

## **Understanding of the Transformational Rural Actors' Behaviors: A review**

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### **Abstract**

Rural actors' behavior is crucial to materializing top-down rural development policies, albeit the rural physical planning. However, studies on detailed perspectives of rural actors' behavior in response to complex stimuli are limited, particularly in the types of transformational rural actors' behaviors. Specifically, this study aims to understand rural actors' behaviors in transforming rural development. The systematic literature review methodology was applied. The findings revealed five themes: economy, environment, psychology, social, and technology—as the stimuli perspectives of transformational rural actors' behaviors (TRAB) that shed light on rural transformation. This study contributes to synthesizing a new framework for conceptualizing transformational actors' behaviors in rural development initiatives.

**Keywords:** behavioral study; rural development; rural transformation agenda; social cohesion

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### **1.0 Introduction**

Rural development, though less prioritized than urban areas and the rural population is projected at about one-third (32%) by 2050 (United Nations Development Programme, 2018), is still vital for balanced spatial, social and environmental capital growth. Developed and developing countries often undertake transformative efforts to bridge rural-urban gaps to achieve inclusive, sustainable rural prosperity (Mallawaarachchi & Rahut, 2023). This disconnect highlights the need to understand rural actors' behavior in responding to these challenges. While previous rural studies have explored factors influencing rural actors' behaviors, it has largely focused on outcomes, i.e., limited economic growth opportunities, income disparities, migration and lower birth rates, the aging rural population and declining youth presence, lower educational attainment and ideal rural transformation rather than the nature and scope of these behaviors (Bennett et al., 2019; Trask, 2022).

For example, the United Nations Development Programme (2018) studied world demography and found a weak connection between rural and urban areas due to the rural communities' ability to benefit from urban growth, which affects economic growth opportunities. Another study by the Department of Statistics Malaysia (2023) found that income disparities between rural and urban discourage

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community engagement in rural development, leading many to migrate to cities for better opportunities. Moreover, Kavan (2022) found that due to migration and lower birth rates, the aging rural population and declining youth presence further complicate rural transformation efforts in Papua New Guinea. Gladek et al. (2017) in studying performance of the global food system: its inputs, outputs, impacts, structure, and behaviour, discovered that the rural development outcomes such as lower educational attainment and limited economic opportunities are hindering the transformation of rural area globally. Rashid et al. (2023) have made an effort to conceptualize the ideal type of rural transformation in Malaysia towards smart, liveable, and resilient modern rural through the elements of physical development, infrastructure improvement, and technology application. Still, from Rashid et al.'s (2023) findings, the importance of rural actors' behavior has been identified, but it remains unexplored.

Therefore, despite the above insights, the scopes and transformational nature of rural actors' behaviors in response to complex stimuli, i.e., economic, social, environmental, or technological contexts, need to be studied to fill the research gaps of rural actors' behavior context (Pappalardo et al., 2022; Rashid et al., 2023). This study aims to understand transformational rural actors' behaviors from a literature review approach. Clarifying the meaning of rural actors' behaviors and their responses to complex stimuli is largely under exploration from the literature. More importantly, this review approach offered a conceptualized framework for rural actors' behavior in bridging the implementation of the national rural transformation agendas. The next sections explain the research methodology of the systematic literature review, followed by thematic findings and conceptualization of transformational rural actors' behaviours framework. The final section discussed the limitation and put the contribution perspectives, particularly in the area of rural and behavioral studies.

## 2.0 Methodology

A systematic literature review (SLR) is a rigorous scientific method for exploring emerging topics (Moher et al., 2009). Previous studies, such as Salemin et al. (2017) on rural development in the digital age, have utilized SLR. This study follows the PRISMA guidelines for conducting SLRs.

### 2.1 Search Strategy

A search strategy was conducted using Google Scholar to access scholarly articles, reports, and case studies due to its broad reach. Previous studies, like Farmer et al. (2015), have found Google Scholar effective alongside other databases for rural study review. Search strings related to behavioral perspectives were applied using keywords (see Table 1). The search took place from July to mid-August 2024.

