

# Journal of Rural and Community Development

## Rural Resilience and Mobility: A Scoping Review

**Authors:** Gianisa Adisaputri, Anam Khan, Margherita Cameranesi, & Michael Ungar

**Citation:**

Adisaputri, G., Khan, A., Cameranesi, M., & Ungar, M. (2023). Rural resilience and mobility: A scoping review. *The Journal of Rural and Community Development*, 18(3), 21–42.

**Publisher:**

Rural Development Institute, Brandon University.

**Editor:**

Dr. Doug Ramsey

**Open Access Policy:**

This journal provides open access to all of its content on the principle that making research freely available to the public supports a greater global exchange of knowledge. Such access is associated with increased readership and increased citation of an author's work.



**BRANDON  
UNIVERSITY**  
Founded 1899



## **Rural Resilience and Mobility: A Scoping Review**

**Gianisa Adisaputri**

Dalhousie University  
Halifax, Nova Scotia, Canada  
[gianisa@dal.ca](mailto:gianisa@dal.ca)

**Anam Khan**

Dalhousie University  
Halifax, Nova Scotia, Canada  
[Anam.Khan@dal.ca](mailto:Anam.Khan@dal.ca)

**Margherita Cameranesi**

Dalhousie University  
Halifax, Nova Scotia, Canada  
[margherita.cameranesi@dal.ca](mailto:margherita.cameranesi@dal.ca)

**Michael Ungar**

Dalhousie University  
Halifax, Nova Scotia, Canada  
[michael.ungar@dal.ca](mailto:michael.ungar@dal.ca)

### **Abstract**

Many rural communities are facing diverse and multiple stressors that require constant recovery, adaptation, and engagement in processes of transformation at multiple systemic levels to maintain their resilience. As economic, social, and environmental conditions changed, one factor associated with this resilience has been mobility into and out of rural areas. The objective of this scoping review is to map the existing literature on the relationship between human mobility and rural resilience, with attention to the range of systems that influence mobility patterns and the successful coping of rural populations under stress. The results show that climate exposure is the main stressor for rural populations, while leaving rural areas is a common adaptative strategy. Several co-occurring protective factors on individuals, households, and community resiliences were also identified. The interconnectedness of protective factors and the significance of each protective factor across time are crucial factors to policymakers considering strategies to improve the resilience of newcomers and rural populations.

**Keywords:** Rural resilience, human mobility, multiple systems, protective factors, scoping review

## Résilience et mobilité rurales : un examen de la portée

**Gianisa Adisaputri**

Dalhousie University  
Halifax, Nova Scotia, Canada  
[gianisa@dal.ca](mailto:gianisa@dal.ca)

**Anam Khan**

Dalhousie University  
Halifax, Nova Scotia, Canada  
[Anam.Khan@dal.ca](mailto:Anam.Khan@dal.ca)

**Margherita Cameranesi**

Dalhousie University  
Halifax, Nova Scotia, Canada  
[margherita.cameranesi@dal.ca](mailto:margherita.cameranesi@dal.ca)

**Michael Ungar**

Dalhousie University  
Halifax, Nova Scotia, Canada  
[michael.ungar@dal.ca](mailto:michael.ungar@dal.ca)

### Résumé

De nombreuses communautés rurales sont confrontées à des facteurs de stress divers et multiples qui nécessitent une reprise, une adaptation et un engagement constants dans des processus de transformation à plusieurs niveaux systémiques pour maintenir leur résilience. À mesure que les conditions économiques, sociales et environnementales ont changé, l'un des facteurs associés à cette résilience a été la mobilité au sein des zones rurales ainsi qu'à l'extérieur. L'objectif de cet examen de la portée est de cartographier la littérature existante sur la relation entre la mobilité humaine et la résilience rurale, en portant une attention particulière à l'éventail des systèmes qui influencent les schémas de mobilité et la capacité d'adaptation des populations rurales en situation de stress. Les résultats montrent que l'exposition au climat est le principal facteur de stress pour les populations rurales, tandis que quitter les zones rurales est une stratégie d'adaptation courante. Plusieurs facteurs de protection concomitants sur les individus, les ménages et les résiliences communautaires ont également été identifiés. L'interdépendance des facteurs de protection et l'importance de chaque facteur de protection dans le temps sont des facteurs cruciaux pour les décideurs qui envisagent des stratégies pour améliorer la résilience des nouveaux arrivants et des populations rurales.

**Mots-clés :** Résilience rurale, mobilité humaine, systèmes multiples, facteurs de protection, examen de la portée

## 1.0 Introduction

Rural populations account for more than half of global and more than two-thirds of poor populations in developing countries (Dasgupta et al., 2014). These populations face unique challenges due to their geographical settings, globalization and exposure to climate change (Dasgupta et al., 2014; Labonte, 2004; Ward & Brown, 2009). Some of the challenges faced by rural populations are caused by their distance to and availability of essential infrastructure and facilities, which create isolation, dependency and enhance inequality (Bennett et al., 2019; Hart et al., 2005; Ratcliffe et al., 2016). Higher poverty rates, crime rates, lower education, and social inequalities force people to move out of rural areas to access better resources, education, and employment (Young, 2013), lowering population numbers and prompting more closures of infrastructure and services (Norris-Baker, 1999).

Rural resilience, or the ability of rural populations to adapt and thrive to challenges, is influenced by the dynamic of various factors and processes (Cutter et al., 2010, 2016; Kim et al., 2020; Ward & Brown, 2009). To meaningfully understand the experience of individuals and populations living in rural areas, spatial, contextual, and temporal factors need to be considered (Cox & Hamlen, 2015; Cutter et al., 2016). Mobility into and out of rural areas is proven to be one of the factors influencing the resilience of rural populations, both as an enhancing factor (Camarero et al., 2016; Peth & Sakdapolrak, 2020; Tebboth et al., 2019) or a factor that lowered the resilience of rural populations (Anthopoulou et al., 2017; Siegmann, 2010; Weber et al., 2014).

Despite the major pattern of rural-rural mobility, rural-urban mobility is commonly used as a coping strategy (Gray & Mueller, 2012; Mallee, 1995; Van Dijk et al., 2001). However, mobility patterns are changing, with shifts in the geo-administrative levels (international vs intra-national), durations (permanent vs temporary), motivations (forced vs. voluntary) and legal status of migrants (Mallee, 1995; Van Dijk et al., 2001). Each aspect of movement has significant effects on the social, economic, and ecological environment of people residing in rural areas (Adam-Hernández & Harteisen, 2020; Peters, 2019).

This scoping review examines the current literature on how human mobility affects the experience of individuals and populations as a whole in rural areas using the multisystemic model of resilience (Ungar & Theron, 2020) as a theoretical framework. In this framework, Ungar and Theron (2020) conceptualized resilience is seen as a product of complex interactions of multiple systems (e.g., biological, psychological, ecological) that co-occurring and codependent on a different level. This framework applies to our study since the experience of rural living is complex and influenced by various factors (Cox et al., 2015; Cutter et al., 2016). A scoping review is useful to examine the extent of available literature and mapping concepts, summarise and disseminate findings, and identify gaps in the current literature (Arksey & O'Malley, 2005).

## 2.0 Methods

We used Arksey and O'Malley's (2005) framework for doing scoping reviews, with additional guidance from Levac et al. (2010) and the JBI Manual for Evidence Synthesis for conducting scoping reviews (Peters et al., 2015). Scoping reviews have been gaining popularity for synthesizing evidence in various sectors, including health, social science, and software engineering (Pham et al., 2014). It has advantages over systematic reviews in their applicability to answer broader questions, examining literature from diverse disciplines, and identifying factors related to a concept (Munn et al., 2018; Peters

et al., 2015). We followed Arksey and O'Malley's (2005) five stages of scoping review: identifying the questions, finding relevant manuscripts, selecting related manuscripts, extracting and charting the data, and collating, summarizing, and reporting the results. The literature search was conducted in June 2021.

