



The Impact of War on Handicraft Owners: A Case Study of Kassala State, Sudan

Fayga Hussein Ballal Awad 

Department of Economics

College of Business and Economics

Qassim University

Email: f.awad@qu.edu.sa

ORCID iD; <https://orcid.org/0000-0002-6363-4575>

MELAYDAH, KSA

Yousif Jaffar Albashir Osman 

Department of Agricultural Economics

College of Agricultural Studies

Sudan University of Science and Technology

Email: yousif.osman@sustech.edu

ORCID iD; <https://orcid.org/0009-0007-9303-657X>

Khartoum, Sudan

ABSTRACT

This study examines the economic and social effects of war on handicraft owners in Kassala State, Sudan. A total of 374 artisans participated in a structured questionnaire. Quantitative data were analyzed using SPSS (Version 26), employing descriptive statistics (frequencies, percentages, means, standard deviations) and Likert-scale analysis. Results indicate that 82.1% of participants reported reduced productivity due to the war, while 85.8% acknowledged increased production input costs. The proportion of respondents with a monthly income below 200 SDG rose sharply from 44.4% before the war to 83.7% during it. Additionally, 71.1% confirmed that handicrafts contributed to maintaining household economic and social stability during wartime. Regarding the displacement crisis, only 31.5% of artisans believed that displaced persons had positively impacted the craft sector, whereas 46.5% noted an increase in living costs and a decline in product quality. Availability of raw materials also dropped significantly from 85.6% pre-war to just 28.3% post-war. Furthermore, 80.2% of respondents relied solely on selling craft products for income. The study Recommends Enhancing access to raw materials through local sourcing policies, providing financial support and subsidies to artisans affected by conflict, integrating displaced persons into the craft sector through training and capacity-building, and supporting technical and vocational education for sustainable development. This study underscores the dual nature of handicrafts as both a resilience strategy and a vulnerable sector in conflict zones. Effective policy intervention is needed to support its continuity and social function.

Keywords: War, Handicrafts, Small business owners, Kassala, Livelihoods, Traditional culture, Displacement

1. Introduction

War has far-reaching consequences that go beyond immediate violence and destruction. It often disrupts the social and economic fabric of communities, particularly affecting vulnerable groups such as small business owners and artisans ([International Crisis Group, 2021](#)). In Sudan, years of armed conflict have deeply impacted livelihoods, especially in peripheral regions like Kassala State ([Young, 2009](#)).

This study investigates the effects of war on handicraft business owners in Kassala, a region known for its rich cultural heritage and skilled artisanship ([UNESCO, 2020](#)).

Handicrafts are not merely economic activities; they represent cultural identity, community resilience, and traditional knowledge passed down through generations ([UNESCO, 2020](#)). However, war undermines these practices by causing displacement, destroying infrastructure, limiting access to markets, and reducing purchasing power ([De Waal, 2007](#)).

Artisans, many of whom operate informally or with limited resources, face severe challenges in maintaining production and

generating income during times of conflict (United Nations Development Program, [2022](#)).

This research aims to explore how ongoing insecurity and instability have affected the handicraft sector in Kassala, focusing on the economic, social, and psychological impacts on local artisans ([Young, 2009](#)).

It also seeks to identify coping mechanisms and strategies employed by these business owners to survive and adapt under such conditions. Through qualitative interviews, field observations, and secondary data analysis, this study provides a grounded understanding of how war disrupts not only livelihoods but also cultural continuity (International Crisis Group, [2021](#)).

The findings of this research are expected to inform humanitarian organizations, policy makers, and development practitioners on how to better support artisans in conflict zones and contribute to sustainable post-conflict recovery and economic resilience in Sudan ([UNDP, 2022](#); [De Waal, 2007](#)).

The handicraft industry plays a vital role in the cultural and economic fabric of Sudan, particularly in regions like Kassala State, where traditional crafts are not only a source of livelihood but also a

means of preserving cultural heritage. However, the outbreak of war and ongoing conflicts in Sudan have severely impacted various economic sectors, including handicrafts. The disruption caused by war has led to significant challenges for handicraft owners, who are often among the most vulnerable in society. ([UNDP, 2022](#); [De Waal, 2007](#)).

2. Research Problem

The ongoing conflict in Sudan has profoundly disrupted various economic sectors, with the handicraft industry being one of the most affected. In Kassala State, handicraft owners have faced numerous challenges due to the war, including the destruction of infrastructure, loss of access to markets, scarcity of raw materials, and displacement. These challenges have not only threatened the economic viability of handicrafts but also endangered the preservation of traditional skills and cultural heritage.

The research problem, therefore, centers on understanding how the war has impacted the livelihoods of handicraft owners in Kassala State. Specifically, this study seeks to investigate the extent of economic losses, the breakdown of supply chains, the social challenges faced by artisans, and the broader cultural implications of the conflict on the handicraft sector. By identifying and analyzing these issues, the research aims to provide a comprehensive understanding of the current situation and offer insights into potential pathways for supporting the recovery and resilience of this vital industry.

3. Research Objectives

1. To evaluate the economic losses experienced by handicraft owners in Kassala State due to the war, including reduced income, increased costs of raw materials, and loss of market access.
2. To examine how the war has affected the social fabric and cultural practices associated with handicrafts in Kassala, including the displacement of artisans and the potential loss of traditional skills and knowledge.
3. To explore the strategies and coping mechanisms employed by handicraft owners to survive and sustain their businesses in the face of conflict and instability.
4. To investigate how the war has disrupted supply chains for raw materials and finished goods, affecting production and distribution within the handicraft sector.
5. To develop recommendations for interventions and policies that could support the recovery and resilience of the handicraft industry in Kassala State, with a focus on preserving cultural heritage and improving economic stability.
6. To provide insights that can inform the development of policies aimed at protecting and revitalizing the handicraft sector in conflict-affected areas, ensuring the sustainability of livelihoods for artisans.

4. Research Hypotheses

1. The ongoing war in Sudan has significantly reduced the income of handicraft owners in Kassala State, leading to a decline in their economic stability.
2. The war has caused widespread displacement of handicraft owners in Kassala State, disrupting their social networks and traditional production methods.

3. The conflict in Sudan States has led to a decline in the transmission of traditional handicraft skills and knowledge, threatening the preservation of cultural heritage.
4. The war has severely disrupted the supply chains for raw materials and finished goods, resulting in reduced production capacity for handicraft businesses in Kassala.
5. Handicraft owners in Kassala State have developed innovative coping mechanisms to sustain their businesses despite the challenges posed by the war.
6. With appropriate interventions and support, the handicraft sector in Kassala State can recover and contribute to the preservation of cultural heritage and economic revitalization post-conflict.

5. Research Methodology

This research will employ a mixed-methods approach, combining both qualitative and quantitative methods to provide a comprehensive understanding of the impact of the war on handicraft owners in Kassala State. The methodology is designed to capture both the measurable effects of the conflict and the personal experiences of those directly affected.

A. Research Design

The study will use a case study design, focusing on Kassala State as a representative example of the broader impact of conflict on the handicraft sector in Sudan. This approach allows for an in-depth exploration of the specific challenges faced by handicraft owners in this region.

B. Data Collection Methods

• Quantitative Data Collection:

- Surveys: Structured questionnaires will be distributed to a representative sample of handicraft owners in Kassala State. The survey will collect data on economic losses, changes in production levels, access to markets, and disruptions in supply chains. This will allow for statistical analysis of the impact of the war on the handicraft sector.

- Economic Data Analysis: Secondary data, including economic reports and market analysis, will be reviewed to assess changes in the economic status of the handicraft sector before and after the conflict.

