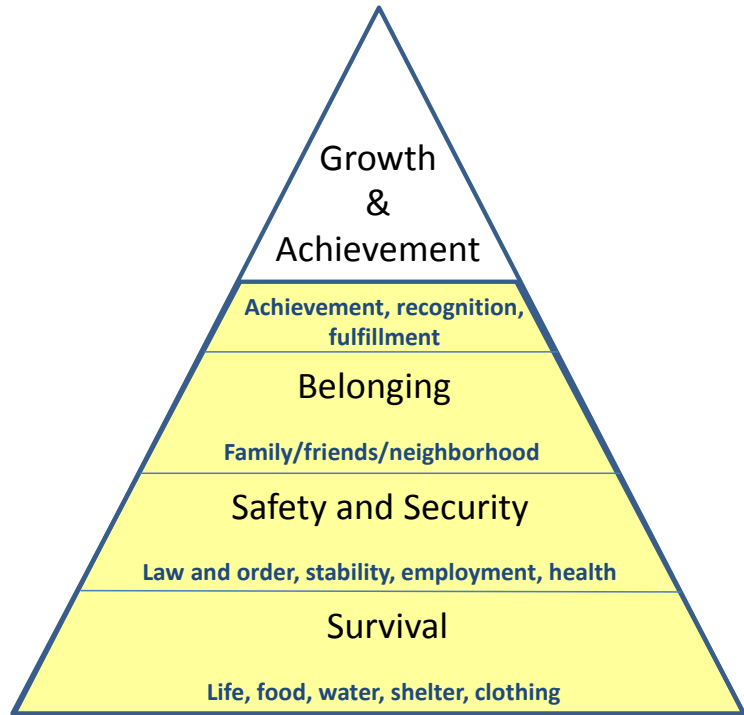*A future draft of this section will also develop performance goal(s) for each need.]*

Figure 2-4: The most important needs of individuals during the Workforce Phase (1–12 weeks)

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[8] Aldrich, D.P. and M.A. Meyer. 2014. "Social Capital and Community Resilience" American Behavioral Scientist, Published online 1 October 2014.

[9] Ritchie, L.A. and Gill, D.A. Forthcoming. "The Role of Social Capital in Community Disaster Resilience." Invited book chapter for *The Resiliency Challenge: Transforming Theory to Reality*. Virginia Tech Center for Community Security and Resilience.

2.3.4. Performance Goals for Community Recovery (4-36+ months)

After 4 months, communities should focus on setting and meeting performance goals that address all needs in the hierarchy, as shown in Figure 2-5. The Community Recovery Phase allows for reconstruction in support of economic recovery of the community.

[Note to reviewers: In a future draft, this section will identify the prioritized needs of individuals during this phase related to the restoration of communities' economic and social basis, stressing the need to foster the sense of belonging and achievement within members of the community.

This section will also develop performance goal(s) for each need.]
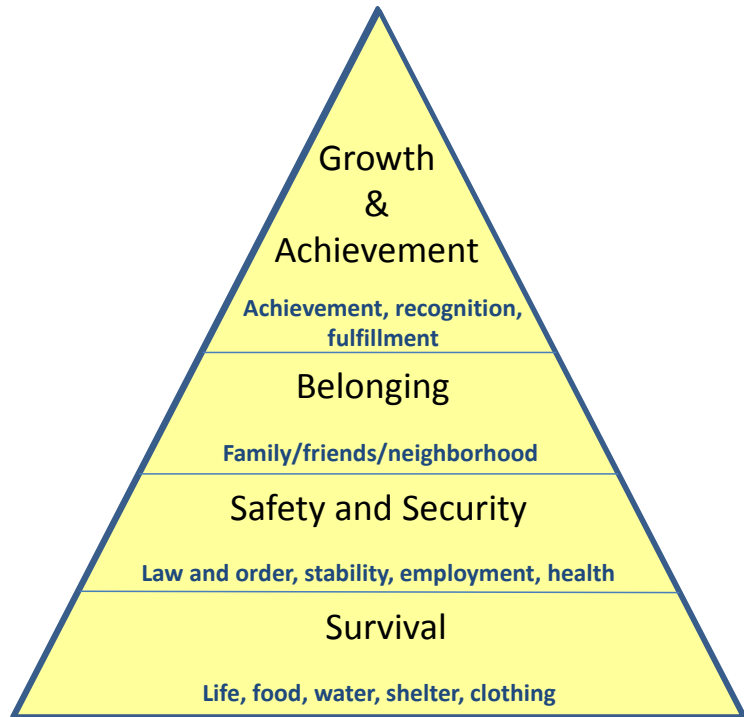

Figure 2-5: The most important needs of individuals during the Community Phase (4-36+ months)

2.4. Community Engagement in Resilience

This section is under development. Text to be included in a future draft.

2.5. Conclusion

This section is under development. Text to be included in a future draft.