### **2.1. Research Questions**

This study is part of a larger study on rural resilience. During our analysis, we found that human mobility has a significant influence on the resilience of rural populations. To have an in-depth exploration of this subject, we proposed the following research questions:

- What is known in the current literature about the relationships between rural resilience and human mobility?
- What are the multisystemic protective factors that influence the resilience of individuals and populations in rural areas affected by human mobility?

### **2.2. Data Sources**

We did two stages of screening: the first was for our larger study on rural resilience, and the second was to identify relevant manuscripts for this study. We conducted an initial search on CINAHL [EBSCO] to identify keywords and terms for the full search strategy. Then, we consulted information specialists to conduct the full search in various databases, including Academic Search Premier, APA PsycInfo, CINAHL, EconLit, Gender Studies Database, Social Work Abstract, Proquest Central, Agriculture & Environmental Science, Sociological Abstract, Environmental Science Collection, Environmental Science Index, Health & Medical Collection, International Bibliography of the Social Sciences (IBSS). Academic Search Premier, APA PsycInfo, CINAHL, EconLit, Gender Studies Database, Social Work Abstract, Proquest Central, Agriculture & Environmental Science, Sociological Abstract, Environmental Science Collection, Environmental Science Index, Health & Medical Collection, International Bibliography of the Social Sciences (IBSS).

### **2.3. Selecting Relevant Manuscripts**

*2.3.1. Eligibility criteria.* As we based our studies on rural resilience, our eligibility criteria for the first title and abstract screening were:

- **Type of participants.** All empirical manuscripts discussed the resilience of individuals, households, and communities in rural areas facing prolonged stressors from inside or outside their geographical settings.
- **Concept.** The manuscripts had to operationalize resilience by describing the stressors, factors, and processes for successful adaptation and the outcomes. The stressors can be external or internal, but the impact must be examined in rural settings. Manuscripts that focused on the long-term effects of single acute events are also included.
- **Context.** The studies focused on rural settings—the study populations must live in rural areas, although the stressors and other factors can be external or internal. The manuscripts included were published from January 2001 to June 2021 and focused on events that occurred in the present or within the past decade prior to the study.

- **Type of sources.** Due to our language limitations, we only included manuscripts published in English. We also limited our search to empirical manuscripts and book chapters and excluded articles that were found in the grey literature, conference proceedings and abstracts, theses, and dissertations.

For this study on mobility, we added other eligibility criteria:

- **Type of participants.** The manuscripts discussed the resilience of locals, migrants (e.g., transient, newcomers, long-term) or returnees, whether the unit of analysis was individuals, households, or communities in rural areas.
- **Concept.** The manuscripts discussed human mobility in and out of rural areas. Mobility could be either rural-urban, rural-rural, or urban-rural; international (immigration and emigration) or internal (immigration and outmigration); permanent or temporary; and forced or voluntary movements.

*2.3.2. Title and abstract screening.* First, we (GA, AK, MC and a research assistant) conducted title and abstract screening of citations to find relevant manuscripts on rural resilience using the first eligibility criteria. Each manuscript was screened by two independent reviewers, and all conflicts were resolved by a third reviewer. The team met regularly to refine the search strategy and discuss disagreements or misperceptions. Another screening, using the additional eligibility criteria, was done after we obtained relevant manuscripts based on our first eligibility criteria. We then did a full-text screening of all relevant manuscripts for data extraction.

#### **2.4. Data Characterization and Synthesis**

For the fourth stage, we (GA, AK, MC, and MU) developed a guideline to extract the data, which included: manuscript titles, author(s), publication years, study sites/country, aims, study populations and sample sizes, methodology and methods, and how resilience is defined, which level or system is measured (individuals, households, communities), and main findings. Then, we selected a random sample of 8 articles and added types of mobility (into vs out of rural areas; international vs intra-national), stressors, and internal and external factors to the data charting form to see if this approach to the scoping review would be effective at selecting and analyzing the papers. The first author compiled the data into a Microsoft Excel spreadsheet and analyzed it descriptively using STATA/SE-17. The first author also qualitatively analyzed our data using a thematic sort of key concepts and study descriptors.

### **3.0 Findings**

The initial search resulted in 5740 titles concerned with rural resilience. After the first screening, we identified 749 manuscripts and excluded 4991. From the 749 titles, we conducted a second title and abstract screening and found 52 potential manuscripts dealing with mobility (see Figure 1). After doing a full-text screening, we included all potential manuscripts for data charting and analysis.

#### **3.1. Study Characteristics**

There are 52 related manuscripts published between 2001 and 2021, with 92.16% published after 2010. However, the dramatic increase, which constitutes almost 70% of the primary studies, did not appear until 2016. The studies are qualitative (37.25%), mixed-methods (35.29%) and quantitative (27.45%). The

studies were conducted in East Asia (23.21%), North America (14.29%), Europe (16.07%), South Asia (14.29%), South-East Asia (14.29%), Australia and Oceania (10.71%), Africa (5.36%), and South America (1.79%). Most of the studies were conducted in one country, except for three multi-site studies: in Australia and Canada (Peters et al., 2018), Pacific Island Nations including Marshall Island and Papua New Guinea (McLeod et al., 2018), and US and Mexico (Taylor & Behnke, 2005).

The populations in the studies are varied, although most of the research was focused on adults' experience (82.35%), with only 7.84% focused on women exclusively and 1.96% on seniors. Almost eight percent (7.84%) of the studies were focused on children and youth experiences, mostly from being left behind in rural areas by their parents. The resilience in these populations is measured at the individual (27.45%), household (23.53%), community (47.06%), and dyadic (grandparents-grandchildren) levels (1.96%). The main stressors in the primary studies are climate exposure (41.18%), migration and depopulation (35.29%), marginalization (9.8%), financial crises (9.8%), and food insecurity (3.92%). Types of climate exposures depend on geographical settings. Among the 23.53% of studies that looked at mobility as a stressor, 11.76% studied the resilience of left-behind children.

Most studies focused on just one movement, typically out of rural areas (67.31%). Mobility into rural areas is counted only in 32.69% of the studies that we reviewed, of which 13.46% are concerned with domestic migration (see Table 1).

Figure 1. Study selection flow.