Table 1. The selection of keywords and results of the search

Keywords	Search	Exclusion of patents and citations	Records after patents and citations were removed
Actors' behaviors	5310	480	4830
Actors' behaviours	2800	30	2770
Rural actor	261	8	253
Rural actors	5090	130	4960
Rural behavior	504	72	432
Rural behaviors	125	7	118
Rural behaviour	294	21	273
Rural behaviours	66	2	64
Total	14450	750	13700

Note: The advanced search setting in Google Scholar includes 1) finding articles with the exact phrase, where the words occur in the title of the article, and no limitation on return articles authored by, published in and dated between. (Source: authors)

### 2.2 Inclusion and exclusion criteria in the stage of Identification

The studies needed to focus on examining rural actors' behaviors, particularly their knowledge and practices within the context of rural development. These behaviors could encompass economic, social, environmental, and other aspects. Additionally, there is no date limitation on selected studies published, but limited in English or Malay languages. These criteria ensured that the studies provided valuable insights into the diverse behaviors of rural actors and their impact on rural development. Urban-focused studies and those without a direct link to rural settings were excluded. Only full-text studies were considered to ensure comprehensive analysis. These exclusion criteria helped ensure that the selected studies remained closely aligned with the research objectives and upheld high standards of quality and relevance.

### 2.3 Data extraction

During the data extraction phase, studies identified through keyword searches were compiled into an Excel file. Duplicate entries were manually removed, especially from Google Scholar, which lacks advanced filters and may miss indexing reputable publications. Irrelevant materials were excluded. To address gaps where initial articles did not directly focus on rural actors' behavior, a backward-forward search strategy was used to find additional relevant articles, ensuring alignment with the focus on rural actors' behaviors.

### 2.4 Data inclusion and analysis

The authors conducted a thematic analysis of the selected articles, using line-by-line coding to classify similar concepts under a common label. As Moher et al. (2009) noted, the systematic reviewers did not guarantee the assessment or interpretation of the content's

appropriateness. Thus, the authors transparently reported potential biases across the selected studies, relying on qualitative judgment to interpret content and extract relevant themes for the research. Thematic analysis was conducted on 128 selected papers with the search process shown in Fig. 1. A full list of the reviewed articles can be found at the following Google Drive link.

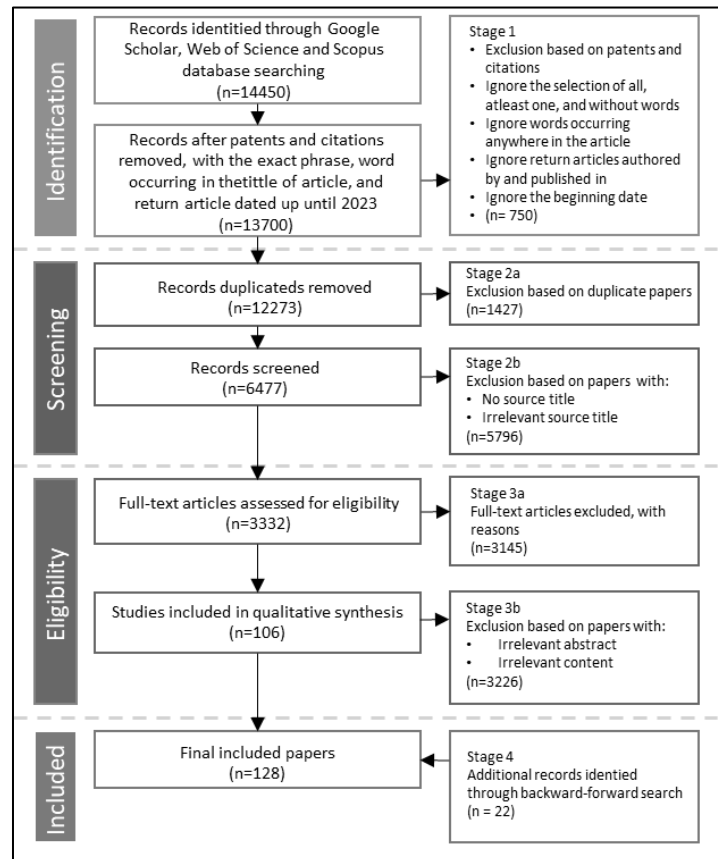


Fig. 1. The execution stages of the systematic literature review (Source: adapted from Moher et al. (2009))

### 3.0 Findings

#### 3.1 The perspectives of rural actors' behavior

Rural actors' behavior encompasses individuals' actions in response to stimuli, ranging from simple reflexes to complex patterns shaped by various factors. This complexity stems from diverse cultural, environmental, and social influences, making the study of human behavior particularly challenging (Yu et al., 2019). The following are the five perspectives of rural actor's behavior identified from the articles reviewed.

