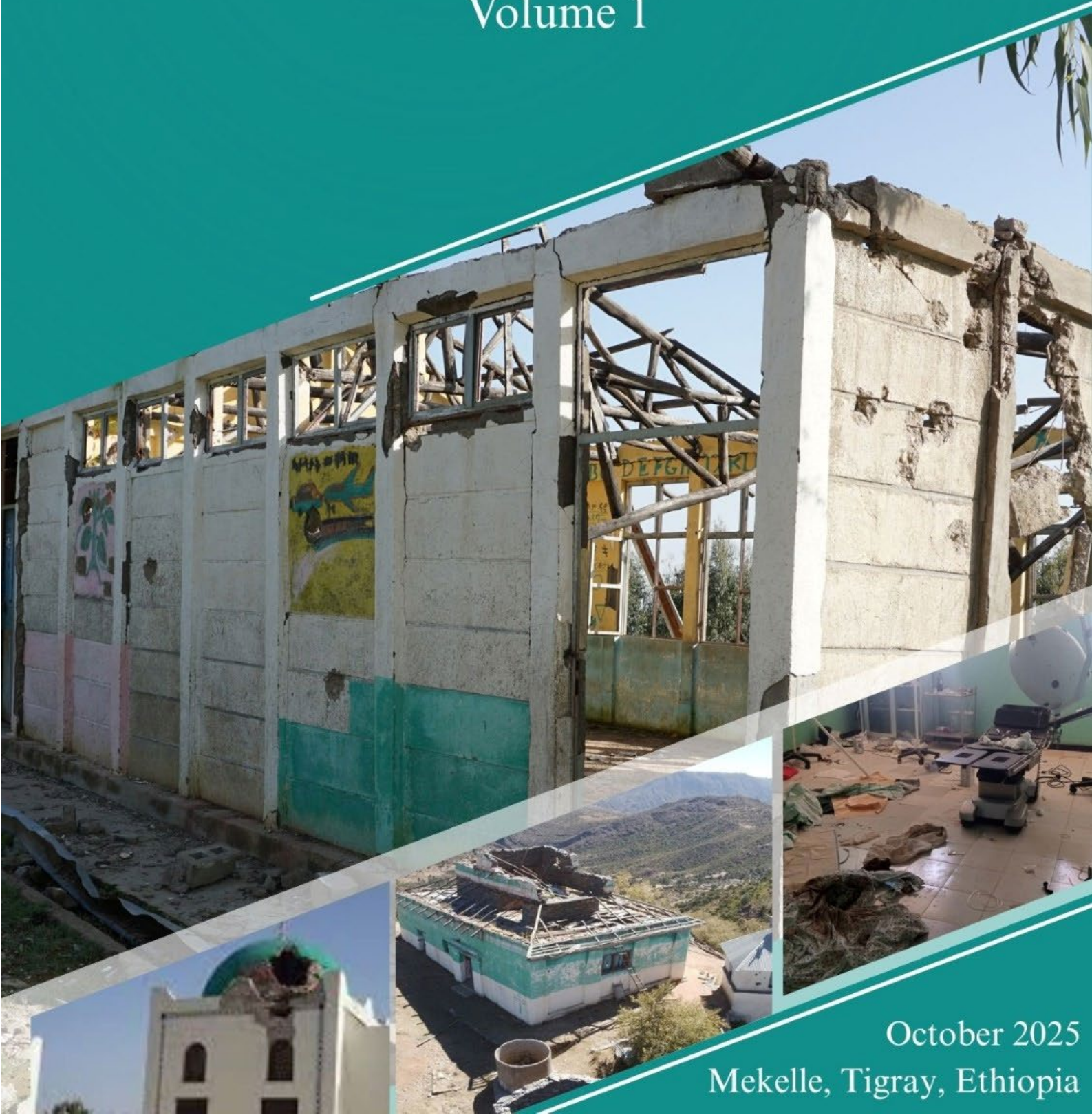




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Commission of Inquiry on Tigray Genocide

The Systematic Undoing of Society: War Damage and Loss in the Social Sector of Tigray

Volume 1



October 2025
Mekelle, Tigray, Ethiopia

The Systematic Undoing of Society: War Damage and Loss in the Social Sector of Tigray

VOLUME 1



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Note to the Reader

This document constitutes **Volume I of the Social Sector War Damage and Loss Assessment Report**. It presents verified, self-reported data from households, private enterprises, and public institutions across the Tigray region. Due to constraints in temporal and geographic coverage, **subsequent volumes will follow** to incorporate additional findings.

Key considerations for interpreting this volume:

- **No extrapolation or estimation** has been applied. All figures reflect actual submissions, standardized only for price and quantity comparability (e.g., number of school rooms or medical equipment per facility type).
- The monetary values reported represent **intergenerational assets and accumulated wealth**, not annual budgets or gross domestic product figures. They should not be compared with fiscal or economic aggregates.
- The report covers **regional and federal institutions residing within the scope of the assessment in Tigray**, capturing the breadth of war-related effects across social sectors.
- **Losses far exceed visible damage**. The prolonged siege and blockade—lasting more than two years—led to widespread service disruptions and lasting setbacks in health, education, and cultural continuity, which persisted long after the damage occurred.
- These cumulative losses, though harder to quantify, are **central to understanding the full impact of the crisis** and must inform any recovery or justice framework.

Readers are encouraged to approach this volume as a foundational reference, recognizing both its rigor and its limitations. The data herein reflects lived realities and institutional memory, and its interpretation demands sensitivity to context, scale, and the enduring consequences of the war.

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List of Acronyms and Abbreviations

AACTE	Abbiyi Addi College of Teacher Education (AACTE)
AGF	Amhara Government Forces
ARGF	Amhara Regional Government Forces
BOSAR	Bureau of Social Affairs and Rehabilitation
CBSLA	Community-Based Savings and Loan Associations
CBSSA	Community-Based Social Service Associations
CBSSO	Community-Based Social Service Organizations
CDO	Community Development Organizations
CGI	Cultural Goods Industry
CH	Cultural Heritage
CITG	Commission of Inquiry on Tigray Genocide
DaLA	Damage and Loss Assessment
E.C.	Ethiopian Calendar
ECLAC	Economic Commission for Latin America and Caribbean
EDF	Eritrean Defense Force
EFP	Ethiopian Federal Police
EHA	Ethiopian Heritage Authority
ENDF	Ethiopian National Defense Force
EPSS	Ethiopian Pharmaceutical Supply Agency
ETB	Ethiopian Birr
FDRE	Federal Democratic Republic of Ethiopia
FMOH	Federal Ministry of Health
GDP	Gross Domestic Product
GE	General Education
GER	Gross Enrolment Rate
HEIs	Higher Education Institutions
HH	Households
HIV	Human immunodeficiency virus
HNO	Humanitarian needs overview
ICCROM	International Centre for the Study of the Preservation and Restoration of Cultural Property
ICH	Intangible Cultural Heritage
ICOM	International Council of Museums
ICOMOS	International Council on Monuments and Sites
ICT	Information and Communication Technologies
KG	Kinder Garden
LLL	Lifelong Learning
MDGs	Millennium Development Goals
MSF	Medical Sans Fronts
MSNA	Multi-Sectorial Needs Assessment
NER	Net Enrolment Rate
NGOs	Non-Governmental Organizations
ODK	Open Data Kit

OOPE	Out-of-pocket expenditure
OR	Odd ratio
PSNP	Productivity Safety Net Program
REST	Relief Society of Tigray
RH	Repositories of Heritage
SDGs	Sustainable Development Goals
TBL	Tuberculosis and Leprosy
TCH	Tangible Cultural Heritage
TCTB	Tigray Culture and Tourism Bureau
TDA	Tigray Development Association
TDF	Tigray Defense Force
TECs	Teacher Education Colleges
THB	Tigray Health Bureau
TIRA	Tigray Inter Religious Association
TOTC	Tigray Orthodox Tewahedo Church
TREB	Tigray Regional Education Bureau
TVET	Technical Vocational Education and Training
UN	United Nations
UNDP	United Nations Development Program
UNDRR	United Nations disaster risk reduction
UNESCO	United Nations Education Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
UPE	Universal Primary Education
USD	United States Dollar
WH	World Heritage
WHO	World Health Organization
WHS	World Heritage Site
WoHO	Woreda health office

Executive Summary

Introduction

Introduction

Prior to the war, Tigray was recognized for its social sector achievements, had reached near-universal access to education and healthcare, attained gender parity, and actively preserved its rich cultural heritage. The region was also distinguished by its deeply rooted traditional community structures, anchored in cultural, religious, and community-based associations and organisations such as Edir and Equb (hereafter social welfare organizations), which nurtured social cohesion, solidarity, and collective resilience. However, the onset of war in November 2020, compounded by a prolonged blockade and siege, shattered these hard-won achievements. The result showed extensive destruction of essential social services, plunging the region into a deep humanitarian and socio-economic crisis.

The primary objective of this assessment is to document the extent, nature, and magnitude of damage, the losses, and the broader socio-economic impact of the war, blockade, and siege on Tigray's social sector. The assessment also aims to generate credible evidence to support justice, accountability, recovery, and reconstruction efforts. It focused on education, health, cultural heritage, religious institutions, and social welfare organizations. This report excludes Western Tigray and parts of the eastern and northwest zones due to security concerns during the data collection period.

Methodology

This assessment employed a mixed-research design, mainly quantitative to assess the damages and losses caused by the war. It was guided by two internationally recognized frameworks: the UN-ECLAC Damage and Loss Assessment (DaLA) Framework, which focuses on evaluating the economic and social impacts across sectors, and the UNESCO Damage and Risk Assessment Framework, which was primarily applied to assess cultural heritage and related institutions. Data were obtained from the census, which consists of 659,675 households, reports of 4,960 institutions (1195 health, 1926 Education, 724 cultural heritage and religious institutions, and 1115 social welfare organizations), and 33 investigative cases. However, the assessment process faced constraints, including incomplete and fragmented data due to disrupted institutional reporting systems and a lack of baseline information. In addition, severe shortages of required supplies constrained fieldwork and data collection efforts. Despite these

limitations, the adopted methodological approach provided a solid foundation for estimating the scale and impact of the damages and losses across the social sector.

Findings

The findings reveal widespread and devastating destruction across all sectors, with total damages and losses estimated at approximately **USD 10.86 billion**. The education sector sustained about USD 5.38 billion, the health sector accounts for USD 3.59 billion, and others amount to approximately USD 1.88 billion (Table 1).

Table 1. Damage and Loss Summary (USD in Millions)

Sub sector	Damage Value			Loss Value			Total Effect
	Public	Privat	Total	Public	Privat	Total	
Health	680.8	18.65	699.45	2,876.46	13.39	2,889.85	3,589.30
Education	2414.72	43.75	2451.28	2,887.76	44.25	2,932.01	5,383.29
Heritage		632.1	632.1		966.5	966.5	1,598.60
Social Welfare Organizations		47.54	47.54		230.53	230.53	278.07
Total	3095.52	742.04	3837.56	5,764.22	1,254.67	7,018.89	10,857.14

Source: CITG survey,2022

Based on the share of the damage value attributed by perpetrators, the Eritrean Defense Forces (EDF) took the lion's share in damage to education (56.3%), health (43.9%), and cultural heritage and religious institutions (ranging from 38.62% to 40.11%) followed by the Ethiopian National Defense Forces (ENDF). On the other hand, ENDF caused higher damage to social welfare institutions, followed by the Amhara forces. (Table 3). Across all sectors, the level of damage is dominated by complete destruction, followed by high-level damage, where most losses were catastrophic and largely unrecoverable.

Table 2:. Damage to the social sector by the perpetrator.

Sub-sector	Perpetrator							Others
	EDF	ENDF	Amhara Forces	Afar Forces	EFP	Bandits	Combinations	
Health	56.3	16.8	3.7	0	0	0	4.6	18.5
Education	43.9	24.6	1	0.2	2.9	3.9	9.8	13.6
Social Welfare	11	27.2	17.7	0.6	2.7	5	11.2	24.6
Cultural Heritages, Religious Institutions								
<i>Cultural Heritages Assets</i>	38.62	36.29	18.2	5.26				1.63
<i>Historical Buildings</i>	40.11	32.75	20.64	4.98				1.35
<i>Historical Handcrafted property</i>	38.75	31.22	21.09	5.35				2.34
<i>Artistic and Historical Objects</i>	39.06	35.34	17.89	5.5				1.78

Source: CITG survey,2022

Impact

The overall impact on the social sector includes School closures, loss of human capital, service collapse, cultural erasure, trauma, disruption of the community-based social institutions and organizations that weakened the long-term established social and cultural fabric of Tigray, which distracts social cohesion, trust, and the collective capacity for recovery.

Health systems collapsed, with maternal mortality rising from 186 to 840 per 100,000 live births, immunization coverage plummeted from 100% to 20%, and facility functionality fell below 30% in hospitals and clinics. Management of chronic diseases worsened, while HIV, malaria, and psychosocial issues grew more severe. Education faced a near-complete breakdown—over 1.2 million children were out of school, enrollment declined by more than 80%, and 14,000 teachers and education leaders did not return to school, deepening learning gaps and trauma. Heritage sites aged centuries were destroyed, erasing cultural identity and disrupting intergenerational links. Social welfare institutions lost public trust; traditional support systems like Eddir and Equb were destabilized; and forced identity changes and language suppression further fractured social cohesion. These combined effects have eroded trust, disrupted community institutions, and weakened collective resilience justice.

The destruction of both public and private social sectors has exacerbated displacement, poverty, weakened household resilience, and increased dependence on humanitarian assistance. In addition, the war triggered restrictions on access to basic needs and services, such as shortages of food, medicine, educational opportunities, and hindered humanitarian assistance.

Finally, given the complexity and long-term effects of the war on the social sector, coordinated efforts among government bodies, communities, and development partners are crucial, requiring substantial investment and capacity-building to ensure sustainable recovery and resilience across Tigray's social system.

1. Introduction

1.1 Background

The Commission of Inquiry on the Tigray Genocide identifies a profound and unprecedented social-sector gap as one of the defining consequences of the conflict in Tigray. Prior to November 2020, Tigray had achieved remarkable progress in social development through a decentralized governance model that ensured equitable access to health care, education, and social welfare. Strong community-based systems—anchored in traditional institutions such as Edir, Equb, and religious organizations—had fostered social cohesion, solidarity, and resilience.

However, the war, accompanied by a systematic blockade and siege, dismantled these achievements and created a deep developmental rupture. This gap represents the distance between Tigray’s pre-war social capacity and its post-war condition—a collapse not only of infrastructure, but of the human, institutional, and cultural systems that sustained community life.

The Commission’s preliminary findings reveal that the blockade, communication blackout, and deliberate obstruction of humanitarian assistance severely hindered the functioning of essential services. Hospitals and schools were destroyed or rendered inoperable; administrative systems were paralyzed; and traditional social safety nets were overwhelmed by displacement, deprivation, and trauma. The combined effect produced a multidimensional void—an institutional, social, and psychological gap that continues to undermine recovery efforts.

Furthermore, due to the prolonged isolation of the region, the full extent of this gap remains largely undocumented. The Commission notes that the absence of access for independent investigators, humanitarian agencies, and data collection mechanisms during the blockade period has resulted in a major evidentiary deficit. This lack of verified information conceals the true scale of human loss, service collapse, and social disintegration.

The Commission concludes that the social-sector gap in Tigray is not a mere byproduct of war but a deliberate outcome of policies and actions that targeted the civilian population and its means of survival. This systemic destruction reversed decades of progress, eroded community resilience, and left a lasting legacy of deprivation and trauma. Bridging this gap will require more than reconstruction—it demands justice, institutional rehabilitation, and the restoration of social trust as prerequisites for recovery and reconciliation

1.2 Objective of the study

General Objective

To document the overall effect of the war, blockade, and siege on the social sector in Tigray, encompassing health, education, social welfare, and cultural heritage systems.

Specific Objectives

- The goal is to suggest practical pathways for institutions, researchers, and the wider community, serving as a trustworthy reference for future research, interventions, and coordinated efforts.
- To document the scope, nature, and scale of damage, losses, and the broader socio-economic effects of the war, blockade, and siege on Tigray's social sector.
- To evaluate the broader socio-economic impacts, such as disruptions to essential services, livelihoods, and community resilience.
- To produce credible evidence to support justice, accountability, recovery, and reconstruction efforts.

1.3 Scope of the Study

The study covered all accessible zones of Tigray during and after the onset of the war, blockade, and siege. However, due to security and logistical challenges, some areas—particularly Western Tigray and parts of the Northwestern, Eastern, and Southern zones—were excluded.

The assessment encompassed multiple dimensions of social sector services, including education, health, social welfare, cultural heritage, and community institutions. Both public and private institutions were included wherever feasible.

Data collection was conducted primarily from June 2021 up to November 2024, with follow-up verification extending through late 2022. The assessment covered the period from November 2020 up to November 2022, capturing the onset and initial impacts of the conflict.

1.4 Structure of the report

The remaining of this report is organized into four main chapters: a Methodology chapter, which details the study design, data collection tools, analytical procedures, and limitations; and the three subsequent chapters present the sector-specific findings, including Damage and Loss to the Health Sector, highlighting impacts on facilities, equipment, and services; Damage and Loss to the Education Sector, focusing on universities, schools, and learning continuity; Damage and Loss to Cultural Heritage, Religion, and Social Values, which examines the effects on cultural sites, religious institutions, and community social structures; and finally, Damage and Loss to Social Welfare Organizations, summarizing the impacts on social protection systems and community support services. Together, these chapters provide a structured and detailed account of the study's findings and implications.

2. Methodology

2.1 Research Design

This study employed a mixed-method research design, combining quantitative and qualitative approaches. The Damage and Loss Assessment (DaLA) framework guided the overall methodology, enabling the systematic collection, analysis, and valuation of data related to the war's impact on social sector services and community values in Tigray.

A census approach was adopted to ensure complete enumeration of all accessible households and institutions within the study area. This method allowed comprehensive coverage and minimized sampling error, providing a holistic understanding of the affected population. Integration of primary and secondary data during analysis enhanced the reliability and validity of the findings.

The investigation employed a qualitative case study approach to examine the effects of the war on the education sector and cultural heritage sites. Purposive sampling was used to select participants with direct knowledge and involvement, including educational administrators, school principals, Parent–Teacher Association (PTA) leaders, and local heritage custodians.

2.2 Data Sources

The study relied on both primary and secondary data sources to achieve its objectives.

Primary Data Sources

- **Households:** Census-based data collection using structured questionnaires administered via the Open Data Kit (ODK) mobile application. Enumerators conducted door-to-door interviews under close supervision to ensure data completeness and accuracy.
- **Institutions:** Data collected directly from public and private institutions, including health facilities, education centers, cultural and religious institutions, and social welfare organizations. Institutional heads or designated representatives completed standardized assessment checklists and questionnaires.
- **Key Informants:** In-depth interviews with community leaders, religious figures, cultural custodians, and professionals provided qualitative insights into the human, cultural, and institutional impacts of the war.
- Data were collected through semi-structured, face-to-face interviews that encouraged participants to describe their experiences and observations in detail, accompanied by field

notes. Additionally, systematic on-site observations were conducted using a prepared checklist to examine and record the condition of buildings, infrastructure, and educational resources. Photographs and video recordings were taken to document visible damage, while institutional documents and media reports were reviewed to support and verify the collected information.

Secondary Data Sources

Published and unpublished reports, government and administrative records, prior studies, and databases were reviewed to supplement and cross-check primary findings. Relevant policy documents, statistical reports, and international references (e.g., UNESCO guidelines) were also consulted to ensure consistency and methodological rigor.

2.3 Data Collection Tools

Standardized data collection tools were developed by subject-matter experts and peer-reviewed by the research team and relevant institutions to ensure technical soundness and contextual appropriateness.

The following tools and methods were applied:

- **Census Instruments:** Structured ODK-based questionnaires for households and institutions; Excel-based forms for specific institutional data (e.g., private sector facilities).
- **Site Visits and Documentation:** Field teams conducted direct site inspections of selected institutions, religious and cultural heritage sites to document physical damage and loss. Site visits included photography, video, and audio recording, along with review of inventory lists and archival records.
- **Interviews:** Semi-structured interviews were conducted with key informants—such as museum staff, religious leaders, teachers, and health professionals—to capture lived experiences and contextual understanding of damages and losses.
- **Case Studies:** Detailed case studies were undertaken in selected locations and institutions to illustrate specific impacts, recovery efforts, and community-level implications.

2.4 Operational definitions and measurement

- **Damage:**
Refers to the total or partial destruction of physical assets (e.g., infrastructure, facilities, heritage sites) occurring during or immediately after the war. Damage is measured in physical units and valued based on replacement or repair costs at prevailing market prices.
- **Loss:**
Denotes the decline in economic flows and service provision resulting from the war, blockade,

and siege, persisting until recovery and reconstruction are achieved. Losses include unprovided health, education, and welfare services, as well as additional expenditures incurred during the emergency phase.

- **Additional Cost:**

Represents extra expenses incurred as a direct consequence of war and siege conditions, such as increased operational costs or emergency expenditures.

- **Perpetrators:**

Entities identified as responsible for causing destruction or disruption, including:

- ENDF – Ethiopian National Defense Forces
- EFP – Ethiopian Federal Police
- EDF – Eritrean Defense Forces
- Amhara forces
- Afar forces
- Bandits – non-state armed actors or criminal groups
- Joint forces - combined forces
- Others – unidentified or spontaneous groups, affiliated groups

- **Execution/Mechanism Type:**

The methods through which destruction occurred, including airstrikes, shelling, burning, tank attack, bomb, rifle, shooting, mining, looting, chemical contamination, or structural breaking.

- **Nature of Damage:**

The intent or context behind destruction — deliberate, collateral, looting, or repurposing of facilities (e.g., military use of civilian structures).

- **Damage Type:**

- Burned – Charred or destroyed by fire
- Looted – Items stolen or removed
- Broken – Physically damaged or rendered non-functional
- Stolen – Removed with intent to permanently deprive

- **Blockage:** Is an obstruction or the act of stopping something from passing through, which makes movement or flow difficult or impossible (Gebreslassie, 2024).

- **Siege:** A siege is defined by Merriam-Webster as “a military blockade of a city or fortified place to compel it to surrender” (Merriam-Webster, 2023). Similarly, the Oxford Dictionary defines a siege as “a military operation in which an army attempts to capture a town by surrounding it and cutting off the supply of food.”
- **War:** War is a war involving two or more organized groups engaged in intense hostilities, without a third party having the authority or ability to effectively adjudicate, punish the opposing sides, or maintain control of the war (Wolfendale, 2017). In this context, the nature of the war is a war against the Tigray people, perpetrated by the Ethiopian defense force and their allies.

2.5 Quality Assurance Measures

To ensure the credibility, reliability, and consistency of the data collected, a comprehensive quality assurance framework was implemented throughout the assessment process. Enumerators and supervisors underwent extensive training on data collection tools, ethical considerations, and field protocols, with emphasis on the correct interpretation of questions, uniform data recording, and adherence to verification procedures. Pre-testing (piloting) of the data collection instruments was conducted prior to full deployment to evaluate the clarity, flow, and relevance of questions, leading to necessary revisions that enhanced accuracy and usability.

Data collection was facilitated using the Open Data Kit (ODK) digital platform, which significantly improved data quality through real-time validation checks, mandatory response settings, and automatic data uploads to the central server. Supervisors reviewed submitted datasets daily to identify and correct inconsistencies, omissions, or anomalies. Cross-verification of data was also performed against existing administrative records and triangulated with qualitative findings to ensure completeness and coherence. This multi-layered validation and monitoring process minimized errors and safeguarded the integrity of the dataset, thereby enhancing the overall credibility of the assessment results.

Content analysis was applied to interview transcripts, observation notes, and documentary materials. Triangulation of data from multiple sources was conducted to enhance the credibility, consistency, and validity of the findings.

2.6 Assumptions and Considerations

- **Prevailing Price:** The study used prevailing market prices at the time of data collection to estimate the value of damaged resources, including medicines, medical supplies, chemicals, reagents, medical and non-medical equipment, and consumables.
- **Costing Approach:** A retrospective cross-sectional cost assessment was applied using a micro-costing methodology to quantify every damaged input. Damage was identified through physical inventory counts at affected facilities, and the quantities of damaged assets were multiplied by their prevailing market prices.
- **Measurement Units and Inflation:** All estimated values of damages and losses were calculated in both Ethiopian Birr (ETB) and United States Dollars (USD) to facilitate comparability and international comprehension of results. A standard exchange rate of 1 USD = 56.6 ETB was applied consistently across all valuation exercises. To reflect the true economic value of assets and services at the time of assessment, adjustments were made for inflation based on the national inflation index of 33%.

This inflation adjustment ensured that cost estimations accurately represent the increased market prices of goods, construction materials, and services due to macroeconomic changes and conflict-related disruptions. The use of both local and international currency values also allowed for transparent presentation and easier integration with national recovery planning and donor financing frameworks. Together, these measures ensured the robustness and comparability of financial estimations across sectors and time periods.

- **Severity of Damage:** The level of damage was categorized according to internationally recognized standards:
 - [0–25%]: Low damage
 - (25–50%]: Moderate damage
 - (50–75%]: High damage
 - (75–100%]: Severe or complete destruction

2.7 Ethical Considerations

Ethical standards guided the entire research process.

- **Informed Consent:** Participants were clearly informed about the purpose and scope of the study before participation. Oral consent was obtained, and participation was entirely voluntary.
- **Confidentiality:** To protect respondent identities, pseudonyms were used, and no identifying information was disclosed in the report or annexes.
- **Respect and Safety:** The rights, privacy, and safety of all participants were respected, especially given the sensitive context of ongoing war.
- **Integrity:** All secondary data sources were properly acknowledged, ensuring transparency and credibility of the research.

2.8 Data Management and Analysis

The study employed both quantitative and qualitative analytical techniques:

- **Data Cleaning and Validation:** All datasets were checked for completeness, consistency, and outliers. Missing information was addressed where possible through triangulation with institutional or secondary sources.
- **Quantitative Analysis:** Data from ODK and Excel were exported to SPSS, Stata, and Excel for processing. Descriptive statistics (frequencies, percentages, means, and medians) were generated to summarize findings.
- **Economic Valuation:** Physical damages were translated into monetary terms using prevailing market prices. For consistency, the study used a conversion rate of 1 USD = 56.6 Ethiopian Birr (ETB), and values were reported in millions of USD.
- **Qualitative Analysis:** Interviews, case studies, and observations were analyzed thematically to complement quantitative findings and provide contextual depth. Integration of qualitative and quantitative results allowed for triangulation and a comprehensive interpretation of the data.

2.9 Limitations of the study

Conducting this damage and loss (DaLA) assessment during an active war and siege presented numerous challenges that affected the data collection process, coverage, and overall reliability of findings. Despite the research commission's best efforts to obtain comprehensive and

accurate information, several limitations constrained the scope and representativeness of the study.

Security and accessibility constraints were among the most notable challenges. Large parts of Tigray—including Western, portions of Northwestern, Central, Eastern, and Southern zones—were inaccessible due to ongoing insecurity, which restricted field visits and direct data collection. Consequently, the findings may not fully represent conditions across the entire region.

Limited financial, material, and human resources also posed obstacles. Time constraints, logistical difficulties, and restricted mobility further hindered data gathering. Additionally, the complete blockage of internet and communication services during parts of the study period prevented timely access to relevant literature, databases, and institutional records.

Data limitations were another constraint. In many cases, accurate and up-to-date baseline information on pre-war conditions was unavailable, making it difficult to conduct systematic comparisons or determine the full extent of damage and loss. Institutional data on both public and private entities were often incomplete, inconsistent, or unavailable due to record destruction, looting, and disrupted reporting systems. Specifically, data from higher education institutions, including Mekelle University and Raya University, were not included, which limits the assessment of damages and losses in the education sector. Coverage of the private sector was also limited compared to the public sector, potentially underrepresenting the full scope of economic impacts in non-governmental enterprises.

Market uncertainties also affected cost estimations. Inflation, price fluctuations, and unforeseen circumstances related to recovery and reconstruction could alter actual costs compared to the estimates provided. Moreover, ongoing instability and periodic disruptions mean that the study may not capture all continuing or future losses resulting from the war.

Despite these manageable challenges, the study provides valuable insights into the magnitude and nature of the damage and loss experienced in Tigray. The findings should therefore be interpreted within the context of these limitations, which underscore the inherent difficulty of conducting comprehensive research in war-affected and insecure environments.

3. Damage and Loss to the Health Sector

3.1 Background

Before the war started, Tigray had a better health system with more than 720 health posts, 224 health centers, 24 primary hospitals, 14 general hospitals, 2 comprehensive specialized hospitals, more than 800 functional private health facilities, more than 250 ambulances, and more than 20,000 health workers (1). The structure of the Tigray Health Care System had three tiers: primary level of healthcare that includes health posts, health centers, and primary hospitals; secondary level of health care includes general hospitals; and tertiary level of health care includes specialized referral hospitals (Figure 1).

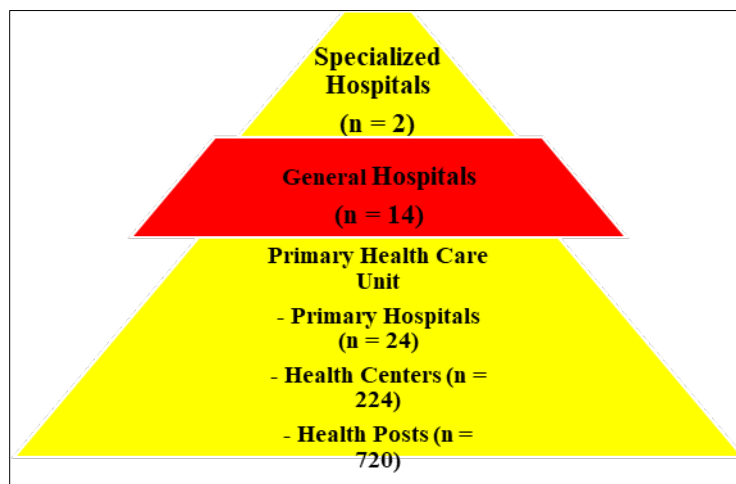


Figure 1. Level of the health care unit

The health sector aims to protect and promote the public's health, while war impedes, disrupts, damages, and even prevents public health efforts. Additionally, war is unquestionably one of the most devastating risk factors impacting health worldwide; it is frequently not included when risk factors for healthcare delivery are listed or studied (2).

Before the war, the Tigray health system demonstrated relatively strong performance across key health service indicators, reflecting substantial progress in healthcare accessibility and quality. Outpatient service utilization stood at 1.8 visits per capita per year, showing that a significant proportion of the population actively used health services. Inpatient attendance reached 131,539 cases annually, while maternal and reproductive health services were widely utilized, with 137,427 maternal service visits, 24,612 abortion care cases, and 80.4% of births attended by skilled professionals. Preventive and maternal health coverage was notably high. Antenatal care coverage reached 94%, early postnatal care 90.8%, and full immunization coverage achieved 100%, signifying an effective and well-coordinated primary health care

system. Furthermore, the contraceptive acceptance rate of 73.2% reflects strong community engagement and reproductive health awareness.

In terms of health outcomes, Tigray's pre-war mortality indicators also reflected positive trends compared to national averages. Maternal mortality was 186 per 100,000 live births, neonatal mortality was 10 per 1,000 live births, and child mortality stood at 29 per 1,000 live births. The system's capacity for managing communicable diseases was also robust, with a tuberculosis case detection rate of 6,690 per 100,000 population and malaria cases totaling 191,046 annually. Although the prevalence of underweight children (40%) indicated ongoing nutritional challenges, the HIV positivity rate was relatively low at 0.49%, suggesting successful prevention and control programs. Overall, these indicators show that before the war, Tigray's health system was performing effectively, delivering both preventive and curative services with strong community participation and efficient health facility utilization (Table 3).

Table 3: Pre-war health service delivery performances in Tigray.

SN	Indicator	Unit	Pre-war Value
1	Outpatient attendance per year (per capita utilization)	Number	1.8
2	Inpatient attendance per year	Number	131539
3	Maternal services	Number	137427
4	Abortion care	Number	24612
5	Emergency services	Number	614534
6	Major surgical services	Number	53617
7	Minor surgical services	Number	160851
8	Maternal mortality	Per 100,000 live births	186
9	Neonatal mortality	Per 1000 live births	10
10	Child mortality	Per 1000 live births	29
11	Full Immunization coverage	%	100
12	Antenatal care coverage	%	94
13	Early postnatal care coverage	%	90.8
14	Tuberculosis case detection rate	Per 100,000 population	6690
15	Malaria cases	Number	191046
16	Prevalence of underweight children	%	40
17	HIV positivity rate	%	0.49
18	Births assisted by a skilled attendant	%	80.4
19	Contraceptive acceptance rate	%	73.2

Source: Tigray Health Bureau, 2012 EFY annual report.

However, the war on Tigray severely disrupted the health system, leading to the disruption of essential health services, damage to health infrastructure, displacement of health workers, and increased health risks and vulnerabilities (2).

According to the study done by Mulugeta A et al., the war had resulted in the collapse of 70% of the health sector of Tigray. The collapse of the health sector, compounded by the complete blockade of aid and medical supplies, interruption of banking services, transportation services, and communication service blackouts, had led to a severe humanitarian crisis (3). The war that erupted on Tigray was internecine. It brought an enormous humanitarian crisis to the inhabitants and the health sector of Tigray. According to HNO, many were internally and externally displaced, and a large part of the region's (5.7 million) inhabitants needed emergency assistance and protection. Before the war, Tigray had a well-decentralized health care system, but after the war, a few hospitals and health centers were confirmed functional and accessible (5).

The war on Tigray was merciable, which targets health facilities as enemy combatants. Evidence of damaged health facilities was compiled from various reports by the interim government of Tigray, and the international non-governmental organizations showed that only 30% of hospitals, 17% of health centers, 11.5% of ambulances, and none of the 712 (100%) health posts were functional. The population in need of emergency food assistance in Tigray was increased to over 5.2 million (7).

Gender based violence, sexual abuse, and rape were also among the instruments used as a weapon of war. Assessments of wartime sexual violence survivors conducted by the Dr. Denis Mukwege Foundation (), an international human rights organization with 125 women and girls providing information about their attackers at the one-stop center in Shire during November 2020 and June 2021, showed that 59 were reported gang rape by armed forces personnel. 2,204 survivors sought services for sexual violence at health facilities (inclusive of hospitals and health centers) across Tigray from November 2020 through June 2021(8).

3.2 War Effect

Damages (Overall)

Considering this assessment study, 643 Health Posts, 208 Health Centers, 22 Primary Hospitals, 12 General Hospitals, 2 Specialized Hospitals, 219 private health facilities and other regional and woreda health offices were damaged either fully or partially due to the war. The war on Tigray left the health sector in a state of near-total collapse. Hospitals and health facilities were systematically targeted, looted, and occupied by multiple perpetrators, resulting in severe disruptions to service delivery. The Eritrean Defense Forces (EDF) were the most widespread

actors, devastating hospitals in northern and eastern Tigray. The Ethiopian National Defense Force (ENDF) concentrated in the southern corridor, while joint EDF and ENDF operations in central and southwestern Tigray caused high-intensity destruction. In southern and southeastern areas, combined actions by ENDF, federal police, and Amhara Forces led to the most severe devastation, rendering hospitals non-functional (Figure 2). Post-war, Tigray faces a dire health crisis marked by inaccessible referral hospitals, a shortage of skilled staff and medicines, and communities forced to travel long distances or remain untreated, leaving millions at risk. The map below explains the geographical concentration of perpetrators that caused widespread destruction, looting, and occupation of health facilities, resulting in the collapse of hospital services and severely limiting post-war health accessibility.

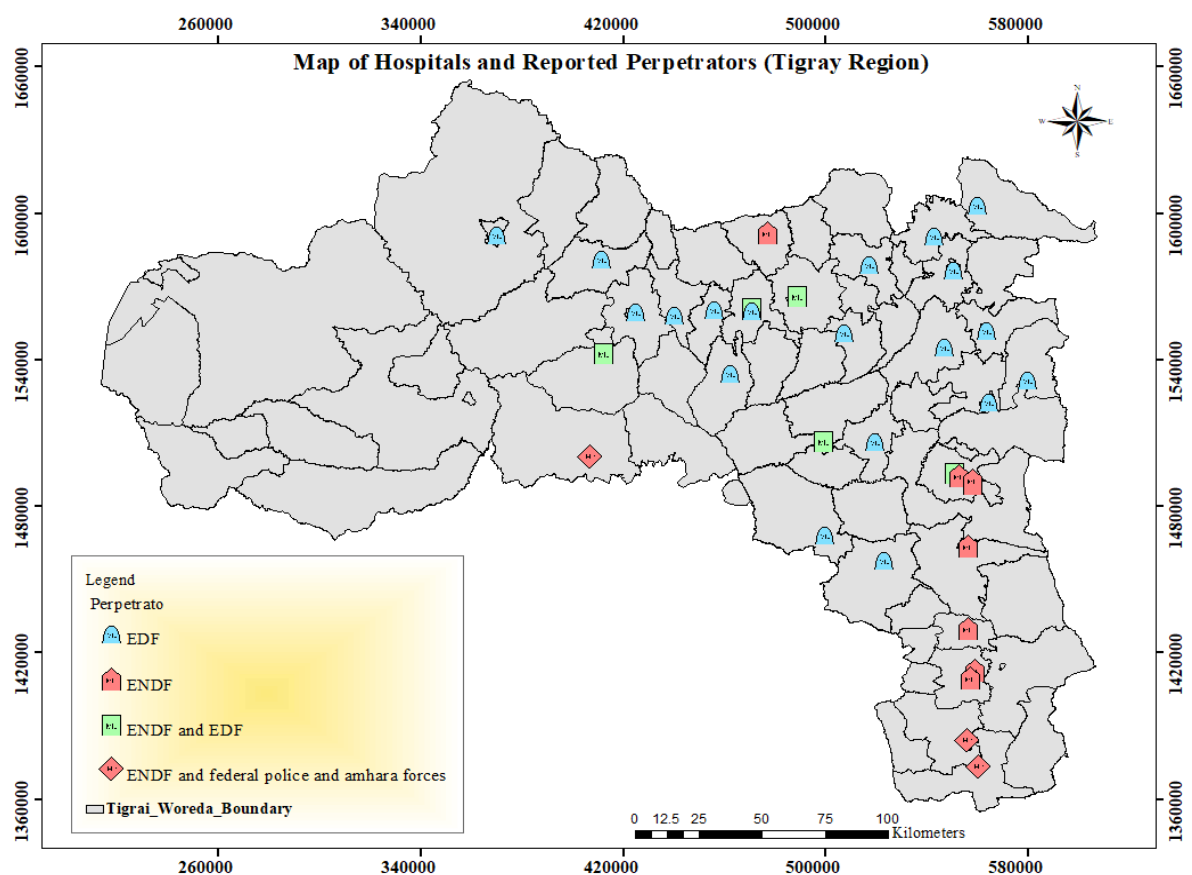


Figure 2. Geographical concentration of different perpetrators who caused widespread destruction of health facilities.
Source: CITG survey, 2022.

The war on Tigray devastated the region's health system, leaving health facilities looted, destroyed, and medical supplies scarce. Thousands were left without access to essential care as health workers fled or were displaced (Figure 3).



Figure 3. damaged medical equipment, medicine, medical supplies
Source: CITG survey, 2022.

The war on Tigray has resulted in a widespread destruction of healthcare infrastructures and the complete breakdown of the healthcare system. As shown in Figure 4, the damage and loss of the war in monetary terms was about USD 3589.30 million. The damage cost in monetary terms was about USD 699.45 million. Meanwhile, the direct economic loss in monetary terms was estimated to be about USD 2889.85 million. With regard to the public sector, the economic cost of the war amounted to USD 3557.26 million, while the damage value was estimated at USD 680.80 million, and the loss value amounted to USD 2876.46 million. The economic cost incurred in the private sector due to the war was about USD 32.04 million, while the damage value was estimated at about USD 18.65 million, and the loss value amounted to USD 13.39 million. The public sector bears almost all (99.93%) of this burden.

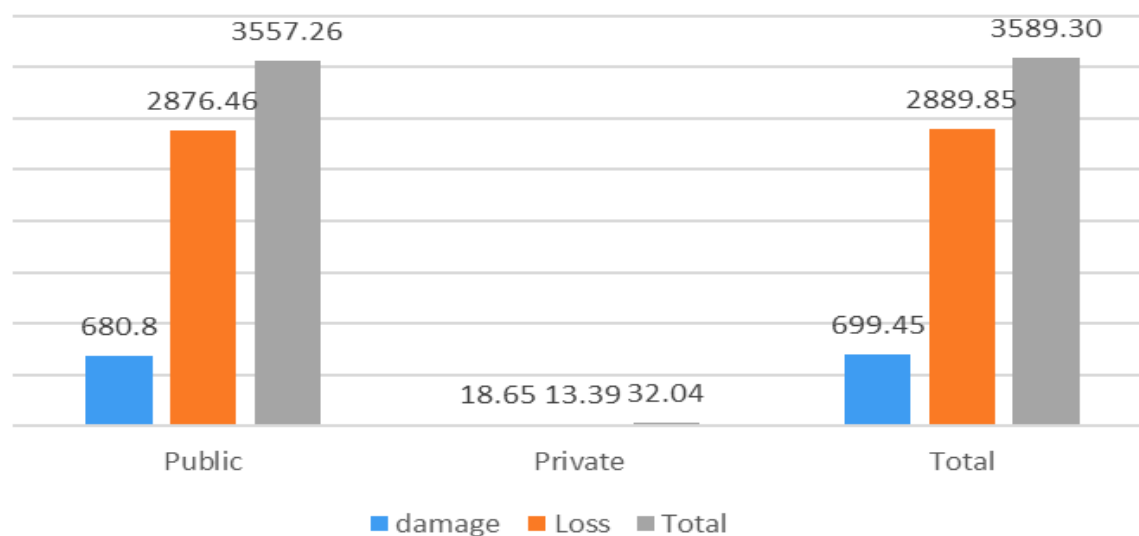


Figure 4. Economic damages and losses of the health sector of Tigray in million USD.
Source: CITG survey, 2022.

Damage by item

Table 4 presents a detailed assessment of damages due to the war in the health sectors of Tigray, categorized by item type and valued in millions of U.S. dollars. Overall, the total damage across the health sector amounts to 699.45 million USD, with the public health sector bearing the vast majority of the damage at 680.8 million USD, compared to 18.65 million USD in the private sector. This clearly shows that public health facilities were far more affected, accounting for approximately 97% of the total damages.

Table 4. Amount of health sector damage by item category

item category	Public health sector		Private health sector		Total	
	Damaged quantity	Million USD	Damaged quantity	Million USD	Total damaged quantity	Million USD
Medicines, LAB reagents sanitary, & E. Chemicals	31512020	65.7	742079	7.47	32254099	73.18
Building	882	428	488	3.05	1370	431.05
Medical equipment, and LAB equipment	4106309	24.2	2977	3.71	4109286	27.91
Vehicles and machinery	425	8.5	78	0.75	503	9.25
Office equipment and furniture	36514	79.8	1300	3.01	37814	82.80
Electric material and ICT	148448	42.9	597	0.35	149045	43.25
Books, records and Consumable goods	3368931	31.7	1089476	0.31	4458407	32.01
Total	39173529	680.8	1836995	18.65	41010524	699.45

Source: CITG survey, 2022

Among all categories, buildings suffered the highest damages, totaling 431.05 million USD, which represents more than 60% of the total damage value. This was followed by office equipment and furniture at 82.81 million USD, and Medicines, LAB reagents and chemicals valued at 73.18 million USD. ICT (Information and Communication Technology) and electric materials were also damaged with an estimated amount of 43.25 million USD. Other categories such as medical equipment and medical supplies were also damaged with an amount of 27.91 million USD, mainly within the public health sector. As compared to the public health sector the private health sector recorded relatively smaller damages across most categories, with the highest private health sector damages reported for buildings amounted to 3.05 million USD, medical equipment and medical supplies amount to 3.71 million USD. The private health sector office equipment and furniture had also suffered from a remarkable damage that amounts to 3.01 million USD due to the war on Tigray that erupts on November 2020. Over all the war on Tigray brings a widespread destruction on both the health sectors which causes for millions not accessed essential health services.