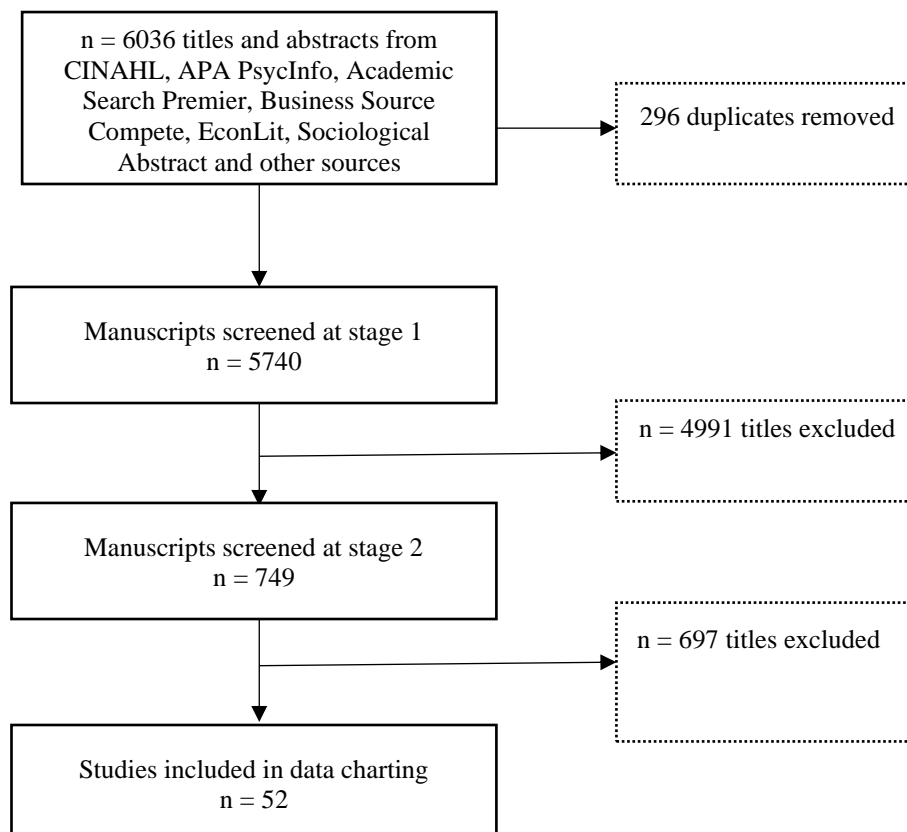


Table 1. *Type of Mobility*

	<b>Domestic (%)</b>	<b>International (%)</b>	<b>No details (%)</b>	<b>Total (%)</b>
Out of rural areas	35.85	7.55	24.53	67.93
Into rural areas	13.21	9.43	9.43	32.07

Studies in different countries showed different mobility trends. The impact of domestic migration (e.g., urbanization) was a prominent focus in studies conducted in South Asia and East Asia, while studies done in North America put more focus on the experiences of international immigrants coming to rural areas (see Table 2).

Table 2. *Percentage of Study Location*

	<i>Study Location</i>							
	<b>Europe (%)</b>	<b>North America (%)</b>	<b>Australia and Oceania (%)</b>	<b>South Asia (%)</b>	<b>East Asia (%)</b>	<b>Southeast Asia (%)</b>	<b>Africa (%)</b>	<b>South America (%)</b>
<b>Internal (domestic)</b>								
Out-migration	1.88	1.88	0	11.32	18.87	0	0	0
In-migration	0	1.88	1.88	1.88	5.66	1.88	0	0
<b>International</b>								
Emigration	1.88	0	0	1.88	0	3.77	0	0
Immigration	0	7.55	1.88	0	0	0	0	0
<b>No details</b>								
Mobility into rural areas	7.55	1.88	0	0	0	0	0	0
Mobility out of rural areas	5.66	0	5.66	0	0	5.66	5.66	1.88

### 3.2. *Resilience and Mobility*

To answer our first research question, we looked into rural resilience as a theme, various reasons triggering mobility into and out of rural areas and how mobility influences the resilience of individuals and rural populations. Firstly, the studies defined resilience as the ability of individuals, households, or communities to cope and adapt to retain functioning (Alam et al., 2016, 2017; Kokorsch, 2017; Salvia et al., 2019; Silva & Cardoso, 2017; Wu & Cebotari, 2018; Zwiers et al., 2018) or to thrive when exposed to atypical stress (Parra-Cardona et al., 2006;



Penman & Goel, 2017; Qu & Cheer, 2021; Singer et al., 2015; Steiner & Atterton, 2015). Resilience is used to describe the process, the results or both process and results of adaptation to external stressors using various resources (W. Liu et al., 2020; Rivera & Kapucu, 2015; Taylor & Behnke, 2005). Studies perceived resilience as a desirable outcome for people facing significant stressors (Koczberski et al., 2018; Raffaelli & Wiley, 2013; Wrathall, 2012; Wu & Cebotari, 2018).

The studies looked at resilience on different levels: individuals, households and communities. At the individual level, resilience was measured using different outcomes, including happiness (Chai et al., 2019), meeting basic psychological needs (Chai et al., 2019), increased self-esteem (Lan & Wang, 2019), and subjective well-being (Zhou et al., 2021). At the household level, studies measured resilience as a household's ability to adapt to climate and socio-economic changes using various strategies (Alam et al., 2016; Fan & Fan, 2021; Jamero et al., 2019; Penman & Goel, 2017; Salik et al., 2015) or to transform to a better livelihood, be more resourceful and better prepared (Parra-Cardona et al., 2006; Peth & Sakdapolrak, 2020; Sime & Aune, 2019; W. Liu et al., 2020). At the community level, resilience was defined as the ability of a community to anticipate, absorb, adapt, bounce back, and transform using community-level and external (e.g., government) resources (Jamero et al., 2019; Koczberski et al., 2018; Munn et al., 2018; Peters et al., 2018; Phelps & Kelly, 2019).

Various reasons triggered mobility into and out of rural areas. People leave rural areas for better livelihood (Moshy et al., 2015; Sime & Aune, 2019; Sultana et al., 2020), education and skill development (W. Liu et al., 2020; Sakdapolrak et al., 2014; Salik et al., 2015), jobs (Kokorsch & Benediktsson, 2018; H. Liu et al., 2020; Peters et al., 2018; Salik et al., 2015; Salvia et al., 2019; Silva & Cardoso, 2017), or as a strategy to adapt to environmental and sociocultural stress, particularly in developing countries (Alam et al., 2016, 2017; Islam & Walkerden, 2014; Kokorsch & Benediktsson, 2018; Phelps & Kelly, 2019). Some move to different places involuntarily (Jamero et al., 2019; W. Liu et al., 2020; Taiban et al., 2020). On the other hand, people move into rural areas to improve their livelihood (Koczberski et al., 2018; Parra-Cardona et al., 2006; Weber et al., 2014), be with their spouses (Penman & Goel, 2017), or live a rural lifestyle (Penman & Goel, 2017; Peters et al., 2018).

We found mobility played a significant role in the lives and resilience of rural individuals and populations. Mobility increases resilience in many cases and acts as a stressor in others. Mobility out of rural areas increases household resilience by bringing remittances (Adger et al., 2002; Rockenbauch & Sakdapolrak, 2017) or knowledge and information (Sakdapolrak et al., 2014; Silva & Cardoso, 2017). Similarly, mobility into rural areas also enhances individual resilience by providing individuals with better livelihoods, particularly in more developed areas with better employment opportunities (Parra-Cardona et al., 2006; Penman & Goel, 2017). Some studies found mobility of newcomers into rural areas increases community resilience in developed countries by bringing workforces and networks (Anthopoulou et al., 2017; Silva & Cardoso, 2017; Wilson et al., 2018b), increasing local economies (Peters et al., 2018; Wilson et al., 2018b; Qu & Cheer, 2021) and occupying vacant houses in rural areas (Peters et al., 2018). However, despite the positive effect on resilience, mobility also acts as a stressor for some populations. Multiple studies in China looked into the effects of parents' mobility out of rural areas on the mental health and well-being of left-behind children (Chai et al., 2019; Fan & Fan, 2021; Lan & Wang, 2019). Mobility out of rural areas also increased depopulation (Jamero et al., 2019; Steiner & Atterton, 2015) and prompted more closures of public services

(Kokorsch & Benediktsson, 2018). Furthermore, newcomers moving into rural areas face significant challenges during resettlement periods, including limited information regarding resources, marginalization and social exclusion (Anthopoulou et al., 2017; Connon, 2017; Raffaelli & Wiley, 2013).

### 3.3. *Protective Factors Influencing Rural Resilience*

Our second research question focused on identifying multisystemic protective factors influencing rural resilience affected by mobility. During our analysis, we found similarities in the factors influencing the resilience of individuals, households and communities, with some factors having stronger influences on some levels (see Table 3). Below are protective factors that increase the resilience of individuals and populations affected by mobility in rural areas.