##### *Economic perspective*

Behavior in economics involves the actions and decisions of individuals, firms, and other agents based on incentives, constraints, and market conditions. Studies show how rural actors' economic behaviors influence agricultural productivity, entrepreneurship, and labor markets, driving rural development. Investments in agricultural efficiency (FAO & IISD, 2020) and understanding factors like technology and environment (Liliane & Charles, 2020) improve productivity. Rural entrepreneurship benefits from understanding local contexts (Müller & Korsgaard, 2018), with involvement driving local economies. Labor dynamics, such as addressing unemployment and migration (Dziamulych et al., 2020), shape rural resilience. Financial literacy boosts rural economies, with improved access to financial services (Hasan et al., 2023). Active market participation by small-scale farmers supports economic progress (Kyaw et al., 2018). Income diversification enhances household welfare, especially in developing regions (Watema et al., 2022). Engaging in poverty alleviation programs strengthens community well-being (Liu et al., 2018). Career-focused education fosters rural youth readiness for local jobs (Herbst, 2020). Finally, targeted job creation, such as involving youth in agriculture, sustains rural economies (Tarekegn et al., 2022).

##### *Environmental perspective*

Behavior refers to how individuals or groups act toward the environment, affecting ecosystems, resources, and environmental issues. includes diverse aspects like sustainable land management, climate adaptation, and promoting eco-friendly practices. Liu (2018) emphasizes the role of comprehensive land use strategies in addressing rural decline and land use challenges. Climate adaptation is

another crucial behavior, as shown by Arnall (2019), who studies the relocation of rural communities in Africa and Asia to mitigate climate risks. Environmental awareness is vital, as Qing et al. (2022) highlight how farmers' knowledge influences their environmental actions. Supporting biodiversity is also important, as Wei et al. (2018) illustrate through conservation efforts in East Africa that balance community needs with preservation goals. Prioritizing energy efficiency is key, with Juan et al. (2018) identifying the role of better infrastructure in reducing energy use in rural China. Promoting ecotourism, as Adom (2019) notes, helps sustain cultural practices while boosting local economies. Engaging in environmental governance, discussed by Arney et al. (2023), ensures inclusive decision-making. Lastly, implementing Good Agricultural Practices (GAP) is essential for sustainable farming, as Jayne et al. (2019) suggest, emphasizing productivity without environmental degradation. These elements collectively underscore the multifaceted environmental behaviors of rural actors.

#### *Psychology perspective*

From a psychological perspective, behaviors include observable actions, responses, and internal processes results from interactions between individuals and their environment, shaped by genetics, cognition, emotions, social interactions, and experiences. A strong sense of belonging is essential for rural identity, shaping the psychological behaviors of rural residents. For example, newcomers integrate into rural communities through active participation, strengthening their connection to the area (Haartsen & Stockdale, 2018). Rural well-being, including mental health, requires a holistic approach. Studies show that environmental factors, such as extreme climate events, can affect mental health in rural areas (Batterham et al., 2022). Coping strategies are crucial, with social networks and employment opportunities helping rural households manage challenges (Gao & Mills, 2018). Decision-making is influenced by factors like environmental responsibility, impacting behaviors such as waste management (Jia et al., 2021). Rural life satisfaction is shaped by elements like housing and social ties, affecting overall happiness (Tong et al., 2020). Adaptability is also vital, allowing communities to adjust to social and economic changes, promoting resilience (Lv et al., 2021). Healthy lifestyle habits improve well-being, with tailored strategies needed for rural populations (Liao et al., 2023). Additionally, strong religious beliefs provide psychological support and enhance resilience in rural settings (Han et al., 2020). These aspects collectively shape the psychological behaviors of rural residents.

#### *Social perspective*

Social behavior in rural communities involve how individuals or groups act and interact within a social setting can be influenced by various factors. Social networks are crucial, as they provide support that affects individuals' interactions and well-being (Chrusciel et al., 2018). Community initiatives enhance social behaviors by fostering participation and collaboration, thereby addressing rural challenges (Hoe et al., 2018). Gender equality also plays a significant role, as unequal benefits from resources can hinder social progress (Johnson et al., 2019). Additionally, traditional cultural practices shape local behaviors and community values, promoting sustainability through participation (Ma et al., 2021). Social interaction fosters strong connections that support rural development, with informal networks providing critical resources for residents (Kuroda et al., 2021). Human capital development is essential, as education and health improvements drive economic growth (Borodina & Rykovska, 2020). Promoting social equity helps address disparities, facilitating community transformation (Qureshi et al., 2018). Cooperation with rural institutions is vital for successful development, as partnerships enhance governance and public service quality (Rumkel et al., 2019). Finally, self-initiatives empower community members to engage actively in their development, fostering resilience (Otoara Ha'apio et al., 2018). Together, these elements contribute to a supportive environment for sustainable rural transformation.

