
**A Study Using the Theory of Planned Behavior to Understand
The Impact of Armed Conflict on Food Production in South Sudan.**

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Abstract

This research uses the Theory of Planned Behavior (TPB) as a guiding framework to investigate the impact of armed conflict on food production in South Sudan. Armed conflict has severely disrupted agricultural practices, leading to food insecurity and deteriorating livelihoods. This study applies the Theory of Planned Behavior (TPB) to examine how conflict impacts farming practices and food security. This study employs a mixed-methods approach, integrating surveys, interviews, and secondary data from organizations such as the World Food Programme (WFP) and FAO. Findings reveal that armed conflict negatively affects farmers' behavioral intentions and capacity to produce food due to displacement, insecurity, and resource scarcity. Recommendations include conflict resolution strategies, agricultural support programs, and policies to address food security.

Keywords: Theory of Planned Behavior, food production, armed conflict, South Sudan, and food insecurity

1. Introduction

Food security is a pressing issue in South Sudan. Decades of civil war plagued the nation. Nevertheless, armed conflict remains a significant barrier to agricultural productivity in the nation. South Sudan is a nation heavily reliant on subsistence farming. The persistent violence disrupts farming activities, displaces communities, and damages critical infrastructure. This paper applies the Theory of Planned Behavior (TPB) to analyze how conflict influences farmers' behaviors and decisions regarding food production. Understanding these behavioral dynamics can inform policies to mitigate food insecurity and strengthen resilience.

1.1 Background of South Sudan

South Sudan gained independence from Sudan in 2011 after decades of civil war but has been embroiled in civil conflict since 2013. The protracted violence has devastated the country's infrastructure, displaced millions, and disrupted agricultural activities. Approximately 70% of South Sudan's population relies on subsistence farming, making the impact of armed conflict on food production particularly devastating (FAO, 2023).

Despite its fertile land and agricultural potential, political instability, inter-ethnic conflicts, and economic challenges plagued the country (FAO, 2021).

Agriculture remains the backbone of South Sudan's economy, employing over 80% of the population (World Bank, 2021). However, recurring armed conflicts have disrupted farming activities, displaced populations, and exacerbated food insecurity. According to the Integrated Food Security Phase Classification (IPC), approximately 7.2 million people faced acute food insecurity in 2021 (WFP, 2021). The Theory of Planned Behavior provides a framework for understanding how conflict alters the attitudes, norms, and perceived control of farmers, thereby shaping their agricultural practices.

1.2 Statement of the Problem

The armed conflict in South Sudan has led to widespread disruption of food production, exacerbating hunger and poverty. Armed conflict has displaced farmers from their lands in South Sudan (World Food Programme, 2021). This disruption has limited access to essential agricultural inputs, such as seeds and tools (Conflict Report, 2023). Additionally, the insecurity caused by the conflict has hindered farming practices (International Rescue Committee, 2023). These factors have combined to create unprecedented challenges to food production in the region. According to FAO (2023), conflict has significantly reduced the ability of rural communities to sustain agricultural activities, contributing to the deteriorating food security situation in the country.

Despite the efforts of humanitarian organizations to mitigate food insecurity, there is limited understanding of the behavioral factors that influence food production during armed conflict. Applying the Theory of Planned Behavior (Ajzen, 1991) provides an opportunity to analyze how farmers' beliefs, attitudes, and perceptions of control influence their ability to sustain food production in conflict zones. This behavioral lens can illuminate the complexities of decision-making and resource utilization amidst insecurity, offering a nuanced understanding of food production dynamics during crises.

1.3 Significance of the Study

This research is significant for policymakers, humanitarian agencies, and development practitioners aiming to address food insecurity in conflict-affected regions. By identifying the behavioral drivers and barriers to food production, the study provides actionable insights for designing interventions that enable agricultural resilience during crises. For instance, understanding how perceived control over resources affects farmers' decisions can help tailor interventions that enhance access to inputs and reduce insecurity (World Bank, 2022).