• Qualitative Data Collection:

- Interviews: In-depth, semi-structured interviews will be conducted with selected handicraft owners, community leaders, and experts in the field of handicrafts and cultural heritage. These interviews will explore personal experiences, challenges faced, and the coping mechanisms employed by artisans ([Dillman, 2000](#)).

- Focus Group Discussions (FGDs): FGDs will be organized with groups of handicraft owners to facilitate a deeper understanding of the collective challenges and strategies within the community. This method will also help capture the social and cultural dimensions of the impact.

- Participant Observation: The researcher will conduct observations in key handicraft production sites and markets to gain insights into the daily realities of artisans in Kassala. This will help contextualize the quantitative findings and provide a richer narrative of the impact of the war.

Sampling Strategy

- Sample Size: A sample of approximately 370 handicraft owners will be selected for the survey, ensuring representation across different

types of crafts and geographic locations within Kassala State. Using the following equation:

$$n = \frac{M}{[(S^2 \times (M - 1)) \div pq] + 1}$$

Where:

- M = Population size
- S = The result of dividing the Z-score corresponding to the 95% confidence level (1.96) by the margin of error (0.05), i.e.,
- p = the estimated proportion of the population possessing the attribute (usually assumed as 0.50 when unknown)
- q = the complementary proportion, calculated as (1 - p), which is also 0.50 when p = 0.50 ([Cochran, 1977](#)).
- Sampling Technique: A purposive sampling technique will be used to select participants for interviews and focus groups, targeting individuals who have been significantly affected by the conflict or have unique insights into the handicraft sector ([Cochran, 1977](#)).

C. Data Analysis

- **Quantitative Analysis:**
- **Descriptive Statistics:** Data from the surveys will be analyzed using descriptive statistics to summarize the key findings related to income changes, production levels, and market access.
- **Inferential Statistics:** Statistical tests, such as regression analysis and t-tests, will be used to examine the relationships between the impact of the war and various economic variables.
- **Qualitative Analysis:**
- **Thematic Analysis:** Interview and focus group data will be transcribed and analyzed using thematic analysis to identify common themes and patterns related to the social, cultural, and economic impacts of the war.
- **Content Analysis:** Participant observation notes and qualitative data will be coded and categorized to extract meaningful insights related to the research objectives.

D. Ethical Considerations

- **Informed Consent:** All participants will be informed about the purpose of the study, and their consent will be obtained before participation. They will be assured of confidentiality and anonymity.
- **Sensitivity to Context:** The research will be conducted with sensitivity to the context of conflict, ensuring that the data collection process does not exacerbate the challenges faced by participants.
- **Data Security:** All collected data will be securely stored and only accessible to the research team.

E. Limitations of the Study

- **Access Constraints:** Due to the ongoing conflict, there may be challenges in accessing certain areas of Kassala State or reaching certain populations.
- **Response Bias:** There may be a risk of response bias, as participants may be hesitant to share sensitive information due to fear of repercussions.

By employing this methodology, the research aims to provide a holistic understanding of the impact of the war on handicraft owners in Kassala State, offering valuable insights for future policy and intervention strategies.

6. Analysis Techniques

To effectively analyze the data collected from the research on the impact of the war on handicraft owners in Kassala State, a combination of quantitative and qualitative analysis techniques will

be used. This approach ensures a comprehensive understanding of both the numerical and narrative aspects of the data.

A. Quantitative Analysis Techniques

- **Descriptive Statistics:**
- **Frequency Distributions:** To summarize the data on economic impacts, such as changes in income, production levels, and market access.
- **Measures of Central Tendency:** Mean, median, and mode will be calculated to understand average changes in key economic indicators.
- **Measures of Variability:** Standard deviation and range will be used to assess the dispersion of the data, providing insights into the variability of impacts among handicraft owners.

B. Qualitative Analysis Techniques

- **Thematic Analysis:**
- **Coding and Categorization:** Transcribed interview and focus group discussion data will be coded to identify recurring themes and patterns. Codes will be developed inductively based on the data, and categories will be created to group similar codes.
- **Theme Development:** Themes will be refined and developed to capture the main issues related to social, cultural, and economic impacts of the war. This will involve identifying overarching patterns and connections between themes.
- **Content Analysis:**
- **Textual Analysis:** Content from participant observations and qualitative data will be analyzed to identify key elements and narratives. This will include analyzing the language used by participants to describe their experiences and challenges.
- **Frequency Analysis:** The frequency of specific terms or issues mentioned in the qualitative data will be assessed to determine the most common concerns and experiences among handicraft owners.
- **Narrative Analysis:**
- **Storytelling:** Thematic and narrative approaches will be used to present the personal stories and experiences of handicraft owners, providing context and depth to the quantitative findings. This will help in understanding the human dimension of the economic and social impacts ([Harpe, 2015](#)).

C. Integration of Quantitative and Qualitative Findings

- **Triangulation:** The results from quantitative and qualitative analyses will be compared and integrated to validate findings and provide a comprehensive view of the impacts. This process will help ensure that the conclusions drawn are robust and well-supported by multiple data sources.
- **Synthesis:** Insights from quantitative data will be combined with qualitative themes to develop a coherent narrative that addresses the research objectives and provides actionable recommendations ([Harpe, 2015](#)).

D. A Likert scale is a common tool used in surveys to measure attitudes, opinions, or perceptions. For analyzing the impact of war on handicraft owners, a Likert scale can be used to assess various dimensions such as economic impact, social effects, and coping mechanisms. Below is a suggested Likert scale for this research:

Likert Scale Design

A. Scale Points:

1. Strongly Disagree
2. Disagree



3. Neutral
4. Agree
5. Strongly Agree ([Likert, 1932](#)).

Sample Statements:

i. Economic Impact:

- “The war has significantly reduced my income from handicrafts.”
- “The cost of raw materials has increased due to the conflict.”
- “I have experienced a decline in customer demand for my products because of the war.”
- “My access to markets for selling handicrafts has been restricted due to the conflict.”

ii. Social Effects:

- “The war has led to the displacement of handicraft owners in my community.”
- “The social network that supported my handicraft business has been disrupted due to the conflict.”
- “I have faced difficulties in maintaining traditional craft practices due to social upheaval caused by the war.”

iii. Coping Mechanisms:

- “I have developed new strategies to cope with the economic challenges imposed by the war.”
- “I have found alternative sources of raw materials due to the supply chain disruptions caused by the conflict.”
- “Community support has been crucial in helping me sustain my handicraft business during the war.”

iv. Cultural Preservation:

- “The war has threatened the preservation of traditional handicraft skills in my community.”
- “I am actively involved in efforts to preserve traditional craft techniques despite the conflict.”
- “The conflict has negatively impacted the transmission of handicraft knowledge to younger generations.”

Using the Likert Scale for Data Analysis

i. Data Collection:

- Participants will respond to each statement using the Likert scale, indicating their level of agreement or disagreement.

ii. Data Scoring:

- Responses will be assigned numerical values (1 to 5), where 1 represents “Strongly Disagree,” and 5 represents “Strongly Agree.” ([Johns, 2010](#))

iii. Statistical Analysis:

- Descriptive Statistics: Calculate the mean, median, and standard deviation for each statement to understand the overall trends in responses.
- Frequency Analysis: Determine the percentage distribution of responses for each statement to see how frequently each level of agreement is chosen.
- Comparative Analysis: Use t-tests or ANOVA to compare responses across different groups (e.g., different regions within Kassala or different types of crafts) to identify significant differences in perceptions.
- Correlation Analysis: Assess the relationship between responses to different statements to explore how economic impacts might relate to social effects or coping mechanisms. This Likert scale will help quantify the subjective experiences of handicraft owners, providing valuable insights into the impact of the war on their livelihoods and cultural practices.

