Social Vulnerability Indicators Richwood

Vulnerability Indicators		Richwood	State Ratio	National Ratio
	Poverty Rate	26.1%	17.0%	12.4%
JOBLESS	Unemployment Rate	39.8%	23.7%	14.6%
i	Vulnerable Ages Ratio	43.1%	36.7%	34.6%
Ġ	Disability Ratio	29.9%	19.3%	12.6%
	Population Growth Ratio	-19.1%	-3.2%	7.4%
RENT	Renter-Occupied Ratio	21.6%	26.1%	35.4%
10	Housing Values Less than \$50K	40.9%	15.5%	6.2%
131	Housing Median Value	\$68,300	\$128,800	\$244,900

The values in red show more than a 5% difference, toward vulnerability, compared to the state ratios.

Description, Rationale, and Data Sources

Vulnerability Indicator	Description	Rationale	Data Source
Poverty Rate	Percentage of households with incomes below poverty level	The poor are less likely to have the income or assets needed to prepare for a possible disaster or to recover after it occurs (Cutter et al., 2003; Flanagan et al., 2011; Morrow, 1999; Thomas, 2017).	Census 2021 ACS 5-Year Estimates
Unemployment Rate	Percentage of families (two or more people residing together and related by birth, marriage, or adoption) with no workers in the past 12 months (from 2021)	In addition to income problems, unemployed persons lack benefit plans providing health cost assistance when injuries or deaths occur due to disasters (Brodie et al., 2006; Flanagan et al., 2011).	Census 2021 ACS 5-Year Estimates
Vulnerable Ages Ratio	Percentage of population younger than 15 or older than 65	Children and the elderly are generally more vulnerable to disasters such as flooding due to the lack of experience or physical and cognitive limitations to protect themselves (Cutter et al., 2003; Flanagan et al., 2011; Morrow, 1999).	Census 2021 ACS 5-Year Estimates
Disability Ratio	Percentage of civilian noninstitutionalized population with disabilities of independent living, self-care, ambulatory, cognitive, vision, or hearing difficulties	Disabled people are more vulnerable to natural hazards such as flooding (Cutter et al., 2003; Flanagan et al., 2011; Morrow, 1999).	Census 2021 ACS 5-Year Estimates
Population Growth Ratio	Percentage of population change from 2010 to 2020	Although rapid population growth in dense urban areas can contribute to the risk (Cutter et al., 2003) we believe population decrease can be a factor of social vulnerability in WV communities.	Decennial Census (DEC) of 2010 & 2020
Renter-Occupied Ratio	Percentage of renter-occupied residential units of the total occupied housing units	Low ratios of home ownership can indicate a community with a faltering economy and a population with less long-term commitment to the community. Renters generally have less ability or motivation to make their homes resistant structurally or buy flood insurance (Cutter et al., 2003; Morrow, 1999).	Census 2021 ACS 5-Year Estimates
Housing Values Less than \$50K Housing Median Value	The dollar values of owner-occupied residential units (Percentages of less than \$50K and median)	The value can be an indicator of building quality. Buildings of low quality cannot withstand flooding adequately and are more vulnerable. It can also be related to the personal wealth. Therefore, the physical and social vulnerabilities to floods are generally tied at this point (Flanagan et al., 2011; Morrow, 1999; Thieken et al., 2008).	Census 2021 ACS 5-Year Estimates

References

- Brodie, M., Weltzien, E., Altman, D., Blendon, R. J., and Benson, J. M. (2006). Experiences of Hurricane Katrina evacuees in Houston shelters: Implications for future planning. *American Journal of Public Health*, *96*(8), 1402-1408.
- Cutter, S. L., Boruff, B. J., and Shirley, W. L. (2003). Social vulnerability to environmental hazards. *Social science quarterly*, 84(2), 242-261.
- Cutter, S. L., Burton, C. G., & Emrich, C. T. (2010). Disaster resilience indicators for benchmarking baseline conditions. *Journal of homeland security and emergency management*, 7(1).
- Flanagan, B. E., Gregory, E. W., Hallisey, E. J., Heitgerd, J. L., and Lewis, B. (2011). A social vulnerability index for disaster management. *Journal of homeland security and emergency management*, 8(1).
- Morrow, B. H. (1999). Identifying and mapping community vulnerability. *Disasters*, 23(1), 1-18.
- Thieken, A. H., Olschewski, A., Kreibich, H., Kobsch, S., and Merz, B. (2008). Development and evaluation of FLEMOps—a new Flood Loss Estimation MOdel for the private sector. *WIT Transactions on Ecology and the Environment, 118*, 315-324.
- Thomas, D. S. K., Ertugay, K., and Kemec, S. (2007). The role of geographic information systems/remote sensing in disaster management. In H. Rodriguez, E. L. Quarantelli, and R. R. Dynes (Eds.), *Handbook of disaster research* (pp. 83-96). New York: Springer.