#### *Technology perspective*

Behavior in technology involves how individuals or systems use and interact with digital tools. Technology plays a crucial role in transforming rural areas through various applications. Firstly, Information and Communication Technology (ICT) usage enhances education and tourism participation, empowering individuals, particularly women (Halili & Sulaiman, 2018). E-commerce significantly boosts rural income and entrepreneurship, influenced by psychological traits and socio-economic factors, facilitating poverty alleviation (Peng et al., 2021). The adoption of agricultural technology is essential, driven by education, extension services, and access to resources, positively impacting farming practices (Zegeye et al., 2022). Telemedicine improves healthcare access in rural communities, offering cost-effective solutions despite challenges like digital divides (Sekhon et al., 2021). Enhancing digital literacy is vital for increasing happiness and quality of life, particularly for low-income groups (Wang et al., 2022). Mobile banking significantly contributes to rural development by improving economic growth and reducing inequality, particularly among rural households (Asongu & Odhiambo, 2019). Lastly, technology-enabled extension services provide advanced agricultural advice, which is crucial for rural economic transformation, although challenges related to accessibility and literacy persist (Fabregas et al., 2019). Overall, addressing these challenges is essential for maximizing the benefits of technology in rural development.

### *3.2 Transformational Rural Actors' Behaviors*

Overall, the above five complex stimuli are considered essential contexts for rural actors' behavior to respond to. However, the meaning of "transformational rural actors' behaviours" must be operationalized in this context of the study. From the review, this framing can be discursively derived from previous studies of transformational leadership behavior (Podsakoff et al., 1990), citizen-centric transformational government (Kamaruddin & Noor, 2017), organizational citizenship behavior (Organ, 1988), and citizens' behavior in smart cities (Malek et al., 2021), emphasizing the need for proactive participation in transforming rural development. "Transformation" is defined as "a significant change in form, nature, or appearance." It can involve a shift in the position or orientation of the axes within a coordinate system, while keeping the angles between them unchanged (Baporikar, 2023). Whereas, the behavior of "participation" is

foundational, highlighting the importance of community involvement in decision-making processes that empower citizens to shape their local environments. This is complemented by fostering the “acceptance of group goals”, which underscores collective action and cooperation among community members. “Identifying and articulating a vision” is also crucial, as effective leaders must create a compelling vision that inspires community members to pursue opportunities. Additionally, “providing an appropriate model” emphasizes the role of leaders in exemplifying values that promote well-being (Podsakoff et al., 1990; Kamaruddin & Noor, 2017). Themes such as “active involvement” encourage engagement in local initiatives, while “awareness and sensitivity” advocate for heightened community awareness of needs and environmental issues. Finally, “altruism” and “civic virtue” reflect the significance of individual responsibility and active participation in enhancing community welfare, ultimately promoting a culture of empowerment and resilience in rural settings (Organ, 1988; Malek et al., 2021). Together, these themes illustrate how rural actors can adopt transformational behaviors to foster sustainable development, enhance social cohesion, and build resilience within their communities.

#### 4.0 Discussions

The findings highlight the critical role of understanding the diverse perspectives of rural actors’ behaviors for successful rural transformation initiatives. A significant challenge lies in defining these behaviors, as they are influenced by economic, environmental, psychological, social, and technological perspectives. As conceptualized in Fig. 2, each perspective uniquely contributes to rural development, necessitating a tailored approach to policy and program design. Economic behaviors, for example, impact agricultural productivity and entrepreneurship, while environmental behaviors are essential for natural resource management and sustainability. Additionally, psychological and social perspectives underscore the importance of community cohesion, where cultural values and social norms can facilitate or hinder collective efforts. Technological behaviors, particularly the adoption of digital tools, offer opportunities to bridge the digital divide and enhance rural development.