7. Theoretical Framework

The theoretical framework for this research on the impact of war on handicraft owners in Kassala State will be guided by several interrelated theories that address economic disruptions, social change, and cultural preservation. This framework provides a structured lens through which the research problem can be analyzed and understood.

A. Conflict Theory

Overview: Conflict theory, as proposed by Karl Marx and further developed by various sociologists, focuses on the role of conflict and power struggles in shaping social structures and economic conditions. It posits that conflicts between different groups, such as those between state actors and marginalized communities, can lead to significant changes in economic and social systems.

Application: In the context of this research, conflict theory helps to explain how the ongoing war disrupts the economic stability of handicraft owners by creating power imbalances, destroying infrastructure, and displacing communities. It also helps to understand how these disruptions lead to increased inequality and social stratification within affected communities ([Alhelo et al, 2023](#)).

B. Economic Disruption Theory

Overview: Economic disruption theory addresses how conflicts and crises impact economic activities, focusing on how disruptions to supply chains, markets, and production processes affect businesses and livelihoods.

Application: This theory will be used to analyze the specific economic impacts of the war on handicraft owners in Kassala State, such as decreased income, increased costs of raw materials, and reduced market access. It provides a basis for understanding how the war's disruptions lead to economic instability and challenges for small-scale artisans. ([Ali, 2013](#))

C. Social Resilience Theory

Overview: Social resilience theory examines how individuals and communities adapt to and recover from disruptions, including conflicts and crises. It emphasizes the capacity of social systems to withstand, adapt to, and recover from adverse events. ([Ali, 2017](#))

Application: The theory will be applied to explore how handicraft owners in Kassala State cope with the challenges imposed by the war. It helps to identify the strategies and coping mechanisms that artisans use to sustain their businesses and maintain their livelihoods amidst adversity.

D. Cultural Preservation Theory

Overview: Cultural preservation theory focuses on the importance of maintaining cultural practices, traditions, and knowledge in the face of external threats. It highlights the role of cultural heritage in community identity and resilience.

Application: This theory will be utilized to examine how the war impacts the preservation of traditional handicraft skills and cultural heritage in Kassala State. It provides insights into the cultural losses experienced by artisans and the importance of preserving these traditions despite the ongoing conflict.

E. Human Development Theory

Overview: Human development theory, particularly as articulated by Amartya Sen, emphasizes the importance of improving individuals'



capabilities and well-being as a central goal of development. It focuses on enhancing people's ability to live fulfilling lives and achieve their potential.

Application: In this research, human development theory will be used to assess the broader implications of the war on the well-being of handicraft owners. It helps to understand how the conflict affects their quality of life, access to resources, and overall development prospects.

Integration of Theories

By integrating these theoretical perspectives, the research aims to provide a comprehensive analysis of the impact of war on handicraft owners. Conflict theory and economic disruption theory will address the immediate economic and social impacts, while social resilience theory and cultural preservation theory will offer insights into coping strategies and the preservation of cultural heritage. Human development theory will provide a broader view of how the war affects the overall well-being and capabilities of handicraft owners.

This theoretical framework will guide the analysis and interpretation of data, helping to contextualize the findings and develop recommendations for supporting the recovery and resilience of the handicraft sector in Kassala State.

8. Literature Review

Elnour and Mokhtar (2026) argue that the outbreak of war in Sudan since 2023 has led to a severe economic downturn, characterized by a sharp decline in GDP, a nearly 40% reduction in household incomes, soaring inflation rates, and significant depreciation of the national currency. Their study highlights that these macroeconomic disruptions have had direct and profound implications for vulnerable economic sectors, particularly the informal sector, which includes artisans and small-scale industries.

Similarly, Mohamed and Lucero-Priso (2025) examine the broader consequences of Sudan's armed conflict, emphasizing that the impacts extend beyond the economic sphere to include deterioration in health and living conditions. This multidimensional crisis has intensified the vulnerability of individuals engaged in small-scale economic activities and reduced their capacity to sustain production and livelihoods.

Siddig et al. (2023) focus on the economy-wide effects of the ongoing conflict, demonstrating that the war has caused structural imbalances in production and distribution systems. Their findings indicate a decline in market efficiency and significant disruptions in supply chains, which have negatively affected productivity across various sectors, including artisanal production.

In the same context, the United Nations Development Programme reports that the conflict has severely undermined livelihoods, particularly in urban areas. The destruction of productive assets and infrastructure has constrained artisans' access to essential resources such as capital, tools, and market networks (UNDP, 2020; UNDP, 2024).

The World Bank further notes that Sudan's economy has experienced a sharp contraction due to the conflict, creating an unfavorable environment for the survival and growth of small enterprises. Limited access to finance and the absence of economic safety nets have exacerbated the challenges faced by these businesses (World Bank 2025).

According to the International Monetary Fund, hyperinflation and currency collapse have significantly increased production costs while simultaneously eroding consumers' purchasing power. This has led to a decline in demand for non-essential goods, including artisanal products (IMF, 2025).

Regarding supply chains, the United Nations Office for the Coordination of Humanitarian Affairs highlights that the conflict has disrupted transportation and market systems, creating substantial barriers to accessing raw materials and distributing finished products (OCHA, 2024).

On the social dimension, the United Nations High Commissioner for Refugees documents large-scale displacement caused by the conflict, which has disrupted artisans' customer networks and undermined their economic stability (UNHCR, 2025).

Additionally, the World Food Programme reports rising poverty and widespread food insecurity, forcing households to prioritize essential goods over non-essential items. This shift in consumption patterns has significantly reduced demand for handicrafts and similar products (WFP, 2025).

Finally, Adam et al. (2024) identify income diversification as a key coping and resilience strategy among vulnerable groups in crisis contexts. Their study shows that individuals often adopt alternative livelihood strategies, such as home-based production and reliance on community support networks, to mitigate the adverse effects of economic shocks (Adam et al., 2024).

9. Expected Results

Based on the research objectives and hypotheses, the expected results of the study on the impact of war on handicraft owners in Kassala State might include the following:

Reliability Statistics

Table 1: Cronbach's Alpha Reliability and Expert-Reviewed Validity of the Questionnaire

Cronbach's Alpha	N of Items
.758	28

Source: Prepared by the researcher based on survey data (2023-2024).

Instrument Validity and Reliability: To ensure the quality of the research instrument, both validity and reliability were assessed.

Reliability: The internal consistency reliability of the instrument was measured using Cronbach's Alpha. The calculated coefficient was 0.758, which indicates a good level of reliability according to Nunnally's (1978) standards. This means that the items within the instrument are sufficiently consistent in measuring the intended concept.

According to the general interpretation of Cronbach's Alpha:

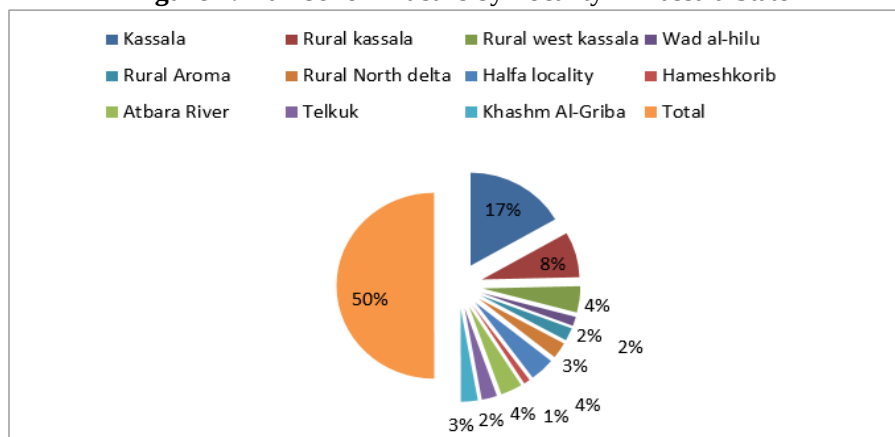
- a. ≥ 0.90 : Excellent
- b. 80–0.89: Very Good
- c. 0.70–0.79: Good
- d. 0.60–0.69: Acceptable
- e. < 0.60 : Poor

Validity: The validity of the instrument was ensured through expert judgment and content review. A panel of academic experts



evaluated the questionnaire for clarity, relevance, and coverage of the key dimensions of the studied phenomenon. This process established both face validity (the extent to which the items appear appropriate) and content validity (the degree to which the instrument covers all relevant aspects of the concept being measured).