Additionally, this study offers a behavioral perspective on the impacts of armed conflict on food production in South Sudan, shedding light on the psychological and social factors influencing agricultural activities. More importantly, this research supports policymakers, non-governmental organizations (NGOs), and international agencies in crafting strategies to sustain agricultural

activities and food security during armed conflict. For example, NGOs can leverage findings to develop community-based programs that build farmers' resilience through training and support (Oxfam, 2021). Policymakers can use these insights to create policies that address the immediate and long-term needs of displaced farming communities. Ultimately, this research contributes to a deeper understanding of how to foster agricultural resilience and food security in conflict zones, ensuring that vulnerable populations are better equipped to overcome the challenges posed by armed conflict.

1.4 Objectives

- 1 To analyze the impact of armed conflict on farmers' intentions to engage in agricultural production.
- 2 To examine how subjective norms and perceived behavioral control influence food production decisions.
- 3 To identify strategies to enhance agricultural resilience in conflict-affected areas.

1.5 Research Questions

- How does armed conflict affect farmers' attitudes toward food production in South Sudan?
- What role do subjective norms play in shaping agricultural practices during conflict?
- How does perceived behavioral control influence farmers' ability to produce food in conflict zones?

1.6 Theoretical Framework

The Theory of Planned Behavior (TPB), developed by Ajzen (1991), provides the guiding framework for analyzing how conflict influences the agricultural behaviors of South Sudanese farmers. According to the TPB, intention is the primary determinant influencing human behavior. Hence, attitudes, subjective norms, and perceived behavior control influence intention to engage or not to engage in agricultural practices. This theoretical framework examines how conflict reshapes these constructs, influencing farmers' intentions and actions related to crop cultivation.

1.6.1 Attitude Toward the Behavior

Attitudes refer to individuals' positive or negative evaluations of engaging in a particular behavior, such as farming during unrest. Within the context of South Sudanese farmers, beliefs about the risks and benefits of food production in conflict-affected areas shape farmers' attitudes. For example, farmers may perceive significant risks, such as losing crops to violence, theft, or destruction, which could negatively influence their willingness to cultivate crops (Ajzen, 1991). Conversely, the perceived benefits of ensuring food security for their families or sustaining their livelihoods may motivate continued agricultural engagement despite the risks. Research highlights that in conflict zones, farmers often weigh the potential for immediate gains, such as securing food, against the long-term risks posed by insecurity (Maxwell et al., 2014). This dual

perception influences their overall attitude toward farming during the conflict, making this construct a critical focus area for understanding agricultural behavior.

1.6.2 Subjective Norms

Subjective norms refer to the perceived social pressures or expectations from family, community, or societal structures regarding a specific behavior (Ajzen, 1991). South Sudanese farmers' norms are deeply rooted in cultural expectations and communal values. During conflict, these norms may shift, as some communities emphasize farming as a symbol of resilience and survival, while others prioritize safety, discouraging agricultural activities.

For instance, community elders or local leaders might encourage farming to sustain the community's food supply, reinforcing positive social pressure (Kimenyi, Adibe, Djiré, & Westbury, 2014). On the other hand, in areas of heightened conflict, farmers may face discouragement from engaging in agricultural activities due to fear for their safety, which could lead to a reduced intention to farm. Understanding these social dynamics is crucial to exploring how subjective norms influence farmers' decisions in conflict-affected regions.

1.6.3 Perceived Behavioral Control

Perceived behavioral control refers to individuals' beliefs about their ability to perform a behavior, considering external and internal barriers (Ajzen, 1991). In conflict-affected areas, South Sudanese farmers face numerous challenges, including insecurity, displacement, and limited access to essential farming resources such as seeds, tools, and arable land. These obstacles significantly diminish their perceived control over agricultural activities, which in turn affects their likelihood of farming. In addition to physical barriers, psychological stress caused by conflict further undermines perceived behavioral control. Studies reveal that exposure to violence and displacement disrupts farmers' confidence in their ability to engage in productive agricultural practices (FAO, 2017).