Damage by Level

Table 5 elaborates the extensive destruction inflicted on the Tigray private health sector during the war. The total estimated damage amounts to 18.65 million USD. The overwhelming majority of this damage, nearly 97%, falls under the >75% damage level, signifying that most of the health assets were either completely destroyed or rendered unusable. This pattern reflects not partial or localized damage but a widespread and severe breakdown of the entire healthcare infrastructure. The destruction of medicines, valued at 5.85 million USD, further demonstrates the devastating impact on the supply of essential drugs, making it impossible to deliver even basic healthcare services. The buildings alone also account for approximately 3.05 million USD in damages, showing that many health facilities were severely damaged or destroyed. The medical equipment category follows closely with damages of about 3.03 million USD, indicating that diagnostic and treatment capacities were virtually wiped out. Similarly, the damage of furniture valued at 2.91 million USD highlights the physical looting and destruction of health facilities, while the damage of books and records worth 0.09 million USD shows that crucial medical documentation and administrative data were obliterated.

Table 5. Damage to different item categories by level of damage.

Type of Item	Level	Quantity	Million USD
Building	Low damage	144	0.39
	Moderate damage	159	0.46
	High damage	94	0.71
	Complete Destruction	91	1.49
Vehicles	Complete Destruction	24	0.7
Office Equipment	Low damage	2	0
	High damage	1	0
	Complete Destruction	236	0.1
Furniture	Low damage	4	0.01
	Moderate damage	27	0.01
	High damage	8	0.02
	Complete Destruction	1,024	2.88
Medical equipment	Complete Destruction	2,784	3.03
LAB equipment	Complete Destruction	193	0.68
LAB reagents and chemicals	Complete Destruction	61,354	1.11
Medicines	Complete Destruction	660,949	5.85
Machinery	Complete Destruction	54	0.05
Electric materials	Complete Destruction	507	0.31
ICT	Complete Destruction	90	0.04
Consumable goods	Complete Destruction	1,073,327	0.21
Books and records	Complete Destruction	16,144	0.1
Environmental chemicals	Complete Destruction	19,469	0.41
Sanitary materials	Complete Destruction	312	0.09
Total		1,836,995	18.65

Source: CITG survey, 2022.

The laboratory reagents and chemicals valued at 1.11 million USD reveal the collapse of laboratory services, a critical component of diagnostic care. Other categories such as vehicles (0.7 million USD), environmental chemicals (0.41 million USD), electric materials (0.31 million USD), ICT (0.04 million USD), and machinery (0.05 million USD) also show significant damages, further crippling operational and logistical capacity. Although consumable goods (0.21 million USD) and sanitary materials (0.09 million USD) represent smaller financial values, their destruction has direct implications for hygiene, infection control, and day-to-day clinical operations. Overall, the evidence points to a catastrophic collapse of the Tigray health system. The near-total destruction of medical equipment, pharmaceuticals, and infrastructure means that healthcare delivery has been paralyzed at all levels. The damage of medical records and ICT systems further hampers continuity of care and recovery efforts. In essence, the financial losses captured in the table reflect not just physical damage but the systemic dismantling of the region's healthcare capacity. Restoring the health sector will therefore require large-scale reconstruction, re-equipping, and restocking of facilities, alongside rebuilding institutional systems and human resource capacity. The data clearly demonstrates that the war's impact on the Tigray health sector was not merely severe but devastating, leaving behind a nonfunctional health infrastructure that will demand years of rehabilitation.

Damage by Perpetrator

The effect of Perpetrators on the health sector on different item categories

Table 6 explains the extensive damage of the health sector of Tigray amounting to an estimated 699.45 million USD, affecting buildings, vehicles, medicines and laboratory reagents and chemicals, medical equipment and supplies, office equipment and furniture, ICT infrastructure, and books and records. The Eritrean Defense Forces (EDF) were responsible for the largest share of damage, amounting to 393.89 million USD, which represents more than half of the total damages. Their damage was targeted primarily on health buildings amounting to 258.21 million USD and office equipment and furniture amounting to 47.02 million USD, followed by significant damages in medicine and laboratory items amounting to 31.82 million USD and ICT equipment 24.61 million USD. The Ethiopian National Defense Forces (ENDF) brings the second highest level of destructions, amounting to 117.68 million USD, mainly targeting buildings and office equipment. Combined operations between ENDF and EDF caused an additional 84.53 million USD in damages, while the joint actions of EDF, Federal, and Amhara

Forces contributed about 45.26 million USD. The Amhara Forces alone were responsible for around 25.73 million USD, and other smaller contributors such as ENDF and bandits, ENDF and Amhara Forces, and bandits caused damages ranging from 3 million to 18 million USD. In terms of asset categories, buildings were the most heavily damaged, accounting for 431.05 million USD.

Table 6. Health sector damage caused by different perpetrators

SN	Type of perpetrator	Damage caused by perpetrators in million USD							Total
		Buildings	Vehicles	Medicine and LAB	ME and supplies	O/E and furniture	ICT	Books & records	
1	Afar forces	0.3	0.18	0.37	0	0.01	0.01	0.01	0.88
2	EDF	258.21	3.86	31.82	11.27	47.02	24.61	17.1	393.89
3	ENDF	69.64	1.62	10.03	4.63	16.69	8.91	6.16	117.68
4	ENDF and EDF	33.75	2.77	21.39	8.26	9.25	4.62	4.45	84.53
5	EDF, federal & Amhara Forces	32.16	0	4.62	1.92	3.44	0.97	2.15	45.26
6	Amhara Forces	18.06	0.07	1.91	1.07	2.41	1.63	0.58	25.73
7	ENDF and bandits	14.31	0	0	0	1.71	0.98	0.83	17.83
8	ENDF and Amhara Forces	3.39	0.69	0.34	0.12	1.83	1.26	0.58	8.21
9	Bandits	1.21	0.07	0.95	0.24	0.35	0.2	0.15	3.17
10	EDF and Amhara forces	0.01	0	0	0.01	0	0	0	0.02
11	non response	0.01	0	1.71	0.42	0.1	0.01	0	2.25
12	total	431.05	9.26	73.14	27.94	82.81	43.2	32.01	699.45

Source: CITG survey, 2022

Share of damage caused by perpetrators on the health sector

Figure 5 below elaborates the percentage share of different perpetrators responsible for the damage caused on the health sector of Tigray. The data clearly indicate that the Eritrean Defense Forces (EDF) account for the largest proportion, contributing to 56.3% of the total damage. This is followed by the Ethiopian National Defense Force (ENDF) with 16.8%, and the combined actions of ENDF and EDF at 12.1%. Other notable contributors include EDF, federal, and Amhara forces (6.5%), Amhara Forces (3.7%), and Afar Forces (0.1%). Smaller shares are attributed to combinations such as ENDF and bandits (2.5%), EDF and Amhara forces (1.2%), and bandits alone (0.5%), while non-reported (NR) cases make up 0.3%. Overall, the figure highlights that the overwhelming majority of damage to the Tigray health sector was caused by the EDF, underscoring its dominant role among the perpetrators identified.

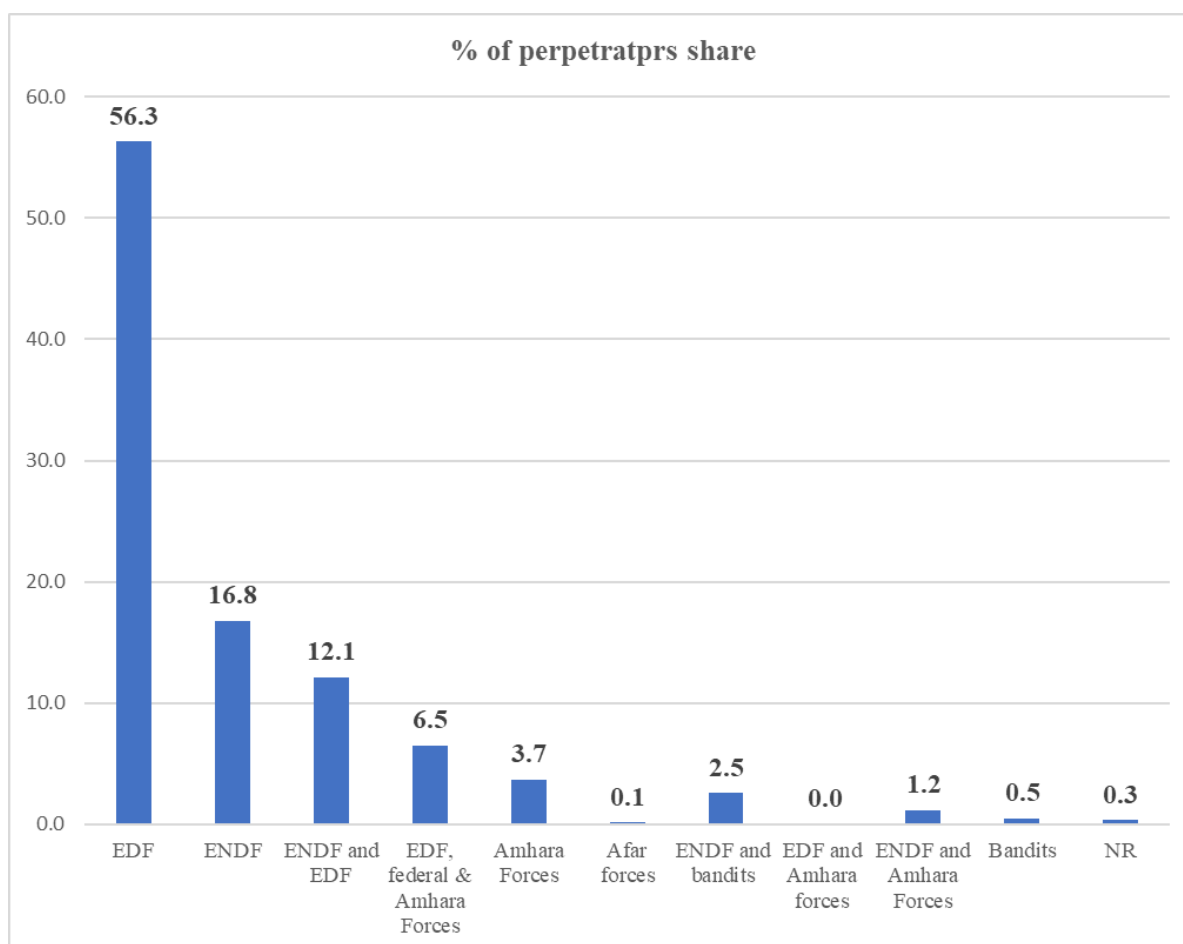


Figure 5. Share of damage caused by perpetrators on the health sector.
Source: CITG survey, 2022.

Effect of Perpetrators on the public health sector on different item categories

Table 7 elaborates the findings of damages, measured in millions of U.S. dollars, attributed to various perpetrators across several asset categories, including buildings, vehicles, medicine and laboratory equipment, medical equipment and supplies, office equipment and furniture, information and communication technology (ICT), and books and records. The total estimated damage amounts to approximately 680.80 million USD. Among the perpetrators, the Eritrean Defense Forces (EDF) caused the most extensive destruction, responsible for about 386.76 million USD in damages, representing more than half of the total losses. The Ethiopian National Defense Forces (ENDF) follow with approximately 114.86 million USD, while combined forces such as ENDF and EDF, and EDF, federal and Amhara forces contributed significantly with 84.01 million USD and 45.26 million USD, respectively.

Table 7. Summary of damage caused by perpetrators on public health sector.

S N	Type of perpetrator	damage caused by perpetrators in million USD							Total
		Buildings	Vehicles	medicine and LAB	ME and supplies	O/E and furniture	ICT	Books, records & consumables	
1	EDF	257.77	3.47	28.72	10.93	44.34	24.56	16.97	386.76
2	ENDF	69.48	1.57	9.25	2.88	16.66	8.9	6.12	114.86
3	ENDF and EDF	33.26	2.77	21.3	7.96	9.7	4.61	4.41	84.01
4	EDF, federal & Amhara Forces	32.16	0	4.62	1.92	3.44	0.97	2.15	45.26
5	Amhara Forces	16.54	0	1.33	0.41	2.34	1.39	0.55	22.56
6	ENDF and bandits	14.31	0	0	0	1.71	0.98	0.83	17.83
7	ENDF and Amhara Forces	3.39	0.69	0.34	0.1	1.83	1.26	0.58	8.19
8	Bandits	1.06	0	0.11	0.03	0.29	0.19	0.1	1.78
9	Total	427.97	8.5	65.67	24.23	79.86	42.86	31.71	680.80

Source: CITG, survey, 2022

Across all categories, buildings had the highest damage, amounting to 427.97 million USD, which accounts for roughly two-thirds of the total. Other heavily affected categories include office equipment and furniture amounting to 80.31 million USD and medicine and laboratory assets amounting to 65.67 million USD. In contrast, vehicles experienced the least damage at 8.5 million USD, followed by books and records at 31.71 million USD and ICT equipment at 42.86 million USD.

Effect of Perpetrators on the private health sector on different item categories

Table 8 presents a detailed breakdown of damages attributed to various groups (referred to as “perpetrators”) across different categories such as buildings, vehicles and machinery, medical and laboratory supplies, office equipment, ICT infrastructure, and consumables. Overall, the total estimated damage across all categories amounts to 18.65 million USD. Among the listed perpetrators, the Eritrean Defense Forces (EDF) are responsible for the largest share of total damages amounting to 7.13 million USD, representing a largest portion of the overall damages. Their impact is especially severe in the category of medicine and laboratory reagents and chemicals amounting to 3.10 million USD and office equipment and furniture at 2.68 million USD, suggesting extensive looting or destruction in those areas. The Ethiopian National Defense Forces (ENDF) follow with a total of 2.82 million USD, mainly due to significant damages in medical equipment and supplies amounting to 1.75 million USD. Similarly, Amhara Forces caused a total damage of 3.17 million USD, with the highest figure recorded in buildings at 1.52 million USD, indicating widespread infrastructure damage linked to their actions.

Table 8. Damage caused by perpetrators on private health sector.

Type of perpetrators	damage caused by perpetrators in million USD							Total
	Buildings	Vehicles & Machinery	medicine and LAB reagents & chemicals	Medical equipment & supplies	Office equipment & furniture	Electricity & ICT	Books, records & consumables	
Afar forces	0.3	0.18	0.37	0	0.01	0.01	0.01	0.88
EDF	0.44	0.39	3.1	0.34	2.68	0.05	0.13	7.13
ENDF	0.16	0.05	0.78	1.75	0.03	0.01	0.04	2.82
ENDF and EDF	0.46	0	0.09	0.3	0.05	0.01	0.04	0.95
EDF, federal & Amhara Forces	0	0	0	0	0	0	0	0
Amhara Forces	1.52	0.07	0.58	0.66	0.07	0.24	0.05	3.19
ENDF and bandits	0	0	0	0	0	0	0	0
ENDF and Amhara Forces	0	0	0	0.02	0	0	0	0.02
Bandits	0.15	0.07	0.84	0.21	0.06	0.01	0.05	1.39
EDF and Amhara forces	0.01	0	0	0.01	0	0	0	0.02
None response	0.01	0	1.71	0.42	0.1	0.01	0	2.25
Total	3.05	0.76	7.47	3.71	3	0.34	0.32	18.65

Source: CITG, survey, 2022

Joint operations or combined forces such as ENDF and EDF amounting to 0.95 million USD and ENDF and Amhara Forces amounting to 0.02 million USD contributed relatively small proportions of the total damages, while bandits caused 1.39 million USD, primarily in medicine and lab reagents at 0.84 million USD. A small but notable portion of the data with an estimate of 2.25 million USD falls under “none response,” likely representing cases where the perpetrator could not be identified, with a significant part of this total again involving medical-related damages at 1.71 million USD.

Across categories, medicine and laboratory reagents and chemicals with an estimate of 7.47 million USD suffered the greatest overall damage, followed by medical equipment and supplies at 3.71 million USD, and office equipment and furniture at 3.00 million USD. This pattern suggests that health-related facilities and their associated infrastructure were disproportionately affected compared to buildings 3.05 million USD and vehicles 0.76 million USD. The relatively minor damages to electricity and ICT amount to 0.34 million USD and books, records, and consumables at 0.30 million USD indicate that while some information systems and materials were impacted, the destruction was concentrated mainly in medical and institutional assets. In summary, the data highlight a pattern of targeted or collateral damage largely affecting health infrastructure and essential institutional resources, with the EDF, ENDF, and Amhara Forces being the primary contributors to the total reported damages.

Type, level, mechanism and nature of damage on the health sector

Type of damage

The war on Tigray left the health sector in ruins, with buildings, laboratory equipment, reagents, consumables, and other essential items broken, looted, burned, and destroyed across the region. Health facility buildings were heavily bombarded and vandalized, leaving many completely unusable. Laboratory equipment, reagents, and chemicals were either looted or smashed, halting all diagnostic and testing services. Large quantities of consumable goods such as gloves, syringes, and bandages were taken, while books and medical records were burned or deliberately destroyed, erasing critical information. Machinery, electrical materials, and ICT equipment were dismantled or stolen, disrupting power supply and communication systems within hospitals. Furniture and general equipment were stripped from health centers, leaving wards empty and unusable. Even environmental and sanitary materials were looted or ruined, severely compromising hygiene and infection prevention efforts. Overall, the war caused massive, deliberate destruction and looting that dismantled every component of the health infrastructure, leaving facilities non-functional and the population without essential health services.

Figure 6 illustrates the type of damage on the private health sector across various categories of damage, expressed in million USD. The data reveal a pronounced disparity among the categories, with looting emerging as the most significant contributor to financial loss, amounting to approximately 14.53 million USD. This figure markedly exceeds all other forms of damage, suggesting that theft and unlawful appropriation of medical assets constituted the primary source of economic disruption within the sector. In comparison, damages classified as destroyed and non-reported (N/R) accounts for 1.89 million USD and 1.82 million USD, respectively, while broken and burned damages amounts to 0.19 and 0.22 million USD. It is crucial to underscore, however, that this dataset pertains solely to the private health sector, while data from the public health sector, which likely represents a substantial portion of the total health infrastructure, were not collected. Consequently, the current analysis provides only a partial view of the overall impact. The absence of comprehensive public sector data introduces a significant limitation to the interpretation of the findings, as the total economic and functional repercussions on the national health system may be considerably underestimated.

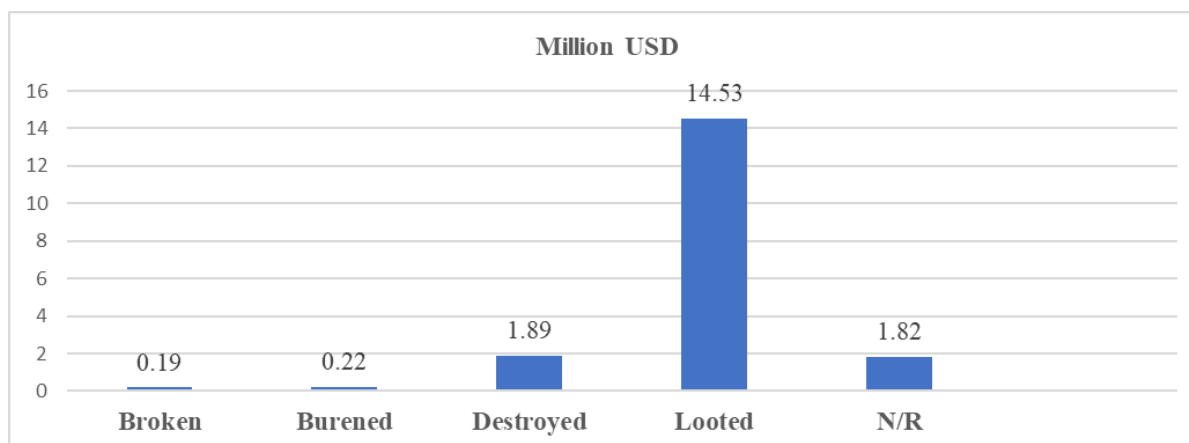


Figure 6. The type of damage to the health sector.
Source: CITG survey, 2022.

Mechanism of actions

Table 9 explains the various mechanisms of damage and their associated financial implications within the private health sector, totaling an estimated 18.65 million USD. The data indicate that looting was the predominant mechanism of destruction, accounting for the majority of financial damage across nearly all categories. Notably, medicines, medical equipment, and furniture represent the most heavily affected asset groups, reflecting extensive disruption to both the operational capacity and service delivery functions of private healthcare facilities. Other mechanisms, including fire burning, artillery attacks, bullet impacts, and air strikes, contributed comparatively lower financial losses, though their structural and functional repercussions may remain substantial in terms of facility degradation and service interruption.

Table 9. Mechanisms of damage on private health sector.

Type of Item	Mechanism	Quantity	Million USD
Building	air strike	125	0.01
	Artilleries	88	0.55
	bulleting	70	0.61
	fire burning	15	0.05
	N/R	71	0.28
	I don't know	119	1.54
Vehicles	air strike	0	0
	Artilleries	2	0.02
	fire burning	2	0.04
	looting	20	0.65
Equipment	Artilleries	1	0
	fire burning	8	0
	looting	232	0.1
Furniture	air strike	5	0
	Artilleries	16	0
	bulleting	58	0.06
	looting	938	2.77
Machinery	N/R	42	0.08
	looting	54	0.05
	bulleting	8	0
Electric materials	fire burning	5	0
	looting	478	0.3
	N/R	16	0.01

Type of Item	Mechanism	Quantity	Million USD
ICT	Artilleries	1	0
	looting	89	0.04
	bulleting	25	0
Medical equipment	fire burning	76	0.06
	looting	2,633	2.80
	N/R	50	0.11
LAB equipment	fire burning	2	0.02
	looting	102	0.28
	N/R	89	0.38
LAB reagents and chemicals	looting	60,050	1.06
	N/R	1,304	0.05
	fire burning	4,074	0.03
Medicines	looting	652,628	5.8
	N/R	4,247	0.02
Consumable	looting	1,071,397	0.19
	N/R	1,930	0.01
	fire burning	12,257	0
Books and records	looting	3,802	0.09
	N/R	85	0
Environmental chemicals	fire burning	200	0.02
	looting	19,167	0.38
	N/R	102	0.1
Sanitary materials	Artilleries	10	0
	fire burning	1	0
	looting	301	0.09
Total		1,836,995	18.65

Note: N/R, No Response
Source: CITG survey, 2022.

It is important to acknowledge, however, that the most critical component of the health sector (the public health sector) was not included in this dataset. Given that public health institutions typically encompass a larger share of national healthcare infrastructure, personnel, and service provision, the exclusion of their data constitutes a significant limitation to the comprehensiveness of the analysis. Therefore, the findings presented here provide only a partial representation of the total impact on the health system. This underscores the need for a more systematic and inclusive data collection framework to capture the full extent of health sector damages.

Nature of damage

Table 10 elaborates the nature of damage on different item categories caused by different perpetrators due to the war on the private health sector either alone or jointly. The data clearly reveals that the nature of the war on Tigray was marked by widespread looting, intentional destruction, and unreported but significant damage across all categories of health-sector assets. This pattern of destruction demonstrates that the war was not limited to incidental or collateral damage; rather, it involved systematic and deliberate targeting of health infrastructure and resources that are critical to the functioning of the healthcare system. The predominance of looting as the major cause of damage indicates organized and purposeful removal of valuable

items such as medicines, laboratory reagents, chemicals, and consumables. This act of stripping health facilities of their essential resources resulted in the paralysis of service delivery and a breakdown of healthcare access for the population.

Table 10. Nature and value of Damage to private health sector by item categories.

Type of Item	Nature of damage	Quantity	Million USD
Medical equipment	non reported	2784	3.03
LAB equipment	non reported	193	0.68
LAB reagents and chemicals	Looting	37443	0.16
	non reported	23911	0.95
	intentional destructions	4074	0.03
Medicines	Looting	652628	3.85
	non reported	4247	0.02
Consumable goods	Looting	1073327	0.21
	intentional destructions	12257	0
Books and records	Looting	3802	0.09
	non reported	85	0
	intentional destructions	200	0.02
Environmental chemicals	Looting	10167	0.38
	non reported	102	0.01
	intentional destructions	11	0
Sanitary materials	Looting	301	0.08

Source: CITG survey, 2022.

The looting of medicines stands out as the most severe case, with an estimated 5.83 million USD worth of drugs stolen, representing nearly 99% of all medicine-related losses. This not only reflects economic loss but also a profound humanitarian crisis, as it deprived thousands of patients of life-saving and essential medicines. Similarly, laboratory reagents and chemicals worth 0.16 million USD were looted, while consumable goods valued at 0.21 million USD were also taken, indicating the near-total depletion of operational supplies in health facilities. The widespread looting extended beyond medicines and consumables to include environmental and sanitary materials, undermining infection prevention and control efforts within healthcare facilities. In addition to looting, the data points to instances of intentional destruction, particularly of critical infrastructure and informational resources. For instance, books and records were deliberately destroyed, with over 12,000 items lost, signaling an effort to erase institutional memory and disrupt administrative continuity. Similarly, environmental and sanitary materials were intentionally destroyed in several cases, compounding the already dire public health conditions. This deliberate damage suggests a war characterized by the targeting of civilian infrastructure, violating principles of humanitarian protection and leaving long-term repercussions on the health system's ability to recover. Moreover, a significant portion of the

damage is listed as “non-reported”, covering items such as medical and laboratory equipment valued at 3.71 million USD. This unclassified damage likely includes facilities and devices rendered inoperable or stolen without proper documentation, further illustrating the chaos and breakdown of governance and record-keeping during the war. The lack of detailed reporting itself underscores the scale of institutional disruption and the collapse of normal administrative functions within the health sector.

Loss by category

The Tigray war has had a severe impact on the health sector, disrupting the delivery of essential health services to the community. As a result, access to vaccinations, maternal care, and disease prevention has decreased, leading to higher morbidity rates and straining the health infrastructure. According to Table 11 of the losses, amounting to 823.07 million USD, are attributed to these disrupted services. Additionally, the collapse of health sector governance accounts for 1560.22 million USD of the total loss. These disruptions have exacerbated health risks and vulnerabilities, necessitating an extra 504.18 million USD in costs. To address these challenges, it is essential to invest in healthcare infrastructure, promote preventive measures, and ensure financial sustainability. Strengthening health systems through partnerships with stakeholders and supporting private sector engagement in healthcare delivery can help achieve these goals.

Table 11. Health sector economic by Type of loss category.

Loss category	Total economic loss value (Million USD)
Disruption of the production of goods and services	
Costs of disrupted health programs, projects, and grants	74.34
Increased cost for referral	26.26
Cost for long-term disability and psychological treatment	150.21
Unexpected health-related humanitarian expenses	267.31
Revenue loss for the public sector due to the war	287.58
Revenue loss for the private sector due to the war	13.39
additional costs invested in temporary maintenance	6.35
Sub total	825.44
Disruption of Governance and decision-making process	
Costs for increased coordination (mgt, technical support, monitoring, and evaluation)	36.30
Cost of lost data for patient histories and medical records	1,360.36
Cost of replacing the workforce in short- and long-term training (dead, displaced, missing)	142.11
Loss of productivity	21.46
Sub total	1,560.22
Increased risks and Vulnerabilities	

Loss category	Total economic loss value (Million USD)
Costs due to risks of interrupted health services	429.18
Cost associated with the lack of optimal vaccination, FP, RMNCH services, and promotion campaigns	28.78
Costs associated with malaria epidemics, vector control campaigns, and others	8.36
Costs associated with the high prevalence of HIV/AIDS	18.80
Costs associated with the high prevalence of TB and leprosy	3.89
Costs associated with the high prevalence of severe acute malnutrition and others	3.65
Costs associated with the risk of COVID-19	11.51
Sub total	504.18
Grand Total	2,889.84

Source: CITG survey, 2022.

Impact of the war

Effect of war, siege, and blockage on the health of households

Table 12 elaborates the household responses regarding access to health service interventions before the war. Out of a total of 659,673 households, the vast majority, 612,169 households (92.8%), reported that they received health service interventions, indicating a high level of coverage. In contrast, 47,504 households (7.2%) reported that they did not receive any health service interventions, reflecting a relatively small portion of the population that was unreached by health services prior to the war. Overall, the data suggest that the pre-war health service system in the Tigray was largely accessible to households.

Table 12. Response of households about health service intervention before the war.

Response of households about health service intervention before the war		
Response	Frequency	Percent (%)
Yes	612,169	92.8
I Did Not	47,504	7.2
N/R	2	0
Total	659, 675	100

Note: N/R, No Response

Source: CITG survey, 2022.

Table 13 elaborates that access to essential health services in Tigray was critically low during the war. Only 3.9% (26,073 households) reported receiving essential health services, while an overwhelming 96.1% (633,602 households) did not get any care. This highlights the severe disruption of healthcare delivery and the widespread inaccessibility of basic medical services across the region during the war.

Table 13. Response of households for Essential health services coverage during war period.

Response of households for Essential health services coverage during war period		
Responses	Frequency	Percent
Yes	26,073	3.9
I Did Not get	633602	96.1
Total	659,675	100%

Source: CITG survey, 2022.

Table 14 summarizes households' responses on the reasons for not accessing health services during the war period in Tigray. Out of a total of 659,675 households, the number of responses reached 709,513, as many households reported more than one reason for the lack of access. When recalculated based on the total household size, 37,674 responses (5.7%) indicated that the long distance from health facilities prevented them from receiving services. The overwhelming majority, 605,201 responses (91.7%), stated that there was no functional health facility available nearby, highlighting the extensive collapse of health infrastructure across the region. In addition, 47,484 responses (7.2%) pointed to the absence of medical equipment in existing facilities, while 19,154 responses (2.9%) mentioned that their local health facilities were damaged. Overall, these household responses clearly demonstrate the multiple and overlapping barriers that left most communities in Tigray without access to essential health services during the war.

Table 14. Reasons for not getting health services.

Reasons for not getting health services?	Frequency	Percent of 659 675 households (%)
Long distance from the health facility	37, 674	5.7
No functional Health Facility was available nearby	605, 201	91.7
No medical equipment in the health Facility	47, 484	7.2
The health facility was damaged	19, 154	2.9
Total	709, 513	More than 100% because of multiple response

Source: CITG survey, 2022.

Table 15 presents households' responses regarding the main factors that led to the decrease in health service provision during the war on Tigray. Although the total number of responses (1,653,038) exceeds the total number of households (659,675), this is because many households reported multiple contributing factors. When recalculated based on the total household size, 489,384 responses (74.2%) indicated that health facilities were damaged by the war, while 627,904 responses (95.2%) attributed the decline in services to the turnout or absence of health professionals. Furthermore, 535,750 responses (81.2%) mentioned the lack

of medical equipment as a key reason for reduced service delivery. Overall, these household responses reveal that the decline in health service provision during the war was primarily due to a combination of widespread destruction of facilities, the displacement or loss of health professionals, and the severe shortage of medical equipment across Tigray.

Table 15. Factors that decrease the provision of services after the war.

Factors decreased health service provision		
Factor type	Frequency	Percent
Damaged by war	489384	74.2%
Turn out a health professional	627904	95.2%
No medical equipment	535750	81.2%
Total	1653038	More than 100.0% because of multiple response

Source: CITG survey, 2022.

Figure 7 illustrates the household responses regarding delivery practices during the war, revealing a significant shift toward home-based deliveries as a result of the war's impact on the health system. Among the 659,675 surveyed households, 49% reported practicing home delivery during the war period. This high proportion reflects the widespread collapse of maternal health services, driven by the destruction of health facilities, shortages of medicines and supplies, lack of skilled birth attendants, and restricted mobility due to insecurity and blockade conditions. Only a small fraction of households indicated access to institutional deliveries. 5% in specialized hospitals, 24% in general hospitals, 7% in primary hospitals, and 15% in health centers demonstrating the severe disruption of the healthcare delivery system. These findings underscore how the war drastically undermined maternal health access and forced many women to give birth without skilled care, increasing the risks of maternal and neonatal complications.

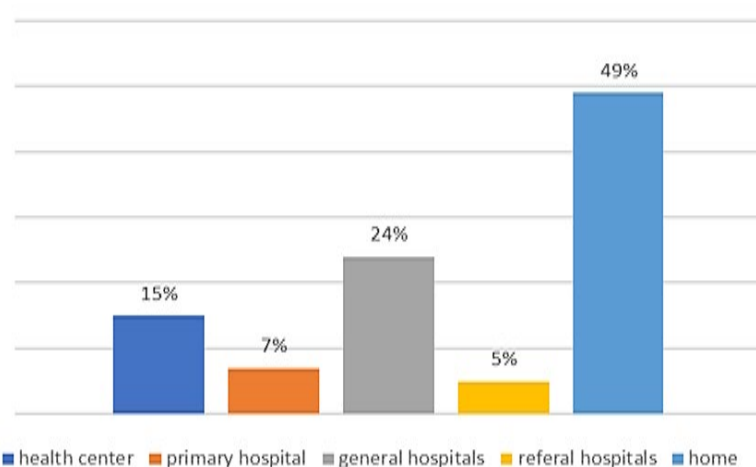


Figure 7. Distributions of deliveries between home and health facilities.

Source: CITG survey, 2022.

Figure 8 presents the households' responses regarding the risks and complications associated with home delivery during the war period. Among the 49% of households who reported practicing home delivery, 6.1% responded that maternal deaths had occurred, while 9.1% indicated neonatal deaths. In addition, 19.6% of households reported that infections occurred following home delivery, 41.3% mentioned excessive bleeding, and 23.9% indicated the presence of other health complications. These responses reflect the experiences and perceptions of households on the dangers of giving birth at home during the war, when access to skilled health professionals, medicines, and functional health facilities was severely limited. Overall, the figure underscores how the war and collapse of the health system forced many mothers to deliver under unsafe conditions, resulting in widespread reports of life-threatening complications.

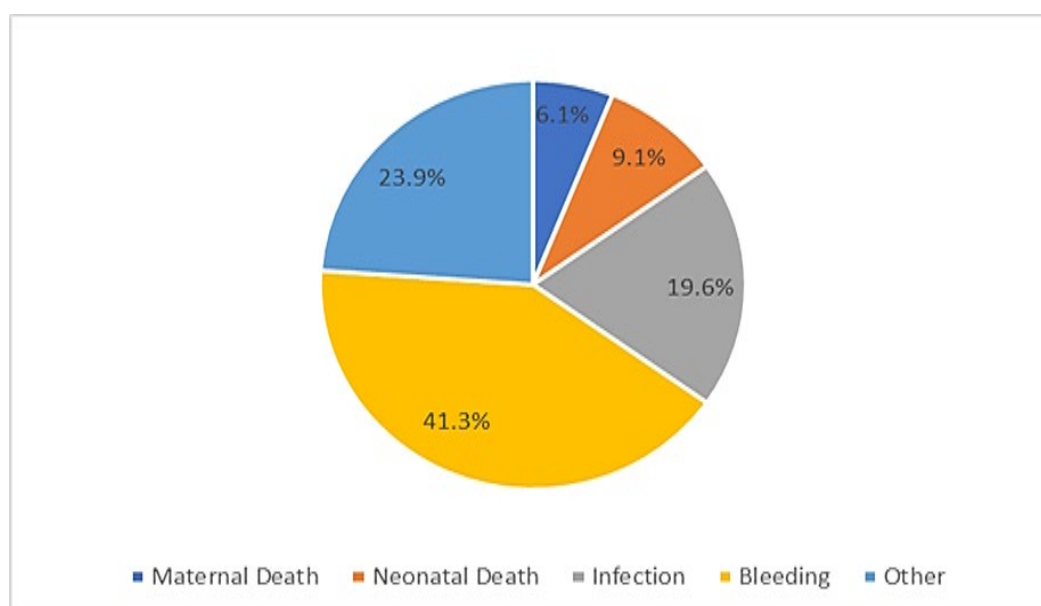


Figure 8. Delivery outcomes during the war period.
Source: CITG survey, 2022.

Figure 9 illustrates households' responses regarding the main causes of maternal deaths during the war, blockade, and siege periods. According to the respondents, maternal mortality was attributed to several interrelated factors that reflected the collapse of the health system. A majority of households (68%) reported drug shortages as the leading cause, followed by the absence of ambulance services (11%), the unavailability of blood for donation (7%), movement restrictions due to political instability (6%), shortages of skilled health professionals (5%), and the lack of essential medical equipment (3%). These responses highlight how the breakdown of health infrastructure, critical supply shortages, and barriers to accessing care collectively contributed to the high burden of maternal deaths during the war.

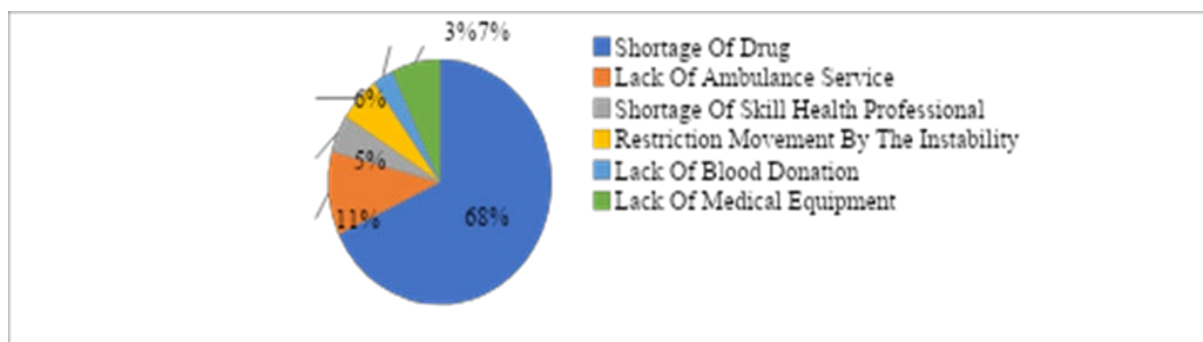


Figure 9. Contributors of maternal death during the war period.
Source: CITG survey, 2022.

Figure 10 illustrates households' responses regarding the major causes of childhood illnesses during the war period in Tigray. According to the respondents, multiple factors contributed to the widespread health problems among children. Malnutrition was identified by 23% of households as the leading cause, followed closely by low vaccination coverage reported by 22.7%. Limited access to essential health services was cited by 20.7% of households, while 18.2% pointed to shortages of drugs, medical supplies, and equipment as major contributors. Additionally, 15.2% of households attributed childhood illnesses to the scarcity of skilled health professionals at health facilities. These responses collectively highlight how the war-induced collapse of the health system, compounded by food insecurity and disrupted immunization programs, severely affected child health across the region.

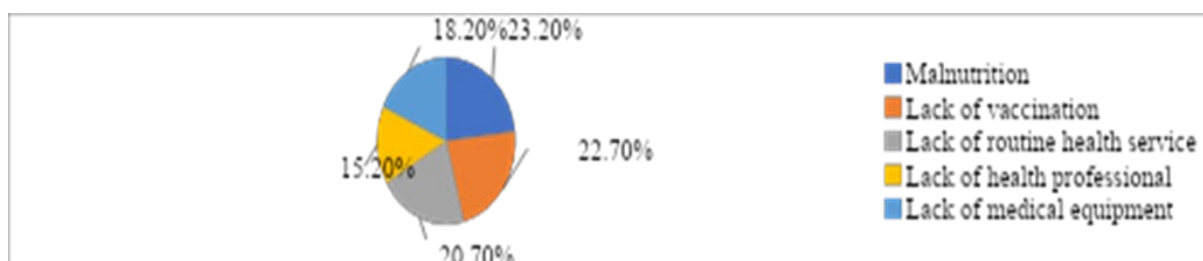


Figure 10. Key factors for childhood morbidity during the war.
Source: CITG survey, 2022.

Table 16 The table shows households' responses regarding vaccination service coverage for children during the war period in Tigray. Out of the total 659,675 households, only 659,394 households provided responses, leaving 281 households as non-reported. Among those who responded, 39,458 households (6%) indicated that their children received vaccination services during the war. However, the majority 463,462 households (70.3%) reported that their children did not receive vaccination services, reflecting the severe disruption of routine immunization programs. Additionally, 156,474 households (23.7%) expressed that they did not want vaccination during the period, possibly due to fear, misinformation, or lack of trust caused by the conflict. Overall, these household responses highlight a significant decline in child

vaccination coverage during the war on Tigray, with only a small fraction of children receiving immunization, while most either lacked access or refused the service amidst the crisis.

Table 16. Vaccination status of households during the war, blockage, and siege period.

Households' response for vaccination services coverage for children during the war period		
Responses	Frequency	Percent (%)
Yes	39,458	6
No	463,462	70.3
I don't want	156,474	23.7
NR	281	0.0
Total	659,675	100

Source: CITG survey, 2022.

Figure 11 presents households' responses on the major factors contributing to malnutrition among children during the war period. According to the respondents, the leading causes were closely linked to the broader socio-economic disruptions caused by the conflict. About 30.6% of households identified the unavailability of a balanced diet as a key cause, while 30.5% pointed to the absence of household income needed for daily food consumption. Additionally, 29.7% reported limited access to banking services, which hindered their ability to purchase essential food items, and 9.2% mentioned inadequate caregiving for children as a contributing factor. These responses reflect how the war and siege created severe economic hardship and food insecurity, leaving many families unable to meet the nutritional needs of their children.

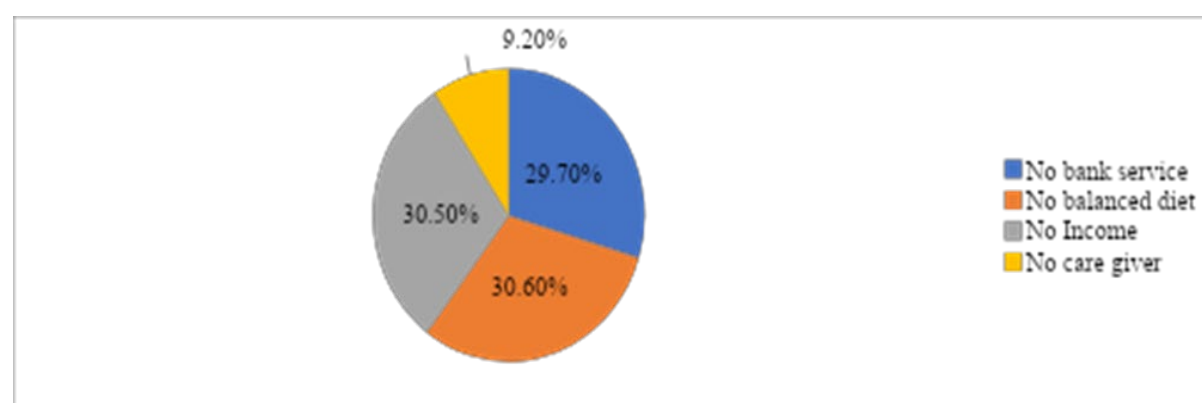


Figure 11. Primary factors underlying malnutrition during the war.

Source: CITG survey, 2022.

Table 17 presents household responses regarding health services provided by Health Extension Workers (HEWs) during the war period. Out of 659,675 households, only 120,589 reported receiving HEW services, with varying levels of satisfaction across different programs. Nutritional counselling, vaccination services, family planning, health education, antenatal care, postnatal care, personal hygiene, environmental sanitation, communicable disease prevention, TB and leprosy tracing, emergency illness surveillance, and malnutrition screening were the main services provided. Household responses indicated diverse perceptions of these services:

some rated them as very high or high, while others reported low or very low satisfaction, and a small proportion observed no change in service quality. Overall, the data reflect limited coverage of HEW programs during the conflict and highlight households' mixed experiences with the accessibility and effectiveness of these essential health services under wartime conditions.

Table 17. Health Services provided by Health extension workers during the war, blockage, and siege periods in Tigray.

Health Services provided by Health extension workers during the war	Respondents' satisfaction				
	Very high	High	Low	Very low	No change
Nutritional counselling	1314	1531	2270	3260	239
Vaccination service	1259	1576	2526	3733	238
Family planning	1161	1549	2540	3769	313
Health education	1096	1627	2483	3859	267
ANC	1032	1605	2451	3869	374
Post-natal care	918	1415	2624	3970	404
Personal hygiene	1040	1810	2543	3661	277
Environmental sanitation	972	1768	2568	3727	296
prevention of communicable disease activities	1042	1607	2664	3729	289
TB tracing	914	1295	2650	4082	390
Leprosy tracing	853	1120	2687	4237	434
Surveillance of emergency illness	813	1171	2625	4291	431
Screening and supporting malnutrition	888	1459	2569	4081	334
total service respondents	13302	19533	33200	50268	4286
Grand total (very high + high + low + very low + no change)	120589				

Source: CITG survey, 2022.