Table 3. *Protective Factors Influencing Rural Resilience*

<b>Protective Factors</b>	<b>Impacts on individuals, households, or communities</b>
Internal traits	<i>Individual-level:</i> traits such as creativity, flexibility, decision-making, goal setting, self-efficacy, confidence, sense of identity, and motivation help individuals cope with challenges
Place attachment	<i>Individual-level:</i> enhances sense of identity <i>Community-level:</i> increases cohesion and stability
Information and knowledge	<i>Individual and household level:</i> provides tools to cope with challenges, such as by diversification <i>Community-level:</i> diversifies communities' livelihood and resources
Education	<i>Individual-level:</i> increases chances for more varied and better employment opportunities <i>Household-level:</i> a tool for diversification, e.g., access to higher institutional loans <i>Community-level:</i> higher education facilities prevent outmigration
Employment	<i>Individual-level:</i> help individuals gain insights and information, enhances social connection, empowerment. <i>Household-level:</i> households' livelihood security <i>Community-level:</i> local jobs prevent outmigration
Local enterprises	<i>Individual, household and community-level:</i> provide employment opportunities, increase connectedness; act as local hub; prevent outmigration and attract in-migration
Social networks	<i>Individual and household-level:</i> provide informal support, e.g., information and essential resources <i>Community resilience:</i> enhance community cohesion and integration
Remittances	<i>Household-level:</i> livelihood security; increase opportunity for income diversification

**Table 3 continued**

Leisure activities	<i>Individual-level:</i> obtaining knowledge of local environments, connecting with others, increasing place attachment
Natural and physical capital	<i>Household-level:</i> space and tools availability allow household diversification
Physical infrastructure and public services	<i>Individual-level:</i> provide a space to connect with others; provide resources  <i>Community-level:</i> provide a space where the community accessed resources and support, enhancing a sense of belonging and stability
Support from the government and non-government agencies	<i>Individual, household and community-level:</i> provide people with social welfare, financial support, training and advisory

**Internal traits.** Several internal traits enhance the resilience of individuals and households living in rural areas, including creativity (Connon, 2017; Qu & Cheer, 2021), flexibility (Connon, 2017; Koczberski et al., 2018; Wilson et al., 2018a; Wilson et al., 2018b), and strategic decision-making (Taiban et al., 2020). For newcomers, goal-setting, self-efficacy, self-confidence, a sense of identity, flexibility, respect for others, motivation, strong work ethic and perseverance help them adapt to the new areas (Connon, 2017; Parra-Cardona et al., 2006; Penman & Goel, 2017; Raffaelli et al., 2012; Raffaelli & Wiley, 2013; Taylor & Behnke, 2005).

**Place attachment.** At the individual level, place attachment, built through continuous engagement with the physical, social and cultural environment, enhances a sense of identity and provides meaning in difficult situations (Kokorsch & Benediktsson, 2018). It is more prominent in areas with good infrastructure and job opportunities and fewer social changes (Salik et al., 2015; Silva & Cardoso, 2017; F. Yang & Gu, 2020). Place attachment also increases community resilience by increasing cohesion and stability (Jurjonas & Seekamp, 2018; B. Yang et al., 2021; Zwiers et al., 2018). In communities with strong place attachment and identity, new ideas from newcomers need to be integrated into local cultures to be accepted (Connon, 2017; McLeod et al., 2018; Wilson, Schermer, et al., 2018b; Zwiers et al., 2018). Without this effort, newcomers bringing these ideas will be excluded, hindering newcomers' chance to contribute and integrate into the communities (Rivera & Kapucu, 2015; Zwiers et al., 2018).

**Information and knowledge.** Knowledge from education, previous experiences, and local wisdom helps individuals and households identify strategies to cope with difficulties and enhance their resilience (Alam et al., 2016; Connon, 2017; McLeod et al., 2018; Moshy et al., 2015; Silva & Cardoso, 2017; Taiban et al., 2020; Zwiers et al., 2018). Coping strategies are accumulated with age and time spent living in one area (Alam et al., 2016; Connon, 2017). Therefore, the need for information is high among newcomers (H. Liu et al., 2020; Penman & Goel, 2017). Effective information dissemination through formal and informal networks improves newcomers' resettlement experience and resilience (Parra-Cardona et al., 2006; Raffaelli & Wiley, 2013).

**Education.** At the individual level, education is one of the key factors in getting better jobs (Hu, 2019; Jamero et al., 2019), which increases well-being and self-efficacy (Parra-Cardona et al., 2006; Penman & Goel, 2017). However, some

places do not recognize overseas credentials, thus putting immigrants, especially women, at a disadvantage (Raffaelli et al., 2012; Raffaelli & Wiley, 2013; Taylor & Behnke, 2005). At the household level, education levels affect households' abilities for income and agricultural diversification and their chance of accessing institutional loans (Alam et al., 2016, 2017; Islam & Walkerden, 2014; Salik et al., 2015; Wilson et al., 2018a). For communities, the availability of higher-quality education facilities (Kokorsch & Benediktsson, 2018; Mutabazi et al., 2015; Peters et al., 2018; Phelps & Kelly, 2019; Rockenbauch et al., 2019; B. Yang et al., 2021) accompanied by diverse employment opportunities (Salvia et al., 2019; Siegmann, 2010) enhance adaptation strategies and prevent the outmigration of young people.

**Employment.** Employment in one's community provides individuals with better knowledge of the areas and connects them with others (Connon, 2017; Parra-Cardona et al., 2006; Raffaelli et al., 2012; Raffaelli & Wiley, 2013; Steiner & Atterton, 2015). For women, employment gives them empowerment and control over their lives (Wilson et al., 2018b). However, this is influenced by cultures and in areas with strong gender-based labour divisions, women are still marginalized and have limited options (Gautam, 2017; Islam & Walkerden, 2014; Taylor & Behnke, 2005; Wilson et al. 2018b). At the household level, the availability of diverse good-paying employment increases livelihood (Weber et al., 2014), preventing family members from leaving rural areas (Alam et al., 2016, 2017; Gautam, 2017; Islam & Walkerden, 2014; Mutabazi et al., 2015; Steiner & Atterton, 2015).

**Local enterprises.** At the community level, diverse and innovative enterprises enhance resilience by providing people in the community with employment opportunities and by enhancing community connectedness (Anthopoulou et al., 2017; Connon, 2017; Salvia et al., 2019; Sime & Aune, 2019; Steiner & Atterton, 2015; Taiban et al., 2020; Zwiers et al., 2018). Strategic decision-making (Taiban et al., 2020) and comprehensive institutional support are needed (Steiner & Atterton, 2015; Wrathall, 2012; Zwiers et al., 2018) to boost employment opportunities and support local businesses. The arrival of newcomers benefits local enterprises by providing them with human resources (Anthopoulou et al., 2017; Zwiers et al., 2018), new ideas, knowledge, and networks (Qu & Cheer, 2021; Wilson et al., 2018b), and attracting more visitors (W. Liu et al., 2020; Peters et al., 2018; Sakdapolrak et al., 2014).

**Social networks.** Connections and reciprocal exchange of support with family members, relatives (Hu, 2019), friends (Fan & Fan, 2021; Lan & Wang, 2019; H. Liu et al., 2020), and neighbours (Chai et al., 2019; Connon, 2017) are primary assets that increase individuals' resilience and well-being. These networks are even more crucial for newcomers with more limited knowledge and access to institutional support (Parra-Cardona et al., 2006; Raffaelli et al., 2012; Raffaelli & Wiley, 2013). At the household level, networks with migrating family members enhance households' livelihood through remittances (Adger et al., 2002; Gautam, 2017; Peth & Sakdapolrak, 2020; Rockenbauch & Sakdapolrak, 2017; G. A. Wilson et al., 2018b; Wrathall, 2012), while reciprocal exchanges help them obtain crucial resources (Anthopoulou et al., 2017; Koczberski et al., 2018; Raffaelli & Wiley, 2013; Zwiers et al., 2018). At the community level, community networks and participation in community events enhance integration between locals and newcomers (Peth & Sakdapolrak, 2020; Qu & Cheer, 2021; Rockenbauch et al., 2019; Salvia et al., 2019) and act as social control (Qu & Cheer, 2021; Singer et al., 2015). Networks between communities increase resilience by allowing communities to exchange resources (Salvia et al., 2019).

