Rural Communities Rise to the Challenge of Dual Disasters

Briefing Series: Rural Communities, Climate, and COVID-19 Recovery

June 18, 2020

Materials will be available at: www.eesi.org/061820rural

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Planning for Small Town & Rural Communities, Infrastructure, and Disasters

Environment and Energy Study Institute
Rural Communities Rise to the Challenge of Dual Disaster
June 18, 2020

Richard K. Norton
Urban and Regional Planning Program
University of Michigan
## Thumbnail History:

### Rural → Rural / Urban → ~ Rural / Exurban / Suburban

<table>
<thead>
<tr>
<th>Year</th>
<th>Approx Pop (M)</th>
<th>% Pop ‘Rural’</th>
<th>Rural Land (M ac)</th>
<th>% Land Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860</td>
<td>31</td>
<td>~ 80%</td>
<td>~ 1,700</td>
<td>~ 90%</td>
</tr>
<tr>
<td>~1920</td>
<td>106</td>
<td>~ 50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>~1950s</td>
<td>165</td>
<td>~ 33%</td>
<td>~ 1,500</td>
<td>~ 80%</td>
</tr>
<tr>
<td>Today</td>
<td>332</td>
<td>~ 20%</td>
<td>~ 1,400</td>
<td>~ 75%</td>
</tr>
</tbody>
</table>

- Many, smaller farms
- Market towns
- A few cities
- Industrial cities
- Market cities
- Rural
- Cities
- Suburbia
- Rural
- Edge cities / suburbs
- Exurbia
- Fewer, larger farms
### Grand Haven City vs. Grand Haven Township

<table>
<thead>
<tr>
<th>Metric</th>
<th>Grand Haven City</th>
<th>Grand Haven Township</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approximate GL Shoreline (mi.)</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Land Area (sq. mi.)</td>
<td>5.8</td>
<td>28.7</td>
</tr>
<tr>
<td>Approximate Total Population</td>
<td>10,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Population Density</td>
<td>2.7 persons / acre</td>
<td>0.8 persons / acre</td>
</tr>
<tr>
<td>Total Parcels</td>
<td>5,656</td>
<td>6,599</td>
</tr>
<tr>
<td>Avg. Parcel Size (acre / parcel)</td>
<td>0.66</td>
<td>2.78</td>
</tr>
<tr>
<td>Moderate Storm - Parcels at Risk: # (%)</td>
<td>887 (16%)</td>
<td>924 (14%)</td>
</tr>
</tbody>
</table>

(Images Not on the Same Scale)
Ongoing Challenges: Being Rural

- Business of farming / forestry
- Environmental
- Demographics
- Urbanization pressures
- Higher poverty, unemployment, disabilities
- Lower educational opportunities, diversity
Ongoing Challenges: Planning For Rural Scale

- Per-capita cost of \(~ urban\) infrastructure
  \((Roads, water, wastewater, stormwater, broadband)\)
- Per-capita cost of services
  \((Police, fire, EMS, hazard/emergency response)\)
- Governance \((administration, analysis, planning)\)

Politics / Culture

- Government / regulation
- Property rights / individualism
Case Study: Midland Flood

Credits: MLive.com (photos by Neil Blake and Jake May) and Detroit Free Press – May 20, 2020
Case Study: Midland Flood

Some Numbers:
• 2 dams failed
• 10,000 evacuated
• 3,700 properties damaged
• 2,300 homes damaged (only 14% had insurance)
• $190 M in losses
• $55 M response / infr costs

• 2,500 dams state-wide
• 1,061 regulated
• 2 state dam safety inspectors
• 5 dams in critical condition

Credit: Detroit Free Press – May 20, 2020
Vision:
Sustainable & Adaptable Communities & Landscapes

Rural
- Rural: Working + Natural
- Physically Resilient: ↓ hazards
- Economically Resilient: Diverse/green/amenity

Small Town
- Small Town Compact
- Physically Resilient: ↓ hazards
- Economically Resilient: Local/CSAs

Urban (City)
- Urban Dense
- Physically Resilient: ↓ hazards
- Economically Resilient: More global
(Kind of) New Challenges

• New normal
• Disconnects, thousand cuts, & boiling frogs
• Political polarization
• On-size fits all silver bullets (landscape dumb)
• Under-investment in government
• Unfortunate (policy) expectations
• Loss aversion > prudence
New Directions

• Participation before, not after
• Good governance (government)
• Landscape-smart policies
• No-regrets policies
• Learn to live with nature (relocate / adapt, then engineer as last resort)
• Stewardship economics
Questions?
Rural Community Challenges

Kansas Floodplain Mapping Status

Modernized DFIRM
- Effective DFIRM
- Effective DFIRM with Redevelopment
- DFIRM Under Development

Not Modernized FIRMs
- County-Wide Available

Cities with SFHA Identified
- Yes
- No

Dates reflect the most recent study and may vary by location within a county. Consult the watershed map for watershed projects.

May 29, 2020
Presidential Disasters - Not
Mitigation Grants - Not
Community Action
State Action
Last Thoughts

The very smallest communities need help. Some ways to help them:

• Cooperating Technical Partners (CTP) flood mapping assistance.
• Community Assistance Program – State Support Services Element to help them prevent problems before they start.
• Community Rating System (CRS) makes local programs stronger.
• Dam Safety programs, we all saw what happened in Michigan.
• Hazard Mitigation Assistance grant programs for mitigation include a target for rural communities.
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