During the war, only 120,589 of 659,675 households reported receiving Health Extension Worker (HEW) services, including maternal care, vaccination, hygiene, disease prevention, and malnutrition screening. Household satisfaction varied: very high (0.7–1.1%), high (0.9–1.5%), low (2.0–2.2%), very low (2.7–3.6%), and no change (0.2–0.4%) across services. These responses indicate limited coverage of HEW programs and mixed household experiences with the accessibility and effectiveness of essential health services under wartime conditions.

Figure 12 presents household responses regarding the shortage of essential drugs during the war and siege. Among respondents, 65% reported experiencing medication shortages, which led to various adverse outcomes: 7% reported deaths, 31.3% additional illnesses, 32.2% pain and physical suffering, and 32.8% psychological distress. Households also identified the main types of drugs that were unavailable, including those for mental health conditions (34.6%), cancer treatment (15.6%), hypertension (13.6%), tuberculosis (11.2%), kidney disease (9.5%), diabetes (8.8%), and HIV/AIDS (6.7%). These responses reflect the severe impact of drug shortages on household health and well-being during the war

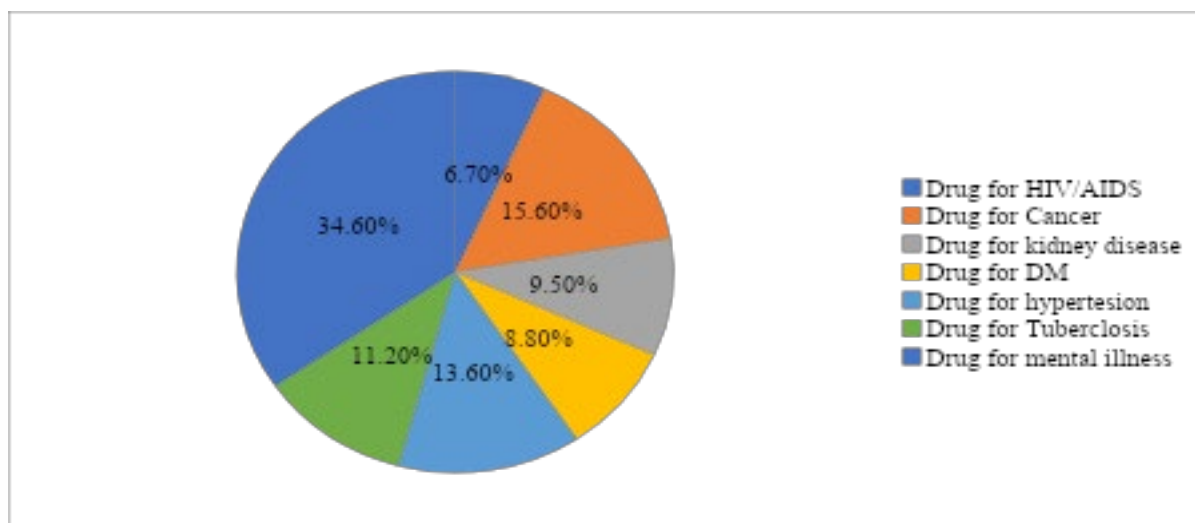


Figure 12. Most common unavailable drugs for chronic diseases during war.
Source: CITG survey, 2022.

Figure 13 below presents household responses, the most common diseases experienced during the war included gastritis (34%), diarrhoea (20.4%), tuberculosis (13%), dermatitis (10.5%), heart disease (8.1%), kidney disease (7.1%), obstructed labour (4.1%), and liver disease (2.9%). These responses reflect the households' perceptions of the health problems most frequently affecting their members under the challenging conditions of war, limited healthcare access, and widespread disruption of services.

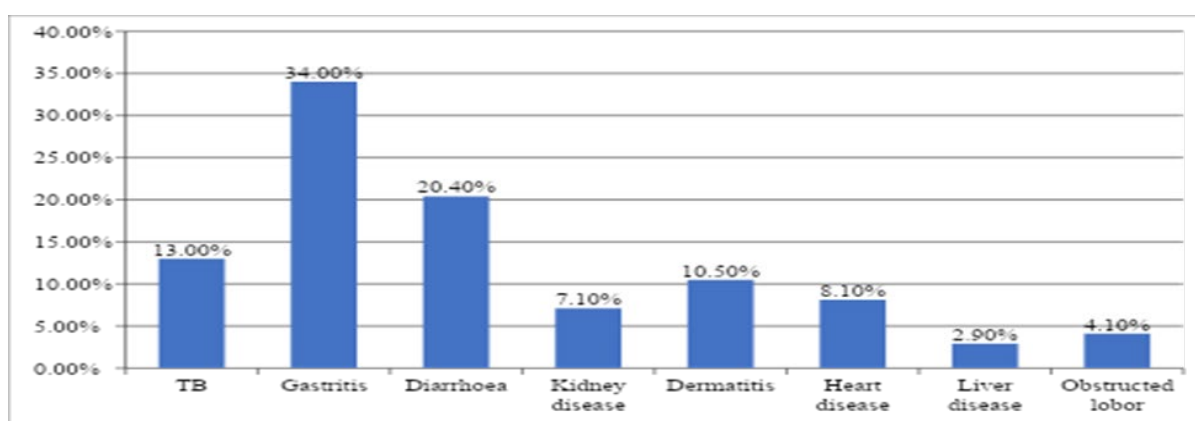


Figure 13. Common chronic illness during the war.
Source: CITG survey, 2022.

Looking primary finding in light of other findings

Following the war, Tigray has been facing human and natural disasters. Public and private health facilities were destroyed or severely damaged. Essential health services, including maternal and child health, outpatient and inpatient services, major communicable and non-

communicable diseases, ambulance services, and others, were severely disrupted. This resulted in high maternal and child mortality, high prevalence of diseases like HIV/AIDS, malaria, TB, severe acute malnutrition, a huge number of people with disability, mental health and psychosocial health disturbances, and displacement of physicians, nurses, and other health workers. The war also significantly crippled government health offices, weakening structures, systems, and materials. This document was produced based on the damage and loss assessment study.

The economic cost of the war in monetary terms was about USD 3589.30 million. The damage to economic value in monetary terms was about USD 699.45 million. Meanwhile, the direct economic loss in monetary terms was estimated to be about USD2889.85 million. With regard to the public sector, the economic cost of the war amounted to USD 3557.26 million, while the damage value was estimated at USD 680.8 million, and the loss value amounted to USD2876.46 million. The economic cost incurred in the private sector due to the war was about USD 32.04 million, while the damage value was estimated at about USD 18.65 million, and the loss value amounted to USD 13.39 million.

This study demonstrates the economic cost of war-related looting, vandalism, and damage to the health sector of Tigray. In this study, we were able to estimate the war-related direct economic damage and direct economic loss to the health sector. The findings showed that the total economic cost of the war, blockage, and siege was about eleven times higher than the 2020 adjusted annual budget of Tigray (USD318.02 million). It was two points eight times higher than the total health spending of Ethiopia during 2016/17 (USD1,273.85 million) (17).

The findings of this study were consistent with the study conducted by the IMF to assess the economic consequences of war in Sub-Saharan Africa and show that, on average, annual growth in countries in intense wars was about 2.5 % lower, and the cumulative impact on per capita GDP increases over time. Furthermore, wars pose significant strains on countries' public finances, lowering revenue, raising military spending, and shifting resources away from development and social spending (18).

The finding of this study was also compared with the previous studies conducted in Sri Lanka to estimate the economic cost of the war. The study conducted in Sri Lanka showed that the economic cost of the war was 2 times higher than the country's GDP, which contrasted with the finding of this study, 0.43 times. The difference could also be due to this study focusing

only on one region of the country, and the study period may also be the cause of the difference, because the length of time in between the two studies was too long, which is recommended to be less than five years. The geographical location of the two regions could also be the reason for the difference because Tigray is located in the low-income sub-Saharan region of East Africa, but Sri Lanka is located in the middle-income countries of the Asian region, which brings in their GDP difference (19).

Considering this assessment study, 643 Health Posts, 208 Health Centers, 22 Primary Hospitals, 12 General Hospitals, 2 Specialized Hospitals and 219 private health facilities and other regional and woreda health offices were damaged and/or vandalized either fully or partially as a result of the total war waged between the Tigray defense Forces (TDF) and the affiliated forces namely Ethiopian National Defense Forces (ENDF), Eritrean Defense Forces (EDF) and Amhara Forces and this study was similar with the world report by Sharmila Devi that showed one in ten health facilities were functioning in Tigray and many were deliberately looted, vandalized, and destroyed. Every fifth health facility was occupied by soldiers. Few health facilities had ambulances, as most were seized by armed groups (21).

This study showed contributions that had not previously been studied in other literature on the cost of war-related looting or vandalism to the health sector of Tigray. Although different war impact articles have been discussed, the speakers and authors have mainly not focused from the angle of health economists, and this study could play a significant role in the bounce back rehabilitation of the Tigray health system. This study could also help researchers develop further medical strategies to reduce the long-term costs of war in the health sector of Tigray.

Impact of the war on population health and on health sector governance

Table 18 examines the impact of the war on population health and on the health sector governance during the war, blockage, and siege periods in Tigray. The war has had a profoundly destructive impact on healthcare systems, often resulting in damage to hospitals and clinics, displacement of medical personnel, disruption of medical supply chains, and increased outbreaks of infectious diseases. Such disruptions exacerbate chronic health conditions and leave populations particularly vulnerable. In Tigray, the war has severely undermined the healthcare system. The maternal mortality ratio has risen dramatically from 136 to 840 per 100,000 live births, reflecting a substantial increase in maternal deaths. Neonatal and under-five mortality rates have also escalated sharply. Access to essential health services

including antenatal care, skilled deliveries, and childhood immunizations has declined considerably. The war has caused extensive damage to healthcare infrastructure, leaving only a limited number of facilities functional.

Table 18. Impact of the war on population health and on the health sector governance.

Indicator	Pre-war	Post-war	Source
Maternal Mortality Ratio	186 per 100,000 live births	840 per 100,000 live births	[16]
Neonatal Mortality Rate	10 deaths per 1,000 live births	36 deaths per 1,000 live births	[16]
Under-5 Mortality Rate	29 deaths per 1,000 live births	59 deaths per 1,000 live births	[16]
ANC	94%	16%	[24]
Skilled Delivery	80.4%	21%	[24]
Immunization coverage	100%	20%	[13]
Childhood Acute Malnutrition		Moderate: 21.8%, Severe: 5.1%, Global acute: 26.9%	[23]
Pregnant and lactating mothers' malnutrition		79%	[24]
HIV Patient Follow-Up (ART)	1,940	331 (16.6%)	[27]
The proportion of patients with chronic, continued treatment		21%	[25]
Health Facility Functionality		27.5% of hospitals, 17.5% of health centres, 11% of ambulances, and none of the 712 health posts were operational	[6]
Sexual and Gender-Based Violence (SGBV)		Overall SGBV incidence: 43.3%	[28]

Source: CITG survey, 2022.

Despite this devastating health service provision disruption, the war heightened the health service needs of society due to the considerable negative impacts of the war on society's health. The outpatient health service demand has skyrocketed to above 11 million, with 132 inpatients during wartime, though health providers had nothing to help despite psychological support (Figure 1.11). The emergency cases sharply dropped to 7000 in the post-war period, compared to the higher records of about 615,000 during the war, which signified a higher impact of the war on people's health. Surgical services also peaked during the war, although the health system lacked the functionality to provide such services. Additionally, the war has weakened health sector leadership and governance, resulting in a scarcity of active boards, management committees, CEOs, directors, and administrators, further compromising the sector's capacity to respond to population health needs (Figure 14).

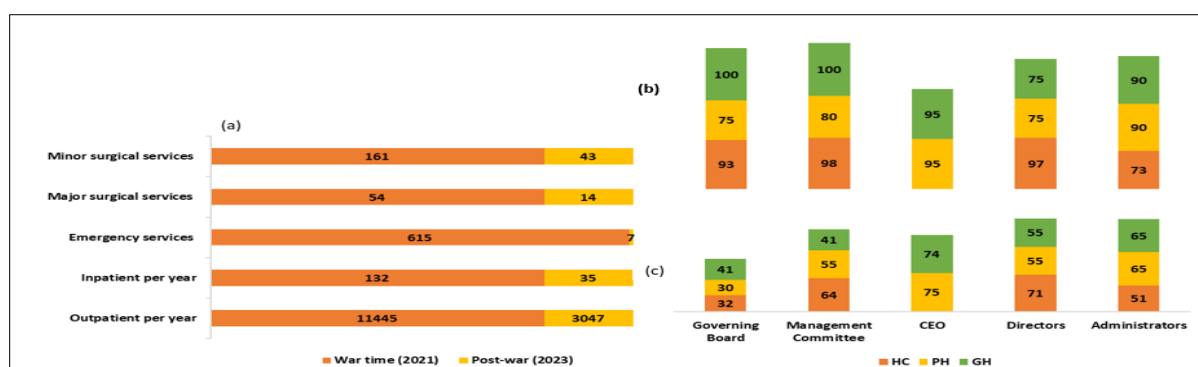


Figure 14. Impact of the war on population health and health sector governance.
Source: CITG survey, 2022.

Increased Risks and Vulnerabilities

Table 19 highlights the significant increase in health risks and population vulnerabilities in Tigray following the war. Compared to the pre-war period, the detection and management of major diseases have been severely disrupted. For instance, while tuberculosis case detection data for 2023 are not available, malaria cases increased from 191,046 to 270,000, indicating heightened exposure and limited control measures. Similarly, the HIV positivity rate doubled from 0.49% to 1%, and the prevalence of HIV among the general population rose from 1.43% to 3%, reflecting increased transmission and reduced access to prevention and treatment services. Maternal and chronic disease care have also been dramatically affected. The proportion of births assisted by skilled attendants declined from 80.4% to 21%, highlighting increased maternal and neonatal risks. Follow-up for chronic conditions has similarly deteriorated, with diabetes (DM) follow-up dropping from 94% to 10% and antiretroviral therapy (ART) follow-up declining from 97% to 16%. These declines indicate severe disruptions in healthcare delivery, exposing the population to higher morbidity and mortality, and demonstrating the profound vulnerabilities created by the war.

Table 19. Increased health risks after the war.

Service type	Unit measurement	Pre-war (2021)	Post-war (2023)
Tuberculosis case detection rate	Per 100,000 population	6690	-
Malaria case	Number	191,046	270,000
HIV positivity rate	%	0.49	1
HIV prevalence among general populations	%	1.43	3
Births assisted by a skilled attendant	%	80.4	21
DM follow-up	%	94	10
ART follow-up	%	97	16

Source: CITG survey, 2022.

Tigray War on Health, Maternal Outcomes, and Vulnerable Populations

The war on Tigray has had catastrophic consequences for the region's population, healthcare system, and overall wellbeing. The humanitarian crisis has affected humans, animals, and ecosystems, resulting in widespread malnutrition, displacement, and destruction of infrastructure. Maternal health has been particularly affected. A verbal autopsy study of 189,087 households across six zones reported a maternal mortality ratio of 840 per 100,000 live births, with leading causes of death including hemorrhage (42.8%), pregnancy-induced hypertension (8.4%), and accidents (5.6%). Notably, 81.2% of maternal deaths occurred outside health facilities, highlighting severe barriers to emergency obstetric care (16). The destruction of health infrastructure, compounded by disrupted referral systems and communication, drastically reduced access to antenatal care (from 94% in 2019 to 16% in 2022) and skilled birth attendance (from 81% to 21%), contributing to increased maternal morbidity, including obstetric fistula (24). Malnutrition further exacerbates maternal risks by causing stunted growth and underdeveloped pelvises, increasing the likelihood of obstructed labor. By October 2021, 79% of pregnant and lactating women were acutely malnourished, and over 90% of the population lacked regular access to food, largely due to the de facto blockade. This widespread food insecurity has shifted the epidemiology of obstetric fistula, affecting women from both urban and educated backgrounds at rates previously seen primarily in rural and uneducated populations (24).

The war has also led to substantial civilian casualties. Among 4,381 surveyed participants, 6.9% sustained war-related injuries, with two-thirds caused by bullets and 23% by artillery shelling. Approximately 44% of these injuries were fatal, while the remainder resulted in survival with or without disability (22). Children have been particularly vulnerable. A study of 3,614 children aged 6–59 months reported prevalence rates of severe, moderate, and global acute malnutrition of 5.1%, 21.8%, and 26.9%, respectively. Individual-level risk factors for malnutrition included older age, female sex, lack of vitamin-A supplementation, and recent episodes of diarrhea, while community-level factors included unsafe drinking water, unimproved sanitation, and severe food insecurity (23). These findings highlight the compounded effects of war and pre-existing vulnerabilities on child health.

Healthcare service disruption has been extensive and systemic. As of May 2022, 36 of 40 hospitals, 208 of 232 health centers, and 670 of 741 health posts were fully or partially destroyed, and 274 of 308 ambulances had been looted or burned (24). Chronic disease

management has been critically affected; among 4,645 pre-war patients, only 998 continued cares during the war, reflecting significant interruptions in treatment for tuberculosis, HIV, hypertension, psychiatric disorders, and diabetes (25). Similarly, HIV/AIDS service utilization declined dramatically, with ART follow-up dropping from 1,940 pre-war patients to 331 during the war, alongside a 95.5% reduction in laboratory service provision (27).

Sexual and gender-based violence (SGBV) has disproportionately affected women and girls. Among 5,171 women surveyed, 43.3% experienced at least one form of violence, including sexual, physical, and psychological abuse. Gang rape accounted for 68.4% of reported rape cases, with young women aged 15–24 being the most affected. Health consequences of SGBV included physical trauma, sexually transmitted infections, HIV infection, unwanted pregnancies, and depression; however, 89.7% of survivors received no post-violence medical or psychological support (28).

The war has resulted in a near-total collapse of the healthcare system. According to assessments by the Tigray Regional Health Bureau and WHO's HeRAMs, only 2% of health facilities remain intact, with 86% partially destroyed and 3% fully destroyed. Functionality is severely compromised: 92% of facilities operate only partially, and none function at full pre-war capacity. Accessibility is similarly limited, with 97% of facilities partially accessible, 2% fully accessible, and 1% inaccessible (29). The widespread destruction of hospitals, health centers, and health posts, coupled with the looting of ambulances and medical supplies, has left the population extremely vulnerable, with limited access to essential health services.

In summary, the Tigray war has had devastating impacts on population health, healthcare infrastructure, and service delivery. Maternal and child health, chronic disease management, and sexual and gender-based violence have all been severely affected, while the collapse of health facilities and disruption of supply chains have exacerbated morbidity and mortality. The war has created widespread food insecurity, malnutrition, and vulnerability across age and gender groups, highlighting the urgent need for comprehensive humanitarian assistance and coordinated efforts to rebuild the health system, restore essential services, and address the long-term health consequences of the war.

3.3 Conclusion and Recommendations

Conclusions

The Tigray war resulted in catastrophic consequences for both the health sector and the wider economy of the region. Hospitals and health facilities were systematically targeted by multiple perpetrators, including the Eritrean Defense Forces (EDF), the Ethiopian National Defense Force (ENDF), joint ENDF–EDF forces, and, in the south, combined ENDF, Federal Police, and Amhara Forces. The widespread looting, occupation, and destruction of these facilities led to the near collapse of Tigray’s healthcare system. Post-war, millions of civilians were left without access to essential medical services, exposing the population to preventable mortality and long-term public health crises.

Perpetrators varied in their intensity and scope of damage. The EDF, with the broadest footprint in northern and eastern Tigray, dismantled hospital systems through looting and denial of services. The ENDF concentrated in the south, where they militarized hospitals and disrupted access. Areas where ENDF and EDF operated jointly—notably central Tigray—saw the most severe and systematic destruction. In the south and southeast, multi-actor involvement by ENDF, Federal Police, and Amhara Forces created health deserts, completely cutting populations off from essential care. The interplay of these perpetrators directly compounded both the humanitarian crisis and the staggering financial toll.

Looking forward, reconstruction of Tigray’s health sector must be framed within broader economic recovery efforts. Restoring hospitals, re-staffing health workers, and rebuilding essential infrastructure will not only improve access to care but also reduce long-term economic loss by protecting human capital and livelihoods.

Recommendations

In light of the catastrophic damage sustained by the health sector during the war, a coordinated and multi-stakeholder recovery approach is essential. It is recommended that the Regional Health Bureau, in collaboration with UN agencies, humanitarian organizations, government institutions, and academic partners, organize a series of technical workshops and consultative forums aimed at strengthening the understanding and methodologies of health system cost quantification and post-war recovery planning. The findings of this assessment should serve as a reference framework for future legal, political, and economic deliberations concerning the

rehabilitation of the health sector. Furthermore, UN agencies and development partners are encouraged to prioritize the comprehensive restocking and rehabilitation of looted or destroyed health facilities, ensuring the rapid restoration of essential service delivery. Particular emphasis should be placed on re-establishing the supply chain management system, which remains critical for sustaining the regular flow of essential medicines and medical commodities beyond emergency relief interventions.

In addition, there is an urgent need for a comprehensive support program addressing both healthcare workers' welfare and community health needs, with a focus on psychological support, workforce retention, and community resilience. Finally, given that this study represents a point-in-time analysis, it is strongly advised that continuous cost monitoring and evaluation studies be conducted to assess the evolving impacts on health service delivery, morbidity-related costs, and household out-of-pocket expenditures. Establishing post-war costing workshops and joint learning networks will further enhance local capacity for cost analysis, health economics research, and evidence-based policy development.

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4. Damage and Loss to the Education Sector

4.1 Background

With regard to the education sector, prior to the onset of the war, the Tigray Region had reached near universal enrolment rates; in line with Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). In relation to this, Mulford (2021a: 162) and Plaut and Vaughan (2023: 278) asserted that the teaching offered to young Tigrayans was a high point of the administration. More children were attending school more than ever before. For instance, in terms of access to primary education, 91.22% of male, 90.61% of female students, and on average 90.92% for both sexes, were enrolled at the primary school level. Similarly, the net enrollment rate has grown to 84.71% for boys, 86.21 % for girls and on average it is 85.45% for both boys and girls (TREB, 2020: 1). The number of primary schools has increased from 2,125 in 2008 E.C. to 2,221 in the year 2012 E.C. with 1,090,273 enrollments; of which 70 primary schools and 18 secondary schools are owned by non-governmental organizations (fully private firms) (Table 20).

Moreover, the expansion of secondary schools has been increased from year to year (increased from 188 in 2008 E.C. to 271 in the year 2012 E.C. with 216,964 enrollments), (TREB, 2020: 4-5, 66-78). There were 36,967 primary school (1-8) teachers, 9631 secondary school teachers and a total of 46,598 teachers in Tigray Region in the 2012 E.C. (TREB, 2020: 122-125, 130-136).

Similarly, before the war on Tigray region erupted, the TVET sector in Tigray had many encouraging achievements: the expansion level of public TVET colleges in the region reached up to 44, out of which 10 are polytechnic colleges; 86 private institutions. Access to training opportunities per woreda reached 33, and the remaining local districts had the chance to be embraced in the periodic strategic plans, unlike the war which tackled its progress (Tigray-TVET and JC Bureau, 2023). As per the 2020 statistical data of the regional bureau, the total intake capacity of the formal and short-term training of these public colleges had increased to 45,329 and 71,000 trainees on average yearly bases, respectively (Table 20).

Table 20. Pre-war education outcomes in Tigray.

Indicator	Unit	Pre-war Value
Number of schools for "0" classes	Number	2026
Number of schools for KGs	Number	280
Number of schools for primary education	Number	2221
Number of schools for secondary education	Number	271
Number of colleges for TTC	Number	2
TVET colleges	Number	130
KG participation	Number	43,216
Pre-primary Enrolments	Number	132,588
Grade 1-8 Enrolments	Number	1,076,059
Grade 9-12 Enrolments	Number	216,942
Gross enrolments rate (1-8)	%	90.92
Gross enrolments rate (9-12)	%	42.2
Number of trainees – TVET Formal Training	Number	45,329
Number of trainees – TVET Short training	Number	71,000
Distance primary school	km	2.77
Distance secondary	km	7.92
Quality indicator		
Student text ratio	Ratio	1:2
Student-teacher ratio (1-8)	Ratio	1:30
Student-teacher ratio (9-12)	Ratio	1:23
Student text ratio	Ratio	1:1
Number of Teachers pre-primary	Number	2174
Number of Teachers' primary	Number	36,967
Number of Teachers' secondary	Number	9631
Efficiency indicates		
Dropout rate 1-4	%	8.9
Dropout rate 5-7	%	9.01
Equity indicators		
Gender parity index 1-8	index	0.99
Gender parity index 9.12	index	0.98

Source: Annual abstract 2012- Tigray Education Bureau and TVET Bureau

However, starting from November 2020, civilians in Tigray have experienced both violence and impoverishment in quick succession, rapid and dramatic; the whole scale destruction and looting of the means of survival. People are dying because of starvation, food aid and medical supplies, internally displaced people dying from hunger (Plaut and Vaughan, 2023: 26, 288). Nearly three years of prolonged war, mass displacement, destruction and occupation of public infrastructure have left a sizable proportion of school-aged children and youth without access to safe learning spaces where they can get a quality education. Nearly 1.2 million children are now estimated to no longer be attending school (NFT, 2024: 47).

For that reason, the Commission of Inquiry on Tigray Genocide was established in May 2022 to investigate and document relevant data that proves allegations of human rights violations and abuses, including human loss, damages on economy, infrastructure, public and social services, environment and natural resources caused by the Tigray war that erupted on 3 November 2020. Accordingly, the Commission has collected, processed, and analyzed comprehensive data on the damage and loss caused by the war in the region. Therefore, this

report includes a preliminary damage assessment from public and private education institutions, stakeholders (parents) that describes the impact of the war, identify and suggest specific issues on the effect of the crisis on the population, livelihoods, physical assets, infrastructure and service delivery, and other cross-cutting issues related to the education system. This report is the result of assessment data collected from six zones of Tigray. Zones and Woredas that were not accessible due to their occupation by Amhara forces and Eritrea Defense Forces including Western Tigray, parts of North-Western zone, parts of Southern Tigray and some Tabias of Central and Eastern Tigray bordering Eritrea were not included in the assessment.

4.2 Operational definitions and measurement

Key terms related to this area of conceptual understanding are explained below:

Forced drop out: This refers to students whose teaching and learning were interrupted due to war, siege and blockage; they did not choose to drop out of their schools, but were forced to do so.

General Education: General Education incorporates KG, Primary, secondary, and preparatory schools found in Tigray region.

Governance structures of Tigray region: The Tigray regional state is divided into seven administrative zones, which are considered as sub-units of the regional states, namely: the Western, North Western, Central, Eastern, Southern and South Eastern zones, including the Mekelle, a special zone, which is the regional capital. These seven zones again are subdivided into 93 woredas (or districts), which is considered to be an administrative sub-unit of a zone. Finally, there are kebelles (Tabias), which are local administrative units or sub-units of a woreda; and are considered as the lowest or grassroots administrative unit.

4.3 Target Population

As can be observed on Table 21, the assessment was made on 1705 public-owned 1-12 grade schools in the six zones of Tigray, 39 public TVET institutions, 167 private schools and TVET institutions, nine education offices, two bureaus, two public colleges, two universities, and 659,675 household census participants, which were accessible for data collection. Schools that were under the control of the Amhara occupying forces and Eritrean invaders are not included

in this survey. Besides, some schools didn't provide damage data due to different reasons and hence were not incorporated in this report.

Table 21. Distribution of assessed schools/institutions by level.

Institution Type	Public	Private	Total	Households
KG		91	91	
Primary school	1529	41	1570	
Secondary school	176	11	187	
TVET Institutions	39	24	63	
Education Offices	9		9	
Bureau	2		2	
Teacher Training Colleges	2		2	
Universities	2		2	
Household Survey				659,675
Total	1759	167	1926	659,675

Source: CITG survey, 2022.

4.4 War Effect

Damages

The following summary report (Table 22) includes a preliminary damage assessment from public and private education and TVET sectors in the region. Data was organized and analyzed based on 34 major variables identified for the assessment, which can be categorized into different institution levels.

Table 22. Damage of war on Tigray education systems: Infrastructure and assets (Value USD in Million).

Damage category	General Education		TVET		Colleges		Universities		Total Damage	
	Damaged quantity	Value of damage	Damaged quantity	Value of damage	Damaged quantity	Value of damage	Damaged quantity	Value of damage	Damaged quantity	Value of damage
Infrastructure	17294	295.05	7511	28.32	833	9.63	34	4.92	25,672	337.92
Assets	12,817,758	1597.33	3081866.5	230.5	296,330	12.13	10,895	273.41	16,206,849.50	2120.56
Total	12,835,052	1892.38	3,089,377	258.82	297,163	21.76	10,929	285.32	16,232,521	2458.48
		76.97%		10.53%		0.89%		11.61%		

Source: CITG survey, 2022.

As we have seen in Table 22, the extent of damage and destruction within the education system in Tigray region. As a direct consequence of the devastating war carried out for the last three years in Tigray, the education sector and TVET system were exposed to total destruction and looting similar to what has been experienced by other sectors within the region. The assessment of infrastructures revealed that a total of 25,672 rooms were reported to have been damaged in the general education and TVET institutions. The highest damage occurred in classrooms or teaching and learning building facilities, and core facilities. With regard to the damaged assets,

23 identified types of common facility categories were listed and analyzed by incorporating different variables. The total cost of damages and destruction in the system is USD 2,458.48 million; with the general education sector bearing the majority 1,892.38 (76.97%) of this burden; USD 258.82(10.53%) belongs to TVET institutions; USD 21.76(0.89%) for public colleges; and USD 285.32(11.61%) for public universities. In terms of ownership, 2407.53 million USD is for the public sector, and the remaining 43.75 million USD is for the private sector.

War Damage to Public and Private General Education

Before the onset of the war, there were 2,221 primary schools and 271 secondary schools in the region, and almost 1.4 million students were enrolled in these schools with around 47,000 employees. Similarly, the private sector plays a considerable role in the delivery of educational services in Tigray, especially in the big towns. As the statistical abstract of the Tigray Education Bureau indicates, the share of the private sector in primary education for 2019/20 academic year was 3.15% in terms of the number of schools (70 out of 2,151) and 3.26% in terms of student enrollment (35,548 out of 1,090,273 students). In secondary education, non-government schools comprised 6.64% (18 out of 271 schools) and in terms of student enrollment, it was 3.32% (7213 out of 216,942 students). In pre-primary education there were 280 kindergarten centers in that academic year hosting 43,216 children and most of these are reported to have been operated by non-government organizations (TREB, 2020). However, starting from November 2020, the war has led to massive destruction of schools, infrastructure, and disruptions of major public infrastructure and private services. The education system in Tigray has suffered severe damage due to the war, causing damage to training infrastructure, including buildings, the provision of services, and overall management of education and training services and resources. For that reason, the CITG, TREB and private institutions jointly collected, processed, and analyzed comprehensive data on the damage and loss caused by the war. Therefore, the following summary report includes a preliminary damage assessment from the public and private education in the region, as depicted below in detail.

Institutional Information of the General Education

The initial intention of this damage assessment was to collect data from all institutions using a census. However, due to the prevailing situation during the siege and blockade when the survey was conducted, the vast majority of the institutions couldn't come out to provide the data. As a result, as we can see in Table 23, the assessment was made on 1714 public-owned schools in

the six zones of Tigray and 143 private schools, a total of 1857 general education schools were involved in the study. It categorizes them under the education office, primary, and secondary, with a total of 1,714 entities.

Table 23. Distribution of assessed public and private general education institutions by zone.

Zone	Public				Private				Total GE
	Education Office	Primary	Secondary	Total	KG	Primary	Secondary	Total	
Central	5	554	63	622	15	2		17	639
Eastern	2	290	39	331	17	27	6	50	381
Mekelle	2	43	11	56	37	8	5	50	106
Northern Western		253	25	278	6	2		8	286
Southern		161	17	178	6	1		7	185
South Eastern		228	21	249	1			1	250
Western					9	1		10	10
Total	9	1529	176	1714	91	41	11	143	1857

Source: CITG survey, 2022.

This assessment report will cover the damage on the institutions; the physical damage and their facilities in the institutions, including the monetary estimates needed to repair/replace the damages in million USD; and the financial loss based on different major variables identified for the assessment which can be categorized into different types of damages. Data was organized and analyzed on the basis of 31 major variables identified for the assessment, which can be categorized into damages on infrastructure facilities, teaching and learning core facilities, and common service facilities; and financial loss which were accessible for data collection.

Effect of War on General Education Institutions

The war has severely disrupted the entire education system, leaving a significant proportion of institutions non-functional.

The war has severely disrupted the education sector, leaving the vast majority of institutions unable to provide normal services. Out of 1,714 public general education institutions assessed (including schools, education bureaus, and woreda education offices), most were reported to be non-functional at varying levels of severity (Figure 15).

- Severely non-functional: 18.11% of institutions were completely unable to operate due to destruction, looting, or the total displacement of staff and learners.

- Moderately non-functional: 47.32% were unable to deliver education services effectively, with serious damage to infrastructure, shortages of teachers, and loss of learning materials.
- Partially functional (but with reported destruction): 34.57% managed to continue some level of schooling, but under constrained and unsafe conditions, with damaged facilities and limited resources.

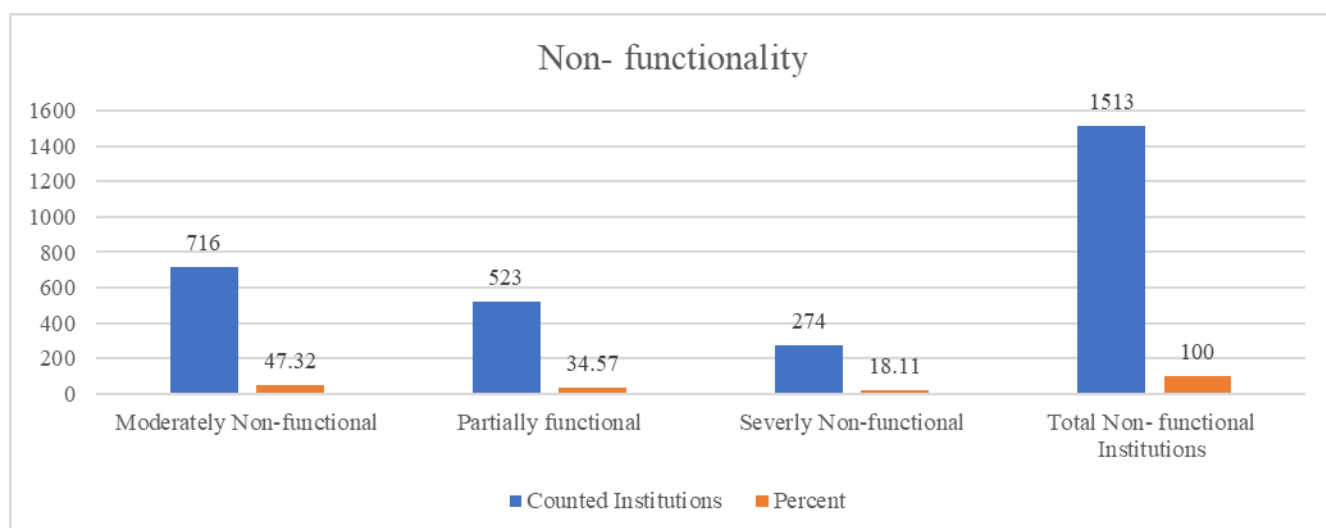


Figure 15. Effect of War on General Education Public Institutions.
Source: CITG survey, 2022.

Taken together, this means that 85.92% of all assessed institutions are either severely, moderately, or partially non-functional. Very few institutions can be considered functional.

Damage to General Education by item

Public and Private General Education Summary

Public general education, the largest component of the education system, has been severely impacted by war and siege. Table 24 presents a summarized view of the extent of damage by item category and education level, along with the estimated cost.

Table 24. Public and Private General Education summary (Value USD in Millions).

Item Category	Public GE		Private GE		Total	
	Qty Damaged	Value of Damage	Qty Damaged	Value of Damage	Qty Damaged	Value of Damage
Building	16,548	290.45	746	4.6	17294	295.05
Assets	11,323,610	1570.04	1,494,148	27.29	12,817,758	1597.33
Total	11,340,158	1860.49	1,494,894	31.88	12,835,052	1892.37

Source: CITG survey, 2022.

Table 24 presents damages in the public and private general education sector categorized into two main items – Buildings and Assets – across three education levels: For buildings, schools and educational offices were the most affected, with 17,294 rooms destroyed, valued at USD 295.05 million, representing about 15.6% of the total building damage cost only for general education. In contrast, 12,817,758 assets, at all levels again bore the brunt of destruction, losing around 1597.33 million USD.

Infrastructure and facilities damage: Table 25 presents a detailed summary of the damage to infrastructure and facilities in both public and private general education institutions. It outlines the extent of destruction and associated financial costs across key asset categories, including buildings, equipment, furniture, vehicles, and spare parts. The data distinguishes between public and private education systems and further captures the combined total damage value.

Table 25. Infrastructure and facilities damage (USD in Million): General Education Sector.

Item Category	Public								Private		Total General Education	
	Education office		Primary		Secondary		Public Total		Qty Damaged	Value	Qty Damaged	Value
	Qty Damaged	Value	Qty Damaged	Value	Qty Damaged	Value	Qty Damaged	Value				
Building	160	1.58	13037	224.61	3351	64.26	16548	290.45	746	4.6	17294	295.05
Equipment	431	0.59	17492	21.11	8968	19.9	26891	41.6	2411	0.57	29302	42.17
Furniture	1343	0.15	225697	64.83	63436	9.56	290476	74.54	17,969	0.95	308445	75.49
Vehicles	95	1.09	13	0.1	9		117	1.19	5	0.5	122	1.69
Spare Parts	962	0.03	9405	1.96	722	0.34	11089	2.33	5919	2.86	17008	5.19
Sub Total	2991	3.44	265,644	312.61	76,486	94.06	345,121	410.11	27,050	9.48	372,171	419.6

Source: CITG survey, 2022.

The assessment of infrastructure and facilities damage in the public and private general education sectors reveals that the total damage amounted to approximately USD 419.6 million, affecting 372,171 items across all categories. The majority of this damage occurred within the public education sector, which accounted for USD 410.11 million, while the private sector experienced cost estimated at USD 9.48 million. Within the public system, both primary and secondary education levels sustained substantial effects, reflecting the extensive reach and larger number of public schools compared to private ones.

In the public education sector, the largest share of damage was recorded in buildings, estimated at USD 290.45 million, representing nearly 70% of total losses from the infrastructure facilities. Within this, primary education facilities were particularly affected, accounting for the largest portion of the total damage to infrastructure, as these schools make up the majority of the public

education network. Secondary education also suffered considerable losses, especially in classroom buildings, laboratory spaces, and administrative offices. Damage to education offices – though smaller in value – was also notable, indicating disruptions to local education administration and coordination. Other affected areas in the public firms include furniture (USD 74.54 million) and equipment (USD 41.6 million), which are vital for day-to-day teaching and learning activities.

The private education sector, though smaller in scale, also faced significant challenges. Total costs amounted to USD 9.48 million, with building damage (USD 4.6 million) and spare parts (USD 2.86 million) forming the largest components. Primary and secondary private schools alike were impacted, though to a lesser extent than public schools, given their more limited infrastructure base. The damages in private schools indicate localized disruptions but comparatively less widespread destruction.

In terms of overall infrastructure facilities shares, public education accounts for about 97.7% of total financial damage, reflecting its extensive presence nationwide and its higher exposure to risk. Within the public sector, primary education represents the largest share of cost due to the sheer number of schools and classrooms involved, followed by secondary education, while education offices hold a smaller but important share as administrative hubs.

Overall, the findings underscore that the public primary and secondary education subsectors bear the greatest burden of damage and will therefore require the most significant attention during recovery efforts. Immediate priorities should include rebuilding school buildings, replace damaged equipment and furniture, and restore education office operations to ensure continuity of learning.

Teaching and Learning Facilities of general education: Teaching and learning facilities are essential components of the education system, directly influencing the quality and effectiveness of instruction. During the war, many of these materials and resources sustained extensive damage, severely disrupting classroom activities and hindering the overall learning process. Table 26 presents a summary of the damage across key categories – including books and library resources, ICT equipment, laboratory materials, and co-curricular facilities – disaggregated by education level (Education Office, Primary, and Secondary Level). This overview provides a clear picture of the extent to which the conflict affected the core tools and environments necessary for teaching and learning.

Table 26. Teaching and Learning Facilities (USD in Million): General Education Sector.

Item Category	Public								Private		Total General Education	
	Education office		Primary		Secondary		Public Total		Qty Damaged	Value	Qty Damaged	Value
	Qty Damaged	Value	Qty Damaged	Value	Qty Damaged	Value	Qty Damaged	Value				
Books & records	76697	0.37	5915231	29.15	1070319	6.27	7062247	35.79	135658	16.68	7197905	52.47
CR Facilities	262	0.03	162265	40.41	39484	8.21	202011	48.66	11794	0.13	213805	48.79
Lib Materials	1325	0.28	1237469	349.69	327767	46.83	1566561	396.8	16753	0.06	1583314	396.86
Lab Materials	72	0.07	124844	34.1	64647	26.202	189563	60.37	1829	0.17	191392	60.54
ICT	51	0.42	3250	45.45	15319	153.27	18620	199.14	1685	1	20305	200.14
Electric	2962	0.11	174388	142.64	67750	70.48	245100	213.23	123226	0.79	368326	214.02
Workshop	154	0.72	16148	65.06	3379	38.88	19681	104.66	1454	0.85	21135	105.51
Co-curricular	135	0.18	39920	53.44	68522	51.01	108577	104.63	242	0.02	108819	104.65
Peda Materials			71489	146.41	8001	25.62	79490	172.03	3074	0.38	82564	172.41
Sport	1622	0.25	63087	40.76	13475	4.79	78184	45.8	2433	0.66	80617	46.46
Music and Art			5701	0.95	1128	0.1204	6829	1.07	1180	0.61	8009	1.68
Sub Total	83,280	2.43	7,813,792	948.06	1,679,791	431.68	9,576,863	1382.18	299328	21.35	9876191	1403.53

Source: CITG survey, 2022.

The assessment of damage to teaching and learning facilities reveals severe cost across both public and private general education institutions, with total damages estimated at USD 1,403.53 million. Of this, the public sector accounts for the overwhelming majority, sustaining cost of approximately USD 1,382.18 million, while the private sector incurred a smaller but still notable damage of USD 21.35 million. The findings highlight the widespread destruction of essential instructional materials and resources that are critical for effective learning and teaching at all education levels.

Within the public education system, the largest share of cost occurred in library materials, with damages estimated at USD 396.8 million, followed by ICT equipment (USD 200.14 million) and electric facilities (USD 214.02 million). These categories represent the most technologically and resource-intensive areas of the education system, indicating that digital learning tools, library collections, and supporting electrical infrastructure were among the hardest hit. Other significantly affected categories include pedagogical materials (USD 172.41 million), laboratory materials (USD 60.54 million), and co-curricular facilities (USD 104.65 million), all of which are essential for hands-on learning and extracurricular development.

At the education level, the primary and secondary schools were the most affected, together accounting for the majority of the total cost. Primary education recorded particularly extensive damage, reflecting the large number of institutions and the high dependency on physical learning resources such as books, furniture, and teaching aids. Secondary education also faced

major disruptions due to the destruction of specialized facilities like laboratories, ICT rooms, and workshops. Damage to education offices, though smaller in scale, is also significant, as it affects the administrative and supervisory capacity necessary to coordinate school operations and recovery.

The private education sector experienced comparatively minor but still important damages, amounting to USD 21.35 million. Most of these costs were concentrated in books and records (USD 16.68 million) and ICT facilities (USD one million), suggesting that while private schools were fewer in number, they also faced disruptions in critical areas of teaching and learning.