**Remittance.** Remittance allows rural households to meet their basic needs (Adger et al., 2002; Griffith, 2020; Salvia et al., 2019; Siegmann, 2010), diversify assets and resources and improve their livelihood (Adger et al., 2002; Sakdapolrak et al., 2014; Wilson et al., 2018b). However, studies found some negative consequences of remittance on rural households, e.g., increased debt to fund migrating family members (Gautam, 2017; Griffith, 2020), enhanced inequalities (Adger et al., 2002), and weakened social ties (Rockenbauch & Sakdapolrak, 2017; Wrathall, 2012).

**Leisure activities.** Doing leisure activities helps individuals gain knowledge of the local environments and connect them with community members, which enhances place attachment (Connon, 2017; Peth & Sakdapolrak, 2020; Qu & Cheer, 2021).

**Natural and physical capital.** At the household level, the availability of unused land and physical capital (e.g., transportation, farming tools) allows rural households to apply various adaptation strategies to enhance their livelihood, e.g., utilizing unused land for food gardening (Koczberski et al., 2018; W. Liu et al., 2020; Mutabazi et al., 2015; Silva & Cardoso, 2017).

**Good physical infrastructures and public services.** At the community level, basic infrastructures become the roots of the community that tie residents and increase a sense of belonging and stability. Community centers and schools provide residents and newcomers with a space to gather and exchange support. Nevertheless, the availability of one infrastructure needs to catch up with the increase in rural population numbers (Weber et al., 2014) and be supported by the availability of other basic infrastructures (Peters et al., 2018; Sakdapolrak et al., 2014; Salik et al., 2015; B. Yang et al., 2021). For example, in areas where everything is spread out, the availability of public transportation services might be crucial for people, especially newcomers without driver's licenses, who need to go to the community center, school, or hospital (Raffaelli & Wiley, 2013).

**Support from government and non-government agencies.** Support from government and non-government agencies, e.g., social welfare, flexible credits, specific grants, donations, and business practice improvements (e.g., training) and advisory (Alam et al., 2016, 2017; Griffith, 2020; Islam & Walkerden, 2014; Jamero et al., 2019; Phelps & Kelly, 2019; Sultana et al., 2020), influences the resilience of individuals, households, and communities. To increase rural resilience, these supports need to consider the community's needs (Peters et al., 2018; Qu & Cheer, 2021; Salik et al., 2015; Sime & Aune, 2019; Wilson et al., 2018b), be accessible to low-income individuals and households (Alam et al., 2016, 2017; Islam & Walkerden, 2014) and communicated effectively. The awareness of available formal support grows over time spent in the community. Locals are, therefore, more likely to utilize formal support than newcomers (Raffaelli et al., 2012; Raffaelli & Wiley, 2013).

## 4.0 Discussion

Our analysis found that rural resilience is defined differently, for example, as a process to function normally in the face of stressors (Koczberski et al., 2018; Wrathall, 2012), as an outcome (Hu, 2019; H. Liu et al., 2020), or a property of a community (Kokorsch, 2017; Mutabazi et al., 2015; Singer et al., 2015). A previous study by Heijman and colleagues (2019) defined rural resilience with a focus on regions and their capacity to adapt to external stressors, while Cox and Hamlen (2015) examined rural resilience as the ability of rural communities to face challenges and operationalized rural resilience using multiple domains (e.g., social fabric, community resources and disaster management). Aligned with the

multisystemic model of resilience framework (Ungar & Theron, 2020), our study found that rural resilience is influenced by several interconnected protective factors and measured on different levels (e.g., at household and individual levels).

We noted several factors that influence the resilience of individuals, households and communities affected by mobility in rural areas. Similar to McManus et al. (2012), we found rural identity, community networks, and education facilities to be some of the crucial factors that influence rural resilience, along with internal traits, agencies' support, information availabilities, and physical and natural capital. Our findings show that these protective factors are interconnected. For example, improvements in educational resources need to be followed by improvements in physical facilities (e.g., school facilities), employment opportunities and support from government and non-governmental agencies. This is aligned with Cicchetti and Curtis' (2007) argument regarding the importance of the relationship between factors influencing resilience. Similarly, Heijman et al. (2019) found that a change in one domain of protective factors affects other domains either concurrently or sequentially.

We found several factors co-occurring on different levels. As resilience is multifaceted and multilevel, resilience at one level has the potential to influence resilience at other levels (Shaw et al., 2016). For example, good education increases the resilience of individuals, households, and communities in rural areas. However, the resilience measured does not always transcend to other levels. Remittances sent by migrating family members enhance households' resilience but do not always enhance the resilience of left-behind women (Siegmann, 2010) or rural communities (Rockenbach et al., 2019). Resilience is a dynamic process in which systems interact differently based on specific contexts and is not limited to specific patterns (Berkes & Ross, 2016; Gunderson & Holling, 2002). Therefore, the conceptualization of rural resilience needs to account for the interconnectedness of its multisystemic factors and levels.

Lastly, we found the importance of protective factors to change over time. Some protective factors (e.g., information availability and informal social networks) are more meaningful for newcomers, while agencies' support and place attachment grow over time spent in one area, and thus are more salient for locals. As a dynamic process, protective factors that influence resilience are varied across time and circumstances (Stainton et al., 2019; Werner, 2005). Consequently, researchers and policymakers need to mind the effect of each protective factor over time (Yates et al., 2003).

#### **4.1. Recommendations**

Based on our findings, we proposed the following recommendations for future studies of resilience and for policymakers seeking to improve the resilience of rural communities. We recommend future studies to focus on how co-occurring systems influence resilience and the interactions between the factors associated with the resilience of individuals, households, and communities in rural areas. It is crucial to concentrate on the interactions between factors and between levels (i.e., individuals, households, and community) when applying resilience frameworks. It is also valuable to conduct future studies that include non-English publications, as we limited our studies to manuscripts written in English.

To enhance the resilience of rural populations, policymakers need to focus on strategies that: (1) *focus on improving newcomers' integration with locals and acceptance from local communities* to enhance community connectedness and the resilience of individuals and rural populations, and (2) *take into account the*

*interconnectedness of each risk and protective factor and process* by making sure that improvements in one area are followed by improvements in others to make them meaningful. For example, improvement in education facilities needs to be supported with employment availability and good basic infrastructures. Also, researchers and policymakers should take into account the types of population (e.g., locals, newcomers) when providing resources and support.

#### **4.1. Limitations**

Our study has several limitations. We used rigorous methods and a broad search of the literature to ensure the breadth of our review and had two independent reviewers screen the manuscripts. However, we did not analyze the methodological quality of each manuscript as it was not within the scope of this review. Also, our review may not have identified all published studies despite our attempts to search multiple databases. Our decision to limit the search to empirical manuscripts and exclude grey literature may have hindered us from identifying more relevant studies. By including only articles published in English, we also limited our findings.

### **5.0 Conclusion**

Our findings indicate that despite a significant increase in publication numbers since 2010, better conceptualizations and operationalization of rural resilience are needed. Studies need to take into account the interconnectedness of resilience factors and the co-occurrence of factors across multiple systems when examining rural resilience. Decision-makers also need to put the interconnectedness and co-occurrence of these factors into consideration when designing policies and programs to improve rural resilience.