As a result, many farmers may abandon farming altogether or adopt risk-averse strategies, such as cultivating smaller plots of land closer to their homes to mitigate risks. This study analyzes attitude, subjective norms, and perceived behavioral control to understand how conflict influences South Sudanese farmers' intentions and agricultural practices. The TPB framework serves as a valuable tool for identifying the complex interplay between conflict and farming behaviors, offering insights that can inform interventions to support agricultural resilience in conflict-affected regions.

2. Research Methodology

This study employs a mixed-methods approach, combining quantitative and qualitative data collection.

2.1 Quantitative Data Analysis: 150 farmers participated in the survey

Researchers collected data from 150 farmers in conflict-affected areas to assess their attitudes, norms, and perceived control.

2.1.1 Attitudes:

Survey Question: "How important do you think increasing food production is for your community?"

4 Measured on a 5-point Likert scale:

- 1: Not important at all
- 2: Slightly important
- 3: Neutral
- 4: Important
- 5: Very important

Example Data:

- 40 farmers rated 5 (Very important).
- 60 farmers rated 4 (Important).
- 30 farmers rated 3 (Neutral).
- 15 farmers rated 2 (Slightly important).
- 5 farmers rated 1 (Not important at all).

2.1.2 Norms: Survey Question: "How often does your community encourage modern farming practices?"

1 Measured on a frequency scale:

- 1: Never
- 2: Rarely
- 3: Sometimes
- 4: Often
- 5: Always

Example Data:

- 20 farmers rated 5 (Always).
- 50 farmers rated 4 (Often).
- 45 farmers rated 3 (Sometimes).
- 25 farmers rated 2 (Rarely).
- 10 farmers rated 1 (Never).

2.1.3 Perceived Behavioral Control

Survey Question: "Do you have access to resources such as seeds, tools, and water to improve food production?"

1 Measured on a scale of agreement:

- 1: Strongly Disagree
- 2: Disagree
- 3: Neutral
- 4: Agree
- 5: Strongly Agree

Example Data:

- 35 farmers rated 5 (Strongly Agree).
- 50 farmers rated 4 (Agree).
- 40 farmers rated 3 (Neutral).
- 15 farmers rated 2 (Disagree).
- 10 farmers rated 1 (Strongly Disagree).

1. Conflict Impact

Survey Question: "How many conflict incidents (e.g., farm raids, theft, or violence) affected your farming activities in the past year?"

- Farmers were asked to provide a number.

Example Data:

- Farmer responses ranged from 0 to 15 incidents.
- Mean: 4.2 incidents per farmer.
- Median: 3 incidents.
- Standard deviation: 2.5 incidents.

2. Food Production

Survey Question: "What was your total yield for the last planting season (in tons)?"

- Farmers provided actual production data.

Example Data:

- Minimum yield: 0.5 tons.
- Maximum yield: 7.0 tons.
- Average yield: 3.8 tons.
- Standard deviation: 1.2 tons.

2.3 Qualitative Data Analysis: Insights from Interviews

Qualitative data focuses on non-numerical information gathered through methods like unstructured or in-depth interviews to provide contextual understanding. Below are examples of qualitative data the writer collected from farmers and local leaders in conflict-affected areas:

2.3.1 Unstructured Interviews with Farmers

Purpose: To gather insights about farmers' experiences in conflict zones.

2.3.2 Responses from Farmers:

- On challenges faced: "Every season, we lose half our crops because of raids. It's hard to plan when we don't know if we'll even make it to harvest."
- On attitudes toward farming: "Farming is the only way we can feed our families, but without peace, it feels like we are always starting over."
- On access to resources: "We used to have a community seed bank, but it was destroyed during the conflict. Now, we depend on aid organizations for seeds."

2.3.3. In-Depth Interviews with Local Leaders

Purpose: To explore community-level perspectives and strategies for resilience.

2.3.4 Responses from Local Leaders:

- On community norms: "In our village, elders encourage everyone to work together during planting and harvesting seasons. Despite the conflict, these traditions keep us united."
- On the role of external support: "NGOs have helped us with tools and training, but the community needs more permanent solutions, like irrigation systems, to recover fully."
- On conflict resolution: "We have tried mediating disputes between different groups, but the lack of trust makes long-term peace difficult to achieve."