Overall, the data underscores the extensive and multifaceted impact of the war on the education system's instructional capacity. The destruction of books, libraries, laboratories, and ICT infrastructure has not only interrupted classroom learning but also eroded the foundations for quality education delivery. These findings point to an urgent need for comprehensive recovery efforts, including the rehabilitation of facilities, replacement of learning materials and equipment, and reinvestment in digital and co-curricular resources to restore a conducive learning environment across all education levels.

Common Services: Common services are essential components that support the overall teaching and learning environment. Access to water, sanitation, waste disposal, and other shared facilities is fundamental to maintaining hygiene, comfort, and functionality in schools. The disruption or destruction of these services directly affects the health, safety, and well-being of students and teachers, thereby undermining the delivery of education. The data presented in Table 27 summarizes the extent of damage to common services across public and private general education institutions, covering categories such as water treatment, waste disposal, environmental management, farm and production areas, park and beautification facilities, consumables, and cafeterias.

Table 27. Common services in public and private general education (USD in Million).

Item Category	Public								Private		Total General Education	
	Education office		Primary		Secondary		Public Total		Qty Damaged	Value	Qty Damaged	Value
	Qty Damaged	Value	Qty Damaged	Value	Qty Damaged	Value	Qty Damaged	Value				
Water Treatment			5247	7.21	1783	2.47	7030	9.68	4751	0.18	11781	9.86
Waste disposal			142	0.02	19	0.01	161	0.03			161	0.03
Environment			1159	2.37	843	1.02	2002	3.39	578	0.02	2580	3.41
Farms/productions	54	0.02	33223	14.51	8347	16.93	41624	31.46	390	0.03	42014	31.49
Park and beautification	10223	0.01	292430	9.33	12645	0.05	315298	9.39			315298	9.39
Consumable	28853	0.04	893253	11.67	129951	2.852	1052057	14.56	1156226	0.18	2208283	14.74
Cafeteria									6571	0.64	6571	0.64
Sub Total	39130	0.07	1225454	45.11	153588	23.332	1418172	68.51	1168516	1.05	2586688	69.56

Source: CITG survey, 2022.

The total estimated value of damage to common services in the general education sector amounts to USD 69.56 million, with public institutions accounting for the majority at USD 68.51 million, while private institutions recorded a smaller share of USD 1.05 million. This distribution indicates that public schools bore the brunt of the damage, consistent with their broader infrastructure footprint and service coverage.

Among the specific categories, the largest share of damage was recorded in farm and production facilities, totaling USD 31.49 million in the public sector. These facilities are vital for practical agricultural education and self-sustaining school programs, and their destruction represents a significant setback for vocational and livelihood-oriented learning. The next largest losses occurred in consumable materials (USD 14.74 million) and water treatment systems (USD 9.68 million), highlighting critical disruptions in essential school services such as access to clean water and daily operational supplies. Park and beautification facilities (USD 9.86 million) and environmental management systems (USD 3.41 million) also sustained notable damages, affecting the aesthetic and ecological aspects of school environments.

However, it is important to note that the actual cost of damage related to water and sanitation infrastructure – such as toilets, pipelines, and underground water lines – is likely much higher than the figures reported. Because these systems are primarily located below ground, many damages remain unidentified or unquantified during initial assessments. As a result, the reported monetary values may underestimate the true scale of loss, particularly in relation to toilet facilities and water supply networks, which are vital for maintaining hygiene and health

standards in schools. Recognizing this limitation highlights the need for greater attention and investment in restoring and upgrading these hidden but essential systems.

For the private sector, damages were relatively limited but not insignificant. Total losses of USD 1.05 million were mainly concentrated in water treatment (USD 0.18 million) and cafeteria facilities (USD 0.64 million). These categories are directly linked to student welfare and day-to-day school functioning, and their cost indicates potential challenges in maintaining adequate health and nutrition standards in affected private schools.

Overall, the data illustrates that the destruction of common services infrastructure has far-reaching implications for educational continuity. Damage to water, sanitation, and consumable supplies affects not only learning conditions but also student health and attendance. The widespread losses, particularly within the public education system, emphasize the urgent need for rehabilitation of basic utilities and service infrastructure, including water and sanitation systems, waste management, and school feeding facilities. Restoring these services is a crucial prerequisite for ensuring a safe, functional, and inclusive learning environment in the post-conflict recovery phase.

Damage to General Education by Severity

Level of Damage by Item Category

Table 28 presents the distribution of damage across various item categories in both public and private general education institutions. The damage is classified into four severity levels: low, moderate, high, and complete, measured in terms of monetary value (USD million). This categorization provides insights not only into the total financial loss but also into the intensity of damage across different types of infrastructure and resources.

Table 28. Infrastructure and facilities damage by level of severity of damage (Value in USD Million): General Education Sector.

Item Category	Public and Private													
	Public						Private							
	Low	Moderate	High	Complete	Total Qty	Total value	Low	Moderate	High	Complete	Total Qty	Total values	Total Qty	Total value
Building	49.86	109.75	68.3	60.75	16466	288.67	1.23	1.36	0.86	1.15	746	4.6	17212	293.27
Equipment	0.28	1.02	2.49	37.8	26891	41.6	0.0004	0.01	0.086	0.47	2411	0.5664	29302	42.1664
Furniture	1.14	4.03	23.69	45.69	290475	74.55	0.0006	0.06	0.23	0.66	17969	0.9506	308444	75.5006
Vehicles	0.05	0.27	0.54	0.32	117	1.18				0.5	5	0.5	122	1.68
Spare part		0.00038	0.04	1.98	11089	2.02	0.000177	0.06	2.59	0.22	5919	2.870177	17008	4.890177
Sub Total	51.33	115.07	95.06	146.54	345038	408.02	1.231	1.49	3.77	3	27050	9.49	372088	417.51

In the public sector, a significant portion of damage falls under the high and complete categories, particularly for critical assets such as buildings, furniture, and equipment. For example, buildings experienced USD 68.3 million in high-level damage and USD 60.75 million in complete damage, indicating widespread destruction of school infrastructure. Furniture similarly shows USD 23.69 million in high-level damage and USD 45.69 million in complete damage, suggesting that many classrooms lost essential teaching resources entirely. Equipment, while smaller in total value, also exhibits notable complete-level damage (USD 37.8 million), reflecting severe losses of instructional tools. In contrast, low and moderate-level damage are more evenly distributed across all categories but are smaller in monetary value compared to high and complete damages, demonstrating that partial losses are widespread but less financially burdensome.

For the private sector, most damages are concentrated in high and complete destruction level. Overall, the high-level damage is USD 3.77 million and 3 million is found at complete damage level. The private institutions, while affected, suffered far fewer severe losses compared to public schools. For example, building damage in private schools is largely low (USD 1.23 million) or moderate (USD 1.36 million), with only minor amounts classified as high (USD 0.86 million) or complete (USD 1.15 million). When combining public and private sectors, the distribution of severity underscores a critical insight: the bulk of severe damage (high and complete) is concentrated in public institutions, particularly for buildings, furniture, and equipment. In the private institutions the highest damage was occurred in spare parts (USD 2.59 million). This pattern signals where reconstruction efforts and resource prioritization should focus first, as these areas represent the most urgent need for restoration to resume education effectively. Low and moderate damages, while numerically larger, primarily represent partial losses that may be addressed alongside more severe cases.

In summary, analyzing the level of damage rather than just total value provides a clearer understanding of the intensity and urgency of the destruction. Public education infrastructure bears the highest burden of high and complete damage, whereas private schools were mostly affected at low to moderate levels, highlighting a stark difference in severity between the two sectors.

Level of Severity of Damage to Teaching and Learning Facilities

Table 29 presents the distribution of damage to teaching and learning facilities across four severity levels: low, moderate, high, and complete, for both public and private general education institutions. This classification provides insight into not only the financial losses but also the intensity and urgency of damage to different categories of teaching and learning resources.

Table 29. Teaching and Learning Facilities by level of severity (Value in USD Million): General Education Sector.

Item Categories	Public					Private					Public and Private			
	Low level	Moderate level	High level	Complete level	Total Qty	Total values	Low level	Moderate level	High level	Complete level	Total Qty	Total values	Total Qty	Total values
Books and records	0.1	0.04	1.54	34.11	7,062,248	35.79			0.0002	16.68	135658	16.6802	7197906	52.47
Classroom facilities		7.98	1.67	39.01	202011	48.66		0.0058	0.003	0.122	11794	0.1308	213805	48.79
Lib Materials	1.07	6.06	25.22	364.45	1,566,562	396.8				0.17	1829	0.17	1568391	396.97
Lab Materials	1.79	11.18	18.41	28.91	189,494	60.29				0.06	16753	0.06	206247	60.35
ICT	0.52	8.72	5.28	184.62	18620	199.14	0.0014	0.057	0.05	0.89	1685	0.9984	20305	200.14
Electric	0.7	0.48	40.38	171.67	245,100	213.23		0.000945	0.019	0.77	123226	0.789945	368326	214.02
Workshop		0.05	0.7	103.91	19681	104.66			0.07	0.78	1454	0.85	21135	105.51
Co-curricular facilities		6.51	9.39	88.74	108,577	104.64			0.0014	0.002	242	0.0034	108819	104.64
Pedagogical Materials	9.21	11.56	44.22	107.04	491,233	172.04				0.381	3074	0.381	494307	172.42
Sport	0.1	0.16	25.51	20.04	78184	45.8	0.00044	0.16	0.14	0.36	2433	0.66044	80617	46.46
Music and Art	0.01		0.53	0.52	6829	1.07			0.53	0.076	1180	0.606	8009	1.68
Sub Total	13.5	52.74	172.85	1143.01	9,988,539	1382.1	0.0018	0.22	0.81	20.29	299328	21.33	10287867	1403.43

Source: CITG survey, 2022.

In the public sector, the data indicate that the majority of damages fall under the high and complete severity categories, particularly for critical instructional resources. For example, library materials experienced USD 25.22 million in high-level damage and USD 364.45 million in complete-level damage, making it the most severely affected category. Similarly, ICT equipment shows substantial complete-level damage (USD 184.62 million), reflecting significant disruption to digital learning tools. Other heavily affected categories include buildings and classrooms (USD 39.01 million complete-level), workshops (USD 103.91 million complete-level), and pedagogical materials (USD 107.04 million complete-level), indicating widespread destruction of core learning facilities. In contrast, low and moderate-level damage in the public sector is comparatively smaller, representing partial losses that are less critical but still require attention for restoration.

For the private sector, damages are mostly concentrated in low and moderate levels, with very few items falling under high or complete severity. For instance, the total complete-level damage in private institutions is relatively minor, such as books and records (USD 16.68 million) and ICT (USD 0.89 million). This suggests that while private schools were affected, the intensity of damage was considerably lower than in public schools.

Overall, when combining public and private sectors, the data highlight that the bulk of severe damage (high and complete) is concentrated in public education facilities, particularly in library materials, ICT, workshops, pedagogical materials, and classroom facilities. These categories represent the most critical areas requiring urgent reconstruction to restore teaching and learning functionality. Low and moderate-level damages, though numerically present across most categories, primarily reflect partial losses that can be addressed alongside the more severely damaged resources.

In conclusion, analyzing the level of severity rather than just total monetary loss provides a clearer picture of the intensity of the destruction. Public education institutions bear the highest burden of high and complete damage, while private schools were mainly affected at low to moderate severity levels, highlighting the critical need to prioritize high-severity recovery interventions in the public sector.

Level of Severity of Damage to Common Services

Table 30 presents the distribution of damages to common services—including water treatment, waste disposal, environment, farms/production, consumables, and cafeteria/amusement facilities—classified by severity levels: low, moderate, high, and complete. Both the quantity of items affected and their estimated financial value (USD millions) are provided, offering insight into the intensity of damage across the sector.

In the public sector, most damages fall under the complete and high severity category, particularly 52.37 million USD was found at complete level and 11.31 is high level. For instance, complete damage is present in farms and production facilities (USD 30.97 million), and consumable facilities (USD 11.66 million) and water treatment systems (USD 8.81 million) found at high level. Complete-level damage, though smaller in reported monetary value, remains notable for water treatment (USD 0.39 million). Moderate-level damage is present across several categories, including consumables (USD 1.63 million) and environmental management (USD 1.04 million), reflecting partial but meaningful losses.

Table 30. Common services by level of severity (Value in USD Million): General Education Sector.

Item Category	Public						Private						Public and Private	
	Low level	Moderate level	High level	Complete level	Total Qty	Total values	Low level	Moderate level	High level	Complete level	Total Qty	Total values	Total Qty	Total values
Water Treatment	0.03	0.46	8.81	0.39	7030	9.68	0.00265	0.000265	0.083	0.096	4751	0.17953	11781	9.85953
Waste disposal			0.01	0.01	161	0.03							161	
Environment		1.04		2.35	2002	3.38			0.0002	0.018	578	0.0182	2580	3.3982
Farms/productions		0.43	0.06	30.97	41624	31.46				0.03	390	0.03	42014	31.49
Consumable		1.63	1.28	11.66	1052057	14.56	0.0034	0.001		0.18	1156226	0.1844	2208283	14.7444
Cafeteria and Amusement	0.01	1.24	1.15	6.99	315299	9.39		0.00007	0.057	0.58	6571	0.63707	321870	10.02707
Sub Total	0.04	4.79	11.31	52.37	1418173	68.5	0.0037	0.0013	0.14	0.9	1168516	1.05	2586689	69.55

Source: CITG survey, 2022.

However, it is important to note that the reported damage to water and sanitation infrastructure likely underestimates the true extent of loss. Many components of these systems—such as underground water pipelines, septic tanks, and toilets—cannot be easily counted or valued in initial assessments. As a result, the reported financial values capture only visible or above-ground elements, meaning the full cost of restoring water and toilet services is significantly higher than indicated. Recognizing this hidden damage emphasizes that water and sanitation infrastructure should be treated as a high-priority recovery area, even if the table values appear modest.

In the private sector, damages are generally minor and mostly concentrated in low and moderate severity categories, with very limited high or complete losses. Water and sanitation systems in private schools also likely include unquantified underground components, so the reported values understate the actual damage. When considering public and private institutions together, the overall pattern shows that high-level damage dominates the total financial loss, particularly for farms/production and water treatment systems. Low and moderate damages represent partial disruptions, but the hidden, unquantified damage to underground water and toilet systems adds further urgency to the recovery effort.

In summary, while the table provides a useful overview of visible losses, the true extent of damage to essential common services, especially water and sanitation, is likely much higher than reported. This underscores the critical need for comprehensive assessment and prioritization of recovery efforts to restore fully functional water, toilet, and other essential services in schools, ensuring a safe and conducive learning environment for students and staff.

Damage to General Education by Perpetrator

Table 31 presents a comprehensive summary of the extent of damage inflicted on both public and private general education facilities and educational items by different armed groups and forces during the conflict period. The damages are expressed in monetary value (USD millions) and the percentage share of each group's contribution to the total losses. The data cover a wide range of educational resources, including buildings, libraries, classroom facilities, ICT equipment, laboratories, pedagogical materials, and furniture, reflecting the overall impact on the education sector. The analysis reveals that the Eritrean Defense Forces (EDF) were the primary perpetrators, causing approximately USD 1,038.59 million in damages—equivalent to 54.88% of the total destruction. This demonstrates that more than half of all educational damages were attributed to EDF actions. The Ethiopian National Defense Forces (ENDF) followed as the second major contributor, responsible for around USD 552.7 million, representing 29.21% of the total. Together, these two forces accounted for nearly 84% of the total monetary losses, underscoring their dominant role in the widespread destruction of both public and private educational infrastructure.

Table 31. Perpetrators on Private and Public General Education (Value in USD Million).

Item Categories	ENDF	EFP	EDF	Amhara Forces	Afar forces	Bandits	Others	Total Values
Agriculture	8.84	0.02	14.77	0.02		4.47	3.35	31.47
Amusement	1.02	0.38	7.3	0.06		0.29	0.33	9.38
Building	109.28	15.53	161.64	4.72	1.85	10.2	11.05	314.27
Classroom facilities	19.61	0.42	22.38	0.52	0.02	2.31	2.26	47.52
Co-curricular facilities	28.9	7.5	61.29	0.07		3.81	3.36	104.93
Consumables	4.62	0.12	6.51	0.3	0.07	0.66	2.17	14.45
Books and records	11.72	0.69	18.25	0.44	0.06	2.63	2	35.79
Electricity	55.59	2.54	108.37	1.33	1.58	42.07	2.59	214.07
Environment	2.85		0.53					3.38
ICT	86.95	13.19	84.78	3.14	0.01	8.33	6.58	202.98
Laboratory	22.51	0.21	34.69	0.41	0.03	0.44	0.84	59.13
Library	81.66	1.38	256.59	1.51		2.65	53.66	397.45
Music & art	0.18	0.05	0.69	0.01	0.03	0.03	0.14	1.13
Equipment	11.08	9.93	15.38	0.5	0.61	1.06	6.43	44.99
Furniture	24.56	12.79	26.69	1.52	1.39	6.18	1.88	75.01
Pedagogical materials	47.04	1.95	100.54	2.04	0.12	10.47	10.24	172.4
Water materials	3.33	2.39	3.75	0.01	0.02	0.22	0.34	10.06
Sport	17.66	0.17	25.67	0.35	0.01	0.54	1.52	45.92
Vehicles	1.04		0.09	0.06			0.01	1.2
Waste disposal materials	0.02	0.01	0.01					0.04
Workshop materials	13.95	0.1	88.56	0.02		0.13	1.92	104.68
Spare part	0.29	0.03	0.1	0.03		0.03	1.6	2.08
Total	552.7	69.4	1038.59	17.06	5.81	96.52	112.29	1892.37
Percent	29.21	3.67	54.88	0.90	0.31	5.10	5.93	

Source: CITG survey, 2022.

Other significant contributors included the Ethiopian Federal Police (EFP) with USD 69.4 million (3.67%), and bandits with USD 96.52 million (5.10%), indicating that opportunistic looting and vandalism also had a measurable impact on educational assets. The Amhara forces

and Afar forces caused relatively smaller shares of damage, estimated at USD 17.06 million (0.9%) and USD 5.81 million (0.31%) respectively. Others actors, including unidentified accounted for USD 112.29 million (5.93%).

In terms of asset categories, the largest damages were recorded in libraries (USD 397.45 million), buildings (USD 314.27 million), electricity systems (USD 214.07 million), ICT materials (USD 202.98 million), and pedagogical materials (USD 172.4 million). These categories represent the core infrastructure and learning resources of the education sector, indicating the severe disruption to both teaching and administrative functions.

Overall, the data clearly demonstrate that the Eritrean and Ethiopian national forces were the dominant contributors to the destruction of educational infrastructure, while other actors – including police units, regional militias, and bandits – played secondary yet still damaging roles. The pattern of losses across both public and private institutions highlights the systematic and widespread nature of the conflict’s impact on education, resulting in nearly USD 1.9 billion in total damages.

Damage to General Education by Execution type (Type, Mechanism and Nature)

Type of damage

Table 32 provides a detailed classification of damage sustained by various item categories across public and private general education institutions. The damage is categorized into burned, looted, broken, stolen, mixed, and additional classifications including joint, other, and single instances. The table also provides the total number of items affected in each category and the percentage distribution, giving a clear picture of both the scale and nature of destruction.

Table 32. Damage Types in the General Education sector (Incidence count).

Item category	Public								Private					
	Burned	Looted	Broken	Stolen	Mixing	Joint	Others	Total	Burned	Looted	Broken	Lost	Other	Total
Vehicles	1	8	5	2		13		29		3		2		5
Spare Parts										4550	194	20	1155	5919
Books									29	119	4	123	6	281
Classroom facilities	116	476	538	348		1290		2768	23	113	52	70		258
Lib										35	1	16		52
Materials														
Lab										1818	5		6	1829
Materials														
ICT	40	201	47	60		350		698	3	70	7	21	3	104
Electric									6	68	3	9		86
Workshop	48	216	32	72		367		735		1214		200	40	1454

Item category	Public							Total	Private					
	Burned	Looted	Broken	Stolen	Mixing	Joint	Others		Burned	Looted	Broken	Lost	Other	Total
Co-curricular	122	384	113	277		793		1689		15	2	4		21
Pedagogical materials	240	440	238	511		1250		2679		31		19		50
Sport materials	750	150	67	449		1438		2854						
Water Treatment									55	4657	2	26	11	4751
Waste materials	18	5	0	1		25		49						
Agriculture	21	308	39	190		509		1067		390				390
Environment	3	2	2	2	6	15	3	33		578				578
Cafeteria									836	3844	395	1496	6571	13142
Consumable									5	271	9	126	9	420
Total	1359	2190	1081	1912	6	6050	3	12601	957	17,776	674	2132	7801	29,340
Percent	10.78	17.38	8.58	15.17	0.05	48.01	0.02	100	3.26	60.59	2.3	7.27	26.59	100

Source: CITG survey, 2022.

In the public sector, the majority of damages occurred through joint mechanisms (48.01%), reflecting multiple overlapping forms of damage to the same items. Other prominent damage types include looting (17.38%), stolen items (15.17%), and burning (10.78%), showing a combination of deliberate destruction and opportunistic theft. Categories most affected include sport materials (2,854 items), classroom facilities (2,768 items), pedagogical materials (2,679 items), and vehicles (29 items). Smaller categories such as environmental assets and waste materials also sustained damage but in lower numbers.

For the private sector, the damage pattern is somewhat different. A majority of items were affected by looting (60.59%), particularly in categories such as water treatment systems (4,657 items), spare parts (4,550), and cafeteria equipment (3,844 items). Other notable damage types include other/unspecified categories (26.59%), lost items (7.27%), burning (3.26%), and broken (2.3%). The high proportion of looting in private institutions highlights targeted theft of resources, while burning and physical destruction were comparatively limited.

When combining public and private sectors, the total number of items damaged is 41,941, with joint or overlapping damage being the dominant category, particularly in public schools. This indicates that many items suffered multiple simultaneous forms of damage, emphasizing the complexity of destruction and the challenge of restoration. The distribution of damage types also reveals that looting and theft were significant contributors, especially in private institutions, whereas burning and physical destruction were more prevalent in public schools.

Overall, the table demonstrates that different mechanisms and types of damage affected different categories and sectors differently, and effective recovery planning must address both the physical repair of infrastructure and the replacement of lost or stolen materials. Understanding these damage patterns is critical for prioritizing interventions and ensuring that schools can resume normal teaching and learning activities.

Mechanism of actions

Table 33 presents an analysis of the mechanisms through which school infrastructure and materials were damaged in terms of quantity in both public and private general education institutions. The data classify the damage by types of attacks, including airstrikes, artillery shelling, fire, rifle/bullet attacks, as well as joint/combined attacks, single instances, and other unspecified mechanisms. This breakdown provides insight not only into the scale of destruction but also into the primary causes, which is important for understanding both risk and recovery priorities.

Table 33. Damage Mechanism in the General Education Sector (Incidence count).

Item categories	Public							Private								Total
	Air strike	Artillery Shelling	Fire	Rifle	Other	Joint	Total	Air strike	Artillery Shelling	Burning	Bullet	Bomb	Tank	DK	Other	
Building	213	372	219	147	752	1477	3180	33	50	1	30	7	4	51		176
Equipment								2	38	32	69			77	152	370
Furniture								13	242		1527	33		5637	1693	9145
Vehicles														5		5
Spare part	16	101	156	73	5	350	701									
Books and records	30	201	575	80	714	1602	3202									
Laboratory materials						1055	1055									
Electricity	87	160	124	66	438	738	1613									
Environment											6		572			578
Consumable	23	54	76	31	621	813	1618									
Total	369	888	1150	397	2530	6035	11369	48	330	33	1632	40	576	5770	1845	10,274
Percent	3.25	7.81	10.12	3.49	22.25	53.08	100	0.47	3.21	0.32	15.88	0.39	5.61	56.2	17.96	100

Source: CITG survey, 2022.

In the public sector, the largest proportion of damage resulted from joint or combined attacks, accounting for 53.08% of total damage (6,035 items). Other significant mechanisms include other unspecified means (22.25%), fire (10.12%), and artillery shelling (7.81%), indicating that school infrastructure and materials were frequently subjected to multiple simultaneous or overlapping forms of attack. Buildings were the most heavily affected item category, with

3,180 instances of damage, primarily caused by joint attacks and unspecified means, followed by books and records (3,202 items) and laboratory materials (1,055 items). Equipment, furniture, electricity, consumables, and spare parts also sustained substantial damage, though in smaller quantities compared to buildings and instructional materials.

In the private sector, the main mechanisms of damage were unidentified mechanisms (56.2%) and other mechanisms (17.96%). Among the alternatives bullet/rifle attacks (15.88%), tank attacks (5.61%), and artillery shelling (3.21%), reflecting more targeted or localized attacks. The total number of damaged items was considerably high, with 10,274 items affected. Furniture, consumable goods, equipment, and buildings were the primary categories affected in private schools.

Overall, when combining public and private institutions, a total of 10,274 items were damaged across all categories. Joint attacks, unspecified mechanisms, and fire were the dominant causes, together accounting for more than 85% of the total damage, highlighting that most school infrastructure and resources were not damaged by a single mechanism but through multiple or indirect forms of attack. This pattern underscores the complexity of the destruction, which will require comprehensive reconstruction strategies that address not only physical rebuilding but also the replacement of teaching and learning materials.

The percentage distribution emphasizes the severity and prevalence of different attack mechanisms: public schools were disproportionately affected by combined and unspecified attacks, while private schools experienced damage primarily from rifle or bullet attacks and localized fire incidents. Understanding these mechanisms is critical for risk assessment, protective measures, and future infrastructure planning, ensuring that reconstruction efforts are resilient against similar threats.

Nature of damage

Table 34 presents the nature of damages sustained across different item categories in the education sector. The damages are classified into several categories, including deliberate damage, collateral damage, burning, looting, use for camping, as well as joint or overlapping cases where multiple damage types occurred simultaneously, and “other” category for unspecified forms of damage. This classification provides insight into both the intent and context of destruction, which is important for planning recovery and preventive measures.

Table 34. Nature of Damage in the General Education Sector (Incidence count).

Item categories	Deliberate	Collateral	Burning	Looting	Camping	Joint	Other	Total
Amusement	171	21	25	164	7	454	26	868
Library	646	101	87	243	46	1215	10	2348
Music and entertainment	73	13	10	78	4	204	5	387
Equipment	718	173	346	143	37	1828	42	3287
Furniture	671	209	242	386	101	1709	160	3478
Water	264	59	9	58	48	578	47	1063
Total	2543	576	719	1072	243	5988	290	11431
Percent	22.25	5.04	6.29	9.38	2.13	52.38	2.54	100

Source: CITG survey, 2022.

In total, 11,431 items were affected across all categories. Among public and private institutions combined, the majority of damages (52.38%) were occurred through deliberate attack, looting, burning, and others; indicating that many items suffered multiple types of damage simultaneously, reflecting the complex and extensive nature of attacks or misuse. Deliberate damage accounts for 22.25%, highlighting intentional targeting of key school facilities and resources. Other significant categories include looting (9.38%), burning (6.29%), and collateral damage (5.04%), indicating that schools were often affected as part of broader conflict operations rather than in isolation. Minor categories include camping-related use (2.13%) and other unspecified forms of damage (2.54%).

Examining item-specific impacts, equipment and furniture were among the most heavily affected categories, with 3,287 and 3,478 items damaged respectively. Library materials were also severely impacted, with 2,348 items damaged, predominantly through deliberate acts, looting, and joint mechanisms. Other categories, such as amusement facilities (868 items), music and entertainment materials (387 items), and water infrastructure (1,063 items), were also affected but to a lesser extent.

Overall, the analysis of the nature of damage demonstrates that more than half of all losses were the result of overlapping or joint damages, while deliberate acts of destruction and looting contributed substantially to the total. Understanding the types and causes of damage is crucial for designing recovery efforts, implementing preventive measures, and protecting educational infrastructure from similar future threats.

Damage to TVET

Infrastructure and facilities damage: Table 35 presents a detailed overview of the damage to infrastructure and facilities in both public and private Technical and Vocational Education and Training (TVET) institutions. The table highlights the extent of destruction in key asset categories—buildings, equipment, furniture, vehicles, and spare parts—and provides the associated financial costs in USD. The data is disaggregated by public and private sectors and also shows the combined totals for all TVET institutions.

Table 35. Infrastructure and facilities damage (Value USD in Million): TVET.

Item Category	Public		Private		All Public and Private	
	Total Damaged quantity	Total damage cost	Total Damaged quantity	Total damage cost	Total Damaged quantity	Total damage cost
Building	2262	26.04	5249	2.28	7511	28.32
Equipment	8958	5.61	1112	0.87	10070	6.48
Furniture	39899	5.34	4168	3.6583189	44067	8.998318905
Vehicles	136	4	8	0.17	144	4.17
Spare Parts	2544	1.87	605	0.05630742	3149	1.92630742
Sub Total	53799	42.86	11142	7.03	64941	49.89

Source: CITG survey, 2022.

In the public TVET sector, the total damage amounts to USD 42.86 million, with 53,799 items affected. The largest financial losses occurred in buildings (USD 26.04 million), followed by vehicles (USD 4 million), furniture (USD 5.34 million), equipment (USD 5.61 million), and spare parts (USD 1.87 million). Public institutions clearly sustained the majority of structural and equipment losses, reflecting their larger size and greater asset base.

In the private TVET sector, the total damage is considerably smaller in monetary terms, totaling USD 7.03 million, with 11,142 items damaged. Buildings (USD 2.28 million) and furniture (USD 9 million) account for most of the losses, followed by equipment, vehicles, and spare parts. While fewer in quantity and value compared to public institutions, the private sector's losses remain significant, particularly for furniture and equipment.

When combining public and private institutions, the total damage affects 64,941 items, with a total estimated cost of USD 49.89 million. Buildings remain the largest contributor to overall losses (USD 28.32 million), followed by furniture (9 million) and equipment (6.48 million), indicating that the most critical assets for teaching and learning in TVET institutions were heavily affected. Vehicles and spare parts, while smaller in financial value, are also important

for the practical and vocational training functions of these institutions. Overall, the table underscores that both public and private TVET institutions suffered extensive damage, with public institutions bearing the majority of losses. This highlights the urgent need for reconstruction and rehabilitation of core infrastructure and learning resources to restore the functionality of TVET education and ensure continuity of vocational training programs.

Teaching and Learning Facilities: are essential inputs in the education system, directly shaping the quality of instruction and the learning environment. During the conflict, these facilities were heavily damaged, severely disrupting classroom activities and undermining educational outcomes. Table 36 provides a detailed overview of the damage across key categories, including books, library materials, ICT, laboratories, classroom facilities, workshops, sports, and music/art resources, for both public and private institutions.

Table 36. Teaching and Learning Facilities (Value in USD Million): TVET.

Item Category	Public		Private		All Public and Private	
	Total Damaged Qty	Total damage cost	Total Damaged Qty	Total damage cost	Total Damaged Qty	Total damage cost
Books	34817	0.39	20287	0.138	55104	0.528
Class room facilities			2483	0.079	2483	0.079
Lib Materials	1243736	18.63	16879	0.14524488	1260615	18.76
Lab Materials	2212	0.81	87	0.03458743	2299	0.84
ICT	168771	52.74	2155	1.32	170926	54.06
Electric	354044	4.96	19536	2.19	373580	7.15
Workshop/machinery	111794	122.69	7437	0.26	119231	122.95
Sport	4990	0.43	27	0.0059629	5017	0.44
Music and Art	36	0.097	104	0.01298587	140	0.11
Sub Total	1920400	200.75	68998	4.19	1989398	204.94

Source: CITG survey, 2022.

In the public sector, a total of 1,920,400 items were damaged, with an estimated financial loss of USD 200.75 million. The most significant losses occurred in workshops and machinery (USD 122.69 million), reflecting the destruction of essential vocational and technical training resources. Library materials (USD 18.63 million) and ICT equipment (USD 52.74 million) were also heavily affected, demonstrating the disruption to both traditional and digital learning tools. Other affected categories include books, laboratory materials, classroom facilities, electricity infrastructure, sports, and music/art resources, though these contributed smaller monetary losses individually.

In the private sector, damages were smaller in both quantity and value, totaling 68,998 items and USD 4.19 million. The main losses occurred in ICT (USD 1.32 million) and electricity infrastructure (USD 2.19 million), with minor damages to other categories such as books, workshops, and music/art materials.

When combining both public and private institutions, the total damage amounts to 1,989,398 items, with an estimated cost of USD 204.94 million. Workshops/machinery, ICT, and library materials together account for the majority of financial losses, highlighting that the most critical instructional resources and learning environments were severely impacted. Overall, the data underscore that public education facilities bore the brunt of the damage, while private institutions, though less affected, also sustained significant losses in key areas. Restoration efforts must prioritize workshops, ICT, and library materials, as these are essential for resuming normal teaching and learning activities across all education levels.

Common Services: Common services constitute essential facilities and resources that support and enhance the teaching and learning process. In the context of education, particularly in TVET institutions, services such as water, sanitation, waste management, environmental maintenance, and related utilities are vital for sustaining a conducive learning environment. Without access to basic services like water and sanitation, the effectiveness of teaching and learning activities becomes severely constrained. Likewise, the absence or damage of other common facilities can significantly disrupt institutional operations and reduce the overall quality of education delivery. Table 37 presents a summary of the extent of damage and associated costs related to common services across public and private TVET institutions.

Table 37. Common services (Value in USD Million): TVET.

Item Category	Public		Private		All Public and Private	
	Total Damaged Qty	Total damage cost	Total Damaged Qty	Total damage cost	Total Damaged Qty	Total damage cost
Water Treatment	5321	0.29	455	0.007	5776	0.297
Waste disposal	8011	0.03	65	0.0004	8076	0.03
Environment	9391	0.32			9391	0.32
Farms /productions			5133.5	0.43	5133.5	0.43
Park and Beautification			2120	0.025	2120	0.025
Consumable	988065	2.47	7078	0.117	995143	2.59
Cafeteria	5715	0.24	3687	0.07	9402	0.31
Sub Total	1016503	3.35	13405	0.22	1029908	3.57

Source: CITG survey, 2022.

The assessment of common services in Technical and Vocational Education and Training (TVET) institutions revealed extensive damage across both public and private facilities. Common services such as water treatment, waste disposal, environmental management, farms and production units, parks and beautification, consumables, and cafeterias are essential for the smooth functioning of TVET centers, where practical training and hands-on learning heavily depend on operational resources and infrastructure. The destruction of these services severely disrupted training activities, reduced institutional functionality, and compromised the quality of vocational education. The total estimated damage to TVET common services reached USD 3.57 million, with public TVET institutions accounting for USD 3.35 million and private TVET institutions for USD 0.22 million.

The most affected component was consumables, with losses valued at USD 2.59 million, followed by farms and production units, vital for practical skill training, recorded damages of USD 0.43 million, environmental services (USD 0.32 million), cafeterias sustained losses of USD 0.31 million, and water treatment systems (USD 0.297 million). Waste disposal systems were also significantly affected, with damages amounting to USD 0.03 million, while parks sustained losses of USD 0.025 million, respectively. Overall, the damage to these services has not only resulted in major financial losses but has also disrupted the training environment, hygiene, and operational effectiveness of TVET institutions, thereby constraining the continuity and quality of skill-based education in the region.

Damage to TVET by Severity

Level of Damage by Item Category

Table 38 presents a detailed assessment of the extent of damage across different item categories within public and private TVET institutions, showing the value of losses (in million USD) attributed to various perpetrators. This breakdown helps illustrate both the scale and distribution of destruction caused by different actors. The assessment of damages to public and private TVET institutions shows that the overall impact varies from moderate to complete levels of damage, with public institutions being significantly more affected than private ones. The total estimated loss across both sectors is 258.82 million USD, of which 228.76 million USD (about 88%) represents complete damage, while 31.91 million USD (12%) reflects moderate damage. This means the majority of the assets and infrastructure were entirely destroyed, indicating a high and complete level of damage across much of the TVET system.

Table 38. Level of damage on different item categories of TVET (Value in USD Million).

Item Category	Public				Private				Public and Private All			
	Complete damage value	Partial damage value	Total Qty	Total Value	Complete damage value	Partial damage value	Total Qty	Total Value	Complete damage value	Partial damage value	Total Qty	Total Value
Building	10.64	15.4	2262	26.04	0.94	1.34	5249	2.28	11.58	16.74	7511	28.32
Furniture	4.04	1.3	39899	5.34	3.65	0.01	4168	3.66	7.69	1.31	44067	9
Equipment	5.55	0.05	8958	5.6	0.84	0.03	1112	0.87	6.39	0.08	10070	6.48
Vehicle	4		136	4	0.15	0.02	8	0.17	4.15	0.02	144	4.17
Spare part	0.31	1.56	2544	1.87	0.06		605	0.06	0.37	1.56	3149	1.93
CR Facilities					0.08		2483	0.08	0.08	0	55104	0.08
Books	0.39		34817	0.39	0.14		20287	0.14	0.53	0	2483	0.53
Lab Materials	0.81		2212	0.81	0.03		87	0.03	0.84	0	1260615	0.85
Lib Materials	18.54	0.09	1243736	18.63	0.15		16879	0.15	18.69	0.09	2299	18.78
ICT	52.21	0.52	168771	52.73	1.28	0.037	2155	1.32	53.49	0.557	170926.3	54.05
Machinery	122.69		111794	122.69	0.26		7437	0.26	122.95	0	373579.8	122.95
Sport materials	0.43		4990	0.43	0.01		27	0.01	0.44	0	119230.87	0.44
Music and Art		0.1	36	0.1	0.01		104	0.01	0.01	0.1	140	0.01
Electricity	4.15	0.81	354044	4.96	2.18	0.007	19536	2.19	6.33	0.817	373580	7.15
Waste Disposal	0.001	0.03	8011	0.03	0.0004		65	0.0004	0.0014	0.03	5017	0.03
Water Treatment	0.26	0.02	5321	0.28	0.0043	0.003	455	0.01	0.2643	0.023	140	0.29
Park and beautification					0.02		2120	0.02	0.02	0	5776	0.02
Agriculture					0.03	0.4	5133.5	0.43	0.03	0.4	8076	0.43
Consumable	2.47		988065	2.47	0.12		7078	0.12	2.59	0	9391	2.59
Cafeteria	0.08	0.16	5715	0.24	0.07		3687	0.07	0.15	0.16	5133.5	0.31
Total	226.57	20.04	2940779	246.61	10.02	1.84	98676	11.88	236.59	21.88	2456432.47	257.88

Source: CITG survey, 2022.

For public TVET institutions, the total loss amounts to 246.61 million USD, representing 95.63% of the total damages. Within this, complete damage accounts for 226.57 million USD (92%), indicating a complete level of destruction, while moderate damage amounts to 20.04 million USD (8%), representing a moderate level of damage. The most severely affected areas – classified as complete damage – include machinery (122.69 million USD), ICT materials (52.21 million USD), library materials (18.54 million USD), and buildings (10.64 million USD). These categories reflect a high to complete level of damage, as they involve the total loss of essential instructional and training resources. Meanwhile, moderate damage was recorded in categories such as furniture, equipment, and electrical systems, which suffered partial but recoverable impacts.

In the private TVET sector, the total loss is estimated at 11.88 million USD. Here, complete damage is valued at 10.02 million USD (84%), indicating complete loss, while moderate damage amounts to 1.84 million USD (16%), suggesting that most facilities experienced a

moderate level of damage rather than total destruction. This pattern demonstrates that private institutions were affected much of their infrastructure remains non-functional.

Overall, when combining both sectors, the data indicates that complete damage dominates the total loss, accounting for nearly almost all (92%), while moderate damage contributes the remaining 9%. Public TVET institutions are characterized by a complete level of damage, with most assets fully destroyed. In conclusion, the level of damage across TVET institutions ranges from moderate to complete, with public TVETs showing a complete level of damage across most asset categories and private TVETs showing a moderate level of damage. This suggests that recovery efforts should prioritize the reconstruction and full replacement of public TVET facilities, while repair and rehabilitation may be sufficient for most private TVET institutions.

Damage to TVET by Perpetrator

Table 39 presents a detailed breakdown of the perpetrators responsible for the damage sustained by public and private TVET institutions, categorized by item type and expressed in million USD. The table illustrates how different armed groups and actors contributed to the total destruction across various asset categories, helping to identify which perpetrators were most responsible for the damage and which areas of institutional property were most affected. The analysis of the perpetrators responsible for the destruction of public and private TVET institutions indicates that multiple actors were involved, each contributing differently to the overall damage.

Table 39. Perpetrators on Public and Private TVET (Value USD in Million).

Item Categories	Perpetrators							Total Qty	Total Value
	ENDF	EFP	EDF	Amhara Forces	Joint Forces	DK	Others		
Building	6.12		12.5	0.85	6.77	0.82	1.26	7511	28.31
Furniture	1.16		2.54	1.34	3.45	0.27	0.23	44067	8.99
Equipment	1.58		2.74	0.22	1.63	0.26	0.08	10070	6.50
Vehicles	1.21	0.14	2.08	0.19	0.52		0.03	144	4.17
Spare part	0.02		0.13	0	1.58		0.2	3149	1.93
Classroom facilities	0.03		0.01	0	0.03		0.01	2483	0.08
Books and records	0.09		0.16	0.004	0.26		0.001	55104	0.53
Laboratory	0.003		0.09	0	0.74		0.0004	2299	0.84
Library	0.07		0.25	0.16	18.18		0.12	1243823	18.78
ICT	2.27	1.29	1.75	4.5	42.15		2.09	170926	54.06
Machinery	0.04		2.33	0.17	0.14		120.28	119231	122.96
Sport	0.08		0.28		0.08		0.01	5017	0.44
Music & Art	0.1		0.001				0.01	140	0.11
Electricity	0.53		2.79	0.19	3.1	0.38	0.15	373580	7.15

Item Categories	Perpetrators							Total Qty	Total Value
	ENDF	EFP	EDF	Amhara Forces	Joint Forces	DK	Others		
Water materials	0.02		0.22		0.04			5386	0.29
Waste Materials/disposal	0.0019		0.0044		0.03			8466	0.04
Environment	0.15		0.14		0.03	0.01		9391	0.32
Park and Beautification	0						0.025	2120	0.03
Consumables	0.27		1.442	0.024	0.84	0.02	0.001	995143	2.59
Cafeteria	0.01		0.17		0.143	0.001		9402	0.31
Total	13.74	1.43	29.64	7.64	79.72	1.75	124.48	3067452.00	258.42
Percent	5.32	0.55	11.47	2.96	30.85	0.68	48.17		

Source: CITG survey, 2022.

The total cost across all categories amounts to 258.42 million USD, caused by seven main actors: the Ethiopian National Defense Force (ENDF), Eritrean Forces Presence (EFP), Eritrean Defense Forces (EDF), Amhara Forces, Joint Forces, DK, and Others. Among these, the group categorized as Others inflicted the largest share of total damage, estimated at 124.48 million USD, which represents 48.17 percent of all costs. This indicates that nearly half of the total destruction to TVET assets was caused by unidentified or mixed actors. The Joint Forces were the second-largest perpetrators, responsible for 79.72 million USD (30.85 percent) of the total, followed by the Eritrean Defense Forces (EDF), who caused 29.64 million USD (11.47 percent). The Ethiopian National Defense Force (ENDF) contributed to 13.74 million USD (5.32 percent), the Amhara Forces caused comparatively minor damages, accounting for only 7.64 million USD (2.96%), and unidentified forces accounted for 0.68%. Altogether, the Others, Joint Forces, and EDF account for approximately 90 percent of the total damage, showing their dominant role in the overall destruction of TVET institutions.

In terms of item categories, the damage was concentrated in a few key areas that are essential to the operation of TVET institutions. Machinery experienced the highest level of destruction, with costs totaling 122.96 million USD, nearly all of which (120.28 million USD) was attributed to Others. This represents a complete level of damage, as the destruction of machinery effectively halts the practical and technical training processes. ICT materials, the second-most affected category, suffered 54.06 million USD in damages. Joint Forces were the main perpetrators in this category, responsible for 42.15 million USD, or about 78 percent of the ICT losses. Smaller shares were caused by ENDF (2.27 million USD), EDF (1.75 million USD), and Others (2.09 million USD). This indicates a high to complete level of damage to digital equipment and communication infrastructure.