### **References**

- Adam-Hernández, A., & Harteisen, U. (2020). A proposed framework for rural resilience – How can peripheral village communities in Europe shape change? *Ager. Revista de Estudios Sobre Despoblación y Desarrollo Rural*, 28, 7–42. <https://doi.org/10.4422/ager.2019.05>
- Adger, W., Kelly, P., Winkels, A., Huy, L., & Locke, C. (2002). Migration, remittances, livelihood trajectories, and social resilience. *Ambio, A Journal of the Human Environment*, 31(4), 358–366. <https://doi.org/10.1579/0044-7447-31.4.358>
- Alam, G. M. M., Alam, K., & Mushtaq, S. (2016). Influence of institutional access and social capital on adaptation decision: Empirical evidence from hazard-prone rural households in Bangladesh. *Ecological Economics*, 130, 243–251. <https://doi.org/10.1016/j.ecolecon.2016.07.012>
- Alam, G. M. M., Alam, K., & Mushtaq, S. (2017). Climate change perceptions and local adaptation strategies of hazard-prone rural households in Bangladesh. *Climate Risk Management*, 17, 52–63. <https://doi.org/10.1016/j.crm.2017.06.006>
- Anthopoulou, T., Kaberis, N., & Petrou, M. (2017). Aspects and experiences of crisis in rural Greece. Narratives of rural resilience. *Journal of Rural Studies*, 52, 1–11. <https://doi.org/10.1016/j.jrurstud.2017.03.006>
- Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19–32. <https://doi.org/10.1080/1364557032000119616>

- Bennett, K. J., Borders, T. F., Holmes, G. M., Kozhimannil, K. B., & Ziller, E. (2019). What is rural? Challenges and implications of definitions that inadequately encompass rural people and places. *Health Affairs*, 38(12), 1985–1992. <https://doi.org/10.1377/hlthaff.2019.00910>
- Berkes, F., & Ross, H. (2016). Panarchy and community resilience: Sustainability science and policy implications. *Environmental Science & Policy*, 61, 185–193. <https://doi.org/10.1016/j.envsci.2016.04.004>
- Camarero, L., Cruz, F., & Oliva, J. (2016). Rural sustainability, inter-generational support and mobility. *European Urban and Regional Studies*, 23(4), 734–749. <https://doi.org/10.1177/0969776414539338>
- Chai, X., Li, X., Ye, Z., Li, Y., & Lin, D. (2019). Subjective well-being among left-behind children in rural China: The role of ecological assets and individual strength. *Child: Care, Health and Development*, 45(1), 63–70. <https://doi.org/10.1111/cch.12630>
- Cicchetti, D., & Curtis, W. J. (2007). Multilevel perspectives on pathways to resilient functioning. *Development and Psychopathology*, 19(3), 627–629. <https://psycnet.apa.org/doi/10.1017/S0954579407000314>
- Connon, I. L. C. (2017). Extreme weather, complex spaces and diverse rural places: An intra-community scale analysis of responses to storm events in rural Scotland, UK. *Journal of Rural Studies*, 54, 111–125. <https://doi.org/10.1016/j.jrurstud.2017.06.015>
- Cox, R. S., & Hamlen, M. (2015). Community disaster resilience and the rural resilience index. *American Behavioral Scientist*, 59(2), 220–237. <https://doi.org/10.1177/0002764214550297>
- Cutter, S. L., Ash, K. D., & Emrich, C. T. (2016). Urban-rural differences in disaster resilience. *Annals of the American Association of Geographers*, 106(6), 1236–1252. <https://doi.org/10.1080/24694452.2016.1194740>
- 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). <https://doi.org/10.2202/1547-7355.1732>
- Dasgupta, P., Morton, J., Dodman, D., Karapinar, B., Meza, F., Rivera-Ferre, M. G., Toure Sarr, A., & Vincent, K. E. (2014). Rural areas. In C. B. Field, V. R. Barros, D. J. Dokken, K. J. Mach, M. D. Mastrandrea, T. E. Bilir, M. Chatterjee, K. L. Ebi, Y. O. Estrada, R. C. Genova, B. Girma, E. S. Kissel, A. N. Levy, S. MacCracken, P. R. Mastrandrea, & L. L. White (Eds.), *Climate change 2014: Impacts, adaptation, and vulnerability* (pp. 613–657). Cambridge University Press.
- Fan, Z. Y., & Fan, X. H. (2021). Effect of social support on the psychological adjustment of Chinese left-behind rural children: A moderated mediation model. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.604397>
- Gautam, Y. (2017). Seasonal migration and livelihood resilience in the face of climate change in Nepal. *Mountain Research and Development*, 37(4), 436–445. <https://doi.org/10.1659/MRD-JOURNAL-D-17-00035.1>
- Gray, C. L., & Mueller, V. (2012). Natural disasters and population mobility in Bangladesh. *Proceedings of the National Academy of Sciences*, 109(16), 6000–6005. <https://doi.org/10.1073/pnas.1115944109>



- Griffith, D. (2020). The value of reproduction: Multiple livelihoods, cultural labour, and immigrants in Iowa and North Carolina. *Ethnic and Racial Studies*, 43(1), 142–160. <https://doi.org/10.1080/01419870.2019.1667509>
- Gunderson, L. H., & Holling, C. S. (2002). *Panarchy: Understanding transformations in human and natural systems*. Island Press.
- Hart, L. G., Larson, E. H., & Lishner, D. M. (2005). Rural definitions for health policy and research. *American Journal of Public Health*, 95(7), 1149–1155. <https://doi.org/10.2105/AJPH.2004.042432>
- Heijman, W., Hagelaar, G., & van der Heide, M. (2019). Rural resilience as a new development concept. In L. Dries, W. Heijman, R. Jongeneel, K. Purnhagen, & J. Wesseler (Eds.), *EU bioeconomy economics and policies: Volume II* (pp. 195–211). Palgrave Macmillan.
- Hu, S. (2019). “It’s for our education”: Perception of parental migration and resilience among left-behind children in rural China. *Social Indicators Research*, 145(2), 641–661. <https://doi.org/10.1007/s11205-017-1725-y>
- Islam, R., & Walkerden, G. (2014). How bonding and bridging networks contribute to disaster resilience and recovery on the Bangladeshi coast. *International Journal of Disaster Risk Reduction*, 10, 281–291. <https://doi.org/10.1016/j.ijdrr.2014.09.016>
- Jamero, M. L., Onuki, M., Esteban, M., Chadwick, C., Tan, N., Valenzuela, V. P., Crichton, R., & Avelino, J. E. (2019). In-situ adaptation against climate change can enable relocation of impoverished small islands. *Marine Policy*, 108, 103614. <https://doi.org/10.1016/j.marpol.2019.103614>
- Jurjonas, M., & Seekamp, E. (2018). Rural coastal community resilience: Assessing a framework in eastern North Carolina. *Ocean & Coastal Management*, 162, 137–150. <https://doi.org/10.1016/j.ocecoaman.2017.10.010>
- Kim, G., Kang, W., & Lee, J. (2020). Knowledge structures and components of rural resilience in the 2010s: Conceptual development and implications. *Sustainability*, 12(22), 9769. <https://doi.org/10.3390/su12229769>
- Koczberski, G., Curry, G. N., Bue, V., Germis, E., Nake, S., & Tilden, G. M. (2018). Diffusing risk and building resilience through innovation: Reciprocal exchange relationships, livelihood vulnerability and food security amongst smallholder farmers in Papua New Guinea. *Human Ecology*, 46(6), 801–814. <https://doi.org/10.1007/s10745-018-0032-9>
- Kokorsch, M. (2017). The tides they are a changin’: Resources, regulation, and resilience in an Icelandic coastal community. *Journal of Rural and Community Development*, 12(2/3), 59–73.
- Kokorsch, M., & Benediktsson, K. (2018). Where have all the people gone? The limits of resilience in coastal communities. *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography*, 72(2), 97–114. <https://doi.org/10.1080/00291951.2018.1450289>
- Labonte, R. (2004). Globalization, health, and the free trade regime: Assessing the links. *Perspectives on Global Development and Technology*, 3(1), 47–72. <https://doi.org/10.1163/1569150042036710>
- Lan, X., & Wang, W. (2019). Direct and interactive effects of peer support and resilience on psychosocial adjustment in emerging adults with early left-behind experiences. *Psychology Research and Behavior Management*, 12, 277–288. <https://doi.org/10.2147/PRBM.S202774>

- Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: Advancing the methodology. *Implementation Science*, 5(1), 1–9. <https://doi.org/10.1186/1748-5908-5-69>
- Liu, H., Liu, L., & Jin, X. (2020). The impact of parental remote migration and parent-child relation types on the psychological resilience of rural left-behind children in China. *International Journal of Environmental Research and Public Health*, 17(15), 5388. <https://doi.org/10.3390/ijerph17155388>
- Liu, W., Li, J., Ren, L. J., Xu, J., Li, C., & Li, S. Z. (2020). Exploring livelihood resilience and its impact on livelihood strategy in rural China. *Social Indicators Research*, 150(3), 977–998. <https://doi.org/10.1007/s11205-020-02347-2>
- Mallee, H. (1995). In defence of migration: Recent Chinese studies on rural population mobility. *China Information*, 10(3–4), 108–140. <https://doi.org/10.1177/0920203X9501000305>
- McLeod, E., Arora-Jonsson, S., Masuda, Y. J., Bruton-Adams, M., Emaurois, C. O., Gorong, B., Hudlow, C. J., James, R., Kuhlken, H., Masike-Liri, B., Musrasrik-Carl, E., Otselberger, A., Relang, K., Reyuw, B. M., Sigrah, B., Stinnett, C., Tellei, J., & Whitford, L. (2018). Raising the voices of Pacific Island women to inform climate adaptation policies. *Marine Policy*, 93, 178–185. <https://doi.org/10.1016/j.marpol.2018.03.011>
- McManus, P., Walmsley, J., Argent, N., Baum, S., Bourke, L., Martin, J., Pritchard, B., & Sorensen, T. (2012). Rural community and rural resilience: What is important to farmers in keeping their country towns alive. *Journal of Rural Studies*, 28(1), 20–29. <https://doi.org/10.1016/j.jrurstud.2011.09.003>
- Moshy, V. H., Bryceson, I., & Mwaipopo, R. (2015). Social-ecological changes, livelihoods and resilience among fishing communities in Mafia Island Marine Park, Tanzania. *Forum for Development Studies*, 42(3), 529–553. <https://doi.org/10.1080/08039410.2015.1065906>
- Munn, Z., Peters, M. D. J., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, 18(1), 143. <https://doi.org/10.1186/s12874-018-0611-x>
- Mutabazi, K. D., Amjath-Babu, T. S., & Sieber, S. (2015). Influence of livelihood resources on adaptive strategies to enhance climatic resilience of farm households in Morogoro, Tanzania: An indicator-based analysis. *Regional Environmental Change*, 15(7), 1259–1268. <https://doi.org/10.1007/s10113-015-0800-7>
- Norris-Baker, C. (1999). Aging on the old frontier and the new: A behavior setting approach to the declining small towns of the Midwest. *Environment and Behavior*, 31(2), 240–258. <https://doi.org/10.1177/00139169921972083>
- Parra-Cardona, J. R., Bullock, L. A., Imig, D. R., Villarruel, F. A., & Gold, S. J. (2006). “Trabajando Duro Todos Los Dias”: Learning from the Life Experiences of Mexican-Origin Migrant Families. *Family Relations*, 55(3), 361–375. <https://psycnet.apa.org/doi/10.1111/j.1741-3729.2006.00409.x>

- Penman, J., & Goel, K. (2017). Coping and resilience of rural and regional Australian immigrants: Imperatives for successful settlement. *Rural Society*, 26(2), 178–193. <https://doi.org/10.1080/10371656.2017.1339406>
- Peters, M. D. J., Godfrey, C. M., Khalil, H., McInerney, P., Parker, D., & Soares, C. B. (2015). Guidance for conducting systematic scoping reviews. *JBIEvidence Implementation*, 13(3), 141–146. <https://doi.org/10.1097/XEB.0000000000000050>
- Peters, P. A. (2019). Broadening the narrative on rural health: From disadvantage to resilience. *University of Toronto Medical Journal*, 96(2), 41–43.
- Peters, P., Carson, D., Porter, R., Vuin, A., & Ensign, P. (2018). My village is dying? Integrating methods from the inside out. *Canadian Review of Sociology-Revue Canadienne De Sociologie*, 55(3), 451–475. <https://doi.org/10.1111/cars.12212>
- Peth, S. A., & Sakdapolrak, P. (2020). Resilient family meshwork. Thai-German migrations, translocal ties, and their impact on social resilience. *Geoforum*, 114, 19–29. <https://doi.org/10.1016/j.geoforum.2020.05.019>
- Pham, M. T., Rajić, A., Greig, J. D., Sargeant, J. M., Papadopoulos, A., & McEwen, S. A. (2014). A scoping review of scoping reviews: Advancing the approach and enhancing the consistency. *Research Synthesis Methods*, 5(4), 371–385. <https://doi.org/10.1002/jrsm.1123>
- Phelps, D., & Kelly, D. (2019). Overcoming drought vulnerability in rangeland communities: Lessons from central-western Queensland. *Rangeland Journal*, 41(3), 251–270. <https://doi.org/10.1071/RJ18052>
- Qu, M., & Cheer, J. M. (2021). Community art festivals and sustainable rural revitalisation. *Journal of Sustainable Tourism*, 12, p.11-12. <https://doi.org/10.1080/09669582.2020.1856858>
- Raffaelli, M., Tran, S. P., Wiley, A. R., Galarza-Heras, M., & Lazarevic, V. (2012). Risk and resilience in rural communities: The experiences of immigrant Latina mothers. *Family Relations*, 61(4), 559–570. <https://psycnet.apa.org/doi/10.1111/j.1741-3729.2012.00717.x>
- Raffaelli, M., & Wiley, A. R. (2013). Challenges and strengths of immigrant Latino families in the rural Midwest. *Journal of Family Issues*, 34(3), 347–372. <https://doi.org/10.1177/0192513X11432422>
- Ratcliffe, M., Burd, C., Holder, K., & Fields, A. (2016, December 8). *Defining rural at the US Census Bureau*. American Community Survey and Geography Brief. <https://www.census.gov/content/dam/Census/library/publications/2016/acs/acsgeo-1.pdf>
- Rivera, F. I., & Kapucu, N. (2015). *Disaster vulnerability, hazards and resilience: Perspectives from Florida*. *Environmental Hazards series*. New York and Heidelberg: Springer.
- Rockenbauch, T., & Sakdapolrak, P. (2017). Social networks and the resilience of rural communities in the Global South: A critical review and conceptual reflections. *Ecology and Society*, 22(1). <http://www.jstor.org/stable/26270110>