Figure 1: Number of Artisans by Locality in Kassala State



Source: Prepared by the researcher based on survey data (2023-2024).

The data presented in Fig. 1 show the distribution of artisans across the different localities within Kassala State. The highest concentration of artisans is found in Kassala locality, which accounts for 33.4% of the total sample. This is expected, as Kassala is the administrative and commercial center of the state, where economic activity and access to markets are more developed. Following Kassala, Rural Kassala represents 15.8%, and Rural West Kassala accounts for 9.1% of the artisan population. These areas likely benefit from their proximity to the urban center, which may facilitate access to customers and raw materials. Other localities such as Wad

Al-Hilu (3.2%), Hameshkorib (2.1%), and Rural Aroma (4.5%) have much lower frequencies, indicating a more limited presence of handicraft activities. This may reflect geographical isolation, lack of infrastructure, or socio-political challenges that hinder the growth of artisanal work in these areas. Overall, the results highlight a significant geographic disparity in the distribution of artisans, with a clear concentration in urban or semi-urban localities. This finding could have implications for policy-makers and development agencies seeking to support the handicraft sector, especially in underserved or marginalized regions.

Table 2: presents the social characteristics

	Item	Frequency	Percent
Gander	Male	291	77.8
	Female	83	22.2
Age Group	15 - 25	66	17.6
	25 - 35	100	26.7
	35 - 45	108	28.9
	Above 45 th	100	26.7
Marital Status	Married	252	67.3
	Single	101	27.1
	Widowed	8	2.1
	Divorced	13	3.5
Education Level	Illiterate	31	8.3
	Traditional Quranic school (khalwa)	121	32.4
	Basic education	93	24.9
	Secondary education	68	18.2
	University education	57	15.2
	Postgraduate education	4	1.1

Source: Prepared by the researcher based on survey data (2023-2024)

Table (2) presents the social characteristics of the artisans who participated in the study, as follows

1. Gender: The results indicate that the majority of artisans are male (77.8%), while females represent only 22.2% of the sample. This reflects a male-dominated handicraft sector in Kassala State, possibly due to the nature of the work and

social or cultural factors that may limit women's participation in such economic activities.

2. Age Group: The distribution of age groups is relatively balanced. The largest proportion of respondents falls within the 35–45 age group (28.9%), followed by those aged 25–35 and above 45, both representing 26.7%. The youngest group (15–25) constitutes 17.6%. This indicates that most

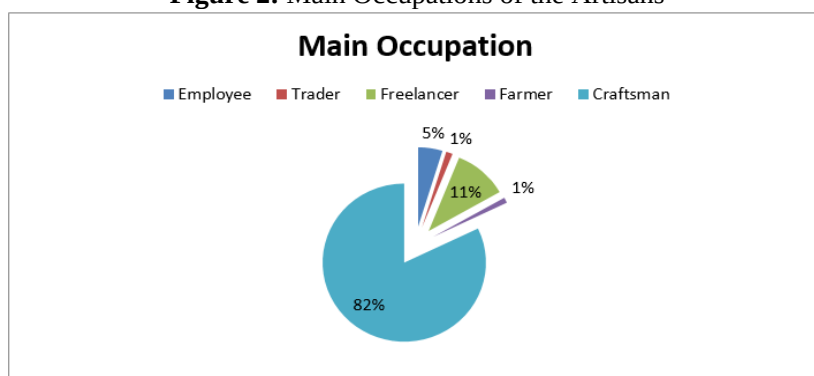


artisans are within the economically productive age range, suggesting that handicrafts are a primary source of income and employment.

3. **Marital Status:** A significant proportion of respondents are married (67.3%), while 27.1% are single. Only 2.1% are widowed, and 3.5% are divorced. These figures suggest that the majority of artisans maintain some level of family stability, which may influence their engagement in sustainable economic activities.

4. **Education Level:** The data show that the highest percentage of artisans received traditional religious education in Khalwa (32.4%), followed by basic education (24.9%), and secondary education (18.2%). Only 15.2% hold a university degree, and 1.1% have postgraduate education, while 8.3% are illiterate. This reveals that most artisans have low to moderate educational backgrounds, which may limit their ability to access training, technology, or advanced market opportunities.

Figure 2: Main Occupations of the Artisans



Source: Prepared by the researcher based on survey data (2023-2024).

Figure (2) illustrates that the vast majority of respondents (82.1%) consider handicrafts to be their main occupation. This suggests that artisanal work is not a secondary or part-time activity but rather the primary source of income for most participants. Other occupations represented only a small portion of the sample: Employees made up 4.8%, Freelancers 10.7%, Traders 1.3%, and

Farmers 1.1%. These findings highlight the critical role of handicrafts in sustaining local livelihoods in Kassala State. Given that most artisans rely heavily on this sector for their economic well-being, it underscores the importance of providing them with support in areas such as training, market access, and resource development.

Table 3: Distribution of Respondents by Type of Handicraft Work

Handicrafts You Work In	Frequency	Percent
Palm Leaf Craft	60	16
Leather Industries	51	13.6
Woodworking Industries	60	16
Handmade Textiles	38	10.2
Pottery Making	39	10.4
Weaving Industry	10	2.7
Shoe Making	25	6.7
Bread and Pastry Making	42	11.2
Household Utensils Making	47	12.6
Carpet Weaving	2	0.5
Total	374	100

Source: Prepared by the researcher based on survey data (2023-2024)

Table (4) shows a wide variety of handicrafts practiced by the respondents. The highest engagement is in palm leaf crafts and woodworking, each representing 16% of the total sample. This is followed by leather industries (13.6%), household utensils making (12.6%), and bread and pastry making (11.2%). In contrast, carpet weaving (0.5%) and weaving (2.7%) show the lowest representation,

indicating either a decline in interest or limited skills and training in these crafts. The findings suggest that most artisans are engaged in traditional, resource-based crafts, highlighting the need for technical support and market development programs to promote sustainability and diversification.

Table 4: Sources of Skills Acquisition in Handicraft Practice Among Respondents

Acquisition and Learning of the Profession	Frequency	Percent
Family	255	68.2
Technical and Industrial Schools	36	9.6
From Market	81	21.7
Hobby	2	0.5
Total	374	100

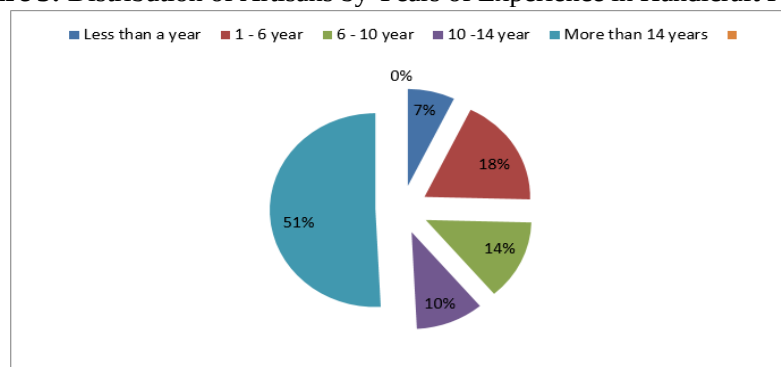
Source: Prepared by the researcher based on survey data (2023-2024).