Buildings also faced severe destruction, totaling 28.31 million USD, primarily due to EDF (12.5 million USD), Joint Forces (6.77 million USD), and ENDF (6.12 million USD). These damages represent high levels of physical and structural loss, which have major implications for the continued operation of training centers. Similarly, library materials were almost entirely destroyed, valued at 18.78 million USD, with Joint Forces accounting for 18.18 million USD of this cost – indicating a complete level of damage to institutional knowledge and learning resources.

Other categories suffered lesser but still notable impacts. Furniture (8.99 million USD) and equipment (6.50 million USD) were affected by multiple actors, including Joint Forces, ENDF, and EDF, reflecting moderate levels of damage. Electricity systems (7.15 million USD) experienced damages mainly from Joint Forces (3.1 million USD) and EDF (2.79 million USD), leading to moderate to high levels of functional disruption. Meanwhile, items such as books, laboratory materials, consumables, and cafeteria facilities were impacted to a low level, each contributing less than one percent to the total value of costs.

Overall, the distribution of damage indicates that Others, Joint Forces, and EDF were responsible for the most extensive and costly destruction, causing complete damage to high-value items such as machinery, ICT systems, and library resources. ENDF and Amhara Forces were associated with moderate levels of damage, mainly to buildings and equipment, while DK and EFP played relatively minor roles, inflicting low-level damages. This pattern reveals that the damage to TVET institutions was not uniform but rather concentrated among a few key actors who caused both complete and high-level destruction to the most critical components of technical and vocational education.

In conclusion, the perpetrators' share of damage shows that nearly half of the total losses were caused by unidentified or mixed groups (Others), followed by significant contributions from the Amhara Forces and EDF. The item categories most affected – machinery, ICT, buildings, and library materials – represent the backbone of TVET operations, suggesting that the destruction severely undermined the institutions' training capacity. Restoration efforts should therefore focus on these core areas while addressing accountability for the groups responsible for the high and complete levels of damage.

Damage to TVET by Execution type (Type, Mechanism and Nature)

Type of damage

Table 40 presents the types of damage through which damages occurred across private TVET institutions. The table categorizes and quantifies the different forms of destruction, illustrating how various mechanisms contributed to the overall losses sustained.

Table 40. Type of Damage to Private TVET (Incidence Count)

Item Category	Burned	Looted	Broken	Lost	Total
Equipment	6	85	21	14	126
Office Furniture		2760	242	23	3025
Sport material		20	7		27
Vehicles			8		8
Spare Parts		55	550		605
Books	14	16	1	7	38
CR Facilities	1	15	10	8	34
Lib Materials	25	30	22	39	116
Lab Materials		14	10	4	28
ICT	1144	921	90		2155
Electric	10	28	9	2	49
Workshop		7430		7	7437
Music & Art		4	100		104
Waste disposal		5	4		9
Consumable	7	54	18	5	84
Total	1207	11437	1092	109	13845
Percent	8.72	82.61	7.89	0.79	100

Source: CITG survey, 2022.

Table 40 illustrates the types of damage sustained by private TVET institutions, showing the frequency and proportion of each form of destruction across various asset categories. The data reveal that looting was by far the most prevalent form of damage, accounting for 82.61% of all recorded cases. This overwhelming share indicates that theft and unauthorized removal of property were the primary causes of loss in private TVET institutions, reflecting a pattern of opportunistic damage during periods of instability. The next most common forms of damage were burning (8.72%) and breakage (7.89%), suggesting that in addition to looting, a significant portion of assets were either intentionally destroyed or damaged during the conflict. Loss of property contributed a relatively minor 0.79%, implying that most damage was active (destructive or theft-related) rather than passive or accidental.

When examined by item category, the most severely affected assets were office furniture, ICT equipment, and workshop materials. Office furniture recorded the highest number of damaged items (3,025 counts), primarily due to looting. Similarly, ICT assets suffered substantial losses, with 2,155 items damaged—over half resulting from theft and fire. Workshop materials were

also heavily looted (7,430 items), highlighting how training-related infrastructure was targeted for its high value and usability. Other categories such as machinery, spare parts, and library materials also experienced significant damage, largely due to looting and breakage.

Overall, the data indicate that the nature of damage in private TVET institutions was predominantly economic and opportunistic, characterized mainly by extensive looting and the deliberate destruction of valuable equipment and materials. Unlike the public TVET institutions—where burning and deliberate destruction were more pronounced—the private sector’s losses were largely driven by theft and property damage aimed at material gain rather than strategic destruction.

Mechanism of damage

Table 41 presents the mechanisms through which damages occurred across private TVET institutions only. The table categorizes and quantifies the different forms of destruction, illustrating how various mechanisms contributed to the overall losses sustained.

Table 41. Mechanism of Damage: TVET (Incidence Count)

Item Category	Air raids	Artillery Shelling	Burning	Bullet	Bomb	Tank	DK	Other	Total
Building	2	16	11	17			11	32	89
Furniture				834		309	438	2551	4132
Equipment	2				192	394	524		1112
Books	6		13		1			22	42
Sport Material							27		27
Music and Art							104		104
Electric	18		496					18990	19504
Spare Parts		1					604		605
Consumable							3319	3759	7078
Total	28	17	520	851	193	703	5027	25354	32693
Percent	0.09	0.05	1.59	2.6	0.59	2.15	15.38	77.55	100

Source: CITG survey, 2022.

Table 41 illustrates the various mechanisms through which damages occurred across private TVET institutions, highlighting both the frequency and proportion of each cause. The data show that the majority of destruction (77.55%) resulted from “other” mechanisms, which include unspecified or combined causes such as looting, vandalism, or secondary effects of conflict. This indicates that most losses were not directly linked to heavy weaponry but rather

to indirect or opportunistic acts. The second most significant cause was damage from unspecified destruction (15.38%), suggesting that a large portion of the impact stemmed from general conflict-related activities and follow-up deterioration. Meanwhile, bullet damage (2.6%), tank-related destruction (2.15%), and burning (1.59%) also contributed moderately to the overall losses, reflecting localized incidents of direct attack or arson. In contrast, air raids (0.09%), artillery shelling (0.05%), and bombing (0.59%) accounted for a relatively small proportion of the total damage, implying that aerial or heavy artillery assaults were limited compared to ground-based or indirect mechanisms.

Overall, the data suggest that while a portion of TVET infrastructure suffered from direct military action, the predominant mechanisms of loss were secondary, opportunistic, or indirect, causing widespread but uneven damage across facilities and equipment.

Nature of Damage

Table 42 presents the mechanisms through which damages occurred across public TVET institutions only, no data for the private institutions. The table categorizes and quantifies the different forms of destruction, illustrating how various mechanisms contributed to the overall losses sustained.

Table 42. Nature of Damage to TVET institutions (Incidence Count).

Item Category	Deliberate Destruction	Collateral Damage	Breaking	Lost	Burned	Looted	Camping	Joint	Others	Total
Furniture	193	144			21	96	22	10		486
Equipment	249				789	92			48	1178
Vehicle			22	9	15	47		2		95
Books	5	28			15		516			564
Lab	6	1			2	4				13
Materials										
Lib						26		2		129
Materials	101									
ICT	9	168			22	21		66		286
Machinery	62	1			603					666
Sport materials	45	3			25					73
Music and Art		7								7
Electricity	87	1			7	184	5	14		298
Spare part	21	12					101			134
Waste										
Disposal	3									3
Water										
Treatment	50	2			1	47				100
Cafeteria	338					5	4		13	360
Total	1169	367	22	9	1500	522	648	94	61	4392
Percent	26.62	8.36	0.5	0.2	34.15	11.89	14.75	2.14	1.39	100

Source: CITG survey, 2022.

Table 42 illustrates the nature of damage sustained by public TVET institutions, categorizing the destruction according to its cause and intent. The data reveal that the majority of damages

(34.15%) resulted from burning, indicating extensive destruction of infrastructure and assets through fire—likely during deliberate attacks or as a result of conflict-related incidents. The second most common form of damage was deliberate destruction (26.62%), reflecting intentional targeting of TVET facilities and resources. This category highlights the purposeful dismantling of assets such as machinery, equipment, and buildings, often as acts of sabotage or hostility.

Camping-related damage accounted for 14.75% of the total, suggesting that several TVET facilities were occupied or used by armed groups, resulting in considerable wear, misuse, or degradation of infrastructure and equipment. Looting followed with 11.89%, indicating the widespread theft of valuable institutional property—particularly equipment, machinery, and books—during or after active conflict. Collateral damage (8.36%) also contributed notably to the total, representing unintended destruction caused by nearby attacks or military engagements.

Other forms of damage such as joint destruction (2.14%), breakage (0.5%), loss (0.2%), and miscellaneous damages (1.39%) made up a smaller proportion, indicating less frequent but still significant forms of harm.

When analyzed by item category, the most heavily affected assets include equipment (26.8%), machinery (15.2%), and furniture (11.1%), reflecting the high vulnerability of these operational and physical resources to both deliberate and indirect damage. Burning, looting, and deliberate destruction collectively account for more than 70% of the total losses, emphasizing the severity and intentional nature of the damage inflicted on public TVET institutions.

Overall, the data indicate that the nature of damage was predominantly intentional and destructive, with a combination of direct attacks, arson, and looting contributing to widespread losses in institutional capacity, learning resources, and infrastructure.

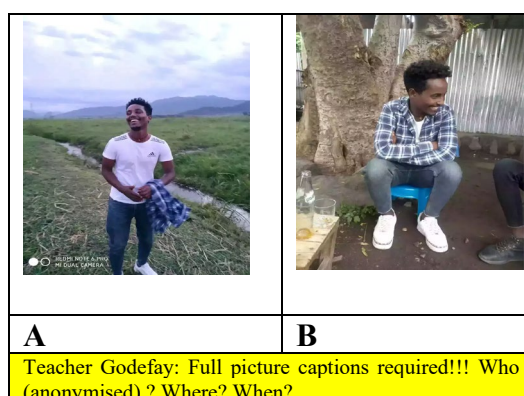
Case Study I: Abbiyi Addi Colleges of Teacher Education

Abbiyi Addi College of Teacher Education (AACTE) in the Central Zone of Tigray experienced severe violations during the war (November 2020–October 2022), including killings and persecution of college members, arbitrary detention, torture, and widespread sexual violence. The campus was militarized and used as a base, detention and torture site, and was struck by drone attacks and heavy artillery. Systematic starvation, hate speech, and deliberate looting and destruction of both public and

private property were also documented, forming the key issues addressed in this investigation discussed as follows.

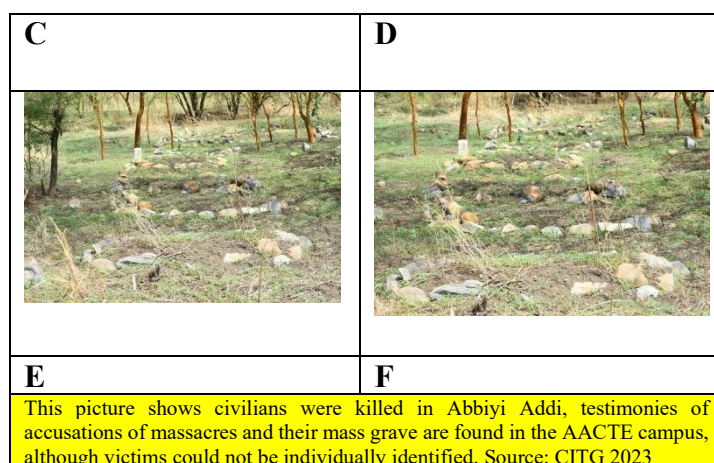
Human loss: Killings and murders of members of the college

Prior to the outbreak of the war in November 2020, Abbiyi Addi College of Teacher Education employed 281 staff members (151 academic and 130 administrative). During the conflict, the college was seized and used as a military base and detention site by ENDF, EDF, and Amhara regional forces, which resulted in widespread arrests, intimidation, and severe physical and psychological harm to both college staff and surrounding community members. The whereabouts of 46 teachers and 130 support staff (a total of 176 employees) became unknown during this period, while one teacher and two support staff members were confirmed killed, including Teacher Godefay (anonymous), an English instructor and ELIP coordinator; another teacher sustained severe injury leading to the loss of a leg.



Staff and community testimonies indicate that civilians were among those killed, with mass graves found in the campus, although victims could not be individually identified. Additionally, 105 staff members (69.54%) were displaced to various zones across Tigray, and many experienced traumas, loss of property, and prolonged psychological distress. Collectively, these findings demonstrate a profound human and institutional impact on the college as a result of the conflict.





Sexual violence: Rape and violence on girls and women

The findings indicate that women and girls in Abbiyi Addi and its surrounding areas were subjected to widespread and systematic sexual violence during the conflict. Many were assaulted in their homes or in public settings, often in the presence of family members, and in numerous cases the assaults involved multiple perpetrators. Survivors included individuals of all ages, from adolescents to elderly women and pregnant mothers, many of whom suffered severe physical and psychological trauma. Sexual violence was used as a deliberate tool to terrorize and destabilize families and the wider community. Some victims were detained within the college compound, where additional abuses and deaths were reported (Refer to Figure 18).



Massacres of girls and women in Abbiyi Addi and vicinity: their mass graves are found in the AACTE campus. Source: CITG 2023

Hate Speech

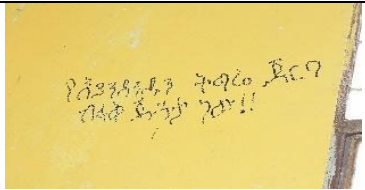
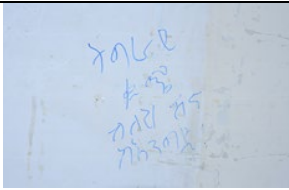
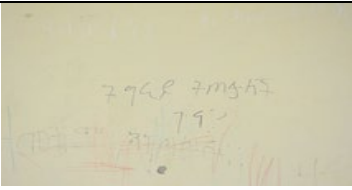
Hate speech was widely displayed across the college compound, including on gates, walls, vehicles, and offices, portraying Tigrayans as subhuman and calling for their

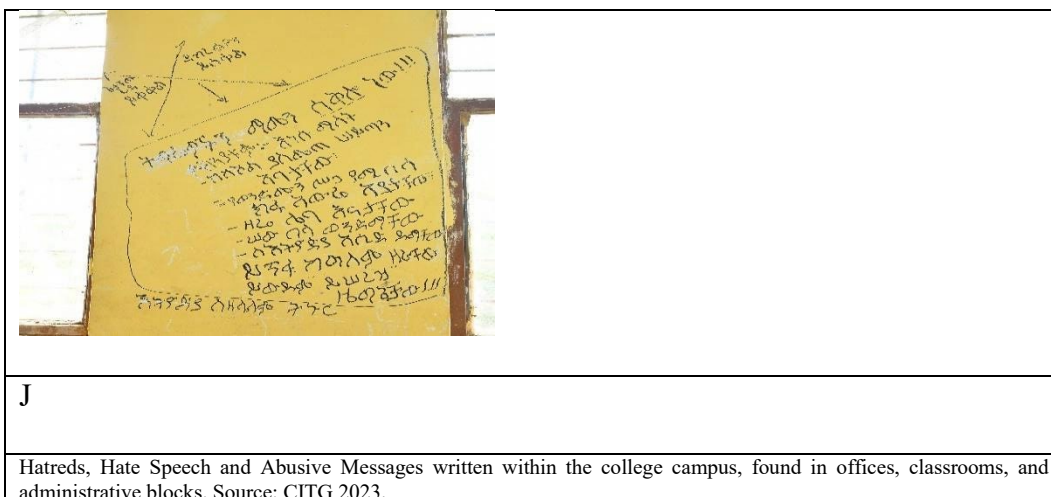
elimination. This dehumanizing rhetoric normalized violence and fueled hostility, particularly between Tigrayan and Amhara communities. Such systematic messaging poses long-term risks for deepening social division and undermining future reconciliation. Among the abusive messages, the following will show indoctrination of the hostility:

- *Tigrayans are worse than the devil himself and they should be exterminated, erased from the face of the earth;*
- *Tigrayans and snakes are the same;*
- *Tigrayans must be cleansed;*
- *Tigray must be cleansed for the development of the country;*
- *Tigrayans are junta;*
- *The Tigray People and Junta are the same; when looking some of the Amharic sayings:*

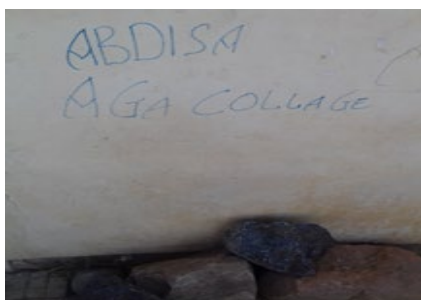
➤ ትግሬን ማመን ሰቅሎ ነው፤ ትግሬ የኢትዮጵያ አሲድ ነው፤ ይጥፉ፤ ከአለም ዘራቸው ይሰረዝ/ይፋቅ፤ ትግሬይ ትጠፋለች ገና፤

➤ ምድረ ቅዝናም ወያኔ፡ የታሪክ ሌቦች፤ የኢትዮጵያውያን ጠላቶች፤ የመሬት ሌቦች፤ የገንዘብ ሌቦች፤ የንፁህን ህይወት ቀሚዎች፤ ገዳይ መርዞች፤ ኮሮናዎች፤ ውሊታ ቢሶች፤ ጅምላ ጨፍጫፊዎች፤ ነቀርሳዎች፤ ይሉኝታ ቢሶች፤ ወዘተዎች (Refer to Figure 19: G, H, I, and J)፤

		
G	H	I



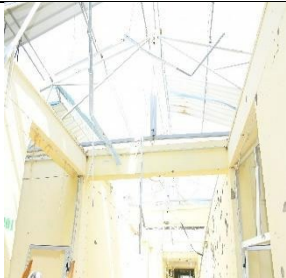
There were a lot of different things that were written throughout the campus about the Tigray Region, Tigrayans, and the history of Tigray in relation to the Ethiopian people; the messages also incorporate insults, dehumanize and demolish Tigrayans that we cannot repeat. It is too painful. Even at the entrance gate of the college, the name “Abbiyi Addi College of Teacher Education” was returned as “Abdissa Agga College” (Refer Figure 19 and Figure 20).



Expunging Tigray Names and Identity in AACTE college: at the gate and classrooms of the college. Source: CITG 2023

Systematic attempts for starvation

Tigrayans at Abbiyi Addi College and in the surrounding community were subjected to deliberate deprivation of food, salary suspension, and economic blockade, leaving many without basic means of survival. The college and nearby areas also faced repeated drone strikes and shelling, causing civilian deaths, displacement, trauma, and extensive destruction of educational facilities and records. These conditions rendered the college non-functional and severely disrupted community life.

		
K	L	M
		
N	O	
Damage of Drone attacks and heavy artillery in AACTE college. Source: CITG 2023		

Destruction of public (college) and private property

Before the war waged on Tigray, most of the management and department offices, lecture rooms, administration blocks, ICT center, library and laboratory holes and other service providing buildings of the college were well furnished; they had desktop computers and laptops with full technological and internet connectivity for computing and communications services. However, due to the war Abbiyi Addi college of Teachers Education was totally damaged. The invading forces damaged school buildings and infrastructure, looted supplies and burned and destroyed college equipment and materials that they were not able to transport (Refer the pictures below).



P	Q	R
Damage of Library, Labs, and Administrative Offices in AACTE college. Source: CITG 2023		

The management and department offices, lecture rooms, cafeterias, administration blocks, ICT center, library and laboratory rooms, printing and documenting rooms, and other service providing buildings are fully damaged by drone strikes, heavy artillery bombardment and other means (Refer the pictures below).

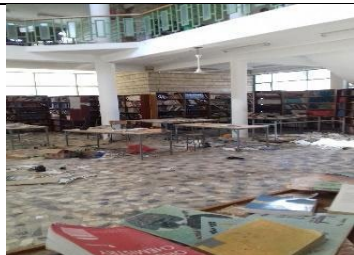
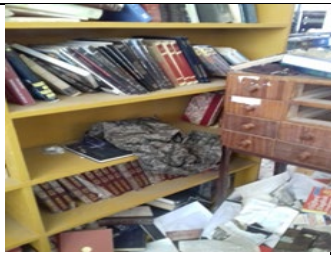
		
S	T	U
Damage of Labs and department offices in AACTE college. Source: CITG 2023		

The total war also had a prominent effect on the electronic devices, communication facilities, high duplicating machines, and became the prime targets of damage and vandalism. Prior to the war, there were eight regular transport (vehicles), two of them were burned. When we are looking at the remaining six vehicles, from a distance, the vehicles appear to be untouched and undamaged; however, all main parts of the six vehicles were looted, dismantled and almost every part was transported to Eritrea. Similarly, when we are looking at the generator room, everything has been a center of sheer devastation, what is left is an empty building; dismantled and almost every part was transported to Eritrea (refer the pictures below).

		
V	W	X
Y		
Damage of ICT, Labs, and Vehicles and Electric Generator in AACTE college. Source: CITG 2023		

Especially, prior to the war the three natural sciences laboratory, ICT and digital labs of the college were equipped with the best laboratory facilities, equipment and supplies which helped to provide life sciences for practical exercises. Despite the paramount importance of the equipment and supplies in these laboratory rooms, the majority of

the items were looted, destroyed and damaged, and deliberately mixed one chemical with the other during the war. Worse was to follow. The well-equipped library, bookstore and ICT centers were also the prime targets of the damage and vandalism; particularly those hard (natural) sciences books were intentionally looted and destroyed which they were not able to transport. Surprisingly, the books deal with the history of the people of Tigray, the history of Tigray People's Liberation Front (TPLF) and the cultural assets of Tigray were purposely torn and destroyed so that they would not function for the Tigrayans again. The latest library, which was built in 2006, named "Dr Solomon Afewerki", one of the founders of the college, was either damaged and/or looted as a result of the total war waged on Tigray Shockingly, the library was used as a custodial, torture, and other punishment detention area; even right now you can find torture and punishment instruments inside the library (Refer the picture below).

		
Z	Z1	Z2
		
Z3	Z4	Z5
Damage of Labs, Libraries and ICT Centers in AACTE college. Source: CITG 2023		

Besides public/college property, targeting the private property and businesses of the college staff has also led to massive destruction, looting, and burning. Particularly, the Eritrean soldiers, Amhara Special Forces, militia and Fano were accused of systematically looting homes and businesses during the war. They broke down doors and windows of the teachers' residence, pillaging the property, they were taking even the smallest things, piling them into vehicles.

Identification of those allegedly responsible (Prosecutors)

Identification of those responsible was often difficult, as members of the ENDF, EDF, and Amhara regional forces frequently wore similar ENDF uniforms, leading communities to rely mainly on language to distinguish them. Nevertheless, the forces widely alleged to have carried out killings, torture, sexual violence, destruction, and looting include: the Ethiopian National Defense Forces (ENDF), the Federal Police, the Eritrean Defense Forces (EDF), and Amhara Regional Government forces (including special forces, militia, and Fano). (Refer pictures below).

		
Z6	Z7	Z8
The picture shows the ENDF military uniforms exhibit within the campus. Source: CITG 2023		
		
Z9	Z10	Z11
The picture shows the EDF involved in Tigray War with their uniforms within the campus. Source: CITG 2023		

Case Study II: Nebelet Primary, Secondary, and Preparatory schools

Another investigation was also done in the town of Nebelet in three schools. Detail evidence was also collected like what is done in Abbiyi Addi College of Teacher Education. The following points were report in this document to show the overview.

Nebelet is a town in Emba Senyete Woreda, Central Zone of Tigray, where three key schools—Nebelet Primary School, Emba-Senyti Secondary School, and Getachew Weldu Preparatory School—were deliberately targeted during two rounds of military attacks and a prolonged blockade. These schools, built largely through community effort and serving thousands of students, suffered extensive destruction, including the burning and looting of classrooms, offices, laboratories, ICT facilities, furniture and

books. The attacks resulted in significant loss of life, including students, parents, and school staff, and left many children orphaned and traumatized. More than 4,160 students were forced out of education for years, leading to widespread dropout, psychological distress, and loss of hope. Books, academic records, and certificates were intentionally destroyed, preventing students from continuing their studies or verifying their educational history. Community-built educational resources, including computers and laboratory equipment, were systematically looted, with some items transported by helicopters and trucks. The war's effects in Nebelet extended far beyond physical damage—shattering educational continuity, destroying community investment, weakening social support systems, and leaving lasting emotional and developmental harm among children and educators.

Damage to Teacher Education Colleges

The war on Tigray has had a severe impact on the education system, including the Teacher Education Colleges (TECs) found in the Tigray region. There were two education colleges in the Tigray Region, as part of the general education sector in the region, these two colleges were/are crucial for the development and stability of the human resources, especially in training a significant number of professionals (teachers and educational leaders) impacted in the region. However, due to the war, these two TECs were totally damaged. The teaching and learning facilities, lecture rooms, ICT center, library and laboratory rooms, dormitories, cafeterias, administration blocks, and other service providing buildings are fully damaged by drone strike and other means. Hence, in this report, materials and equipment used to facilitate the teaching and learning process in classrooms, laboratories, libraries, pedagogical centers, clubs, workshops, and books are assessed. The assessment report will include the damage incurred in Adwa and Abbiyi Addi Teachers Education colleges.

Infrastructure and facilities damage: An assessment was made on the damage to educational infrastructure and facilities on the two colleges. As we have seen in Table 43, out of the total building rooms in the public colleges reported to have existed, 833 of them have sustained some sort of damage. Overall, 8383 of college equipment were completely damaged; 2272 different furniture, 14 vehicles and 422 different spare parts were also part of the destruction. The total cost of damages and destruction in the educational infrastructure and facilities of the colleges is USD 12.97; out of this from highest to lowest: USD 9.63 million for buildings, 2.02

million for vehicles, 0.96 for equipment, 0.34 for furniture, and 0.02 million USD for spare parts.

Table 43. Damaged quantity and value on colleges infrastructure and facilities (Value USD in Million)

Item Category	Complete Damage		Partial Damage		Total Damaged Qty	Total damage cost (USD)
	Damaged Qty	Replacement cost (USD)	Damaged Qty	Repair Costs (USD)		
Building	125	3.25	708	6.37	833	9.63
Equipment	8383	0.96			8383	0.96
Furniture	1043	0.27	1229	0.07	2272	0.34
Vehicles	12	1.98	2	0.04	14	2.02
Spare Parts	422	0.02			422	0.02
Total	9985	6.48	1939	6.48	11924	12.97

Source: CITG survey, 2022.

Teaching and Learning Facilities: Library and lab materials, workshop facilities, ICT, and major core teaching and learning facilities and common services are among the highly affected assets, representing thousands of damages; with total costs of USD2.94 million. Additionally, books, classroom facilities, electric materials, sport, and music and art materials, all faced destruction. The highest damaged materials are the library, incurred USD 1.13 million (Table 44).

Table 44. Damage to Colleges' books, classroom facilities, and core learning facilities (Value USD in Million)

Item Category	Complete Damage		Partial Damage		Total Damaged quantity	Total damage cost (million USD)
	Damaged quantity	Replacement cost (million USD)	Damaged quantity	Repair Costs (million USD)		
Books	1405	0.02			1405	0.02
CR Facilities	2921	0.08	344	0.002	3265	0.08
Lib Materials	128805	1.13			128,805	1.13
Lab Materials	23038	0.22	804	0.01	23,842	0.23
ICT	5257	0.78	75	0.003	5332	0.78
Electric	2628	0.39	260	0.02	2888	0.40
Workshop	16436	0.13			16,436	0.13
Sport	1165	0.06	37	0.001	1202	0.06
Music and Art	926	0.11			926	0.11
Total	182581	2.92	1520	0.036	184101	2.94

Source: CITG survey, 2022.

Common Services on Colleges: Over the last three years, Tigray had been under total war. The war had caused unthinkable and devastating educational damage in the region including on the colleges' water treatment facilities, waste disposal, farm and production, cafeteria and consumable goods.

In this category, five related items were identified to assess the damage incurred (Table 45). From the total number of items that existed before the war, a total of 101,138 are said to have

sustained some sort of damage. Out of this category, the highest damage occurred in consumable goods (90,691), cafeteria in 8552 items, and the rest were reported to have certain damages. Generally, the financial cost of this damage is estimated to be USD 5.86 million. Concerning the highest financial cost of this damage, the professional estimate shows that it is in consumable goods (3.49 USD million) and in water treatment (1.69 USD million).

Table 45. Damage on water and waste disposal, farm, cafeteria and consumable goods (Value USD in Million)

Item Category	Complete Damage		Partial Damage		Total Damaged quantity	Total damage cost (million USD)
	Damaged quantity	Replacement cost (million USD)	Damaged quantity	Repair Costs (million USD)		
Water Treatment	4	0.07	115	1.62	119	1.69
Waste disposal	342	0.003			342	0.00
Farms/productions			1434	0.10	1434	0.10
Cafeteria	8552	0.58			8552	0.58
Consumable	90691	3.49			90,691	3.49
Total	99589	4.143	1549	1.72	101138	5.86

Source: CITG survey, 2022.

Damage to Teachers Education Colleges by Severity

Table 46 summarizes the level of damage sustained by various resources within the Teacher Education colleges. The asset categories are classified according to the severity of damage as complete, high, medium, and low level. The table also presents the total estimated damage for each category along with its share of the overall loss.

Table 46: Level of Damage to the Teacher Education College (Value USD in Million)

Item Categories	Low Level	Medium Level	High level	Complete	Total	Share (%)
Building	0.72	5.65	2.87	0.38	9.62	41.31
Furniture	0.01	0.07	0.27	1.00	1.34	5.77
Equipment			0.00	0.96	0.96	4.12
Vehicles		0.04		1.98	2.02	8.69
Spare part				0.02	0.02	0.08
Classroom facilities		0.00		0.08	0.08	0.34
Laboratory			0.01	0.22	0.23	0.98
Library				1.27	1.27	5.46
ICT			0.00	0.78	0.78	3.35
Books and records				0.02	0.02	0.08
Sport		0.00		0.06	0.06	0.28
Music & Art				0.11	0.11	0.47
workshop & Machinery				0.13	0.13	0.54
Electricity		0.02	0.01	0.39	0.41	1.78
Waste Materials/				0.00	0.00	0.01
Water	1.62	0.07			1.69	7.27

Item Categories	Low Level	Medium Level	High level	Complete	Total	Share (%)
Farms/ products				0.10	0.10	0.42
Consumables				3.86	3.86	16.58
Cafeteria				0.58	0.58	2.49
Total	2.35	5.85	3.16	11.92	23.28	100
Percent	10.09	25.14	13.57	51.21	100	

Source: CITG survey, 2022.

The assessment of damage across Teacher Education Colleges indicates varying levels of severity among different asset categories. Overall, the total damage amounts to 23.28 units, with the distribution showing that 10.09% of the damage was categorized as low level, 25.14% as medium level, 13.57% as high level, and the largest share, 51.21%, representing complete destruction. This indicates that more than half of the affected resources were entirely unusable and will require full replacement. Buildings accounted for the highest proportion of total damage at 41.31%, with the majority of losses occurring under medium and high-level damage, suggesting substantial rehabilitation needs. Consumables represented 16.58% of the total loss and were completely destroyed. Other categories such as vehicles (8.69%), library resources (5.46%), ICT equipment (3.35%), cafeteria facilities (2.49%), and workshop machinery (0.54%) also experienced mostly complete damage, indicating total loss of functionality. In contrast, water systems, which contributed 7.27% of the total loss, sustained predominantly low and medium-level damage and may require relatively minor repairs. Overall, the findings highlight significant replacement needs, especially for resources classified under complete damage, while several partially damaged building structures will require major restoration interventions.

Damage to Teacher Education College by Perpetrator

Table 47 presents the estimated monetary value of damages inflicted on Teacher Education Colleges, expressed in millions of USD. The damages are categorized by the type of perpetrator, including the Ethiopian National Defence Forces (ENDF), Eritrean Forces Defence (EDP), and various joint forces such as ENDF with EDF and Amhara, ENDF with Amhara and others, and ENDF with EDF and others, in addition to cases involving multiple unidentified actors. The table also summarizes the total monetary loss for each category of property, such as buildings, furniture, equipment, vehicles, instructional materials, ICT assets, and consumables.

Table 47: Damage to Teacher Educational Colleges by Perpetrators (Value USD in million)

Categories	ENDF	EDF	Joint (ENDF, EDF & Amhara	Joint (ENDF, Amhara & others	Joint (ENDF EDF & Others	Joint (ENDF, EDF, Amhara & others	Total	
	Value	Value	Value	Value	Value	Value	quantity	Values
Building			9.42	0.21			833	9.630
Furniture			0.25	0.08			2271	0.330
Equipment			0.82	0.14			8383	0.960
Vehicles	1.42	0.27	0.34				14	2.030
Spare part			0.018				422	0.018
Classroom facilities			0.08				3265	0.080
Books and records	0.002		0.016				1405	0.018
Laboratory	0.0014		0.225				23842	0.226
Library			1.13				128805	1.130
ICT			0.78	0.003			5332	0.783
Sport			0.062	0.00195			1202	0.064
Music & Art			0.109				926	0.109
workshop			0.13				16436	0.130
Electricity			0.39		0.02		2888	0.410
Water materials			1.691				119	1.691
Waste Materials/disposal						0.0033	342	0.003
Farms/ products			0.097				1434	0.097
Consumables	0.037		3.45				90691	3.487
Cafeteria			0.58				8552	0.580
Total	1.4604	0.27	19.588	0.43495	0.02	0.0033	297162	21.777
Percent	6.71	1.24	89.94	2.00	0.09	0.02		

Table 47 shows that Teacher Education Colleges experienced substantial financial losses, amounting to approximately USD 21.78 million overall. The largest portion of the damage (89.94%) was caused by joint forces involving ENDF, EDF, and Amhara forces, indicating that coordinated military operations contributed significantly to the destruction. ENDF acting alone accounts for 6.71%, while EDF are responsible for 1.24% of the damages. Smaller shares of destruction are attributed to ENDF with Amhara and others (2.00%), ENDF with EDF and others (0.09%), and other unspecified joint actors (0.02%).

In terms of asset categories, buildings incurred the highest loss, totaling USD 9.63 million, reflecting extensive structural damage. This is followed by consumables valued at USD 3.49 million, suggesting prolonged occupation or looting. Significant losses were also reported in vehicles (USD 2.03 million), water treatment (1.69 million), library resources (USD 1.13 million), furniture (USD 0.33 million), ICT materials (USD 0.78 million), and laboratory equipment (USD 0.23 million). Even small but essential items such as books, classroom facilities, spare parts, sports equipment, music/art resources, and workshop materials were affected.

Overall, the table highlights not only the scale of physical destruction but also the disruption of core teaching and learning functions, illustrating severe damage to the educational infrastructure necessary for training teachers and supporting educational recovery

Damage to Higher Education Institutions (Universities)

The war in the Tigray Region continues to generate major casualties, exacerbating the pre-existing scarce professionals, and many have lost their lives. Particularly, the impact of war on human resources in the education sector was significant, as many teachers and other professionals were displaced, disabled, or killed during the conflict. Before the war erupted, there were four universities engaged in the teaching and learning process, research and community services; with different capacities and programs many students were enrolled in undergraduate, postgraduate and different graduate training programs in the region. Even though these universities are considered among the federal higher institutions in the region which has face horrific damage due to this war. Similar to other sectors, the genocidal war of Tigray region victimized university students, supportive staff and teachers; hampered the economic development of the country in general and the region in particular. Due to the war, the universities faced devastating damage; raided and vandalized by different forces; looted of public and private properties; and sustained a huge material damage. In this study, the overall material damage of the universities was analyzed based on the available data collected from two universities: Axum and Adigrat University. The other universities data, namely, Mekelle and Raya university are not included in the assessment; because they could not provide data as per the standard needed by the CITG. Hence, in this report, the damage in the teaching and learning facilities, lecture rooms, ICT center, library and laboratory rooms, dormitories, cafeterias, and other service providing buildings are assessed.

Infrastructure and facilities damage: Table 48, presents the level of damage sustained in the infrastructure and facility category within higher education institutions. The table summarizes the total quantity of items damaged as well as the estimated financial cost associated with the destruction of key resources such as buildings, equipment, furniture, vehicles, and spare parts. These items represent essential physical and operational components required for teaching, research, administrative services, and campus maintenances.

Table 48. Infrastructure and Facilities Damaged to higher education Institutions

Item Category	Total Damaged quantity	Total damage cost (million USD)	Share (%)
Building	19680	4.92	9.13
Equipment	15845	11.28	20.93
Furniture	40096	8.76	16.25
Vehicles	89	7.56	14.03
Spare Parts	58952	21.38	39.67
Total	134662	53.9	100

Source: CITG survey, 2022.

Table 48 presents the extent of damage to infrastructure and facilities in higher education institutions (universities), showing both the total number of damaged items and their estimated financial cost. In total, 134,662 units of infrastructure and facility items were reported damaged, resulting in an estimated USD 53.9 million in losses. The largest financial impact is recorded under spare parts, where 58,952 units were damaged at a cost of USD 21.38 million, indicating extensive disruption in maintenance and operational support systems. Equipment also accounts for a significant portion of the loss, with 15,845 items damaged, totaling USD 11.28 million. Furniture, with 40,096 pieces damaged, reflects a loss of USD 8.76 million, affecting classrooms, offices, and student service spaces. Although relatively few in number (89 vehicles), the damage to this category amounts to USD 7.56 million, demonstrating high unit replacement costs. Meanwhile, structural and building-related damages affecting 19,680 units totaled USD 4.92 million, indicating considerable harm to physical facilities.

Overall, the data highlight substantial destruction across key infrastructure and facility components, which severely undermines the operational capacity of universities and poses significant challenges for restoring academic, administrative, and support functions.

Teaching and Learning Facilities in university: Table 49, presents the extent of damage sustained in the teaching and learning resources category across higher education institutions. This category includes instructional materials, laboratory resources, ICT equipment, classroom support items, and co-curricular learning facilities that are essential for delivering academic

programs and supporting practical, research-based, and student development activities. The table summarizes both the total quantity of items damaged and the corresponding estimated financial loss, providing insight into the severity of disruption to academic functions.

Table 49. Damage to Teaching and Learning Resources in Higher Education Institutions (Value in million USD).

Item Category	Total Damaged quantity	Total damage cost (million USD)	Share (5)
CR Facilities	2152	0.11	0.12
Lib Materials	6348	0.61	0.64
Lab Materials	61618	61.75	65.03
ICT	40295	26.26	27.66
Electric	72146	5.62	5.92
Workshop	200	0.4	0.42
Co-curricular	47	0.01	0.01
Sport	820	0.18	0.19
Music and Art	87	0.01	0.01
Total	183713	94.95	100

Source: CITG survey, 2022.

A total of 183,713 teaching and learning items were damaged across the institutions, resulting in an estimated loss of USD 94.95 million. The largest share of the loss is attributed to laboratory materials, which account for 65.03% of the total damage (USD 61.75 million). This indicates a severe disruption to practical and research-based teaching activities, particularly in science, engineering, and health-related programs. ICT equipment represents the second highest share at 27.66% (USD 26.26 million), highlighting substantial damage to digital learning infrastructure, online teaching systems, and communication technology.

Damage to electric materials, essential for powering campus facilities, accounts for 5.92% of the total loss (USD 5.62 million). Meanwhile, library materials contribute 0.64% of the loss (USD 0.61 million), and classroom-related (CR) facilities account for 0.12% (USD 0.11 million), with both indicating disruptions to basic academic delivery environments. Smaller proportions of damage are observed in workshop equipment (0.42%), sport facilities (0.19%), co-curricular resources (0.01%), and music and art items (0.01%). Although their financial shares are relatively low, these categories represent important components of student skill development and campus life.

Overall, the table demonstrates that the most significant damage occurred in laboratory and ICT resources, suggesting that the core functional capacity of universities to conduct teaching, practical training, and research has been critically affected

Common Services in university: Table 50 Common services represent damage on essential support facilities and resources that ensure the smooth operation of institutions and enhance the teaching and learning environment. The assessment revealed extensive damage across key service areas, including waste management, environmental facilities, cafeteria services, and consumables.

Table 50. Damage on waste disposal, environment, cafeteria and consumable goods

Item Category	Total Damaged quantity	Total damage cost (USD)	Share (%)
Waste disposal	1	37.99	27.91
Environment	282045	94	69.05
Cafeteria	122051	2.07	1.52
Consumable	266683	2.07	1.52
Total	670780	136.13	100

Source: CITG survey, 2022

The environmental facilities sustained the highest level of loss, accounting for 69.05% of the total damage cost (USD 94), reflecting the severe impact of the war on landscaping, greenery, sanitation infrastructure, and environmental management systems. Waste disposal services followed, representing 27.91% (USD 37.99), indicating substantial damage to waste handling equipment and systems necessary for maintaining hygiene and safety (Table 62).

Meanwhile, cafeteria services and consumable supplies each accounted for 1.52% of the total loss (USD 2.07 each), reflecting disruptions in food service operations and shortages of essential consumables such as cleaning materials and daily-use items.

Overall, the total estimated damage to common services reached USD 136.13, highlighting the extensive degradation of institutional infrastructure and the need for comprehensive restoration to ensure functional, healthy, and sustainable campus environments.

Damage to Higher Education Institutions by Severity

Table 51 summarizes the level of damage sustained by various resources within the university/higher education institution. The asset categories are classified according to the severity of damage as complete, high level, medium level, and low level. The table also presents the total estimated damage for each category along with its share of the overall loss.

Table 51. Value of Damage to higher education institutions by Level (Value in million USD).

Item Categories	Complete	High level	Low Lever	Medium Level	Total	Share (%)
Building	0.24	1.64	0.31	2.73	4.92	1.73
Furniture	7.27	1.49			8.76	3.07
Equipment	9.42	1.86			11.28	3.96
Vehicles	6.44	1.09	0.003	0.022	7.555	2.65
Spare part	20.28	1.09			21.37	7.50
Classroom facilities	0.084	0.022			0.106	0.04
Laboratory	51.72	10.04			61.76	21.67
Library	0.61				0.61	0.21
ICT	20.78	5.48		0.007	26.267	9.22
Sport	0.183			0.00014	0.18314	0.06
Music & Art	0.008				0.008	0.003
workshop & Machinery	0.4				0.4	0.14
Electricity	4.09	1.53			5.62	1.97
Waste Materials/				37.98	37.98	13.33
Co-curricular	0.006			0.0002	0.0062	0.002
Farms/ products	93.99				93.99	32.98
Consumables	2.05	0.01			2.06	0.72
Cafeteria	2.07				2.07	0.73
Total	219.641	24.252	0.313	40.73934	284.95	100.00
Percent	77.08	8.51	0.11	14.30	100.00	

Source: CITG survey, 2022

The analysis reveals substantial variability in the extent of damage across different resource categories within the university. The largest proportion of loss was recorded in farm products, which accounted for 32.98% of the total damage, indicating a severe and complete level of destruction in this category. This was followed by laboratory facilities, contributing 21.67% of the total loss, with damages predominantly falling under the complete and high-severity classifications. Waste materials constituted 13.33% of the losses, driven primarily by medium-level damage, suggesting partial but extensive deterioration. Additionally, ICT resources represented 9.22% of the total loss, reflecting a mix of complete, high-level, and limited medium-level damage, thereby highlighting disruptions to essential technological and communication systems. Spare parts (7.50%) and equipment (3.96%) also exhibited noticeable losses, largely associated with complete destruction. Meanwhile, furniture, vehicles, and electricity infrastructure showed moderate levels of damage, accounting for 1.97% to 3.07% of total losses and involving varied severity levels.

Conversely, several categories exhibited minimal damage, each constituting less than 1% of the total loss. These included classroom facilities, library resources, sports materials, workshop

and machinery equipment, music and art materials, and co-curricular items, suggesting either limited exposure or lower vulnerability to the damaging event.

In terms of overall severity, the assessment indicates that the university experienced predominantly complete destruction, amounting to 219.64 million USD, which represents 77.08% of the total estimated loss. High-level damage accounted for 24.25 million USD (8.51%), indicating resources that, while compromised, remain partially functional but require substantial repair. Medium-level damage totaled 40.74 million USD (14.30%), corresponding to assets that may be restored through moderate rehabilitation efforts. In contrast, low-level damage was minimal, valued at 0.31 million USD (0.11%), and likely involves only minor maintenance interventions.