- Rockenbauch, T., Sakdapolrak, P., & Sterly, H. (2019). Beyond the local - Exploring the socio-spatial patterns of translocal network capital and its role in household resilience in Northeast Thailand. *Geoforum*, 107, 154–167. <https://doi.org/10.1016/j.geoforum.2019.09.009>
- Sakdapolrak, P., Promburom, P., & Reif, A. (2014). Why successful *in situ* adaptation with environmental stress does not prevent people from migrating? Empirical evidence from Northern Thailand. *Climate and Development*, 6(1), 38–45. <https://doi.org/10.1080/17565529.2013.826129>
- Salik, K. M., Jahangir, S., Zahdi, W. ul Z., & Hasson, S. ul. (2015). Climate change vulnerability and adaptation options for the coastal communities of Pakistan. *Ocean & Coastal Management*, 112, 61–73. <https://doi.org/10.1016/j.ocecoaman.2015.05.006>
- Salvia, R., Kelly, C. L., Wilson, G. A., & Quaranta, G. (2019). A longitudinal approach to examining the socio-economic resilience of the Aliento District (Italy) to land degradation—1950 to present. *Sustainability*, 11(23), 6762. <https://doi.org/10.3390/su11236762>
- Shaw, J., McLean, K., Taylor, B., Swartout, K., & Querna, K. (2016). Beyond resilience: Why we need to look at systems too. *Psychology of Violence*, 6, 34–41. <https://doi.org/10.1037/vio0000020>
- Siegmann, K. A. (2010). Strengthening whom? The role of international migration for women and men in Northwest Pakistan. *Progress in Development Studies*, 10(4), 345–361. <https://doi.org/10.1177/146499340901000406>
- Silva, M. C., & Cardoso, A. (2017). Crisis and the impacts of crisis on the inhabitants of rural space: The case of a village in North West Portugal. *Cuadernos De Desarrollo Rural*, 14(79). <https://doi.org/10.11144/Javeriana.cdr14-79.cici>
- Sime, G., & Aune, J. B. (2019). Rural livelihood vulnerabilities, coping strategies and outcomes: A case study in central rift valley of Ethiopia. *African Journal of Food, Agriculture, Nutrition & Development*, 19(3), 14602–14621. <https://doi.org/10.18697/ajfand.86.16815>
- Singer, J., Hoang, H., & Ochiai, C. (2015). Post-displacement community resilience: Considering the contribution of indigenous skills and cultural capital among ethnic minority Vietnamese. *Asia Pacific Viewpoint*, 56(2), 208–222. <https://doi.org/10.1111/apv.12057>
- Stainton, A., Chisholm, K., Kaiser, N., Rosen, M., Upthegrove, R., Ruhrmann, S., & Wood, S. J. (2019). Resilience as a multimodal dynamic process. *Early Intervention in Psychiatry*, 13(4), 725–732. <https://doi.org/10.1111/eip.12726>
- Steiner, A., & Atterton, J. (2015). Exploring the contribution of rural enterprises to local resilience. *Journal of Rural Studies*, 40, 30–45. <https://doi.org/10.1016/j.jrurstud.2015.05.004>
- Sultana, P., Thompson, P. M., & Wesselink, A. (2020). Coping and resilience in riverine Bangladesh. *Environmental Hazards-Human and Policy Dimensions*, 19(1), 70–89. <https://doi.org/10.1080/17477891.2019.1665981>
- Taiban, S., Lin, H. N., & Ko, C. C. (2020). Disaster, relocation, and resilience: Recovery and adaptation of Karamemedesane in Lily Tribal Community after Typhoon Morakot, Taiwan. *Environmental Hazards*, 19(2), 209–222. <https://doi.org/10.1080/17477891.2019.1708234>

- Taylor, B. A., & Behnke, A. (2005). Fathering Across the Border: Latino Fathers in Mexico and the U.S. Fathering: A Journal of Theory, Research & Practice about Men as Fathers, 3(2), 99–120. <https://doi.org/10.3149/fth.0302.99>
- Tebboth, M. G. L., Conway, D., & Adger, W. N. (2019). Mobility endowment and entitlements mediate resilience in rural livelihood systems. *Global Environmental Change-Human and Policy Dimensions*, 54, 172–183. <https://doi.org/10.1016/j.gloenvcha.2018.12.002>
- Ungar, M., & Theron, L. (2020). Resilience and mental health: How multisystemic processes contribute to positive outcomes. *The Lancet Psychiatry*, 7(5), 441–448. [https://doi.org/10.1016/s2215-0366\(19\)30434-1](https://doi.org/10.1016/s2215-0366(19)30434-1)
- van Dijk, H., Foeken, D., & van Til, K. (2001). Population mobility in Africa: An overview. In M. E. deBruijn, D. W. J. Foeken, & R. A. van Dijk (Eds.), *Mobile Africa: Changing patterns of movement in Africa and beyond* (pp. 9–26). Leiden, Netherlands: Brill.
- Ward, N., & Brown, D. L. (2009). Placing the rural in regional development. *Regional Studies*, 43(10), 1237–1244. <https://doi.org/10.1080/00343400903234696>
- Weber, B. A., Geigle, J., & Barkdull, C. (2014). Rural North Dakota's oil boom and its impact on social services. *Social Work*, 59(1), 62–72. <https://doi.org/10.1093/sw/swt068>
- Werner, E. E. (2005). Resilience Research. In R. DeV. Peters, B. Leadbeater, & R. J. McMahon (Eds.), *Resilience in children, families, and communities: Linking context to practice and policy* (pp. 3–11). Springer US. [https://doi.org/10.1007/0-387-23824-7\\_1](https://doi.org/10.1007/0-387-23824-7_1)
- Wilson, G. A., Hu, Z., & Rahman, S. (2018a). Community resilience in rural China: The case of Hu Village, Sichuan Province. *Journal of Rural Studies*, 60, 130. <https://doi.org/10.1016/j.jrurstud.2018.03.016>
- Wilson, G. A., Schermer, M., & Stotten, R. (2018b). The resilience and vulnerability of remote mountain communities: The case of Vent, Austrian Alps. *Land Use Policy*, 71, 372. <https://doi.org/10.1016/j.landusepol.2017.12.022>
- Wu, Q. B., & Cebotari, V. (2018). Experiences of migration, parent-child interaction, and the life satisfaction of children in Ghana and China. *Population Space and Place*, 24(7). <https://doi.org/10.1002/psp.2160>
- Yang, B., Feldman, M. W., & Li, S. (2021). The status of family resilience: Effects of sustainable livelihoods in rural China. *Social Indicators Research*, 153(3), 1041–1064. <https://doi.org/10.1007/s11205-020-02518-1>
- Yang, F., & Gu, D. (2020). Predictors of loneliness incidence in Chinese older adults from a life course perspective: A national longitudinal study. *Aging & Mental Health*, 24(6), 879–888. <https://doi.org/10.1080/13607863.2018.1558174>
- Yates, T. M., Egeland, B., & Sroufe, L. A. (2003). Rethinking resilience: A developmental process perspective. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 243–266). Cambridge University Press. <https://doi.org/10.1017/CBO9780511615788.012>

- Young, A. (2013). Inequality, the urban-rural gap, and migration\*. *The Quarterly Journal of Economics*, 128(4), 1727–1785. <https://doi.org/10.1093/qje/qjt025>
- Zhou, Y., Yu, N. X., Dong, P., & Zhang, Q. (2021). Dyadic associations between grandparent–child relationship quality and well-being in Chinese left-behind families: Mediating role of resilience. *Journal of Happiness Studies*, 22(4), 1889–1904. <https://doi.org/10.1007/s10902-020-00300-1>
- Zwiers, S., Markantoni, M., & Strijker, D. (2018). The role of change - and stability-oriented place attachment in rural community resilience: A case study in south-west Scotland. *Community Development Journal*, 53(2), 281–300. <https://doi.org/10.1093/cdj/bsw020>