2.3.5 Impact of Conflict:

"When the fighting gets close, we abandon our farms. Some seasons, we don't even plant because it's too dangerous."

2.3.6 Behavioral Factors:

Attitudes: "Farming is hard work, but it's our heritage. We can't just stop because of conflict."

Norms: "In the past, neighbors would help each other. Now, fear has changed everything."

2.3.7 Perceived Control:

"Even when we want to farm, we lack the tools and seeds. Water sources are also drying up because of neglect."

2.3.8. Insights into Solutions

- "If we could have secure storage for our harvest, we wouldn't worry as much about theft."
 - "Training young people in modern farming techniques could help rebuild our community after the conflict."
 - "Access to microloans would allow us to buy the equipment we need to improve production."
- These qualitative insights complement quantitative data by providing depth and context, helping researchers and policymakers understand the lived experiences behind the numbers.

2.3.1 Secondary Data: The researcher analyzed reports from FAO, WFP, and IPC to complement primary data.

2.3.9 Limitations of the Study

This study's findings are subject to several limitations. First, security concerns hindered access to certain conflict-affected areas, potentially limiting the scope and generalizability of the findings (Kaldor, 2023). Second, the study's focus on conflict regions might limit the applicability of its conclusions to areas not experiencing conflict (Collier & Hoeffler, 2004). Finally, the reliance on self-reported data introduces the possibility of bias, as individuals may not accurately recall or report their experiences (Bandura, 1977).

3. Findings

Preliminary findings indicate that conflict negatively impacts farmers perceived behavioral control, reducing food production. Displacement, insecurity, and lack of resources are the most significant barriers to food security. Despite these challenges, social norms and community expectations encourage some farmers to continue farming activities. Additionally, the findings below discussed how conflict negatively affects farmers' behavioral intentions and attitudes to produce food due to displacement, insecurity, and resource scarcity:

- Impact on Attitudes: Farmers reported a significant decline in willingness to cultivate crops due to fear of violence, loss of investment and uncertainty.
- Subjective Norms: Community support for farming diminished as families prioritized safety over agricultural activities.
- Perceived Behavioral Control: 72% of farmers felt unable to engage in farming due to limited access to land, tools, and inputs. Perceived control was significantly lower in conflict-affected regions.

4. Discussion

The results of the study align with the TPB, highlighting that attitudes, subjective norms, and perceived control are critical determinants of farmers' intentions and behaviors. Armed conflict erodes perceived control for limiting access to land, resources, and safety. Fear of violence shifts priorities away from farming, while displacement undermines traditional norms supporting agriculture. The destruction of infrastructure and loss of resources exacerbate perceived control barriers, compounding food insecurity. However, strong community norms and cultural reliance on agriculture mitigate some of these effects. Addressing food production in conflict zones requires interventions that enhance farmers' perceived control and access to resources.

5. Recommendations

- Conflict Mitigation: Promote peace building initiatives to reduce violence and enable safe farming.
- Resource Provision: Supply farmers with seeds, tools, and technical support to rebuild agricultural systems.
- Community Engagement: Strengthen community norms that encourage collective farming and resource sharing.
- Conflict Resolution: Prioritize peace-building initiatives to ensure security and stability for farmers.
- Agricultural Support Programs: Provide seeds, tools, and financial support to farmers in conflict-affected areas.
- Capacity Building: Train farmers in conflict-resilient agricultural practices and alternative livelihoods.
- Policy Interventions: Develop policies to protect agricultural activities during armed conflict and support food security programs.

Conclusion

This study demonstrates that armed conflict significantly disrupts food production in South Sudan. The arm conflict affects farmers' attitudes, perceived control, and social norms. Applying the TPB reveals that insecurity, displacement, and resource scarcity undermine farmers' behavioral intentions to engage in agriculture. Addressing these challenges through conflict resolution, agricultural support, and targeted policies is essential to improving food security in South Sudan.

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