Overall, the distribution of damage demonstrates that core academic and operational infrastructure—particularly agricultural production systems, laboratory facilities, and ICT resources—was disproportionately affected, whereas supplementary and support facilities experienced comparatively minor impacts. This pattern underscores the critical need for substantial reconstruction efforts, especially in areas essential to the university’s teaching, learning, and research functions.

Damage to Higher Education Institutions by Perpetrator

As indicated in Table 52, the main actors responsible for damages to universities and higher education institutions is summarized. It categorizes perpetrators, including ENDF, EDF, EFP, Amhara and Afar forces, joint operations, and other actors, and shows their respective contributions to the overall loss. This provides a clear view of the relative involvement of each actor in affecting the higher education sector.

Table 52. Value of Damage to higher education institutions by Perpetrator (Value in million USD).

Item Category	ENDF	EDF	Afar	Joint (ENDF & EDF)	Joint (ENDF, EDF & Amhara)	ENDF & Others	EDF & Others	All Joints	Others	Total	
	Value	Value	Value	Value	Value	Value	Value	Value	Value	quantity	Value
Building	2.39							2.48	0.053	19680	4.92
Furniture				3.67	0.76	4.34				40096	8.77
Equipment		0.00003		0.082	2.12		8.72	0.3537		15845	11.28
Vehicles	0.153	6.99							0.42	89	7.56
Spare part	0.04						1.375	19.966		58952	21.38
Classroom facilities		0.05	0.00003		0.044			0.004	0.01	2152	0.11
Laboratory	33.74	2.94	0.1855	5.48	0.23	15.35		1.889	1.94	61618	61.75
Library		0.019					0.486	0.1084		6348	0.61

Item Category	ENDF	EDF	Afar	Joint (ENDF & EDF)	Joint (ENDF, EDF & Amhara)	ENDF & Others	EDF & Others	All Joints	Others	Total	
	Value	Value	Value	Value	Value	Value	Value	Value	Value	quantity	Value
ICT	0.002				0.0001		25.244	0.74	0.28	40295	26.26
Sport								0.183		820	0.18
Music & Art							0.00464	0.00379		87	0.01
workshop & Machinery	0.13				0.0043			0.0815	0.184	200	0.4
Electricity							5.62			72146	5.62
Waste Materials/					37.99					1	37.99
Co-curricular					0.012					47	0.01
Farms/ products							93.996			282045	94
Consumables							2.068			266683	2.07
Cafeteria		0.185					0.939	0.322	0.621	122051	2.07
Total	36.455	10.18403	0.18553	9.232	41.1604	19.69	138.45264	26.13139	3.508	989155	284.99
Percent	12.79	3.57	0.07	3.24	14.44	6.91	48.58	9.17	1.23		

Source: CITG survey, 2022

Table 52 presents the estimated monetary value of damage and loss caused by various perpetrators across all common service categories. The total estimated destruction amounts to USD 284.99 million, affecting approximately 989,155 assets. The findings show that damages were extensive and involved multiple actors, both individually and jointly, reflecting the complex dynamics of the conflict and its widespread impact on institutional infrastructure.

Among the perpetrators, the Eritrean Defence Forces (EDF) and their associated joint operations were responsible for the largest share of destruction, accounting for 48.58% of the total losses, equivalent to USD 138.45 million. Their involvement was dominant across high-value categories such as equipment, ICT centers, agricultural production units, and electricity, where the level of destruction was particularly severe. The joint forces operations involving ENDF, EDF, and Amhara forces contributed the second-highest share, representing 14.44% (USD 41.16 million) of total damage, indicating extensive combined activities and overlapping control in key institutional areas.

The Ethiopian National Defence Forces (ENDF) engagements accounted for 12.79% (USD 36.46 million) of total destruction, with substantial damage reported in laboratory facilities and buildings. Additional damages were attributed to all joints, which together contributed 9.17% (USD 26.13 million), primarily affecting furniture, spare parts, and ICT facilities. Additional damages were attributed to ENDF and Others, which together contributed 6.91% (USD 19.69 million), primarily affecting laboratories and furniture. Independently, the EDF caused 3.57% (USD 10.18 million) of the total loss, largely concentrated in vehicles and laboratories.

Other joint operations involving ENDF and EDF collectively accounted for about 3.24% (USD 9.23 million) of the total losses. Afar independently accounts for 0.07% (0.19 million USD); and other localized forces collectively accounted for about 1.23% (USD 3.51 million) of the total losses. Though their individual impact was smaller, their combined contribution added to the overall degradation of institutional resources, including workshops, music and art facilities, and co-curricular services.

In terms of item categories, the largest absolute damages were recorded in farms and agricultural products (USD 94.0 million), laboratory infrastructure (USD 61.75 million), waste material disposal (37.99 million), and ICT equipment and facilities (USD 26.26 million). Together, these four categories represent more than 77% of the total destruction, showing that productive, scientific, and technological assets bore the greatest share of loss. Overall, the pattern indicates that the war caused catastrophic damage to the essential infrastructure, equipment, and services vital for institutional and educational continuity across the affected areas.

Mechanism of damage to Higher Education Institutions

Table 53 provides a summary of the mechanisms through which damages were inflicted on the various resources of the university/higher education institution. The table categorizes the damage causes into several forms, including breaking, air raids, artillery shelling, looting, burning, bombing, and other unspecified causes. Each item category is assessed based on the type of destructive mechanism that contributed to its overall damage, with the total value and its proportional share highlighted.

Table 53. Value of Damage to higher education institutions by Damage Mechanism (Value in million USD).

Item Categories	Broken	Air raids	Artillery Shelling	Looted	Burning	Bomb	Other	Total	Share (%)
Building		0.735	4.13				0.05	4.915	1.72
Furniture	1.49			7.27				8.76	3.07
Equipment	1.82			9.47				11.29	3.96
Vehicles	1.09			6.48				7.57	2.66
Spare part				1.38	20.003			21.383	7.5
Classroom facilities	0.022			0.08				0.102	0.04
Laboratory	4.404			30.94			26.43	61.774	21.68
Library				0.61				0.61	0.21
ICT	5.48			6.09			14.69	26.26	9.21
Sport	0.00014			0.18				0.18014	0.06
Music & Art	0.008							0.008	0.003

Item Categories	Broken	Air raids	Artillery Shelling	Looted	Burning	Bomb	Other	Total	Share (%)
workshop & Machinery	0.12			0.248	0.03			0.398	0.14
Electricity	0.00001			3.12	2.496			5.61601	1.97
Waste Materials/		37.98						37.98	13.33
Co-curricular				0.0062				0.0062	0.002
Farms/ products		93.99						93.99	32.98
Consumables						2.07		2.07	0.73
Cafeteria				2.07				2.07	0.73
Total	14.43	132.71	4.13	67.94	22.53	2.07	41.17	284.98	100
Percent	5.06	46.57	1.45	23.84	7.91	0.73	14.45	100	

Source: CITG survey, 2022

The results in Table 53 indicate that the most heavily affected resource categories within the university were Farms/Products, Laboratory facilities, Waste materials, and ICT resources. Farms/Products constitute the largest share of the total losses, representing 32.98%, and the damage here resulted almost entirely from air raids, reflecting deliberate removal of agricultural produce and resources. This high-level looting aligns with broader disruptions to the university's income and food production systems. The Laboratory facilities, accounting for 21.68% of total loss, were affected by a combination of mechanisms, most notably looting and other damage mechanisms, which led to destruction of scientific equipment and research materials. This level of loss implies significant interruption of academic research and practical science instruction. Waste materials, representing 13.33% of the loss, were primarily affected through air raids, which implies a deliberate attack for destroying higher education institutions.

ICT resources, comprising 9.21% of total loss, show a mixed mechanism pattern, with breaking, and other forms of damage, reflecting both direct physical destruction and system-level impairment of communication and digital infrastructure. Other resource categories show moderate but notable loss. Spare parts (7.50%) and equipment (3.96%) were significantly affected by looting and burning damage mechanisms, indicating targeted appropriation of items valuable for resale or repurposing. Furniture (3.07%), vehicles (2.66%), and electricity systems (1.97%) were damaged through a combination of breaking, looting, and burning, suggesting acts of vandalism and destruction rather than strategic military targeting. Categories such as classroom facilities, library holdings, sports equipment, workshop machinery, music and art materials, and co-curricular resources each accounted for less than 1% of total damage, indicating minimal severity and relatively low exposure to conflict mechanisms.

The distribution of damage mechanisms shows that air raids (46.57%) were the most dominant destructive force, primarily affecting farm, waste disposal facilities, and buildings, while

looting (23.84%) had its greatest impact on laboratory, ICT, equipment, furniture, vehicles, and others. Other unspecified mechanisms (14.45%) and burning (7.91%) further contributed to the deterioration of key academic and operational resources. Breaking (5.06%), artillery shelling (1.45%), and bombing (0.73%) played smaller but still important roles, particularly in damaging buildings and utility systems.

The analysis further indicates that air raids, which account for 46.57% of the total damage mechanisms, were most prominently reported in Adigrat University. This pattern suggests that the institution was directly exposed to aerial military operations, resulting in extensive destruction to buildings, waste materials, and farm infrastructure. The heavy reliance on air-delivered explosives led to the loss of highly sensitive scientific equipment and academic materials, contributing to Adigrat University's disproportionately high share of laboratory and structural damage.

Collectively, the evidence indicates that the university experienced both structural destruction and deliberate removal of valuable assets, severely undermining its academic, production, and service functions. This pattern underscores the need for comprehensive reconstruction and resource replacement, especially in laboratory research capacity, agricultural production systems, and ICT infrastructure.

Household Census Survey Support to Damage on Education

The war on Tigray appeared to have deliberately destroyed both public and private education institutions; due to the conflict, many people were arrested, killed, many have been displaced, suffered from trauma, physical injuries, psychological disorders. In the previous part of this study, latest assessment and analysis of the impact of war on the education and TVET systems of the Tigray region, and a comprehensive description of the data was undertaken. As stated in part one, the study employed a mixed research design with a dominating quantitative approach in the collection, analysis and interpretation of the quantitative and qualitative data. To achieve the objective of the assessment, and to analyze and understand the damage in the Tigray region, a comprehensive census was conducted to reveal the effect of the war and siege in Tigray on the general education and TVET systems. In the household survey, about 659,673 household respondents are part of this study. This study aimed to investigate the overall scale of the destruction of the education system that happened and by collecting data from household heads through census and were analyzed quantitatively using frequency and percentage. Mainly, the household census part was conducted from May up to November 2022. The household census

provides a detailed understanding of a problem and is most suited and helpful in gathering detailed descriptions of and information on their experiences regarding the participants perceptions to answer the “how” are explored in greater depth in their real-life world. Detailed analysis of the census is presented below.

Access to Education

Basic literacy skills are not only of value in themselves but are also essential in that reading and writing is required in order to learn other important skills. Hence, they become a significant resource for further learning throughout one’s lifetime, and are the foundation for further, text-based instruction and the pursuit of other human rights (UNESCO, 2018: 180-187; 2019: 5). This section presents data on whether there is educational access in their surroundings or not, and the respondents’ reflection on the practical educational access in their respective areas before the war erupted and during the siege and blockage period. From the results of the study, nearly half a million households (496,030) reported not having a functional access education service in their areas, and 4.2% get access during siege and blockage. From the results of the study, more than three quarter of the households (78.6%) with at least one school-aged child (7-18) were not attending formal education in their respective areas during the time of siege and blockage. After nearly three years of protracted war, millions of children were/are now estimated to no longer be attending schools and are left without access to learning spaces (Table 54).

Table 54. Educational access pre-war and during siege (by Education Level)

No.	Educational level	During prewar		During siege & blockage		Compared to prewar households
		Households	Percent	Households	Percent	
1	KG	188,028	16.8	8,038	10.3	4.3
2	Primary School (1 to 6)	310,103	27.7	52,433	67.1	16.9
3	Primary School (7 to 8)	221,528	19.8	9,705	12.4	4.3
4	Secondary School (9 to 12)	191,884	17.1	3,684	4.7	1.9
5	TVET	106,023	9.5	2,108	2.7	2.0
6	University	101,169	9.0	2,043	2.6	2.0
7	Other	2,163	0.2	93	0.1	4.3
Total		1,120,898	100	78,104	100	7

Source: CITG survey, 2022

The same questions were also asked to the respondents to specify clearly at what educational level there is educational access or not. According to Table 54, among the 27.7% (310,103) of

households reporting access to functional schools (1 to 6) before the war, only 52,433 continued their education during the siege. That means 257,670 households were victims of the war and these number of school-aged children are not attending primary schools in their surroundings. Similarly, out of 221,529 households reporting access to education before the eruption of the war in grades 7 to 8, only 4.3% (9,705) continued their education during the blockage; the majority (95.7%) of households did not have functional primary schools. The same fate happened in secondary schools, TVETs and higher institutions. Specifically, out of 191,884 households that benefited from secondary schools, only 3,684 (1.9%); from 106,023 households only 2,108 (2%) in TVET; and from 101,169 households, only 2,043 (2%) continued their education during siege (Table 54).

To conclude, based on the frequency of respondents of the household, 1,120,898 members of their families which benefited from the education system before the war started from KG to the university level, 1,120,898 (93%) became victims of this war with only 78,104 (7%) pursuing their education during the siege (Table 54 above and Table 55). This is no accident and these data are the bold facts. The victims were ethnic Tigrayans (children and youngsters) which are a minority in Ethiopia. Over the last three years, Tigray had been under total war. The war had caused unthinkable and devastating educational damage in the region. Particularly in the first eight months of the war, from Nov. 2020 to June 2021, none of the school facilities were functional. It has continued to deteriorate since then; it was a deliberate policy by the conquerors/invaders to tighten the blockade by cutting all public services to deprive Tigrayans of basic and universal education. Worse was to follow as findings suggest that the vast majority of school-aged children residing in contested areas or in areas that have experienced intense armed conflict do not attend primary or secondary learning facilities on a regular basis (Table 60).

Effect of damage of war on students

The household census respondents were also asked to provide their personal information with regard to continuation of educational services during siege and blockage; reasons for not getting educational access or interruption of services during siege and blockage; whether there is forced drop out and its duration; changing of learning abilities for those who restarted drop outs during war, effects and reasons for denial of educational access. The results are presented from Table 55 to Table 58 respectively. Firstly, results of the household census regarding the personal information with regard to continuation of educational services during siege and

blockage, reasons for not getting educational access during siege and blockage are presented in Table 55 and Table 56, respectively. A systematic review with regard to continuation of educational services during siege confirmed the findings presented on Table 64, with 604,540 (92.5%) of the households reporting that no educational services were started in their surroundings; 48,731 (7.5%) only reported the continuation of educational services during siege (mostly in big towns). While the deterioration of educational access can be at least partially attributed to the widespread destruction of public education infrastructure, lack of teaching and learning materials, and displacement of teachers and education leaders, children in Tigray Region were/are also vulnerable to a host of other threats and protection concerns.

Table 55. Continuation of educational Services during siege and blockage

No.	Item	During war	
		Households	Percent
1	Yes	48,731	7.5
2	No	604,540	92.5
Total		653,271	100

Source: CITG survey, 2022

According to the household respondents of the census study, as indicated in Table 56, the top four reasons for interruption of educational services were, from the highest to the lowest, were found to be the following: damage of schools by the war 650,923 (24.6%); no educational facilities 640,216 (24.2%); teachers not on duty 369,419 (14%); and security 325,413 (12.3%) in the respective areas. From the respondents' responses, one can conclude that much of the infrastructure was lost or severely damaged. Over 95 percent of the reasons implied that school buildings and infrastructure had been damaged; much of the educational facilities are looted; and teachers were displaced, not on duty. This has left huge numbers of Tigrayan children without schooling. This was confirmed by Plaut and Vaughan (2023: 278) in the UN report of June 2022 that 'an estimated 1.4 million children in Tigray are entering their third year without access to education'.

Table 56. Reasons for the interruption of educational services/ denial of educational access

No.	Reasons	During siege and blockage	
		Households	Percent
1	Distance from the school	4,617	0.17
2	No School/Institution	17,094	0.65
3	School damaged by war	650,923	24.6
4	Teachers not on duty	369,419	13.96
5	No educational facilities	640,216	24.19
6	Government decision	127,008	4.80
7	Family decision	62,826	2.37
8	Lack of food	225,422	8.52

No.	Reasons	During siege and blockage	
		Households	Percent
9	Security	325,413	12.3
10	No salary	220,301	8.33
11	Other	2,933	0.11
Total		2,646,172	100

Source: CITG survey, 2022

According to Table 57, more than half of the households 352,572 (56.7%) had forced drop-out family members due to war, while 269,390 (43.3%) did not have any drop-out family members during siege and blockage. Those who had forced drop-outs in their families also specified the duration/semesters of the interruption. From the results of the household survey, the majority (155,898 or 32%), of the households reported that their children were forced to interrupt schooling for about four semesters; 124,176 (25.5%) for five semesters; and 68,390 (14%) for over six semesters. That means almost three quarters of the households, 349,238 (71.7%), reported that their children were not attending primary/secondary schools, and no learning spaces for more than two years.

Table 57. Family member enforced drop out during siege and duration of interruption

Response	During siege	
	Households	Percent
Yes	352,572	56.7
No	269,390	43.3
Total	621,962	100
Semesters interrupted		
One Semester	38,205	7.8
Two Semesters	53,297	10.9
Three Semesters	46,321	9.5
Four Semesters	155,898	32
Five Semesters	124,176	25.5
Over Six Semesters	68,390	14
Other	774	0.2%
Total	487,061	100

Source: CITG survey, 2022

Where frequent escalations in armed violence have caused multiple drop outs and displacements, findings indicate that security concerns weigh heavily on a family's decision for a child to attend school and that physical access to learning facilities remains the biggest challenge. This is because at any circumstances and any place, when war erupts; schools, teachers, and students have been systematically targeted by all parties involved in the conflict/war and this has severely disrupted access to education globally (MSNA, 2014: 46).

As we can see on Table 57, more than half of the households (352,572) had forced drop-out family members, and 349,238 (71.7%) of them were not attending schools for more than two

years. Out of the above figure, 118,282 (62.1%) households reported that their children resumed their previous classes, while 37.9% of them did not return to schools during the siege and blockage (Table 58). For those returned family members, an additional question was raised whether there is any change of learning abilities or not after returning to schools after a long period of interruption. Accordingly, 107,588 (54.8%) of the households confirmed that their children's learning abilities were affected by the war and a decrease in their learning concentration was observed; 65,905 (33.6%) of them have a feeling of lagging behind their classmates, since they did not attend schools for more than two years. Regarding this point, a rapid damage and need assessment in 2021 in Gaza by the World Bank (2021: 41), depicted the following negative effects of the war: reduced children's ability to learn in school and become future productive individuals; access to education became severely constrained by the frequent lockdowns and school closures. The secondary reason reported for dropping out of school was displacement, especially for children residing in war prone areas, and reducing incentives to even enroll in schools (MSNA, 2014: 46).

Table 58. Changes of learning abilities and its effect for those who restarted dropouts

Response	During siege	
	Households	Percent
Yes	118,282	62.1
No	72,309	37.9
Total	190,591	100
Effect		
Decrease concentration	107,588	54.8
Increase concentration	22,608	11.5
Feeling lag	65,905	33.6
Other	230	0.1
Total	196,331	100

Source: CITG survey, 2022

Damage of the war on schools and staff

From 1991, the Tigray government gradually constructed schools based on the needs of the local communities; schools were built at the grassroots level in different districts, across all the Tabias and Kushets (grassroots level administration). When the war started in 2020, there were 2,221 primary schools and 271 secondary schools in the region, for almost 1.4 million students serviced by around 47,000 teachers, educational experts and officers. However, after the war erupted in November 2020, the war has led to massive destruction of schools, infrastructure, and disruptions of major public and private services. As we have seen from the findings of this study above, nearly half a million households reported not having functional access to education services in their areas during the siege and blockage; 1,042,708 (93%) households

were victims of this war (Table 54 and Table 55 respectively). The major effects of the war were that school buildings are destroyed, no educational facilities, teachers were not on duty due to security and other issues, and three quarter of the households involved in this study reported that their children were forced to drop out from their schools for more than two years.

Given these research findings, the question to be asked is: who were/are the allegedly responsible perpetrators or the forces involved in the Tigray war? Based on their multiple responses of the respondents, one of the unique features of the Tigray war is that it was/is particularly difficult to identify the identity or affiliation of the soldiers using uniforms except in a few instances. However, from 497,259 household respondents involved in this study, 211,742 (42.6%), confirmed that the highest proportion for the destruction and damage of the educational system and apparatus was committed by the EDF (42.6%); the ENDF was the second responsible body for of the damage of educational facilities (36.4%). This is followed by Amhara forces (15.8%); while 4.1% perpetrators were the Afar forces (Table 59). Even 318 household representatives confirmed that the Somalia troops were involved in devastating the Tigray Region.

Table 59. Perpetrators of damage on education

Agents	During war	
	Households	Percent
Amhara forces	78,643	15.8
Eritrean forces	211,742	42.6
Ethiopian army	181,115	36.4
Afar forces	20,283	4.1
No knowledge	5,158	1.0
Other	318	0.1
Total	497,259	100

Source: CITG survey, 2022

In general, in this war, the following forces were involved and responsible for the killing, torture, sexual violence, destruction and looting of public and private property: Ethiopian National Defense Forces (ENDF), the Eritrean Defense Forces (EDF), the Amhara Regional Government Forces (ARGF - Amhara special forces, militia and Fano), and the Somalia troops.

The war on Tigray Region continues to generate major casualties, internal displacement, and destruction of infrastructure and disruption of service delivery across all major sectors, exacerbating the pre-existing humanitarian crisis. Many conflict-affected communities had lost their lives; many have been left without food supplies; they have lost their savings and supplementary incomes; much of the infrastructure was lost or severely damaged; this has left

huge numbers of Tigrayan children without schooling; this indicates that the conditions on the ground in Tigray are far worse than predicted (Plaut and Vaughan, 2023: 289).

Table 60 deals with the psychological damage of the war on family members; 659,429 households reacted to this question, and 1,156,902 symptoms of psychological damage of the war were observed in their children. There were many factors and symptoms that affected the smooth teaching learning process and affected their well-being in their daily life.

Table 60. Level of psychological damage of the war

Symptoms	During war	
	Households	Percent
Restlessness	165,572	14.3
Irritability and emotional outbursts	110,759	9.6
Depression	82,503	7.1
Poor self-esteem	92,305	8.0
Nightmares	70,689	6.1
Social distancing	59,648	5.2
Substance abuse	44,421	3.8
Anxiety	110,872	9.6
Numbness	74,127	6.4
Fear	84,838	7.3
Self-blaming	50,158	4.3
Suicide attempt	19,180	1.7
Health disorder	40,235	3.5
Exhaustion	43,657	3.8
Sleep disorder and related problems	93,544	8.1
Poor sex drive	14,075	1.2
Other	319	0.2
Total	1,156,902	100

Source: CITG survey, 2022

As we can see on Table 60 above, the majority of the household respondents to the census survey identified many and varied factors and symptoms. In the first place, children suffering from restlessness amounted to 165,572 households (14.3%), irritability and emotional outbursts and anxiety both (9.6%, around one hundred eleven thousand) were identified most often by respondents, and are the highest symptoms manifested due to the war. Other mood disorders or symptoms noted in the Tigrayan children and youth are sleep disorders and related problems (8.1% or 93,544 households), poor self-esteem manifested in 92,305 households (8%), and depression by 82,503 (7.1%). Similarly, other frequent symptoms included the following: fear, numbness, nightmares, social distancing, self-blaming, exhaustion, substance abuse, and other health disorder; all of which are indicative of low levels of well-being, acute or severe stress and a high potential for post-traumatic stress, although this will require more in-depth assessments if the scale and scope is to be scientifically determined.

According to MSNA (2014: 47), in some cases, in places where the conflict/war has been most intense, the psychological growth of these young people and professional teachers has stopped or even been reversed. Because of the above findings, schools do not provide a safe and secure learning environment as there is an urgent need for addressing the above psychological damage or trauma of the war (World Bank Group, 2017: 38). The impact on students will be long-term and will result in further over-crowding and potentially irregular schedules (UNDP, 2014: 20). Therefore, children and young people in Tigray Region suffer a lot primarily from emotional disturbances but also physical manifestations of stress; something which in itself poses acute negative implications for motivation and knowledge retention; hence, further and more in-depth assessments are necessary to fully gauge the psychological and psychosocial implications of such trauma and acute stress (MSNA, 2014: 40, 47; Plaut and Vaughan, 2023: 279).

Salary, means of subsistence and other benefits interruption

The household census respondents were also asked to provide their personal information in relation to means of income, salary and other benefits, interruption problems, duration of interruption, and effect on family members due to salary and benefits cutoff. The results are presented from Table 61 to Table 64 respectively. Firstly, the problems in terms of salary and other benefits interruption are treated in Table 61. As we have seen on the table, 161,678 households involved in this census survey were affected, and their means of subsistence were interrupted. When looking in terms of zone of Tigray Region, from the highest to lowest: 57,447 households in the Central zone; 40,023 in the Eastern zone; 35,755 from Mekelle; 20,098 from the North West; 4,488 from the Southern; 3,639 from the South East; and 228 households from the Western zone were victims of salary and other benefits interruption on their family members. We can imagine the number of family members found in these 161,678 households.

Table 61. Salary and other benefits interruption on family members

Item	By Zone							Total
	Central	Eastern	Mekelle	North West	Southern	South East	Western	
Household affected	57,447	40,023	35,755	20,098	4,488	3,639	228	161,678

Source: CITG survey, 2022

Similarly, those who had a salary and benefits interruption in their families were also requested to specify clearly the duration of income interruption during the war. The results are depicted on Table 62.

Table 62. Duration of salary and other benefits interruption

No.	Duration/Months	During war	
		Households	Percent
1	12 to 18 months	101,759	62.9
2	19 to 24 months	55,229	34.2
3	25 to 30 months	2,387	1.5
4	31 to 36 months	2,264	1.4
Total		196,331	100

Source: CITG survey, 2022

According to Table 62, for the majority, 101,759 (62.9%), of the households, salary and other benefits were interrupted for about 12 to 18 months; 55,229 for 19 to 24 months; 2,387 households for 25 to 30 months; and 2,264 households for 31 to 36 months. That means 196,331 households reported that their means of subsistence were interrupted for more than one year to three years.

As we see on the Table 63, 218,868 households had experienced different effects due to the interruption of means of subsistence. When looking in terms of zone of the region, from the highest to lowest: 83,407 households in the Central Zone; 56,669 from Eastern; 38,459 from Mekelle; 27,819 from North West; 5,965 from Southern; 6,242 from South East; and 307 households from the Western zone had confirmed that their family members were victimized for different effects.

Table 63. Salary and other benefits cutoff effect on family members

Item	By Zone							Total
	Central	Eastern	Mekelle	North West	Southern	South East	Western	
Victim Household affected	83,407	56,669	38,459	27,819	5,965	6,242	307	218,868

Source: CITG survey, 2022

When looking at the level of effects, different occurrences are mentioned as depicted in Table 64. From this table, we can infer that the war has led to massive social fabric destruction and disruptions of major social services. According to the household respondents to the census study for multiple responses in Table 2.73 above, from the highest to the lowest, the top five effects were manifested as follows: Physical and psychological damage for 179,757 (26%) households; schooling stopped due to hunger 136,542 (19.8%); poor learning due to hunger

were manifested in 131,223 (19%) households; separation of families were occurred on 122,542 (17.8%) family members; and 118,128 (17.1%) households were exposed to lack of family supporter respectively. From the respondents' response, one can infer that millions of households and their family members have been displaced, homes, schools and social bonds destroyed; children and young people left without guardians.

Table 64. Level of effect on family members due to salary and benefits cutoff

Effect	During siege	
	Households	Percent
Separation of family	122,542	17.8
Physical and psychological damage	179,757	26.0
Schooling stopped due to hunger	136,542	19.8
Poor learning due to hunger	131,223	19.0
Lack of family supporter	118,128	17.1
Other	1,892	0.3
Total	690,084	100

Source: CITG survey, 2022

Loss by category

Table 65 presents the estimated losses in the education sector between 2021 and 2023 (G.C.) as a result of war and siege. It highlights the financial impacts across different loss categories, including disruptions in service delivery, governance, and increased risks and vulnerabilities. The losses are calculated in millions of U.S. dollars and further divided between public and private institutions, showing both their absolute and percentage share.

Table 65. Loss for the Education sector

Loss category	Loss (USD Million)			Total Loss (USD Million)			
	2021 FY	2022 FY	2023 FY	Public	Private	Total	Share (%)
Disruption of production of/access to goods and services							
Additional service provision cost	782.40	399.18	507.27	1682.6	6.25	1688.86	
Service revenue loss	59.27	46.01	39.63	106.91	38.00	144.91	
Sub-total	841.68	445.20	546.90	1789.51	44.25	1833.77	62.52
Disruption of Governance and the decision-making process							
Restoring governance							
Restoring managerial and technical skills	7.05	7.04	7.04	21.13		21.13	
Asset/Material depression			0.97	0.97		0.97	
Extra costs of coordination and monitoring	3.86	3.86	3.86	11.57		11.57	
Restoring archives and databases	1.06	1.06	60.82	62.94		62.94	
Restoring institutional functionality (M&E)	4.48	4.48	4.48	13.44		13.44	

Loss category	Loss (USD Million)			Total Loss (USD Million)			
	2021 FY	2022 FY	2023 FY	Public	Private	Total	Share (%)
Curriculum development and framework	13.89	13.89	229.34	257.12		257.12	
Cost of restructuring	0.02	0.02	0.19	0.24		0.24	
Training and refreshment for the education workforce	29.64	29.64	29.64	88.91		88.91	
Advancement of educational technology	349.21			349.21		349.21	
Sub-total	409.20	59.99	336.34	805.53		805.53	27.47
Increased Risks and Vulnerabilities							
High cost of demining (in and around schools)			0.21	0.21		0.21	
Student feeding (increased dropout)	62.00	63.12	64.27	189.39		189.39	
Solving discipline problems (psychosocial training)	8.01	8.01	86.19	102.21		102.21	
Increased fear of GBV and forced early marriage.	0.53	0.53	0.53	1.59		1.59	
Sub-total	70.54	71.66	151.20	293.40		293.40	10.01
Total	1321.41	576.84	1034.44	2888.45	44.25	2932.70	

Source: CITG survey, 2022

Disruption of production and access to goods and services

This category represents the largest source of loss in the education sector, amounting to USD 1,833.77 million, which accounts for 62.52% of the total losses. The majority of this cost came from additional service provision expenses, which alone reached USD 1,688.86 million, primarily affecting public institutions. These expenses reflect the need to replace or supplement interrupted services due to the war and siege. In addition, the sector suffered a service revenue loss of USD 144.91 million, which disproportionately impacted private schools that rely heavily on student fees and service charges for their operations. Together, these disruptions created significant financial strain, undermining the delivery of basic education services.

Disruption of governance and decision-making

The second-largest area of loss was linked to disruptions in governance and decision-making, totaling USD 805.53 million or 27.47% of the total losses. Within this category, some of the most substantial costs were tied to curriculum development and framework rebuilding (USD 257.12 million) and the advancement of educational technology (USD 349.21 million), both critical for modernizing and stabilizing the education system after conflict. Additional expenses included training and refreshment for the education workforce (USD 88.91 million), aimed at restoring teachers' skills and motivation, and smaller but important costs such as restoring archives and databases, coordination, and restructuring. These losses demonstrate the far-

reaching impacts of the conflict on the institutional and administrative backbone of the education system.

Increased risks and vulnerabilities

The war also created new risks and vulnerabilities that imposed further costs on the education sector, totaling USD 293.40 million or 10.01% of total losses. The largest share of this category went to student feeding programs (USD 189.39 million), which became necessary to counter the growing risk of school dropouts linked to food insecurity. Another major expense was psychosocial training and discipline-related support (USD 102.21 million), essential to address trauma, behavioral issues, and the need for emotional resilience among both students and staff. Smaller, yet vital costs included demining school areas and tackling gender-based violence and forced early marriage risks, highlighting how the conflict exacerbated both safety concerns and social vulnerabilities within the education system.

Altogether, the losses in the education sector between 2021 and 2023 are estimated at USD 2,932.70 million. The overwhelming majority of these losses – USD 2,888.45 million – were absorbed by public institutions, while the private sector experienced USD 44.25 million in losses. The greatest burden came from the disruption of goods and services, followed by the undermining of governance and decision-making processes, and lastly, the increased risks and vulnerabilities faced by schools and learners. This massive financial toll underscores the severe and multifaceted impact of war on education, not only in terms of infrastructure and service delivery but also in governance, human resources, and the safety and well-being of students.

Impact of the war

The results of the war damage assessment have serious implications on the education system of Tigray. This can be seen from the angle of the key indicators of education – system and structure, internal efficiency, quality of education, access and equity and governance and finance.

System and Structures: In the 21st Century, a country system is defined in terms of strong structures, an organogram, stability and an active and dedicated workforce. Before the war erupted in Tigray, there was a well-structured system starting from the region to the grassroots levels. There were 93 woreda education offices looking for education and TVET sectors; more than 2500 schools and TVET institutions served their people. Yet the bloody war in the Tigray

region combined with political instability, systemic neglect, and threats from the federal government, the previous progress of the region not only hampered the system, but also cast a shadow over future generations. The war on Tigray has led to mass displacement, teachers, supervisors, and school administrators are being targeted for execution, imprisonment, torture, and kidnapping for ransom and exposure to unprecedented scales of the war. During and after the crisis, we can see empty schools, empty futures, exposed to the lack of access to structured and systematic management support; and this adversely impacts resulting in unstable environments and insufficient institutional support.

Internal efficiency: Internal efficiency is the flow of students from the point of entry to the point of completion with minimum dropout and repetition. Internal efficiency can be measured with respect to its four dimensions namely; dropout, repetition, progression and completion rates. When we examine the level of damage the war has inflicted on the Tigray education system, it is not hard to imagine that its internal efficiency is seriously jeopardized. In much of the three years when the war was raging in the region and siege and blockade were effectively exercised by the federal government, there had been, practically speaking, little speaking in the region. As can be clearly observed from the results of the assessment, much of the student population was out of school during the three school years (2012-2015 E.C.). Thus, the enrolment rate has decreased in the three academic years by 80.9%, 67.1% and 84.5% consecutively as compared to the 2012 academic year. The interim government of Tigray declares that nearly 1.2 million children are now estimated to no longer be attending school (NFT, 2024: 47). Actually, in many of the schools that were close to the battle front and in almost all schools of the rural areas, there was no schooling altogether. This is because of security concerns as well as due to the fact that teachers migrated from their work place because of different reasons, including due to lack of salaries, security concerns and others.

Given the damage results of the other education variables, it is highly likely that this low level of internal efficiency will not easily be improved in the coming few years. A significant proportion of the teaching force (one third or 14,000) has not reported to their work-place due to various reasons, which, considering the existing situation, cannot easily be replaced (TEB, 2025). This in turn will have adverse effects on students' academic performance and progression. Where there are no adequate, qualified teachers, students may lose interest in learning and eventually drop out or even if they continue learning, the academic performance of many of them could be low, leading to dismissal. Similar consequences will happen to the

efficiency of the system due to the other damage in the schools. As reported in the results section earlier, a lot of damage has resulted on school buildings including classrooms (25,672); much of the classroom furniture is destroyed or robbed; other teaching and learning facilities such as libraries, workshops, pedagogical centers, laboratories, ICT materials and textbooks as well as WASH facilities have sustained a substantial level of damage. This assertion is supported by previous researchers like Jones *et al.* (2019) and Tadesse (2019) (cited by FMoE, 2021) and UNICEF (2016) who emphasized that educational quality problems like inadequate resources, teacher quality and absenteeism and inadequate infrastructure contribute to dropping out of students from school.

The results of the assessment also revealed that many of the schools were utilized for other purposes either by the invading warring groups or by the Tigrayan government as a shelter for displaced people (IDPs). In either case, the quality and efficiency of education are affected by reducing learning time and space (Save the Children, 2016; UNICEF, 2016). In schools that were used as camps by combatants, it is difficult to resume schooling before proper cleaning is made for explosive materials. Many of the schools occupied by IDPs are still not freed since they are not resettled in their places of origin. Furthermore, the psychological damage the war and its accompanying siege and blockade has brought on the teachers as well as the students can also have negative effects on the internal efficiency of the school system. Different studies have reported that the conflict incurred psychological disorders among students will lead to behavioral disorders complicating the work of teachers. The psychological disorder that resulted from the war is also reported to cause an inability to concentrate on their school work on students. All these, in turn, will result in decreasing students' school attendance rate.

Education quality: Another indicator of the performance of the education system is quality. Quality is measured in terms of the input variables such as students' readiness and motivation to learn, teachers' qualification and adequacy and teaching and learning resources; process factors including quality of the instructional process, teacher and student class attendance and instructional supervision; and output factors which relate to the learning competencies students develop at the end of the instructional process. Considering the level of destruction that schools in Tigray have suffered because of the war, it can be naturally asserted that the input and process indicators of education quality have been seriously affected. In the absence of enough qualified teachers, one cannot imagine the delivery of effective instruction in classrooms. The shortage of teachers will obviously lead to a higher teacher/student ratio and in this situation,

teachers will not be able to respond to the educational needs of their students. Moreover, if teachers are of the required qualification level, they may not be able to deliver the curriculum in an effective way (Cervantes-Duarte and Fernández-Cano, 2016).

Schools that are equipped with quality learning materials facilitate better instruction, which in turn can lead to improved learning outcomes and encourage student retention. Conducive and safe learning spaces also contribute to the overall quality of education (Kefyalew *et al.*, 2023). In the current condition of the schools in Tigray, we cannot talk of quality education in classrooms where there is a severe shortage of combined benches, textbooks, laboratory facilities, workshops, and other educational facilities and materials.

Access and Equity in Education: Access refers to how educational institutions and policies ensure that students have equal and equitable opportunities to educational provisions. It generally requires schools and governments to provide additional services or remove any actual or potential barriers that might prevent some students from equitable participation in education. In this regard, the Federal MoE has planned to expand equitable access to quality general education and establish TVET institutions in all woreda in its five-year plan of 2015/16 - 2019/20 (MoE, 2015). Similarly, for the next five-year-plan (2020/21 – 2024/25), it is also stated that the participation of all children and young people in education will be continuously improved by bringing schools closer to the community (MoE, 2021). When we examine the current condition of the Tigray education system, however, there is a large distance to reach the envisioned goals in the plan.

Although educational access and equity in Tigray like the rest of the country had a long way to go for its materialization even before the war, there was significant progress achieved towards this effect (Kefyalew *et al.*, 2023). At this time, however, equitable access to quality education in the region has receded to the conditions of many years back as a result of the destruction the war has inflicted on the system as can be clearly observed on the damage on the different facets of education presented earlier. Many school children are displaced living in camps where there is no educational provision. If we see the rural/urban comparison, much of the damage has happened in rural schools in terms of the destruction of educational facilities and the shortage of adequate, qualified teachers. There is also a big difference between schools where there was active fighting for an extended period and those schools where there was

relatively minimal battle. In those areas where there had been active battles, in addition to the destruction of the schools and their facilities, much of their human resource including teachers and students have been displaced and in certain cases they are still in IDP centers. With regard to disabilities, the minimal resource provisions that schools had to implement inclusive education are now missing. The damage on WASH facilities will also have the potential to negatively affect the participation of girls in education.

Governance and finance: For the effective functioning of an education system there is a need for a strong governance structure and adequate finance to provide for the implementation of all programs. The devastating war the region has passed through has led to a breakdown on the governance structure. A significant number of the education personnel are dead, have become seriously injured or have migrated, creating human resource shortages in the system. The communication system that was in place before the war was not yet fixed creating communication gaps between the different levels of the system. Such and other similar problems made it difficult for the system to run smoothly and effectively. With regard to financing the system, the MoE has planned that the Federal government will provide a budget that covers the higher share of educational expenditure and development partners and NGOs, as well as communities, will cover the remaining proportion of finances in education (MoE, 2021).

As was clearly indicated in the results section, the Tigray education system was denied its budget by the government for two full years. The siege and blockade also made it impossible for development partners and NGOs, as well as the local community, to provide any support to the education sector. This has resulted in a huge amount of damage and loss on the system (5295.29 USD million on public institutions, 88 million on private institutions, and a total of 5383.98 USD million), making it very difficult to recover from the damages it has suffered and smoothly run the system. This is in addition to the damage cost of the different educational resources.

Socio-economic and psycho-social factors: According to the literature analysis of Cervantes-Duarte and Fernández-Cano (2016), different studies have asserted that children who were exposed to armed conflict will be victims of at least one type of trauma including distraction, hostility, emotional instability, sorrow, withdrawal, difficulty sleeping, nightmares, and suspicion (Al-Eissa, 1995); depression, irritability, aggression, isolation, symptoms of posttraumatic stress disorder, and paranoia (Rashid, 2012); nervousness, anxious arousal

(Dimitry, 2012); loss of the ability to concentrate, passivity, loss of spontaneity, and sorrow (Guy, 2009), and suicidal tendencies (Flink *et al.*, 2013). Where students are suffering from war induced trauma, we cannot expect them to follow their lessons with full concentration and perform to the best of their potential. During and after the crisis we can see empty schools, empty futures. When looking at the hidden costs of war, it adversely impacts on the lack of access to a structured and enriching environment, insufficient institutional support, and detrimentally affects brain function and emotional regulation of the students. Studies reveal that children and young people who have experienced war and violence are more susceptible to experiencing cognitive delays, behavioral challenges, and mental health disorders. Similarly, continued dissatisfaction among professionals results in disengagement, further deterioration of developmental prospects; they also experience low morale and productivity, wasting substantial social and economic potential. The cost of the war is unthinkable.

4.5 Conclusion and Recommendations

The war on Tigray broke out in November 2020 and has resulted in a multifaceted destruction in the whole region as it has involved different belligerent groups with their respective malicious interests. In this war, the Ethiopian national defense force, allied by the Eritrean army and regional armed groups from within the country, primarily the Amhara forces (Amhara special forces, police, militia and Fano) and the Afar special forces, were involved in the active fighting, total destruction and much of its population suffered from starvation and diseases. In order to assess the magnitude of damage and loss of the war, the Tigray Commission of Inquiry was established by Proclamation 362/2014. The commission started its investigation by dividing the work into six sectors, one of which is the social sector. Under this center, the education research department was established to assess the damage and loss through a more comprehensive investigation on issues like human damage, damage in buildings and facilities, vehicles, ICT and electric facilities, laboratory and library facilities, and damage and losses on financial aspects. The researchers employed robust research methodology to cover every aspect of war damage and loss both in the public and private institutions in the Tigray region. Assessment was conducted using household surveys and detailed questionnaires to be filled by respective institutions and authorities.

Tigray's education system, over the past decades, has achieved robust educational achievement, particularly in relation to coverage and access to schooling. The education system had reached near universal enrollment in line with the Sustainable Development Goals. However, the bloody war has set the region back significantly, as UNDP (2019: 25) contemplated, conflict impacts education by destroying infrastructure, reducing expenditures for schools and preventing children from attending classes. Today, contrary to this advancement, the war had caused unthinkable and devastating educational damage in the region. Much of the educational infrastructure was lost or severely damaged. Most of the school buildings are damaged or completely destroyed; educational facilities like ICT materials, laboratory facilities, and libraries were either looted or destroyed/damaged. There is also a serious shortage of educational personnel, including teachers, since many of them have fled their work-places either for fear of the war or due to inability to support their living, and some others are also presumed to be dead and wounded because of the fighting. This situation has left huge numbers of Tigrayan children without schooling. Out of the total 1,120,898 households that benefited from the education system before the war started, only 78,104 (7%)

pursued their education during the time of siege. Even in schools where students have returned to learn, it is not difficult to imagine that the quality of education will be seriously compromised. The level of damage incurred by the different institutions within this sector is so huge that recovery in the near future seems too difficult. As the damage level of the educational infrastructure is too high, encompassing all corners of the region, and the estimated repair and replacement cost is very high, it will take many years to bring the education system back to the pre-war condition.