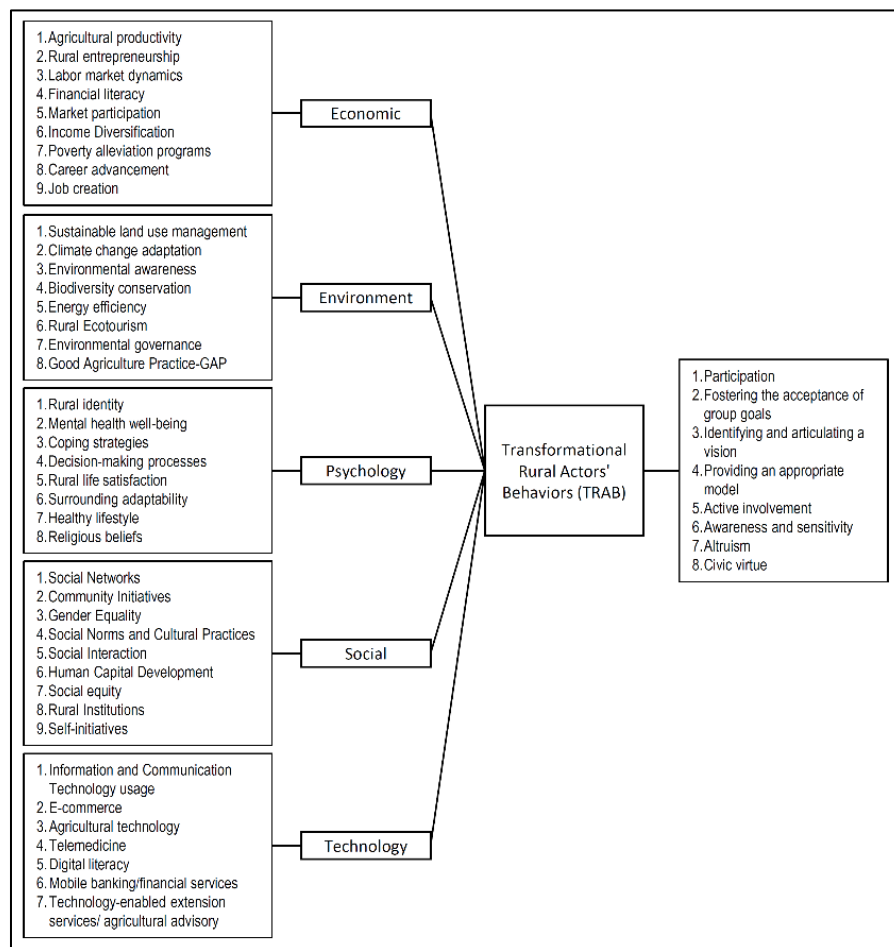


Fig. 2. Conceptual framework for Transformation Rural Actors’ Behaviors (TRAB)  
(Source: authors)

The study introduces the concept of Transformational Rural Actors’ Behaviors (TRAB), rooted in theories of leadership, citizenship and community-oriented development. This approach emphasizes active participation in local initiatives, a commitment to collective goals, and leaders as role models. The findings advocate for fostering a collaborative culture and empowering communities in decision-making processes to boost resilience and adaptability. Based on these insights, the authors propose a conceptual framework for

Transformational Rural Actors' Behaviors (TRAB) that integrates economic, environmental, psychological, social, and technological perspectives. This holistic framework aims to deepen the understanding of rural actors' behaviors and guide the development of effective rural policies and interventions, promoting sustainable development and social cohesion in rural communities.

## 5.0 Conclusion

In conclusion, this paper reveals that rural actors exhibit multifaceted behaviors shaped by economic, environmental, psychological, social, and technological perspectives. Each perspective underscores the distinct motivations and needs of these actors, necessitating a multidimensional approach for effective rural transformation. The authors have developed a conceptual framework for Transformational Rural Actors' Behaviors (TRAB), emphasizing proactive participation, community involvement, and leadership in driving sustainable change. This framework supports inclusive decision-making and acknowledges the intricate realities of rural contexts.

However, it is important to note that this study has limitations, including the potential lack of empirical data and regional specificity, which may affect the generalizability of the findings. Further empirical research is essential to enhance understanding of rural actors' motivations and decision-making processes, utilizing both quantitative and qualitative methods. Such insights will be crucial for crafting targeted policies that resonate with the needs of rural communities, ultimately fostering social cohesion and empowering individuals to contribute actively to their development.

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## Paper Contribution to Related Field of Study

This paper contributes to the field of rural and behavioral studies by conceptualizing Transformational Rural Actors' Behaviors (TRAB), offering a nuanced understanding of the behaviors of rural actors and their impact on rural transformation agendas.

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