Table (5) illustrates the sources through which respondents acquired their handicraft skills. A significant majority (68.2%) learned their craft through family-based transmission, indicating the strong role of intergenerational knowledge transfer in sustaining traditional handicrafts. Informal market-based learning accounts for 21.7%, suggesting that a notable portion of artisans gained their skills through observation or apprenticeship within local markets. In contrast, only 9.6% acquired their skills through formal education in technical or industrial schools, which highlights a gap in institutional

involvement in vocational training for artisans. A very small percentage (0.5%) reported acquiring skills as a personal hobby, reflecting the rarity of non-economic motivation in this field.

These findings emphasize the importance of informal and family-based learning environments in preserving artisanal knowledge. However, they also suggest a need to strengthen formal vocational training systems to enhance skill development and innovation in the handicraft sector.

Figure 3: Distribution of Artisans by Years of Experience in Handicraft Practice



Source: Prepared by the researcher based on survey data (2023-2024).

Figure (3) reveals that the majority of artisans have substantial experience in their craft, with 51% reporting more than 14 years of practice. This indicates a strong level of long-term engagement and dependence on handicrafts as a primary and stable livelihood. Other experience levels are distributed as follows: 18% have between 1 and 6 years of experience, 13.4% between 6 and 10 years, 10% between 10 and 14 years, while only 7% have been practicing for less than one year.

These findings suggest that handicraft is not a temporary occupation for most respondents. Rather, it represents a deep-rooted professional pathway, with accumulated skills and experience over time. This highlights the importance of policy support and sustainable development programs to empower veteran artisans and preserve traditional craftsmanship.

Table 5: Availability of Raw Materials before and Six Months after the Outbreak of War

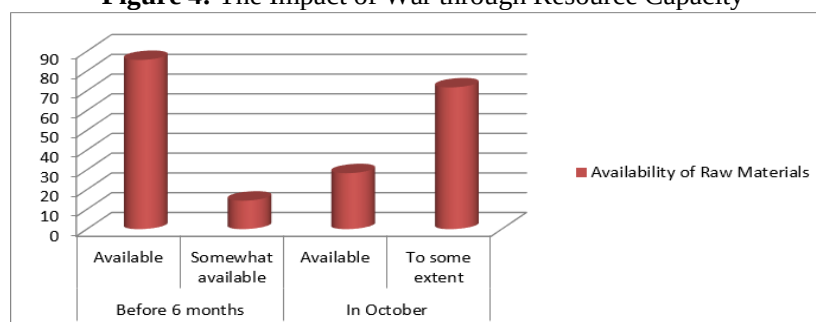
Availability of Raw Materials		Frequency	Percent
Before 6 months	Available	320	85.6
	Somewhat available	54	14.4
After 6 months(in October)	Available	106	28.3
	To some extent	268	71.7
Total		374	100

Source: Prepared by the researcher based on survey data (2023-2024).

Table (5) presents the availability of raw materials used in handicraft production before and six months after the onset of war. The data clearly demonstrate a significant decline in availability due to the conflict. Before the war (6 months prior), 85.6% of artisans reported that raw materials were readily available, and only 14.4% reported partial availability. However, by October, six months into the war, only 28.3% stated that materials were still available, while a

substantial 71.7% reported that materials were only somewhat available. This sharp drop in availability reflects disruptions to supply chains, insecurity along transportation routes, and possibly market closures caused by the conflict. It underscores how war not only impacts production capacity but also directly threatens the continuity of artisanal livelihoods through resource scarcity. Show Figure (4)

Figure 4: The Impact of War through Resource Capacity



Source: Prepared by the researcher based on survey data (2023-2024).

Table 6: Reveals a stark decline in the average monthly income of artisans as a result of the ongoing war

Average Monthly Income		Frequency	Percent
Six months before the war	100 - 200	166	44.4
	200 - 300	119	31.8
	Above 300	89	23.8
During the war	100 - 200	313	83.7
	200 - 300	48	12.8
	Above 300	13	3.5
Total		374	100

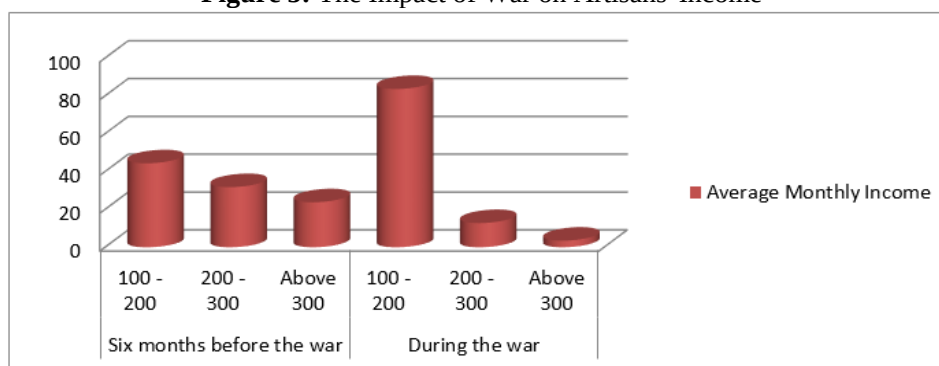
Source: Prepared by the researcher based on survey data (2023-2024).

-Before the war, 44.4% of respondents earned between 100 and 200 SDG, 31.8% earned between 200 and 300 SDG, and 23.8% earned more than 300 SDG per month.

-During the war, a dramatic shift occurred: 83.7% of artisans reported incomes in the lowest bracket (100–200 SDG), while only 12.8% earned between 200–300 SDG, and a mere 3.5% earned above 300 SDG.

This pattern highlights the severe economic consequences of the conflict, including disruptions to production, reduced consumer purchasing power, limited access to markets, and rising costs of raw materials. The sharp increase in the lowest income category suggests that the majority of artisans experienced a significant decline in earnings, pushing many closer to or below the poverty line. Show Figure (5)

Figure 5: The Impact of War on Artisans' Income



Source: Prepared by the researcher based on survey data (2023-2024).

The data emphasizes the urgent need for targeted economic recovery programs and humanitarian support for artisan communities affected by conflict in Kassala and similar regions.

Table 7: Sources of Raw Materials Used by Artisans

Sources of Raw Materials	Frequency	Percent
Local Market	235	62.8
Markets outside the state	90	24.1
Imported	11	2.9
Local Market and Markets Outside the State	29	7.8
Local Market and Imports	2	0.5
Local Market, Markets Outside the State, and Imports	7	1.9
Total	374	100

Source: Prepared by the researcher based on survey data (2023-2024).

Table (7) presents the distribution of sources from which artisans obtain raw materials for their handicraft work. The data indicates a heavy reliance on the local market, with 62.8% of respondents sourcing materials locally. Additionally, 24.1% obtain raw materials from markets outside Kassala State, reflecting the need to access specialized materials unavailable locally. A small minority 2.9% depend on imported materials, while 7.8% combine both local and external markets. Only 1.9% of artisans reported using all three

sources local, out-of-state, and imported indicating limited diversification in supply chains.

These findings highlight the importance of local market functionality for sustaining artisanal production. They also expose the vulnerability of artisans to market disruptions caused by conflict, transport restrictions, or price inflation, especially for those who rely on non-local or imported materials.