The highest proportion of the destruction and damage of the infrastructure, facilities and property were committed by the EDF, followed by the ENDF and the Amhara forces with an evil objective of annihilating Tigray. Theft and robbery by local gangsters also have their share in this damage. This situation will continue to negatively affect the access and quality issues of education in the region unless some concerted effort is made by all concerned bodies, government and non-government, to counter the problem. The financial cost is so enormous, requiring the involvement of different stakeholders, including international organizations, if a fast recovery of the system is anticipated. Following the descriptive and empirical analysis on the effect of war and siege in Tigray, the researchers recommended the following actions:

- To address the whole picture of war effects in Tigray, the remaining uncovered areas such as the whole part of the Western zone, and also the remaining parts of Central, Eastern, and Northern zones, should be assessed. Unless otherwise, it seems difficult to show the whole picture of damage and loss that occurred in this unjust war.
- To make the social reconstruction effort fruitful and sustainable, a rigorous social policy should be formulated and implemented by both the regional and federal governments.
- Most urgent education interventions required. The damaged and chronically underfunded education system would require mobilization of domestic and global financial resources to rebuild the education systems in the Tigray Region.

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5. Damage and Loss to the Cultural Heritage, Religious Institutions and Values

5.1. Background

Tigray is one of the regional states of Ethiopia located in the northern part of the country and is bordered by the regional state of Afar in the East, Amhara in the South, the state of Eritrea in the North, and Sudan in the West. Tigray has a high-plateau terrain drained by the Tekeze and Mereb rivers and a low lying plain in the South and Western parts of the region. Tigray had an estimated population of 7.3 million in 2021, based on projections from the 2007 Ethiopian Housing and Population Census. Tigray is primarily inhabited by three ethnic groups -Tegaru, Erob and Kunama - which have their distinct cultural identities.

Tigray as a region is home to one of the world's richest concentrations of cultural heritage, encompassing ancient rock-hewn churches, centuries-old monasteries, archaeological sites, and living traditions that form the backbone of community identity (Table 66). These tangible and intangible assets embody the spiritual, historical, and artistic achievements of the Tigrayan people, while also serving as vital centers for education, worship, and social cohesion (Shaw, 202).

Table 66. Pre-war Cultural Heritage out come in Tigray.

Indicator	Unit	Pre-war value
Cultural heritage		
Annual service income of Tigray Orthodox Church	USD	77,628,092
Permanently and temporarily employed clergies and curators	Number	126,480
museums	Number	5
Churches	Number	5,500
Monasteries	Number	220
Mosques	Number	750
Cultural institutions	Number	12
Libraries	Number	24
Archaeological sites	Number	54
Palace	Number	13
Galleries	Number	65
local musician associations (Bands)	Number	25
Pottery	Number	126

Indicator	Unit	Pre-war value
crafts center	Number	85
International visitors	Number	91,764
Domestic visitors	Number	2,270,000
Average daily expenditure of international visitors	USD	230
Average daily expenditure of domestic visitors	USD	0.12
Contribution of tourism to GDP	%	2.8
Number of Offices (TCTB public structure)	Number	93

Source: CITG survey, 2022

Tigray hosts extraordinarily rich and varied cultural heritage resources as it was the heartland of one of the great civilizations of the ancient world. It is home to thousands of culturally significant artifacts, sites and monuments which provide material evidence for its ancient civilization and for the early history of Christianity and Islam in the African continent. Tigray remains a custodian of hundreds of ancient and medieval churches and monasteries which house thousands of thousands, manuscripts and icons. It is home to a number of historic mosques including the Al-Nejashi mosque, considered as one of the earliest and the first mosques in Africa. Tigray is also known for the countless archaeological sites and monuments.

Cultural heritage is at the heart of peoples’ lives and material culture is the irreplaceable physical manifestation of that heritage. The destruction of heritage has truly profound implications. It detaches people from their history and physical, cultural and sacred landscapes. It represents a devastating attack on peoples’ identity. It is a deeply profound loss, particularly in Tigray, because significant cultural heritage is often found in rural churches that also function to maintain social cohesion in difficult times. (Karima Bennoune 2016, UNESCO)

From the onset of the Tigray war, the region was engulfed in a devastating armed war that inflicted immense humanitarian suffering and wrought irreparable damage to its cultural heritage. Religious institutions—custodians of centuries-old manuscripts, icons, and liturgical objects were looted, desecrated, or reduced to ruins. Historic sites and monuments, many of profound historical and spiritual significance, endured structural devastation from shelling, fire, and neglect. At the same time, the mass displacement of clergy and communities not only disrupted sacred rituals but also fractured the transmission of traditional knowledge and values, leaving an enduring scar on the region’s cultural and spiritual identity.

The history of Ethiopia, particularly the Northern part, is distinguished by a long period of war and instability. However, the recent war on Tigray, launched under the pretext of a “law

enforcement” and peacekeeping operation, produced effects that were devastating for the people of the region. Far from restoring order, the campaign unfolded as a multi-dimensional assault on civilians, marked by mass displacement, widespread atrocities, and famine-like conditions. Religious and cultural institutions were desecrated, infrastructure was destroyed, and the social fabric of communities was deeply fractured. Instead of securing peace, the war left enduring scars on Tigray’s humanitarian, cultural, and spiritual life. (National Library of Medicine, 2023)

People suffered indiscriminate bombing leading to deaths and fleeing from homes. There was sexual violence and arbitrary detention. Deliberately targeting and destroying vital civilian infrastructure, including Cultural heritages, religion institutions, schools, hospitals, and public facilities. The perpetrators have additionally carried out large-scale looting and destruction on private equipment, leaving millions of people unable to sustain themselves leaving millions of people in severe food insecurity. (OHCHR 2021, Human Rights Watch and Amnesty International 2022)

Initial damage and loss assessment is, among other things, the first step of engagement for the recovery and reconstruction process. It seems mandatory to have a clear picture of the magnitude of damage, loss and consequence in such a process. So far, there hasn’t been any independent organization coming to the site and assessing the situation. It is to fill this gap that the Tigray Commission of Inquiry on Tigray Genocide was established by the proclamation 362/2014. It was established to conduct an in-depth study primarily collecting first-hand information from the communities and institutions that have suffered the damage and loss.

This report is focused on the department or theme of Cultural heritage, religious institution and values. It is the result of assessment data collected from six zones of Tigray. Zones and Weredas that are not accessible due to their occupation by Amhara forces and Eritrea including Western Tigray, parts of North-western Tigray, parts of Southern Tigray and some Tabias of Central and Eastern zones Tigray bordering Eritrea were not included in the assessment. The report focuses on the damages and losses related to the heritage, religious institution service and values.

5.2. Operational definitions

In order to understand the damage and loss caused by war, it is important to frame the analysis through both cause-and-effect dynamics and internationally recognized assessment methods. Baseline quantitative data serve as a foundation for describing physical destruction, while qualitative insights help capture intangible losses.

This study follows the methodology of the UN Economic Commission for Latin America and the Caribbean (ECLAC), which has been widely applied in many countries and is regarded as an internationally accepted approach to disaster assessment, including the impacts of armed war. In doing this, key terms related to this area of conceptual understanding are explained below

Heritage: refers to inherited traditions, monuments, objects, and values transmitted across generations, formally recognized at local, regional, national, or international levels.

Cultural Heritage: Tangible and intangible assets of a community that reflect its cultural identity, such as traditions, buildings, and art.

Tangible Heritage: The physical, visible and touchable heritages that passed from past generations and preserved for the future generations.

Intangible Heritage: Non-physical cultural elements like oral traditions, rituals, languages, and performing arts.

Movable Heritage: Physical cultural objects that can be transported, like manuscripts, artworks, and artifacts.

Immovable Heritages: Heritages that are fixed to a specific location and cannot be removed, such as archaeological sites, buildings and monuments.

Repositories of Heritage: Institutions or locations that collect, preserve, and display heritage items, e.g., museums, archives, libraries.

Cultural Goods Industry: Economic sector that produces, markets, and distributes cultural products like books, music, art, and crafts.

Heritage Sites: Geographically defined places of cultural, historical, or natural significance preserved for their value.

Historical Buildings: Structures of past eras that hold architectural, cultural, or social significance.

Historical and Handcrafted Properties: Heritage properties featuring traditional craftsmanship and historical relevance.

Artistic and Traditional Objects: Culturally significant creations reflecting aesthetic or traditional practices.

Social Values: Shared principles and norms that shape societal behavior and identity.

Religion: the term religion refers to the act of following worship or an organized system of beliefs, ceremonies and rules to worship a God.

Religious Institution: An organized body or place dedicated to religious practice, leadership, and community service (e.g., churches, mosques, temples)

Religious Service and Values: Practices and moral teachings rooted in spiritual beliefs, guiding worship and ethics.

God's Law: refers to the Christian based scriptural or biblical and theological principles of God's governance. As Christians, it matters for all. In scripture, there are laws both in the Old Testament and New Testaments parts of the holy bible in relation to human dignity and its possessions (Gen 1:26-28, Eph 5:21, Gal 3:26-28).

Moral Law: refers to the law of consciousness thought and narration in the sense of religious and social view. The natural law has an idea of protection for innocent people regardless of their sex, religion, political view, ethnicity, nationality and color

Church: the term church in this research refers in two ways. In one way, it refers to a place of worship for Christians, where religious activities such as prayer, worship, and religious ceremonies take place. It can also be used more broadly to describe the entire religious community or organization associated with a specific faith or denomination. Therefore, while we read the parts of the research, care must be taken about the context.

Mosque: the term mosque in this research refers to the office or organizational structure of the Islamic followers. Therefore, while we read the parts of the research, care must be taken about the context.

5.3. War Effect

Damages and Loss

The war on Tigray resulted in the destruction of many cultural heritages, religious institutions, historical sites and buildings, and dispersed many cultural identities as well as values of the society. The cultural and religious sites destruction in Tigray has been carried out with total disrespect for the religious and historical buildings and their purposes. A census on the actual damage and losses was conducted in the form of household and institutional assessments. A comprehensive census and case study investigations was conducted to reveal the impact of the war and siege in Tigray on the precious cultural and mixed heritages, religious institutions, museum collections of Tigray. Figure 16 depicts the location of assessed cultural heritage sties.

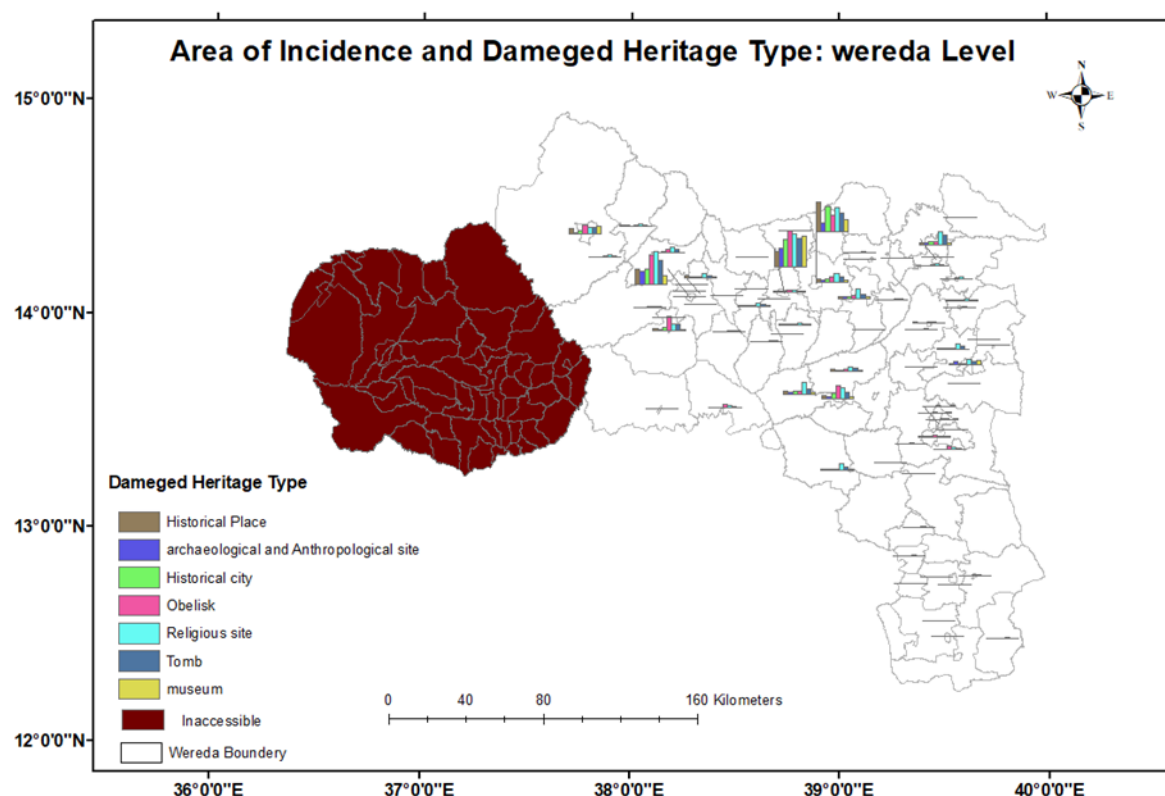


Figure 16. General location of damaged cultural heritages in Tigray.
Source: CITG survey, 2022.

Table 67 presents the estimated damage value of cultural heritage and religious institutions, totalling 632.14 million USD. The largest loss occurred in historical buildings, accounting for 64.64% (408.6 million USD) of the total damage. This is followed by historical handcrafted property at 11.5% (72.7 million USD) and service equipment at 10.2% (64.5 million USD). Religious buildings also suffered significant losses of 57.51 million USD (9.1%). Other affected categories include artistic and historical objects (3.12%), repositories of heritage (0.7%), vehicles (0.61%), cultural goods industries (0.09%), and intangible cultural heritage (0.05%). Overall, the data reveal that physical and built heritage sustained the most severe destruction.

Table 67. Damage value to cultural heritage and religious institutions

Item Category	Damage in Million USD	Share in %
Religious Building	57.51	9.10
Vehicle	3.84	0.61
Service Equipment's	64.50	10.20
Repositories of Heritage	4.40	0.70
Intangible Cultural Heritage	0.30	0.05
Cultural Goods Industry	0.58	0.09
Historical Buildings	408.60	64.64
Historical Handcrafted property	72.70	11.50
Artistic and Historical Objects	19.70	3.12
Total Damage	632.14	100.00

Source: CITG survey, 2022.

Table 68 illustrates the damage levels of cultural heritage and religious institutions across different categories from the respondents. The data show that historical handcrafted properties experienced the most severe impact, with 81.22% classified as very high damage. Historical buildings also faced extensive destruction, with 66.24% in the very high category. Cultural heritages, religious buildings, vehicles, and assets recorded 48.59% under very high damage, while artistic and historical objects had 46.22% in the same category but displayed a relatively more balanced distribution across all levels. In summary, the findings indicate that tangible heritage, particularly historical structures and handcrafted properties, suffered the greatest degree of destruction.

Table 68. Damage level of cultural heritage and religious institutions

Damaged Item Category	Very high	High	Average	Low	Very low
Cultural Heritages, Religious Buildings, Vehicles and Assets	48.59	16.09	17.02	11.63	6.68
Historical Buildings	66.24	15.67	14.51	2.65	0.93
Historical Handcrafted property	81.22	12.45	4.64	0.96	0.73
Artistic and Historical Objects	46.22	16.20	15.92	12.28	9.37

Source: CITG survey, 2022.

Table 69 presents, according to the respondents the identified perpetrators responsible for the damage to cultural heritage and religious institutions. The data indicate that the Eritrean Défense Forces (EDF) were the leading perpetrators, accounting for the largest share of destruction across all categories ranging from 38.6% to 40.1%. The Ethiopian National Défense Forces (ENDF) followed closely, responsible for around 31% to 36% of the damages. Amhara forces contributed between 17.9% and 21.1%, while Afar forces were involved in about 5% of the destruction. The category labelled “Others” accounted for less than 3%.

Overall, the table highlights that the majority of the damage was inflicted by the EDF and ENDF, with significant involvement from Amhara forces

Table 69. Perpetrators of cultural heritage and religious institutions

Damaged Item Category	ENDF	EDF	Amhara forces	Afar Forces	Others
Cultural Heritages, Religious Buildings, Vehicles and Assets	36.29	38.62	18.2	5.26	1.63
Historical Buildings	32.75	40.11	20.64	4.98	1.35
Historical Handcrafted property	31.22	38.75	21.09	5.35	2.34
Artistic and Historical Objects	35.34	39.06	17.89	5.5	1.78

Source: CITG survey, 2022.

Table 70 summarizes the estimated loss value of cultural heritage and religious institutions, amounting to a total of 966.5 million USD. The largest share of loss stems from increased risks and vulnerabilities, representing 36.87% (356.33 million USD) of the total. This is followed by service revenue loss at 32.92% (318.19 million USD) and disruption of governance and decision-making processes at 24.58% (237.55 million USD). Production loss accounts for the remaining 5.63% (54.42 million USD). Overall, the table indicates that the most significant impacts were due to the heightened vulnerabilities and interruptions in the normal functioning of cultural and religious institutions.

Table 70. Loss value to cultural heritage and religious institutions

Loss Category	Loss in Million USD	Share in %
Production Loss	54.42	5.63
Service revenue loss	318.19	32.92
Disruption of Governance and decision-making process	237.55	24.58
Increased risks and Vulnerabilities	356.33	36.87
Total Loss	966.50	100.00

Source: CITG survey, 2022.

For the purpose of common understanding, the detail result of the damage and loss on the cultural heritages and values are thematically presented as follows:

Damage and Loss to Religious Institutions, Religious Services and Values

The war on Tigray has caused unprecedented destruction to the region's religious services, institutions and movable heritage. Churches, mosques, monasteries, and other sacred sites were desecrated or looted, disrupting centuries-old religious practices and community life. Movable heritages, many of which carried profound historical and cultural value, suffered heavy damage or total loss. Cultural heritage including manuscripts, artifacts, and traditional arts as targeted,

erasing vital repositories of identity and history. This destruction has not only weakened the spiritual and cultural fabric of Tigray but also endangered its global heritage significance.

Damage and loss by category

The war on Tigray has caused unprecedented damage and loss to the region's cultural heritage, severely impacting its historical, artistic, and social assets. Total damage and loss of religious institutions and sites of Tigray from the survey indicates 1,097.6 million USD. The direct damage to heritage sites, artifacts, and institutions has been estimated at approximately 131.1 million USD (12%), reflecting the cost of physical destruction, structural damage, and deterioration of irreplaceable properties (Table 71).

Table 71. Loss value to cultural heritage and religious institutions

Description	Value in Million USD	Share in %
Damage	131.1	11.95
Loss	966.5	88.05
Total	1,097.6	100

Source: CITG survey, 2022.

Beyond the immediate damage, the losses associated with disrupted cultural practices, looted or destroyed artifacts, and the decline in tourism and related economic activities have been estimated at around 966.5 million USD (88%). This staggering figure underscores not only the economic impact but also the profound social and cultural consequences of the war, threatening the preservation of Tigray's identity and historical continuity (Table 71). The scale of destruction and loss highlights the urgent need for comprehensive documentation, protection, and restoration strategies to safeguard the region's remaining cultural heritage.

Damage to Religious Institutions and sites: The war has affected religious institutions across multiple dimensions, with damage extending beyond physical structures to their cultural and spiritual functions. The main categories of damage include buildings, such as churches, monasteries, and mosques; service equipment, essential for religious activities; repositories of heritage, where manuscripts and sacred objects are preserved; vehicles, used for institutional services; the cultural goods industry, linked to religious production and crafts; and intangible cultural heritage infrastructure, including rituals, traditions, and community practices. Together, these categories reflect the comprehensive impact of war on both the material and immaterial foundations of religious life.

The war inflicted widespread destruction on religious institutions, with the greatest share of damage falling on service equipment, accounting for about 49.19%, reflecting the severe disruption of tools and resources essential for religious practices. Buildings were the second most affected category at 43.85%, highlighting the large-scale destruction of churches, monasteries, and related structures. Repositories of heritage suffered 3.36% of the damage, affecting invaluable manuscripts and sacred objects, while vehicles accounted for 2.93%, disrupting mobility and services (Figure 17). The cultural goods industry experienced 0.5%, and intangible cultural heritage infrastructure was least affected at 0.2%, though its impact on traditions and community life remains significant. This distribution shows that while physical and functional aspects bear the greatest weight of destruction, even the smaller percentages represent critical losses to the cultural and spiritual fabric of the Tigray society.

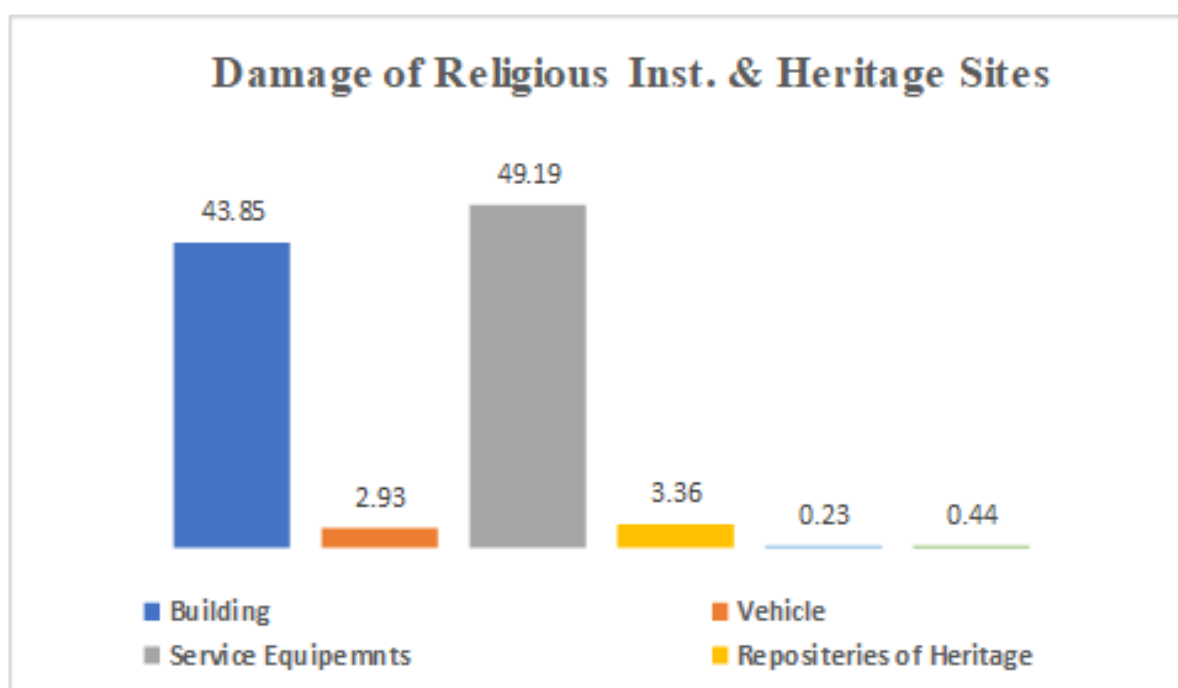


Figure 17. Value Share of Damage to Religious Institutions and sites by Item category.
Value share is measured as the share of the value of damage of each item category in the total damage value.
Source: CITG survey, 2022.

Religious Institutions Damage, Service Delivery of Institutions and Access to Religious

Service: The war on Tigray gravely undermined religious institutions, their service delivery, and community access to worship. Many churches, mosques, and monasteries were damaged, looted, or destroyed, interrupting centuries-old spiritual traditions. Clergy and religious leaders were displaced or killed, while institutions lost the capacity to provide essential religious services such as worship, counselling, rituals, and community support. As a result, access to religious practices was severely restricted, depriving communities of vital spiritual guidance,

social cohesion, and cultural continuity. The results indicate that around 80 % of religious institutions in Tigray faced multiple types of damage due to the war, and their service delivery to the society was less than 50%. This is also confirmed by 65% of the community respondents, who reported that access to religious services or their delivery was disrupted due to the war (Figure 18).

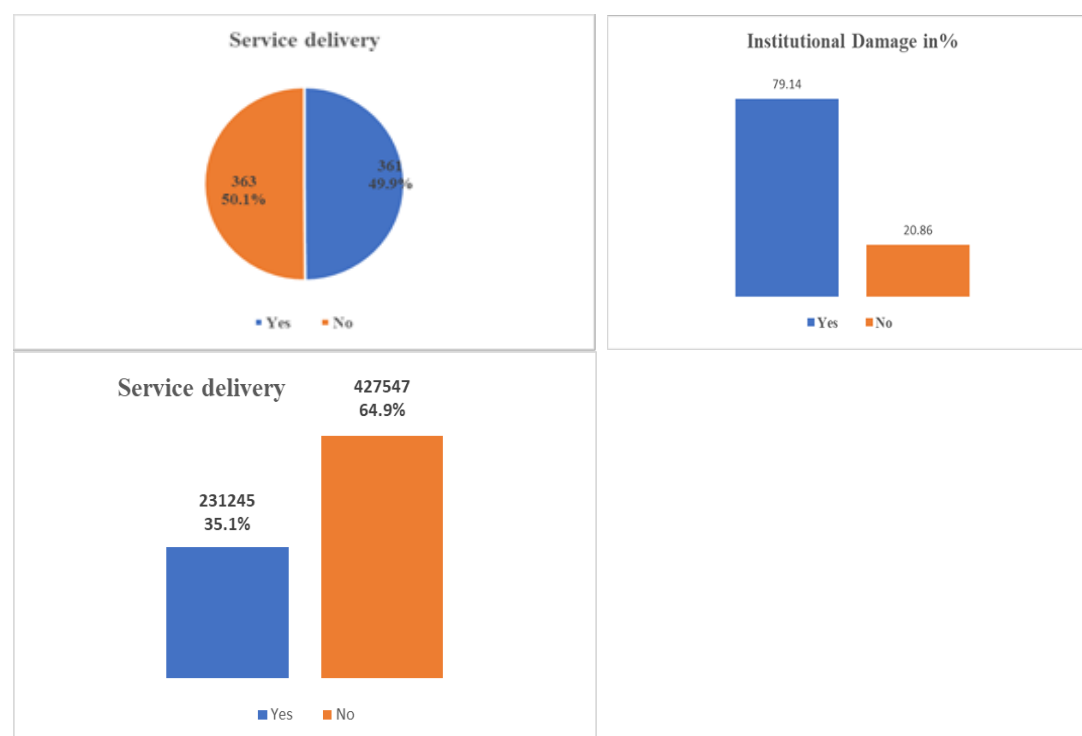


Figure 18. Damage to religious institutions and their service delivery disruptions to the community, and response of the community to access of service or service delivery
Source: CITG survey, 2022.

The main reasons for the disruption of access to religious services of the community and religious service delivery of the institutions are depicted in Figure 19. The war on Tigray profoundly disrupted the social and spiritual fabric of communities, with religious institutions among the most heavily affected. The disruption of religious services; both from the perspective of community seeking access and from the side of institutions providing access to them arose from several interlinked causes but the main reasons are discussed below.

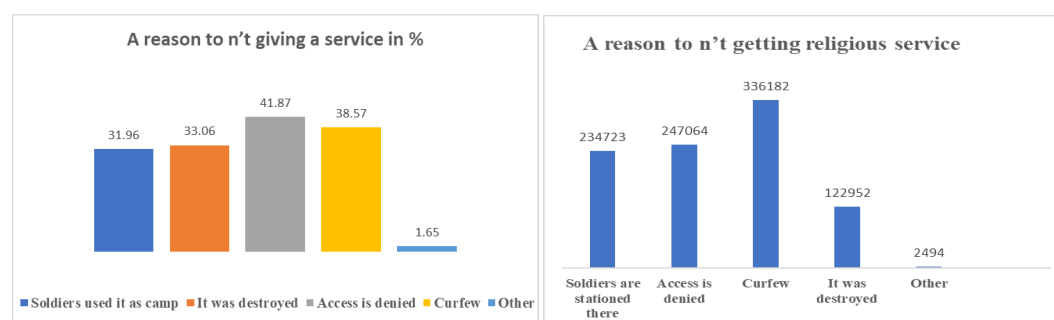


Figure 19. Disruption of access to religious services of the community and religious service delivery of the institutions.

Curfews and movement restrictions: Imposed curfews and security lockdowns during the war prevented communities from gathering for worship, particularly in the early mornings and evenings when many religious services traditionally occur. The curfew not only curtailed mobility but also generated fear of reprisal for those attempting to attend prayers or celebrations. This significantly reduced society's access to the rituals and communal activities that foster resilience and social cohesion.

Access denial and intimidation: In many localities, military forces and local authorities directly denied communities access to churches, mosques, and monasteries. Worshippers were blocked at checkpoints, harassed in route to services, or forced to abandon pilgrimages and feast day gatherings. This denial was not only physical but psychological, creating an environment of fear and discouragement that undermined people's willingness to participate in public religious life.

Military use of religious compounds as camps: A large number of religious institutions were forcibly occupied by soldiers and converted into barracks, storage areas, or command posts. This militarization disrupted religious services because clergy and congregants could not safely enter their sanctuaries. Moreover, the presence of armed actors violated the sacredness of these spaces, creating tension and desecration that made resuming normal services impossible during occupation. Communities often perceived this as a direct assault on their faith and cultural identity.

Destruction and looting of institutions: Beyond temporary occupation, many churches, monasteries, and mosques were damaged, looted, or destroyed. This physical destruction eliminated the very infrastructure required for religious service delivery; altars, manuscripts, icons, musical instruments, and even entire buildings. The loss meant that even when worshippers could assemble, clergy lacked the physical and symbolic tools to conduct services properly. Reconstruction has been slow, and many sites remain unusable, further prolonging disruption.

Generally, these overlapping factors combined to create a situation in which up to 65% of religious service delivery in Tigray was interrupted. From the community's perspective, curfews and access denial directly restricted their ability to gather and worship, while from the institutions' side, military occupation and destruction undermined their capacity to deliver spiritual services. Importantly, these disruptions were not only logistical but also symbolic:

they represented an assault on cultural identity, community trust, and intergenerational continuity of faith.

The combined impact is therefore multidimensional; social (weakening cohesion and solidarity), psychological (removing coping mechanisms during trauma), cultural (eroding centuries-old traditions), and spiritual (deepening the sense of abandonment and loss). In Tigray's case, this disruption of religious life has long-term implications for peacebuilding, reconciliation, and recovery.

Damage of Religious Individual Property and Movable Heritages of Religious Institutions

The war on Tigray has deeply damaged both personal and institutional religious heritage. Families lost treasured items such as prayer books, bibles, parchments, and pictures of salvation, while churches and monasteries recorded the looting and destruction of manuscripts, liturgical books, icons, and sacred equipment. These losses represent not only material destruction but also a rupture in spiritual life, cultural identity, and historical continuity. The Figure 20 shows that parent's book (59,670) were the highly damaged religious properties whereas parchments are less in number from the damaged religious properties in the Tigray war.

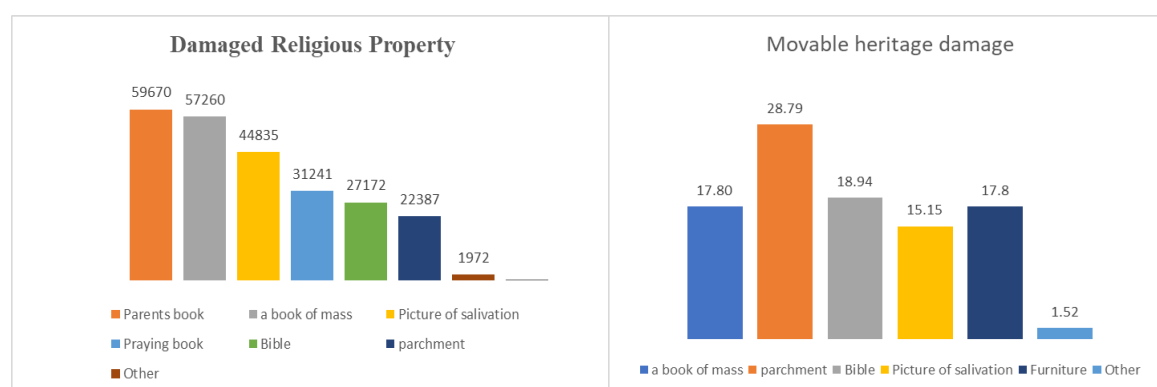


Figure 20. Damage of Religious Individual Property and Movable Heritage Religious Institutions.
Source: CITG survey, 2022.

The war on Tigray not only devastated public institutions but also reached deep into the private spiritual lives of individuals. Many families lost personal items that served as their daily point of contact with the divine. These included prayer books, parental blessings written in manuscripts, books of Mass inherited across generations, pictures of salvation placed at home, and household copies of the bible or parchment scrolls. For individuals, these objects were far more than material possessions. They embodied personal faith practices, intergenerational memory, and intimate forms of devotion. Their destruction meant the interruption of morning and evening prayers, the silencing of family liturgy and the loss of tangible links to deceased

relatives. In many cases, such property was deliberately targeted. The loss was thus both psychological and religious, depriving people of their daily ritual structure and of items that had symbolic protective value within households.

At the institutional level, religious centers in Tigray; churches, monasteries, and mosques lost a massive treasure of movable heritage. Looting, burning, and intentional vandalism damaged or displaced ancient parchments, centuries-old bibles, liturgical books of Mass, illuminated manuscripts, icons and pictures of salvation, and ceremonial equipment such as crosses, chalices, drums, and censers.

These objects were not merely tools of worship. They represented the historical continuity of Tigrayan Christianity and Islam, with many manuscripts dating back hundreds of years and preserved uniquely in local monasteries. The damage therefore represents both a spiritual rupture and a cultural catastrophe, as irreplaceable heritage that once connected present communities with their ancestors has been permanently lost.

The looting of movable heritage also created a heritage displacement problem, with some manuscripts and artifacts trafficked to black markets. This threatens the collective memory of the community, as many items will never be retrieved or returned. The destruction and loss of such heritage further undermined the ability of institutions to resume religious services after the war, since ritual practice depends on specific sacred objects from manuscripts to liturgical equipment. (African Arguments,2024; The Destruction and Looting of Heritage in the Tigray War)

In general, the destruction of individuals' religious property and the movable heritage of institutions disrupted not only daily worship and communal religious life but also identity, memory, and cultural resilience. On the household level, the loss of prayer books and Bibles dismantled the intimate spirituality that structured daily life. On the institutional level, the looting of manuscripts, icons, and ritual tools severed the historical chain of continuity that anchored the community to its past. This dual damage has long-term implications:

- **Psychosocial:** Individuals experience grief, spiritual emptiness, and weakened coping mechanisms.
- **Cultural:** Generational transfer of traditions and knowledge through manuscripts and ritual books is interrupted.

- **Institutional:** Churches and monasteries struggle to restore services without the tools of liturgy, weakening their role in community healing.
- **Heritage protection:** The trafficking of looted manuscripts erodes global heritage and threatens Ethiopia's identity as home to one of the world's oldest Christian traditions.

Ultimately, the damage to movable religious heritage whether personal or institutional represents not only the loss of physical objects but also the erosion of spiritual continuity, cultural identity, and resilience in Tigray. (African Arguments,2024)

Disruption of Pilgrimages

The war on Tigray severely disrupted traditional pilgrimages, preventing thousands of worshippers from accessing sacred sites and participating in annual feast days. Restrictions on movement, insecurity, and the destruction or occupation of religious sites halted centuries old practices, weakening spiritual devotion, community cohesion, and the cultural continuity that pilgrimages sustain.

Pilgrimage has long been a cornerstone of spiritual and cultural life in Tigray, drawing worshippers to sacred sites such as Axum, Debre Damo, and numerous local monasteries. When more than 55.4% of pilgrimage activities were disrupted, the consequences were profound (Figure 21). Movement restrictions, insecurity, and the occupation or destruction of holy sites not only halted religious journeys but also severed vital links between worshippers and their spiritual centres.

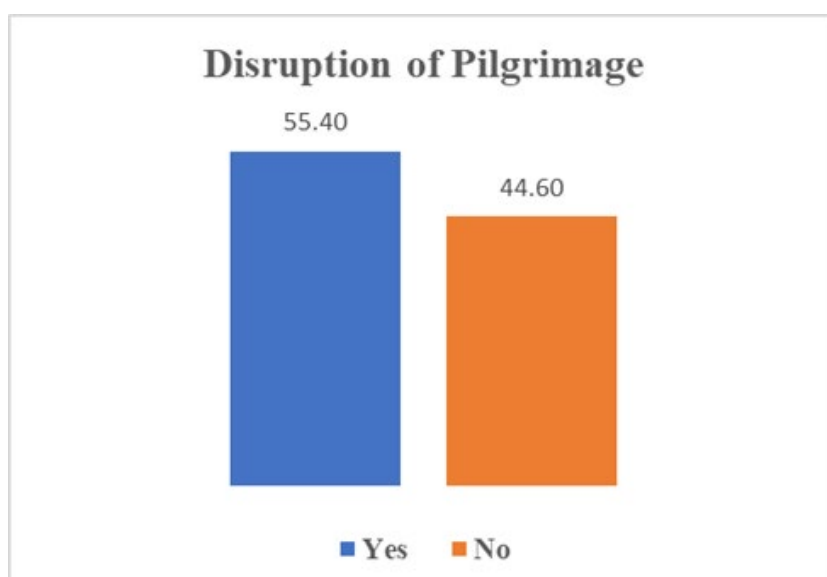


Figure 21. The disruption to pilgrimage of the community
Source: CITG survey, 2022.

The main impacts of the disruption of religious movements were

- **Spiritual and Psychological Impact:** Pilgrims were denied access to rituals of healing, blessing, and forgiveness that are central to faith practice. This worsened trauma, grief, and feelings of abandonment in times of crisis.
- **Cultural and Social Impact:** Pilgrimage serves as a unifying tradition across generations and communities. Its disruption weakened social cohesion, reduced inter-community interaction, and interrupted the transmission of cultural identity and oral traditions tied to pilgrimage events.
- **Institutional Impact:** Religious institutions rely on pilgrimages for visibility, support, and resource mobilization. The disruption limited their ability to carry out charitable works and weakened their role as anchors of resilience and reconciliation. (Wilson Center, 2025 and Journal of African Archaeology, 2024)

Holiday and Festivals Celebration in the households and religious institutions

The war on Tigray disrupted the celebration of holy days and religious festivals at both individual and institutional levels. Families were unable to observe traditional feasts and rituals in their homes, while churches and monasteries could not host communal liturgies, processions, and cultural festivities. This interruption weakened spiritual devotion, broke social bonds, and interrupted centuries-old traditions that sustain cultural and religious identity.

The war on Tigray caused a deep disruption to the celebration of holy days and religious festivals, which are central to both individual devotion and institutional religious life. The survey findings show that at the individual level, 35.8% of people reported never celebrating holy days, 52.2% celebrated them only at a very low level and 10% at a low level. At the institutional level, the disruption was even more severe, with 88.2% of religious institutions reporting that they never celebrated holy days and festivals, and only 10.19% managing partial observance. These figures highlight a dramatic decline in both private and public religious practice during the war (Figure 22).

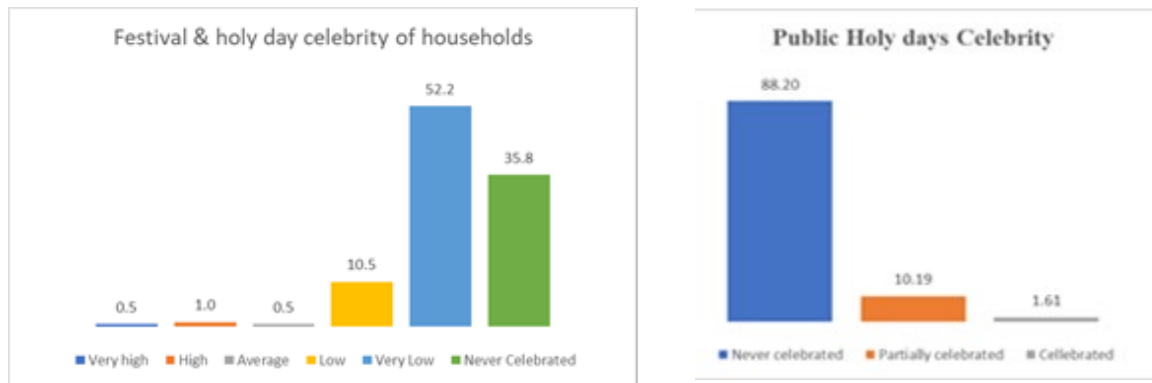


Figure 22. Holiday and festivals celebration in the house hold and in the religious institutions.
Source: CITG survey, 2022.

Holy days and festivals in Tigray have traditionally been moments of spiritual renewal, community gathering, and cultural expression. At the individual level, restrictions on movement, insecurity, and fear prevented families from performing household rituals and feasts. Even where celebrations took place, they were often subdued, with limited attendance and reduced spiritual expression, reflecting the weight of war and displacement.

At the institutional level, the near-total suspension of festivals was driven by multiple factors: occupation or destruction of religious sites, curfews, and fear of large gatherings being targeted. Churches and monasteries, normally centers of pilgrimage and festive celebration, stood silent, unable to host liturgies, processions, or communal feasts. This silencing of sacred spaces cut communities off from the collective experiences that affirm identity, belonging, and faith continuity. Thus, the impacts were

- **Spiritual Impact:** individuals were denied the opportunity for spiritual renewal, forgiveness, and communal worship that festivals provide. The absence of festivals created feelings of isolation and weakened the role of faith in coping with trauma.
- **Social and Cultural Impact:** festivals traditionally strengthen social cohesion through shared meals, dances, and rituals. Their disruption weakened inter-family bonds, eroded traditions, and interrupted the intergenerational transmission of cultural identity.
- **Institutional Impact:** religious institutions lost their role as conveners of the community and guardians of tradition. Their diminished visibility and activity undermined trust, resource mobilization, and their authority in community healing and reconciliation. (Wilson Center, 2025 and Journal of African Archaeology, 2024)

Damage Type of Religious Heritage

The war on Tigray inflicted severe damage on religious institutions through widespread acts of looting, breaking, burning, and the forcible taking of sacred objects. Churches, monasteries, and mosques lost manuscripts, liturgical books, icons, and ritual equipment, while many buildings were desecrated or destroyed. These forms of damage not only stripped institutions of their material and spiritual treasures but also represented a direct assault on cultural identity and collective memory.

The war on Tigray imposed multifaceted damage on religious institutions, with varying degrees of severity. Looting was widespread and often the most frequent form of destruction, involving the theft of liturgical books, manuscripts, icons, ceremonial equipment, and other valuable movable heritage. This not only deprived communities of sacred objects but also disrupted the ability of institutions to conduct rituals and provide services (Figure 23).

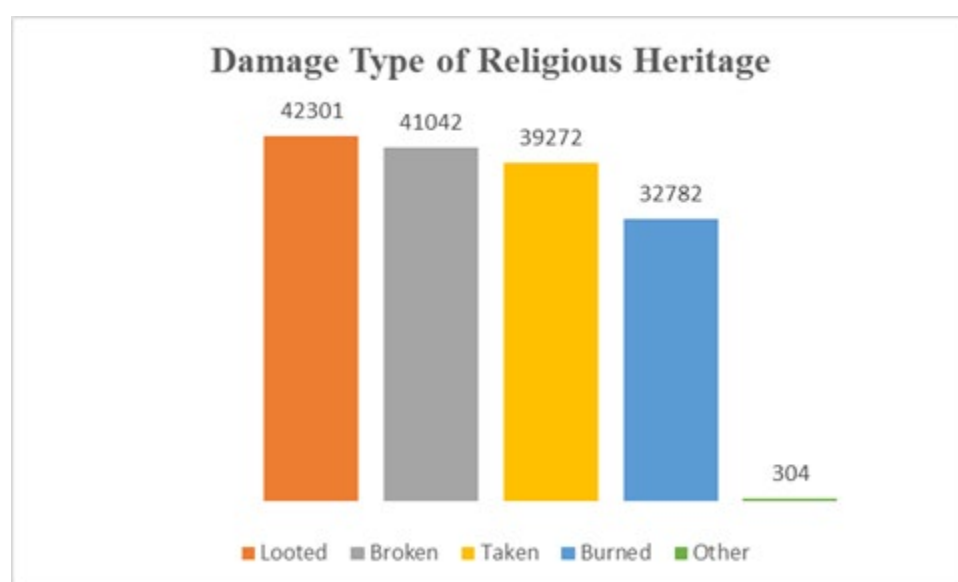


Figure 23. Damage types and its quantity to religious heritages.
Source: CITG survey, 2022.