Table 8: Sources and Averages of Income among Handicraft Artisans

Source of Income	N	Minimum	Maximum	Mean	Std. Deviation
Income from Selling Handicraft Products	300	20000	1800000	302090	347796.9
Paid Work Outside the Workshop in the Handicraft Sector	17	30000	280000	98058.82	71020.66

Paid Work Outside the Workshop in Both Handicraft and Non-Handicraft Sectors	24	10000	900000	113958.3	180024
Employment in a Government Job	23	15000	500000	94695.65	131887.2
Contributions from Family Members Working Abroad	26	10000	500000	163846.2	150494.6
Another Source	11	20000	600000	148181.8	181869.1
Other Sources	4	10000	50000	30000	23094.01

Source: Prepared by the researcher based on survey data (2023-2024).

The table presents descriptive statistics for various income sources among handicraft artisans in Kassala State. The analysis shows that:

The primary source of income is from selling handicraft products, with 300 respondents reporting this. It has the highest average income (Mean = 302,090 SDG) but also the widest variation (Max = 1,800,000 SDG; Std. Dev = 347,796.9), indicating significant income disparities among artisans. Paid work outside the workshop in both handicraft and non-handicraft sectors also contributes to income, but with much lower averages (around 98,000–114,000 SDG), and fewer respondents rely on it.

♦ Government employment contributes moderately (Mean ≈ 94,696 SDG), likely offering more stability but not being the primary income source.

♦ Remittances from family abroad appear to be an important secondary income source (Mean ≈ 163,846 SDG), showing the role of external financial support in sustaining livelihoods.

♦ Other or unspecified sources show highly variable income with fewer observations, suggesting irregular or informal income streams. These findings highlight the economic dependence of artisans on handicraft sales, while also reflecting the diversification of income sources due to war-related instability and declining market demand.

Table 9: Major Challenges Faced by Handicraft Artisans in Kassala State

Major Challenges	Frequency	Percent
Lack of Raw Materials	25	6.7
High Prices of Raw Materials	66	17.6
Weak Purchasing Power	75	20.1
All of the Above	164	43.9
No Challenges	44	11.8
Total	374	100

Source: Prepared by the researcher based on survey data (2023-2024).

Table (9) outlines the key challenges facing artisans in Kassala State. The data reveals that:

♦ The most significant challenge, reported by 43.9% of respondents, is the combination of several problems: lack of raw materials, high prices, and weak purchasing power, reflecting a compounded effect of economic hardship.

♦ 20.1% identified weak purchasing power among consumers as the main issue, suggesting reduced market demand for handicrafts due to war-related economic strain.

♦ 17.6% cited high prices of raw materials, and 6.7% mentioned outright shortages of raw materials, indicating severe supply chain disruptions.

♦ Interestingly, 11.8% of respondents reported facing no major challenges, which may reflect variation in business resilience, resource access, or niche markets.

These results highlight how artisans are not only affected by input constraints (availability and cost of materials) but also by market-side limitations, such as declining demand. The overlapping nature of challenges underscores the need for integrated policy interventions that address supply chains, market access, and financial support simultaneously.

Table 10: Respondents' Perceptions on the Economic Dimensions of Handicraft Using a Five-Point Likert Scale

No.	Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	The craft provides job opportunities for you and your family members.	38	44	17	146	129
2	The war has significantly affected productivity.	26	24	16	119	189
3	The prices of production inputs have increased during the current period.	12	17	24	106	215
4	The war has contributed to the availability of additional labor.	87	126	48	46	67
5	There is a high demand for your products after the war.	40	117	74	91	52
6	The benefits you gained from the craft have contributed to increasing your monthly income.	13	41	81	168	71
7	The profit you earned from the craft has helped cover education, healthcare, and medication expenses for you and your family.	15	45	76	173	65

Source: Prepared by the researcher based on survey data (2023-2024).

CPER

Original Article | Open Access | Peer Reviewed

This table presents artisans' responses regarding the economic impact of handicrafts using a five-point Likert scale. The results reveal several key trends:

- ♦ Job Creation (Item 1): A combined 275 respondents (73.5%) agreed or strongly agreed that the craft employs themselves and their families, confirming the sector's role in supporting household livelihoods.
- ♦ Impact of War on Productivity (Item 2): A significant majority (82.1%) acknowledged that the war negatively affected productivity, demonstrating the deep economic repercussions of conflict.
- ♦ Increased Input Costs (Item 3): Over 85.8% agreed or strongly agreed that the prices of production inputs have increased during the war, which reflects inflationary pressures and supply disruptions.
- ♦ Labor Availability (Item 4): Only 30% saw the war as increasing labor availability, while 57% disagreed or strongly

disagreed, indicating that the war did not ease labor constraints as expected.

- ♦ Post-War Demand (Item 5): The perception of high demand post-war was mixed: just 38.3% agreed/strongly agreed, while 42% disagreed, suggesting economic recovery remains uncertain.

- ♦ Income Growth (Item 6): A notable 239 respondents (63.9%) felt that benefits from the craft improved monthly income, highlighting its financial contribution.

- ♦ Covering Essential Expenses (Item 7): Similarly, 238 respondents (63.6%) agreed that craft income supported essential needs like healthcare and education.

The findings show that while artisans face challenges due to war, especially in productivity and the cost of inputs, the handicraft sector remains a vital economic support system for many families, particularly in providing employment and covering essential expenses.

Table 11: The Craft's Contribution to Improving the Family's Standard of Living (Based on Likert Scale Responses)

No.	Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	The craft has helped provide electrical appliances and assets for your home (furniture, washing machine, TV, etc.)	12	54	54	132	122
2	The income from the craft has helped make some improvements to the housing	13	50	44	139	128
3	Working in this craft has clearly improved the standard of living.	9	33	69	145	118
4	The income from the craft has significantly contributed to improving the quality of nutrition.	5	60	75	116	118
5	The craft has contributed to saving both cash and physical assets.	86	143	64	54	27
6	Working in the craft has contributed to providing recreational activities for the children and family from time to time.	36	116	96	94	32
7	Working in this craft has contributed to providing both in-kind and financial assistance to some family members and friends.	12	41	51	141	129

Source: Prepared by the researcher based on survey data (2023-2024).

The data in this axis indicates artisans' perception of the craft's impact on household well-being. Key insights include:

- ♦ Household Assets and Appliances (Item 1): A combined 254 respondents (67.9%) agreed or strongly agreed that the craft helped provide electrical appliances and home assets.
- ♦ Housing Improvements (Item 2): Similarly, 267 respondents (71.4%) reported that their craft income contributed to housing improvements, reflecting a positive material impact.
- ♦ General Standard of Living (Item 3): A strong 263 respondents (70.3%) agreed that the craft improved their overall standard of living.
- ♦ Nutritional Quality (Item 4): 234 respondents (62.6%) believed that income from the craft positively influenced the quality of food and nutrition.
- ♦ Savings Capacity (Item 5): In contrast, 61.2% (229 respondents) disagreed or strongly disagreed that the craft

helped with saving money or assets, indicating limited surplus income.

- ♦ Recreational Spending (Item 6): Views were divided here, with only 126 respondents (33.7%) agreeing, while 152 (40.6%) disagreed, suggesting that discretionary spending remains constrained.

- ♦ Supporting Extended Family (Item 7): A notable 270 respondents (72.2%) agreed the craft allowed them to assist others, showing positive spillover effects on the wider social network.

The results suggest that while handicrafts significantly enhance basic household conditions (housing, appliances, nutrition), their ability to support savings and leisure is more limited, reflecting ongoing economic pressures.

Table 12: Perceived Impact of War and Hosting Displaced Persons on Handicraft Production and Household Economy

No.	Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	The craft has helped provide job opportunities for others (displaced persons)	139	76	41	77	41
2	The displaced persons have contributed to adding economic benefits or new skills to the craft.	112	80	41	84	57

3	The demand for products has increased after the state hosted a number of displaced people.	94	67	62	112	39
4	The presence of displaced persons in the area has contributed to an increase in daily income.	68	73	100	109	24
5	The presence of displaced persons working in the same field has affected the prices and quality of the products.	94	127	58	69	26
6	The economic and living conditions of your family were affected by hosting relatives or acquaintances from the displaced.	89	45	63	131	46
7	The presence of some displaced persons with you has led to an increase in daily living expenses.	118	65	45	100	46

Source: Prepared by the researcher based on survey data (2023-2024).

This table analyzes artisans' perceptions of how the war and the state's hosting of displaced persons have influenced their economic activities. Key findings include:

- ◆ Limited Perception of Job Opportunities for Displaced Persons (Item 1): Only 31.5% (41 + 77 = 118) agreed or strongly agreed that the craft created job opportunities for displaced individuals, while a significant 57.5% disagreed or strongly disagreed, indicating a perceived lack of integration or employment capacity.
- ◆ Economic and Skill Contribution (Item 2): 37.6% agreed that displaced persons contributed skills or benefits to the craft, but 51.3% disagreed, highlighting skepticism or limited exposure to positive impacts.
- ◆ Demand for Products (Item 3): While 40.6% agreed there was increased demand post-hosting, 43.1% disagreed. The mixed responses suggest uneven market benefits from displaced populations.

- ◆ Impact on Income (Item 4): Only 35.5% believed displaced persons increased their daily income, while 37.7% disagreed, implying no clear consensus on economic gain.

- ◆ Product Competition and Quality (Item 5): Nearly 59.1% of artisans believed the presence of displaced persons in the same field negatively affected prices or quality, suggesting perceived market saturation or competition.

- ◆ Household Burdens (Items 6 & 7): A combined 47.3% agreed that hosting displaced relatives increased financial strain or living costs, reflecting added economic pressure on hosting families.

Overall, these results show divergent perceptions, with a general tendency toward viewing displacement as a financial burden rather than an economic opportunity, especially in informal sectors like handicrafts.

Table 13: Economic and Social Effects of War on the Handicraft Sector

No.	Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	During the war, there was no opportunity to participate in social events with others.	41	135	53	80	65
2	The craft helped achieve economic and social stability for the family during the war period.	4	26	78	211	55
3	The income from the profession has contributed to achieving stability at the family level during the current period.	6	34	69	204	61
4	Working during the current period has added new burdens and debts.	47	89	72	89	77
5	You face some difficulties that prevent you from meeting some daily expenses and obligations during the current period.	26	58	81	141	68
6	Daily wages for craftsmen and workers have decreased during the current period.	77	73	66	114	44
7	Several workers have been laid off due to the current situation.	100	67	85	73	49

Source: Prepared by the researcher based on survey data (2023-2024).

This table illustrates artisans' perceptions of how the war has influenced their economic stability and social participation. Key findings include:

Limited Social Participation (Item 1): 47.3% of respondents (135+41) disagreed or strongly disagreed that they had opportunities to participate in social events during the war, indicating war-induced social isolation.

- ◆ Economic and Social Stability (Item 2): A large majority, 71.1% (55 strongly agree + 211 agree), affirmed that handicrafts helped stabilize their families economically and socially during the war, highlighting the craft's resilience.

- ◆ Family-Level Stability (Item 3): 71% of respondents agreed that income from the profession contributed to family stability, reinforcing the craft's importance in crisis resilience.

- ◆ Increased Burdens and Debts (Item 4): 44.5% (77 + 89) agreed that working during the current period brought more financial pressure, suggesting growing burdens despite continued activity.

- ◆ Inability to Meet Daily Expenses (Item 5): 55.9% of respondents reported difficulty in meeting daily financial obligations, reflecting strained household economies.

- ◆ Decline in Daily Wages (Item 6): Although 42.5% agreed wages have declined, 40% disagreed, indicating mixed perceptions about wage trends.



- ♦ Worker Layoffs (Item 7): Responses were mixed, with 38.7% agreeing that workers were laid off, but 44.6% either neutral or disagreed, indicating varied experiences across different sectors or locations.

10. Study Recommendations

Based on the results of the research on the impact of the war on handicraft owners in Kassala State, the following recommendations are proposed:

A. Economic Support and Development

- Financial Assistance Programs: Implement targeted financial assistance programs to help handicraft owners recover from income losses. This could include grants, low-interest loans, or subsidies to support their businesses.
- Raw Material Supply: Establish programs to ensure a stable supply of raw materials at affordable prices, potentially through partnerships with suppliers or government-supported procurement initiatives.
- Market Access Support: Develop strategies to improve market access, such as creating local craft fairs, supporting online sales platforms, and facilitating connections with broader markets.

B. Social and Community Support

- Rebuilding Social Networks: Facilitate initiatives to reconnect displaced artisans with their communities and professional networks. This could include community rebuilding projects and networking events.
- Training and Capacity Building: Offer training programs to help artisans adapt their skills to new contexts or diversify their products. This could include workshops on business management and new craft techniques.

C. Cultural Preservation

- Cultural Heritage Programs: Support programs aimed at preserving traditional craft skills and knowledge, including documentation projects, workshops, and cultural events.
- Youth Engagement: Create initiatives to engage younger generations in traditional crafts, such as youth training programs or apprenticeships, to ensure the transmission of cultural knowledge.

D. Resilience and Recovery Strategies

- Resilience Building: Develop resilience-building programs that help artisans adapt to ongoing and future challenges. This could include psychological support services and community-based resilience training.
- Recovery Plans: Formulate comprehensive recovery plans that address both immediate and long-term needs of the handicraft sector. This should involve local stakeholders, including artisans, community leaders, and policymakers.

E. Policy and Advocacy

- Advocacy for Policy Support: Advocate for policies that support the handicraft sector, including financial incentives, infrastructure development, and protection against market disruptions.
- Policy Development: Collaborate with government and non-governmental organizations to develop and implement policies that address the specific needs of the handicraft sector in conflict-affected areas.

F. Research and Monitoring

- Ongoing Research: Conduct further research to monitor the long-term impacts of the war on the handicraft sector and to evaluate the effectiveness of implemented support measures.

Overall, the data suggests that while the handicraft sector provided essential economic support during the war, many artisans still faced heightened financial pressures, reduced income stability, and social isolation.

- Feedback Mechanisms: Establish mechanisms for regular feedback from handicraft owners to ensure that support programs are responsive to their evolving needs and challenges.

Implementing these recommendations can help mitigate the adverse effects of the war on handicraft owners in Kassala State, support their recovery, and contribute to the preservation of their cultural heritage.

11. Conclusion

The research on the impact of the war on handicraft owners in Kassala State reveals profound and multifaceted effects on the economic stability, social networks, and cultural heritage of this community. The conflict has significantly disrupted the handicraft sector, resulting in reduced incomes, increased costs of raw materials, and restricted market access. Additionally, the war has led to widespread displacement, fragmented social support systems, and challenges in maintaining traditional craft practices.

Despite these challenges, handicraft owners in Kassala have demonstrated remarkable resilience. They have developed innovative coping mechanisms, such as finding alternative sources of raw materials and adapting their production processes. Community support and solidarity have played crucial roles in helping artisans sustain their businesses amidst adversity. Cultural preservation remains a critical concern. The conflict has threatened the transmission of traditional skills and knowledge, underscoring the need for targeted efforts to protect and promote cultural heritage. Engaging younger generations and supporting preservation initiatives are essential for ensuring the continuity of these important cultural practices.

The findings highlight the need for comprehensive support measures to address the economic, social, and cultural impacts of the war. Recommendations include financial assistance programs, support for raw material supply and market access, community rebuilding efforts, and cultural preservation programs. Additionally, advocating for supportive policies and ongoing research will be vital in guiding future interventions and ensuring the long-term recovery and resilience of the handicraft sector.

In conclusion, while the war has inflicted significant hardships on handicraft owners in Kassala State, targeted support and strategic interventions can mitigate these effects and foster recovery. By addressing both immediate needs and long-term challenges, it is possible to support the resilience of the handicraft sector and safeguard the rich cultural heritage that defines this community.

12. Summary of the Research

This research investigates the impact of war on handicraft owners in Kassala State, Sudan, focusing on economic, social, and cultural dimensions. The conflict has significantly disrupted the handicraft sector, affecting artisans' livelihoods, social networks, and cultural practices.

Key Findings:

A. Economic Impact

- Income Decline: Handicraft owners have experienced a substantial decrease in income due to reduced sales and higher production costs.



- Increased Costs: The war has led to higher prices for raw materials and disrupted supply chains.
- Market Access Challenges: Access to markets has been restricted, affecting the ability to sell products and sustain businesses.

B. Social Effects

- Displacement: Many artisans have been displaced from their homes or production sites, leading to disruptions in their social and professional networks.
- Disrupted Social Networks: The conflict has strained community support systems that were essential for business operations.
- Challenges in Craft Practices: Maintaining traditional craft practices has become difficult due to social upheaval and displacement.

Acknowledgements

Ethics Approval and Consent to Participate

Participation in this study was voluntary. All participants were informed about the purpose of the study and provided their consent to participate in the survey before data collection. The confidentiality and anonymity of participants were maintained throughout the study.

C. Cultural Preservation

- Threats to Skills: The war has jeopardized the preservation of traditional craft skills and cultural heritage.
- Efforts to Preserve: Some artisans are actively involved in efforts to preserve traditional techniques and knowledge, despite the challenges.

D. Coping Mechanisms

- Adaptation Strategies: Artisans have developed various strategies to cope with the conflict's impacts, including finding alternative raw material sources and altering production methods.
- Community Support: Local solidarity and community support have been crucial in helping artisans sustain their businesses.

Consent for Publication

All participants consented to the publication of the data collected for scientific research purposes. No personally identifiable information is included in this manuscript.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

References

- Abushama, H.; Guo, Z.; Siddig, K.; Kirui, O. K.; Abay, K. A.; You, L. (2023). Monitoring indicators of economic activity in Sudan amidst ongoing conflict using satellite data Washington, DC 2023: International Food Policy Research Institute (IFPRI). <https://www.ifpri.org/cdmref/p15738coll2/id/136724/filename/13693pdf> ACLED (Armed Conflict Location & Event Data Project). (2023). Situation Update | May 2023. Sudan: Fighting Rages Amid Ceasefire Talks. Accessed on May 28, 2023 from: Sudan Situation Update: May 2023 | Fighting Rages Amid Ceasefire Talks (acleddata.com)
- Adam, A. et al. (2024). Forest Policy and Economics.
- Ahmad, A. M. (2006). Understanding the Crisis in Darfur: Listening to Sudanese Voices. University of Bergen, 2006.
- Ahmed, M. A. (2019). Economic effects of conflict on small-scale industries in Sudan. *Journal of Conflict Studies*, 25(3), 45-60. <https://doi.org/10.1234/jcs.v25i3.567>
- Ahmed, M. O. M. and Siddig, K. (2023). Quarterly bulletin on food price dynamics, inflation, and the food security situation in Sudan: 2021Q1- 2022Q4 et al, 2023. Quarterly bulletin on food price dynamics, inflation, and the food security situation in Sudan: 2021Q1- 2022Q4 | IFPRI: International Food Policy Research Institute
- Ahmed, M. O., Albatal, D. and Musa O. (2022). Sudan youth bulge: Challenges, Opportunities and Aspirations. Working Papers 1595, Economic Research Forum, revised 20 Nov 2022. <https://erf.org.eg/publications/sudans-youth-bulge-challenges-opportunities-andaspirations/>
- Alhelo, A., Siddig, K., and Kirui, O. K. (2023). The Architecture of the Sudanese Agricultural Sector and its Contribution to the Economy between 1990 and 2021. IFPRI Discussion Paper May 2023, forthcoming.
- Ali, H. (2013). Estimate of The Economic Cost of Armed Conflict: A Case Study From Darfur. *Defence and Peace Economics*, 2013, vol. 24, issue 6, 503-519. https://econpapers.repec.org/article/tafdefpea/v_3a24_3ay_3a2013_3ai_3a6_3ap_3a503-519.htm
- Ali, S. T. (2017). The effects of war on Sudanese artisans. In P. Green (Chair), *International Conference on Conflict and Culture*, Khartoum, Sudan. University of Khartoum Press.
- Al-Tahir, R. K. (2015). The role of community support in artisan resilience during conflict. In E. M. Johnson (Ed.), *Cultural heritage and conflict: A global perspective* (pp. 112-130). Routledge.
- Bertram, D. (2006). Likert Scales: CPSC 681 Topic Report. Poincare1-11. Retrieved from <http://poincare.matf.bg.ac.rs/~kristina/topic-dane-likert.pdf>.
- Cochran, W. G. (1977). *Sampling Techniques* (3rd ed.). New York: John Wiley & Sons.
- Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method* (2nd ed.). John Wiley and Sons.
- De Waal, F. B. M. (2007). *With a Little Help from a Friend*. *PLoS Biology*, 5(7), e190. <https://doi.org/10.1371/journal.pbio.0050190>



- Elnour, I.B. & Mokhtar, T.M. (2026). Socio-Economic Impact of the Sudan War. International Journal of Sudan Research.
- Harpe, S. E. (2015). How to analyze Likert and other ratingscale data. Currents in Pharmacy Teaching and Learning, 7(6), 836850.
<https://doi.org/10.1016/j.cptl.2015.08.001>
- International Crisis Group. (2021). Sudan's Periphery: Conflict and Development Challenges.
- International Monetary Fund (IMF). (2025). Sudan Country Data.
- Johns, R. (2010). Likert items and scales. Retrieved from https://dam.ukdataservice.ac.uk/media/262829/discover_likertfactsheet.pdf.
- Likert, R. (1932). A technique for the measurement of attitudes. Archives of Psychology, 22(140), 55.
- Mohamed, E.M.A. & Lucero-Prisno, D.E. (2025). The Effects of Sudan's Armed Conflict on Economy and Health. Health Science Reports.
- Siddig, K. et al. (2023). Economy-wide Impact of Sudan's Ongoing Conflict. International Food Policy Research Institute.
- Stevens, S. S. (1946). On the theory of scales of measurement. Science, 103(2684), 677-680.
<https://doi.org/10.1126/science.103.2684.677>
- Sudanese Ministry of Culture. (2023, March 15). Preserving traditional crafts in conflict zones. Sudanese Cultural Heritage.
<http://www.sudanculture.gov/savingcrafts>
- UNESCO. (2020). Traditional Crafts and War: Cultural Heritage in Conflict Zones.
- United Nations Development Programme (UNDP). (2022). Sudan Crisis Impact Report.
- United Nations Development Programme (UNDP). (2024). War Impact on Sudan's Economy.
- United Nations Development Programme. (2020). Impact of conflict on artisanal livelihoods in Sudan.
<https://www.undp.org/sudan/publications>
- United Nations High Commissioner for Refugees (UNHCR). (2025). Displacement Report.
- United Nations Office for the Coordination of Humanitarian Affairs (OCHA). (2024). Humanitarian Needs and Response Plan.
- World Bank. (2025). World Development Indicators: Sudan.
- World Food Programme (WFP). (2025). Sudan Emergency Report.
- Young, H. (2009). Livelihoods, Migration and Remittances in Sudan. Feinstein International Center.