Breaking and vandalism followed in intensity, including the smashing of icons, furniture, altars, and windows, which desecrated the sacred space and made worship physically and spiritually difficult. Such acts were symbolic assaults on the faith of the community, reflecting both disrespect and the deliberate undermining of religious authority.

Forcible taking of sacred objects including rare manuscripts, Bibles, and ancient parchments was also significant, as many of these items were irreplaceable and held deep historical, cultural, and spiritual value. Those manuscripts were visible repeatedly on on-line markets like

eBay. The removal of these artifacts not only disrupted liturgical practices but also caused long-term cultural loss.

Burning was comparatively less frequent but extremely destructive when it occurred, often resulting in the total loss of buildings, manuscripts, and movable property. Fires not only destroyed tangible heritage but also left communities without functional worship spaces, halting institutional religious service delivery entirely.

Overall, these four forms of damage, looting, breaking, taking, and burning combined to cripple religious institutions in Tigray, with looting and breaking being the most frequent, while burning and forcible taking caused the most irreversible losses.

Impact of the war

The war on Tigray severely disrupted religious life, damaging both individual and institutional practices. Faith communities faced restricted access to worship, destruction and looting of sacred sites, interruption of festivals and pilgrimages, and loss of religious books and artifacts. These impacts eroded spiritual life, weakened social cohesion, and caused long-term cultural and psychological trauma (Figure 24).

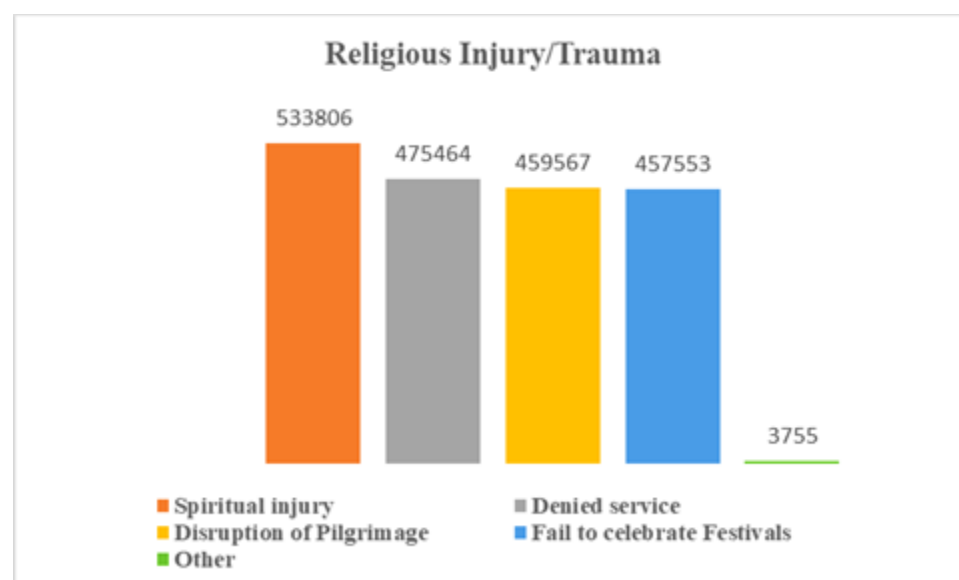


Figure 24. War impact on the community to religious services, religious institutions and values.
Source: CITG survey, 2022.

The war on Tigray has profoundly affected religious life, producing a spectrum of impacts that vary in severity. As the above figure shows the respondents frequency, spiritual injury represents the heaviest impact, as communities and individuals face fear, trauma, and disconnection from sacred practices. Denial of religious services followed closely, with churches, monasteries, and mosques occupied, destroyed, or rendered inaccessible, preventing

worship and guidance from clergy. Disruption of pilgrimages further weakened spiritual and communal bonds, as worshippers were unable to visit sacred sites or participate in collective devotion. Finally, the failure to celebrate holy days and festivals curtailed traditional rites and cultural continuity, diminishing social cohesion and intergenerational transmission of faith.

Case Study on Destruction of Religious Institutions

Religious institutions are more than places of worship; they are important centers of cultural memory, spiritual life, education, identity, and continuity between generations. In Tigray, mosques, churches, and monasteries have served not only as sacred spaces for the faithful but also as sources of valuable cultural heritage. These institutions hold ancient manuscripts, icons, liturgical objects, artworks, and oral traditions that together form the core of Tigrayan religious and historical identity. The war that began in Tigray on November 4, 2020, has severely affected these institutions. Mosques, churches, and monasteries have been targeted, looted, burned, and, in some cases, completely destroyed. Sheikhs, imams, monks, nuns, priests, and other religious leaders have been killed or forced to leave their homes. Manuscripts, religious books, and sacred artifacts, many of which are irreplaceable, have been stolen. These actions are not only attacks on religious freedom and practices but also a cultural disaster that threatens the spiritual and historical legacy of the entire region. This study examines the intentional and collateral destruction of churches and mosques in Tigray during the war. It pays special attention to the damage to structures, the theft of religious treasures, and the persecution or killing of religious leaders. Using testimonies, documented incidents, and site assessments, the case study aims to explore the extent and pattern of attacks on religious institutions, understand their historical and cultural significance, and consider the broader implications of losing heritage for the people of Tigray and for humanity as a whole. Understanding the impact of the Tigray war on religious institutions is essential for rebuilding after the war and protecting cultural heritage. It also reinforces the idea that cultural and religious heritage must be protected even during wartime, as stated in international humanitarian law and human rights agreements. Thus, based on the proposed methodologies and case studies the following religions were documented.

A. Eyesus Azeba Church

Subdey Eyesus Azeba Church is located in Tabia Subdey, Lalai Adyabo Wereda. The church has a rich history and has faced extensive damage during the recent war. According to the informants, the name “Subdey” comes from a man who traveled from a village called Gririm, which is beyond Asmara. The name “Azeba” is from a woman who came from Egypt with her two brothers and later married Subdey. According to tradition, the church was named after this woman, Azeba. Historically, the Church of Eyesus Azeba holds great religious importance. Before it became a Christian church, it was a place where Torah sacrifices were made. The local community has preserved a white stone, about the size of a Torah altar, as a treasured heritage piece. This stone symbolizes the church’s ancient Jewish-Christian roots. This church is among the 49 built by Abune Moses Zemaye Gerezo, an Eritrean religious leader, in the 4th century AD (around 338 AD). These churches were established across Tigray and Nagran (in Yemen) with the support of Kings Abraha and Atsbeha, showing their deep historical and religious importance. Despite its ancient heritage, which goes back over 1,600 years, the church faces severe destruction from the war on Tigray from 2020 to 2022 G.C. The destruction included the burning and loss of sacred artifacts like drums, flutes, incense holders, grapevine decorations, the Book of Acts, and holy icons. These items are crucial to the worship practices and spiritual life of the community. It is important to note that none of these objects are weapons or tools of war; they are purely symbols of devotion and culture. Their destruction represents not just physical loss but also an attack on the spiritual identity and heritage of the local people. The widespread damage to religious sites in the region is evident in other examples as well.



The destruction and loss of Eyesus Azeba church, Adyabo.

These images of Church, drums, flutes, stands (long stick), incense and grapevines, the book of acts and the Holy icons have been destroyed, burned and destroyed.

Source, CITG and TOTC 2022

B. The Monastery of Debre Abay

Debre Abay Monastery, located in Tsimbla Woreda, is one of the leading religious and educational centers in Tigray. Founded in the 14th century, it is highly regarded for its role in Ethiopian Orthodox scholarship, especially in Zema Kidase, the ancient liturgical chant tradition. With a large community of monks and religious students, the monastery serves as both a spiritual and academic center for followers in the region. Its destruction during the Tigray War was a significant blow to Tigrayan religious heritage. Between December 24 and 30, 2013 E.C., Debre Abay Monastery and the nearby town of May Harmaz suffered violent attacks by ENDF and EDF. The monastery compound was shelled with over 70 artillery rounds, causing major structural damage. This attack did not seem random; it appeared to be intentional. Sacred buildings were hit, church courtyards were destroyed, and liturgical materials were damaged. After the shelling, soldiers entered the sanctuary with shoes and weapons, breaking sacred norms. Widespread looting accompanied the destruction. Soldiers took holy icons, gold and bronze crosses, vestments, and ancient manuscripts. The stolen goods included rare icons, traditional musical instruments, church bells, amplifiers, and artifacts. Sadly, the violence went beyond structural damage and looting. Monks and church students at Debre Abay faced severe mistreatment. Many were stripped, beaten, and detained. One monk had died from trauma after being forcibly imprisoned. Soldiers specifically targeted Tigrigna speakers for abuse, while those who spoke Amharic were spared. Gender-based violence also occurred; underage girls were reportedly subjected to sexual violence near the monastery. Religious holidays and festivals were disrupted, and worship was suspended for months. The monastery's museum was looted, and its liturgical library was heavily damaged, resulting in the loss of irreplaceable religious texts and historical records. The community, once deeply rooted in faith and ritual, was left spiritually broken. These attacks changed community behavior, eroding trust and dismantling the moral structures that had defined local life for generations. This situation illustrates a systematic assault on cultural and spiritual identity. The use of artillery, desecration of religious spaces, mass executions, and theft of sacred objects were not isolated incidents but part of the systematic attack intended to undermine the Tigrayan community's spiritual foundation. The commission's assessment in Debre Abay shows that 14 manuscripts were burned and 326 crosses looted. They were made up of gold, silver, marble and bronze, 380 halos were damaged, 30 quintals of

linseed, 30 quintals of sesame and 100 quintals of Qwarf (monks' special food) looted. More than 5347 big and small sized sacred objects were looted and vandalized.

According to international law, the acts committed at Debre Abay are serious violations of International humanitarian laws.. They violate the 1954 Hague Convention for the Protection of Cultural Property and the Statute of the International Criminal Court, which criminalizes attacks on religious and cultural institutions as international crimes constituting war crimes.

C. Hohte Misraq, Holy Virgin Mary Church

It is found in Htsats tow, located in Asgede Tsimbla Woreda, in the Northwestern Zone of the Tigray. EDF seized the town and refugee camp, and committed looting, killings, and arsoning. Satellite imagery confirmed widespread burning of the camp and nearby civilian areas. Witnesses reported that EDF “burned some homes of civilians [in the town] and destroyed Hohte Misraq, Holy Virgin Mary Church” indicating that infrastructure was deliberately targeted. (NRC,2021)

It is known by common sense that the only purpose of the church is to worship God, the place where believers learn their faith, morality and make unity with God and their fellow men. The Church has no connection with any politics, with any combatant force and war. However, the 2020 - 2022 war deliberately destroyed all Holy properties in Tigray. This indicates the war was not only against the armed opponent force, but to dismantle the religious faith, the identity, the overall knowledge (as the church was a school and the center for prayer and worship), the courage and strong morality of the Tigrayans. It also seems that the perpetrators need to separate society from their creator and make them hopeless in their whole lives.



Damage and loss of Hohte Misraq Holy Virgin Mary Church, Hitsas. Asgede tsimbla
Source, CITG 2022

D. Histats Mosque

A mosque in Hitsats was shelled causing the complete destruction of it. As a result, the attack made it unable to give religious service and hence it is currently serving as an IDP site.

The mosque, which previously hosted prayers and cultural gatherings for thousands of refugees, was desecrated and left in disrepair. Instead of primarily serving Eritrean refugees, it now accommodates internally displaced Tigrayan worshippers, symbolizing both the continuity of faith and the profound disruption caused by the war. This change highlights how violence not only destroyed physical structures but also reshaped the social and religious landscape of the community.



The destruction of the Mosque, Hitsats, Asgede tsimbla
Source, CITG 2022

E. St. Mary's Zion Church of Adwa

St. Mary's Zion Church in Adwa town is one of the most ancient and spiritually significant religious sites in Tigray. This church has long served as a center for Orthodox Christian worship and heritage preservation. It used to hold important religious artifacts and sacred traditions that are vital to the identity and spiritual life of the local community.

On November 20, 2020 during the feast day of St. Yared, the church was subjected to a direct and deliberate military attack by Eritrean forces. The assault occurred around 5:00 a.m., when many congregants had gathered for the feast-day prayers. Without warning, the church was shelled multiple times using heavy weaponry. The resulting explosions caused catastrophic physical damage to the structures of the church including the sanctuary, walls, tin roof, doors, and many of the sacred items within the building. Members of the clergy also sustained serious physical injuries. Although not all were hit directly by gunfire, the concussive force of the explosions caused permanent damage. Some suffered partial hearing loss and physical paralysis due to the intense shockwaves and trauma. The attack was indiscriminate, occurring during a holy day service, clearly in the absence of any military targets.

Following the bombardment, community members were prohibited from accessing the church. This act not only restricted religious freedom but also signaled a deeper intent to sever the community's spiritual lifeline. The imposed ban on worship compounded the psychological trauma already inflicted by the violence and destruction.

The nature of the assault suggests that the attack on the church was not a collateral damage but a deliberate target. According to survivors and clergy, the intentions behind the attack included destroying not only the church as a physical structure but also the faith and resilience of the Tigrayan people. The attack aimed to "Undermine and destroy the fabric of society" a phrase capturing the intended erasure of religious, cultural, and communal life.

This assault on St. Mary's Zion Church reflects a broader pattern observed during the Tigray War, wherein religious institutions, regardless of denomination, were systematically attacked.

The broader impact of such attacks is profound. Churches and mosques not only serve religious purposes but are also guardians of cultural memory, morality, indigenous knowledge, and societal cohesion. The destruction of St. Mary's Zion, along with other similar attacks, was not just a blow to physical infrastructure but an assault on the spiritual and historical continuity of the Tigrayan people.

According to community testimonies, the motives behind such destruction were multilayered: to isolate people from their faith, to create a sense of despair and hopelessness, and to destroy the religious and cultural identity of the Tigrayan society. These acts aimed to dismantle the very foundation of Tigrayan resilience: its religion, history, culture, and collective spirit.

In summary, the attack on St. Mary's Zion Church exemplifies the cultural and spiritual warfare waged during the Tigray war. It demonstrates how religious heritage became a battlefield not just of bombs and bullets, but of identity, memory, and faith. The destruction serves as both a symbolic and literal loss, with effects that will reverberate for generations unless met with justice, restoration, and remembrance.

F. St. Kidane Mihret Gonai Daero Church

St. Kidane Mihret Gonaidaero Church is a deeply revered spiritual and cultural heritage site located in Gonaidaero village, part of Amdi Weyane Debre Haila in Samre Woreda,

Southeastern zone of Tigray. Situated among the highlands and encircled by olive and native trees, the church has long served as a serene and vital place of worship, reflection, and communal gathering for the local population.

Established in 1925, the church is a relatively modern structure but holds immense historical and religious significance. It was home to around 80 active parishioners and managed by a dedicated religious staff that included priests, deacons, and church servants. Known for its organized and vibrant spiritual life, the church hosted regular services and major religious festivals that attracted pilgrims from nearby villages. One of its most treasured possessions was an ancient parchment manuscript known as Negere Mariam, which tragically suffered partial burning during the recent war.

Before the War, the church thrived with robust community support. Local residents contributed labor for the church's daily upkeep, fetching water, preparing food, and safeguarding the compound. The church had also begun modernizing, symbolized by the acquisition of a solar-powered microphone system, indicating its balance between tradition and technological adaptation.

However, during the early stages of the war (February, 2021), the church became a direct victim of military operations involving both the Ethiopian National Defense Forces (ENDF) and the Eritrean Defense Forces (EDF). These troops entered the region from the direction of Dongolat and subsequently occupied the church compound, turning it into a military base for approximately three months.

The damage inflicted was extensive. The church's Deje Selam was punctured by shelling and rifle fire, and structural cracks appeared in the sanctuary walls. Sacred trees within the compound were shattered or uprooted by tanks or artillery fire. The historic Negere Mariam parchment manuscript was partially burned, and essential equipment, including the solar microphone system and items from the church's Enda Qabit (treasury), were looted.

Worse still was the desecration of sacred spaces. Soldiers entered the Bet Meqdes (Holy of Holies), tore down curtains, looted religious items, and even exhumed tombs in search of materials or hiding persons. The violation of the Bet Meqdes is considered one of the gravest sacrileges in Orthodox tradition. Grain, weapons, and military supplies were stored throughout the church compound, reducing the holy site to a logistical base.

For three consecutive months, all religious services were suspended. Parishioners were barred from entering the premises, and no one could access the Tabot, the spiritual heart of the church. This complete closure severed the lifeline of religious life in the community and constituted a deep rupture in Orthodox practice and continuity. The loss of spiritual access was as devastating as the physical destruction.

Local civilians who sought shelter in or near the church compound were also victimized. At least one individual a skilled builder from Zalambessa who had been working on the church's Bet Meqdes was killed during the occupation. Military forces accused religious staff of espionage and subjected them to violence, threats, and beatings. In one incident, an elderly church administrator was nearly executed inside the sanctuary before being spared at the last moment.

The use of St. Kidane Mihret Gonai daero Church as a military site not only violates international humanitarian laws, which protect religious institutions during armed war, but also represents a profound spiritual and cultural violation. Religious sites are protected spaces meant for peace, reflection, and sacred service not battlegrounds or supply depots.

The destruction of this church stands as a clear example of deliberate cultural erasure and spiritual desecration. Despite having no involvement in combat or politics, the church and its community were subjected to violence, theft, and profound humiliation. The structural devastation, looted relics, and suspended religious practices inflicted lasting psychological and cultural trauma on the local population.

This case illustrates the broader pattern of targeted heritage destruction during the Tigray War. St. Kidane Mihret Gonai daero Church is more than a building; it embodies generations of faith, tradition, and communal unity. The assault upon it is an assault upon the identity and dignity of its people. The gravity of this incident demands continued documentation, international accountability, and urgent plans for restoration and memorialization.

G. Qerts St. Maryam Andnet Gedam

Debre Kidusan Qersta St. Maryam Andnet Gedam (Monastery) is an ancient religious and cultural heritage site located in Quste Qeresta, Tabia Weyen, Samre Woreda, in the South Eastern Zone of Tigray, Ethiopia.

The monastery traces its origins back to the 6th century, making it one of the oldest and most historically significant monastic institutions in Tigray. It has served as a continuous center of Ethiopian Orthodox faith and cultural memory, preserving ancient parchment manuscripts, handmade crosses, and sacred relics of saints, each embodying the spiritual depth and resilience of the Tigrayan people.

Although the original church structure was destroyed centuries ago due to war and natural deterioration, a new church was constructed in 1974. This building, too, suffered from age and war but was reconstructed once again in 2012., demonstrating the devotion of the local community. The monastery remains a vital site of worship, cultural identity, and historical continuity, and stands as a symbol of endurance and communal faith amid centuries of upheaval.

Before the outbreak of war, Debre Kidusan Qersta St. Maryam Andnet Monastery functioned as a well-preserved religious and heritage institution deeply integrated into local life. Its operations were supported through traditional self-sufficiency, with farmland sustaining monks and religious leaders, and pilgrims contributing provisions during extended stays.

The surrounding community played a vital role in its upkeep. Residents routinely carried water from distant sources and provided materials and services. Religious followers from Mekelle regularly donated between 15 to 20 quintals of grain annually, in addition to other material support.

The monastery served as a spiritual and administrative center for about 300 households, supported by a religious staff of over 27 clergy members, including priests, deacons, and nuns. It was not only a site of prayer and ritual but also a living institution that preserved centuries-old sacred texts, monastic practices, and cultural values. At the onset of the Tigray War, Debre Kidusan Qersta St. Maryam Andnet Monastery was subjected to repeated, deliberate, and attacks by EDF and ENDF, in direct violation of international humanitarian law protecting cultural and religious heritage.

According to multiple eyewitness accounts, on February 18, 2021, the monastery was heavily bombarded from 2:00 AM to 8:00 AM with over 86 rounds of artillery shells and mortars, believed to be of Russian origin based on texts in the artillery and bombs. The intensity of the bombardment caused significant destruction to the church structure, surrounding trees, farmland, and sacred grounds. Although there were no immediate

casualties, local residents confirmed that had people been inside the church or residence at the time, mass casualties would have occurred.



Artillery bombs in the compound of the church Debre Kidusan Qersta St. Maryam Andnet Gedam (Monastery), Samre
Source, CITG 2022

Later that day, a military aircraft conducted a targeted bombing run that struck directly at the foot of the church, causing serious structural damage, cracking, fire, and partial collapse. The pilgrims' residence was completely burned, erasing an essential part of the monastery's infrastructure and displacing monks and visitors.

Residents also testified that heavily armed Eritrean soldiers advanced from Kacherwa, Maul, Qeyh Emba, and Seleste Euna, looting property, slaughtering livestock, and setting fire to structures near the site. One witness reported that the soldiers arrived carrying nine mortars, suggesting that the area was being used as a military firing position—an illegal act under the laws of armed war, which prohibit the use of cultural or religious institutions for military operations.

Local testimonies confirmed that no Tigrayan military forces were present in or around the monastery during the time of the attacks. The shelling and airstrikes took place during a period of religious fasting (the Fast of Nineveh), and clergy and worshippers had gathered for prayer. “We were inside the church during the fast. There was no fighting. Then the bombing started,” one monk recalled. “The aircraft came and struck

the church. The building was cracked, burned, and partly destroyed. Our journey was interrupted. The church was shaken and torn.”

Witnesses reported that the bombing occurred without Precaution. Some described the attacks as carried out by aircraft traditionally associated with Guji-based federal military units, further linking the action to ENDF command. Residents believe that the targeting was intentional, to destroy a symbol of Tigrayan identity and Orthodox Christian heritage.

These accounts contradict any military justification and point instead to a deliberate campaign of cultural destruction. The attacks on Debre Kidusan Qersta Monastery represent not only the destruction of a religious building but also an assault on the spiritual and historical identity of a people.

Repeated bombardment, aerial strikes, and militarization of Debre Kidusan Qersta St. Maryam Andnet Monastery constitute a grave violation of international humanitarian law, including the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed War. The monastery was a protected religious site with no military value, used solely for spiritual and community purposes.

The deliberate targeting and use of the site for launching attacks reveal a pattern of intentional destruction of Tigray’s religious and cultural infrastructure. Although partially rebuilt by the local community, the emotional, spiritual, and cultural losses are profound. This case serves as a clear example of war crimes against heritage and faith, a call for international recognition, documentation, and accountability.

H. St. Gabriel’s Shemle Church

St. Gabriel’s Church is located in Shemle village within the Atsbi Wenberta Wereda of Eastern Tigray. This historic site was targeted by both Eritrean Defense Forces (EDF) and Ethiopian National Defense Forces (ENDF), who changed the church into a military base, in a total violation of international humanitarian laws.

At St. Gabriel’s Church in Shemle, soldiers forcibly entered the sacred compound, opened the inner sanctum (Bethlehem), and used holy objects and spaces for non-religious purposes. The site was turned into a storage area for condoms and cigarettes. Acts of adultery were reportedly committed within the church grounds. Religious services were completely halted for over a month, cutting off the community from

baptism, funerals, and spiritual care. Older men and women were abused, and families were denied the right to bury their dead in accordance with religious customs.

Similarly, St. Gabriel Shemle Church was used as a military post, with four military fortresses established in its compound. Sacred relics such as manuscripts, crosses, and incense burners were desecrated. Soldiers violated the Bet Meqdes (Holy of Holies), traditionally reserved for priests, by entering with shoes and weapons, mocking religious chants, and defiling church property. Discarded condoms found in the church compound strongly suggest sexual misconduct or assault.

Religious services were suspended for approximately one month. Priests attempting to hold services were mocked, threatened, and accused of supporting opposition groups. Looting was widespread, and cultural rituals such as Hurra Seleste, a public festivity that is popular at Christmas, were disrupted. The destruction of these churches was a calculated attack on the religious, cultural, and psychological identity of the Tigrayan people, representing not just war crimes but acts of cultural genocide.

I. Endayesus Qenchebit Church

Endayesus Qenchebit Church, located in Qenchebit village of Atsbi Wenberta Wereda, also suffered extensive damage and desecration during the occupation by EDF and ENDF forces. The church was used as a military base, with three fortresses constructed within its compound. Soldiers entered the church with shoes and guns, forcibly breaching sacred spaces and disrespecting religious artifacts.

Female soldiers violated gender restrictions by entering the Holy of Holies, mocking religious rites and attempting to imitate sacred singing. A nun from the church was detained and insulted, accused of politics. Smoking and the careless disposal of cigarette butts within the church premises were common.

Church services were forcibly suspended for two weeks. Holy books were looted or destroyed, and a rare manuscript believed to date back to the 4th century was stolen. The cumulative effect of these actions included spiritual trauma, community demoralization, and a deep sense of cultural and religious violation.

The desecration of Endayesus Qenchebit Church was not incidental but part of a systematic strategy to erase Tigrayan religious and cultural identity. The crimes

committed at this site echo a larger pattern of heritage destruction and community intimidation.

According to the data, the perpetrators have used the holy vestments as ordinary cloth and the Churchyard as a residence. This unusual act has been done in the Churches. Besides, the holy vestments were used for the cover of the soldiers' and the mates of the churches for sleeping and some of them were taken by the soldiers from the church.

They used the compound of the church as a temporary military camp. They assembled seven fortresses in the compound of the church. They slaughter goats that are taken from the local farmers inside the church compound. They totally ceased any service in the church other than their own military campaign. They shoot innocent people who were trying to pass near the church road using the compound fortresses. Besides, they threw the church treasures out of their usual store and took some of them.



The destruction of church treasures of Endayesus Qenchabit, Atsbi
Source, CITG 2022

Any kind of church services was totally terminated and depended on the will of the perpetrators. It was completely terminated for a month. While asking the priests for church services (for some holidays like Epiphany) they hit them by the edge of the books and they insult them. The perpetrators also said “Do you want to pray for the deceased Weyane or for yourself?” The data at hand shows us that the mass community was entirely out of the church services.

Therefore, celebration of feasts and festivals were completely prohibited by the actors of transgression to stop any service in the church.

Many church treasures were looted and destroyed. For example, in the church Endayesus Qenchebet more than eight holy books were taken from inside and thrown at the church yard. The other three mats were looted. One old holy book [dates to the 4th century] was looted by the perpetrators from the church.

J. St. Gabriel Qeyh Emba Church of Samre

St. Gabriel Qeyh Emba Church, located in Keih Emba Village, Nebar Hadnet Tabia, Samre Woreda in the South Eastern Zone of Tigray, was established in 2000 . The church was founded by a committed group of over 100 household heads from the villages of Qeyh Emba and Mekerere, under the leadership of local elders and priests. Its establishment was driven by a practical need: the existing church in the area was too distant for regular access, especially for the elderly and families with limited mobility. As a result, the farming community came together to create a new place of worship closer to their homes. St. Gabriel Qeyh Emba Church soon became a vital spiritual and cultural center for the local population, deeply rooted in communal values and self-reliance.

St. Gabriel Qeyh Emba Church was established as a direct response to the needs of local farmers who had no nearby place of worship. Driven by communal effort and sustained by the parish council (comprising local elders, priests, and dedicated parishioners), the church quickly became a central hub for spiritual, social, and cultural life.

Before the war, the church was renowned for its vibrant ministry and active participation from the community: It was served by 12 dedicated priests, the congregation consisted of roughly 100 households, its annual budget averaged about 50,000 birr, largely supported by contributions in the form of grain taxes (Dikala Gibri) and other offerings amounting to over 15 quintals. The church played an indispensable role in preserving community values and religious traditions in the region.

On February 24, 2021, ENDF soldiers entered Qeyh Emba village via the Sokota line and initiated an incursion that led to the widespread plundering and desecration of the church offerings preserved over two to three years including coin savings, religious

artifacts, offertory barrels, ceremonial utensils, and grain tax deposits were systematically looted. The structural integrity of the church was compromised: its mortar walls were torn down, causing damage valued at over 200,000 birr. Valuable items such as phones, metal containers, and other objects were also stolen.

On March 10, 2021, the situation worsened when Eritrean Defense Forces joined the incursion and set up a camp within the church compound. The sanctified spaces, notably the sanctuary (Deje Selam), were repurposed as: A military hospital for treating war injuries and an operational base where the site was used as a kitchen, slaughterhouse, bakery, and mess hall. The compound was desecrated with evidence of sexual misconduct—used condoms and hygiene products were found, alongside other forms of debris, including military paraphernalia, food packaging, and remnants of torn uniforms.

Religious services were suspended for more than three months. Forced military occupation prevented the community from accessing their church, compelling local mothers to seek alternative locations for essential sacraments such as baptisms—thereby causing significant disruption to community and religious life

The events at St. Gabriel Qeyh Emba Church exemplify a deliberate campaign of cultural and religious desecration during the Tigray war. The systematic looting, destruction, and militarization of this sacred site not only inflicted severe material losses but also inflicted long-lasting emotional and spiritual trauma on the community. The transformation of a holy sanctuary into a military camp and hospital represents a blatant violation of international humanitarian law, which mandates the protection of religious and cultural heritage during armed war.

This case stands as a poignant reminder of the targeted assaults against faith-based institutions, calling for urgent international recognition, accountability, and support for restoration efforts. Rebuilding the physical structure, while essential, must also address the deep scars left on the community's collective memory and identity. The resilience of the community in sustaining their heritage, despite such profound losses, offers hope for future recovery and the preservation of their cultural legacy.

K. St. Mary Abatila Church of Samre

St. Mary Abatila Church is an ancient and revered religious institution located in Keih Emba Village, within Nebar Hadnet Tabia, Samre Woreda, in the South Eastern Zone of Tigray, Ethiopia. Established around 418 A.D., the church stands as one of the oldest Christian worship sites in the region, serving as a spiritual center for generations of Tigrayan and Agew communities. Perched on a hill overlooking the northern edge of Keih Emba, the church is surrounded by rugged terrain to the east and west, with a descending plain stretching southward. The church is uniquely positioned in a culturally rich and linguistically diverse area where both Tigrigna and Agew languages are spoken. It serves a scattered population of about 80–90 peasant households, who rely on the site not only for religious worship but also for preserving cultural identity and hosting key life-cycle rituals such as baptisms, weddings, and funerals. With its deep historical roots and enduring role in community life, St. Mary Abatila Church is a vital component of the region's spiritual and cultural heritage.

During the war on Tigray, St. Mary Abatila Church suffered grave violations at the hands of both the Ethiopian National Defense Forces (ENDF) and Eritrean forces (EDF). The ENDF occupied the site between February 25 and 29, 2021, followed by Eritrean forces who camped at the church on March 12, 2021. During these occupations, the church was desecrated and transformed into a military post. Sacred spaces were used as kitchens and stoves, and food was prepared and consumed in areas traditionally reserved for worship. In addition, soldiers-built bunkers over the church graveyard and used the compound in profane ways, including the slaughter of animals within the holy grounds.

The spiritual functions of the church were entirely suspended for eight months, during which the local faithful were denied access to worship. Children were prevented from being baptized in their home church, and regular religious services were halted. This prolonged disruption caused deep psychological trauma within the community. The church was further defiled by littering, including large amounts of cigarette butts and used condoms, which were found scattered across the compound.

Both ENDF and ENF forces looted the church at different times, stealing from the treasury and confiscating valuable religious items. Although the full extent of the looting is yet to be documented, local witnesses confirm that the church was robbed of

essential resources and sacred materials. The destruction, theft, and prolonged closure of the site have not only violated religious rights but also disrupted cultural continuity and inflicted long-term harm on the religious and social fabric of the local population.

The desecration and militarization of St. Mary Abatila Church represent a severe breach of international humanitarian law, religious freedom, and cultural heritage protection. The deliberate targeting of a centuries-old place of worship used as a military base, looted by multiple armed forces, and defiled in unspeakable ways has caused enduring trauma to the community it once served. This case stands as a stark example of cultural and spiritual erasure during armed war, and it demands urgent recognition, documentation, and accountability to restore dignity to the site and justice for the affected population.

L. St. Mary Magdalawit Debredenagil Gedam Adi Giba

St. Mary Magdalene Mount Virgin Monastery (Adi Gba) is a historic religious heritage site located in Amdi Weyane Debre Haila Village, Samre Woreda, and South Eastern Zone of Tigray. The monastery is geographically situated at Northing (N): 1464995 and Easting (E): 0529741, at an elevation of 2274 meters above sea level. It is believed to have been established around 365 A.D., making it one of the oldest Christian monastic institutions in the region.

St. Mary Magdalawit Debredenagil Gedam Adi Giba (Monastery Adi Gba) is one of the ancient and sacred religious sites in the Samre area. Located along the road between Mekelle and Samre, it is nestled within a mountainous terrain, bordered by highlands to the west and north. The monastery is a spiritual hub for the surrounding communities composed of approximately 150 farming households. These communities, rooted in the Degua highland culture, maintain strong social ties and uphold traditional Tigrayan values of mutual support in times of joy and sorrow.

During the war on Tigray, the site became a target of desecration and military occupation. On March 21, 2021, Eritrean Defense Forces (commonly referred to as Shaebia) forcibly entered and occupied the monastery. The monastery and its surrounding compound were converted into a military barracks and bunker. The following atrocities and acts of cultural and religious violation were documented:

Occupation and Desecration: The church compound was turned into a military camp and defensive bunker, the building was used as a kitchen, slaughterhouse, and military shelter, sacred grounds were desecrated with widespread littering, including cigarette butts, food packaging, and used condoms, women, including female companions of soldiers, were seen inside the church laughing and joking an egregious violation of religious norms, as women are traditionally prohibited from entering this sacred monastery.

Obstruction of Religious Practices: Church services were suspended for over a month, baptisms and funerals were prevented, disrupting key religious rites and community traditions, worshippers were denied access to the church, with some being turned away or threatened.

Theft and Destruction of Property: Approximately 10 quintals of Dikala offerings, 6 quintals of brush, 15 quintals of rice, solar microphones, lamps, and a hand cross from Dege Selam were stolen., around 95,000 Ethiopian birr worth of firewood belonging to the church was burned by the occupying forces and the church's construction and maintenance projects were forcibly halted.

The invasion caused significant physical and emotional harm to the site and community. Several unexploded ordnances (rockets) were left around the church compound, posing a continued threat, construction of the church building was stopped, and existing structures were damaged. Besides, deep spiritual trauma and cultural desecration were inflicted on the community through violations of sacred practices and spaces

All aforementioned acts of destruction, desecration, and occupation were committed by Eritrean Defense Forces, according to survivor accounts and local testimony.

The occupation and misuse of St. Mary Magdalawit Debredenagil Gedam Adi Giba (Monastery Adi Gba) represent a grave violation of international humanitarian norms and ecclesiastical law. The deliberate targeting of a centuries-old sacred site, the prevention of religious practices, the destruction of religious artifacts, and the use of the compound for profane purposes constitute not only war crimes but also cultural and spiritual devastation. Documentation and accountability are vital to preserve the memory of this site and ensure justice for the affected communities.

M. Al-Nejashi Mosque of Negash

The Negash Mosque is located near Wukro town situated within the Eastern Zone of the Tigray Region. These sites hold immense religious, cultural, and historical significance for the Muslim community in Tigray. Collectively, they represent some of the oldest and most revered Islamic heritage landmarks in the region, serving as centers for worship, community gathering, and the preservation of centuries-old traditions.

The Al-Nejashi Mosque stands as one of Tigray's most significant Islamic heritage sites, deeply embedded in both regional and Islamic history. Founded in 612 CE, it holds the distinction of being the first mosque built in Africa and the second oldest in the world. The mosque was established by early followers of the Prophet Muhammad who fled persecution in Mecca and sought refuge in the Aksumite Kingdom. Among these early refugees were the Prophet's daughter Ruqayyaa and her husband Uthman. The mosque, built with the consent of the Negus of Aksum, Armah (Ashama ibn Abjar), contains tombs of 15 companions of the Prophet, making it a sacred site for the Muslim community. Additional historic mosques across Tigray, including those in Nebelet, Adigrat, and other towns, similarly represent vital centers of religious practice and cultural identity for Tigrayan Muslims.

Between late 2020 and early 2021, during the ongoing war on Tigray, Al-Nejashi Mosque was severely damaged by EDF and ENDF. The main building and minaret, foundational elements of the mosque with centuries-old heritage despite repeated restorations, were directly struck by artillery fire. Reports from local communities confirm that by the time Eritrean and Ethiopian troops approached Wukro, Tigrayan fighters had already withdrawn, and no defensive actions were undertaken by the residents. Despite this, the mosque compound was extensively looted by Eritrean troops, with artifacts including ancient religious manuscripts, books, and letters dating back to the 7th century stolen or destroyed. Other critical infrastructure within the mosque complex—such as offices, halls, a cafeteria, storage facilities, the fence, and a shrine housing the remains of followers of the Prophet Muhammad—sustained serious damage.



The destruction of Al-Nejashi Mosque, Negash town
Source, CITG 2022

Similarly, several historic mosques in Nebelet, Adigrat, and surrounding towns suffered attacks. In one notable incident, Eritrean soldiers entered a mosque near Nebelet, executed two brothers who were its guardians, looted valuables, and inflicted heavy structural damage using artillery and other weapons. Multiple mosques, including Mosque Jemaa, Adisalem Mosque, Mekayh Mosque, Krawele Mosque, Anwar Mosque, Abeb Krasdeqi Mosque, Adiaboy Kibreali, Awge Mosque, and Kalid Eban Weldi Mosque, were similarly damaged, with Quranic texts, drums, and other religious artifacts looted or destroyed. These attacks not only devastated physical structures but also inflicted profound spiritual and cultural trauma on the Muslim communities of Tigray.

Available testimonies and reports attribute these acts to Eritrean Defense Forces (EDF) and Ethiopian National Defense Forces (ENDF). The deliberate nature of the destruction and looting, alongside the strategic use of artillery and direct executions of mosque guardians, reflect a coordinated campaign by these forces during the military offensive in Tigray.

The Al-Nejashi Mosque and other historic mosques of Tigray are not only places of worship but also living symbols of the Muslim community's enduring history, faith, and cultural identity. The Al-Nejashi Mosque, in particular, represents one of the earliest physical embodiments of Islam outside the Arabian Peninsula and stands as a testament

to centuries of religious continuity and cultural exchange. These sites function as spiritual centers and custodians of sacred texts, traditions, and communal memory, integral to social cohesion and identity among Tigrayan Muslims.

The destruction and looting of these religious sites constitute war crimes under international law. The Rome Statute explicitly criminalizes intentional attacks against buildings dedicated to religion and historical monuments (Article 8(2) (e) (IV)). International conventions, including the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed War and its protocols, also emphasize the protection of cultural and religious heritage during armed war. The Pre-Trial Chamber of the International Criminal Court recently reaffirmed these protections in cases involving deliberate destruction of religious and cultural heritage. The attacks on Al-Nejashi and other mosques occurred amidst active armed war on Tigray, establishing the necessary nexus for these actions to be prosecuted as war crimes.

Community elders and representatives of the International Association of Muslims in Tigray have provided detailed accounts of the devastation. One elder described the extensive looting of manuscripts and the damage to mosque infrastructure, while Ahmed Siraj, a regional Muslim association representative, reported that Eritrean soldiers killed civilians attempting to prevent the pillaging. The killing of two mosque guardians near Nebelet and the subsequent desecration of the mosque exemplify the brutality of these assaults.

The attacks on Al-Nejashi Mosque and other historic mosques in Tigray are clear violations of international humanitarian law and represent a targeted assault on the religious and cultural heritage of Tigrayan Muslims. These acts not only caused irreparable damage to invaluable historical monuments but also inflicted deep psychological wounds on the affected communities. Upholding justice for these crimes is essential to preserving cultural heritage, fostering reconciliation, and ensuring accountability for war crimes committed during the war on Tigray.

N. Abune Abraham Debre Tsion Rock-hewn Church

The church of Abune Abraham is one of the largest and architecturally the most remarkable rock hewn churches of Gheralta. It is located in Kite Awla'elo district about 4 km South of Degum.

Moreover, its interior (domes, wall panels and the back walls of the holy of holies is abundantly decorated with astonishing paintings and carvings of Saints, Angels, Apostles, and geometric designs dated back to 14th /15th century AD. The survey that has been carried out in the church shows that; all sides of the church building underwent major damage. According to the locals, it was shelled twice on 24th November 2020 and 7th December 2020 by EDF and ENDF respectively. The repeated attacks (bombed 12 times) to the church's building have resulted to the cracks and fractures of the structure.



The north façade of Debretsion rock-hewn church and its damages, Debretsion, Gherealta
Source, CITG 2022

The burials near the church's building, Bet Mahber (a house where baptism activity took place) and the church museum (along with its showcases, manuscript collections and ecclesiastical objects) all situated within the churchyard has also been damaged at the same event.

O. Mekane Sema'et FireDashen Qirqos church

It is located in Gulo Mekeda's administrative district, on a flat plain, surrounded by valleys and gorges. On January 2021, the church was attacked by the Eritrean defense forces. Thus, its doors and top parts of the church have been severely damaged. All the church treasures were also burned and destroyed by the shelling and its wooden window is fired.



Damage of Mekane Sema'et FireDashen Qirqos church, Gulomakeda
Source, CITG 2022

The damage and loss documented in the FireDashn cheroqs church was among the most severely damaged religious sites in eastern Tigray. The local communities and religious leaders of the church witnessed that more than 50 artillery shells and most of them target on the church were bombarded. The bombardment killed innocent civilians and priests alongside the church destruction. As shown in the above manuscripts, crosses, religious vestments, and other precious treasures were fired and then looted. The monkey head structure built of wood is burned and changed to ash.

The local informants assured that the Eritrean Defense Forces were allegedly responsible for both the destruction and killing of civilians.

P. Debrehiwet Ligat Qiorqos church

The church of Debre Hiwot St.Qirqos is located in the district of Gulo-Makeda. The church preserves historical and archaeological materials such as two stone objects (fig. 5), possibly dated to Aksumite times. Ligat is also known for manuscript-making traditions, for about 150 years.

The recent war has left unprecedented damage that threatens the sustainability of the church. The church compound was attacked by artillery shelling on November 19-21, 2020, and its ecclesiastical objects and manuscripts were burned. The North and West sides of the historic church building and its roof have collapsed. Over twenty-five (25) old manuscripts, fifteen (15) printed holy books and church umbrellas were burned due to the shelling (present vicar of the Church and local informants).

The destruction of the church is documented twice by the Eritrean Defence Forces. The first destruction was during the Ethiopian-Eritrean war (1998-2000) and during the Tigray (19-21 November, 2020). During the war it was shelled five times by heavy weapons. Thus, the church wall structure was damaged and an immense number of religious manuscripts and collections were damaged and burned.

The local informants attested that the destruction of the church is beyond damage; it is to suppress the Tigray heritages near the contested border. As a result, a deep grief in the community of the area happened.



Destruction of the physical building and its church treasures, Debre Hiwot St. Qirqos Gulomakeda.
Source, CITG 2022

Q. Debre Medhanit Amanuel Maego Church

This is a church built close to the well-known historical mosque of Al Nejash , situated on the apex of a steep hill. It is found in Wereda KiltAwlaelo of the Eastern zone of Tigray. During the two-day intensive fighting (from November 24th - 25th, 2020) between the warring parties, the church was attacked and collapsed. More than seventeen tank bombs were shelled in the church and its surrounding (local informants). The church building and its associated ecclesiastical objects were totally damaged.). As a result, the roof of the church has been destroyed, and its church treasures and liturgical objects (such as, Ta'amre Maryam, Ta'amre Eyesus, Dersane Mika'el and Senksar) have burned.



Destruction of the church Amanuel Maego, Kilte Awlaelo
Source, CITG 2022

R. Egri Qeran Qeddus Mika'el Church

This is a church built dedicated to St. Michael which is located in the Kilte Awla'elo district of Eastern Tigray, along the Adigrat-Mekelle main road. Possibly Aksumite period archaeological evidence such as stone rubbles, grinding and polishing stones, skeletal remains, and ceramics found within the churchyard.

On the 23th of November 2020, an intensive fight had taken place between the Ethiopian National Defense Forces (ENDF), Eritrean Defense Forces and Tigray combatants, near the church compound. During the fighting, there was a frequent shelling of heavy artillery by the Eritrean Defense Forces (Informants); as a result, the integrity of the archaeological context of the site is identified to be disturbed. The church building was fractured (the northern and southern wall), and its roof has partly collapsed, plus other sections of the church such as Bet Mahber have also been adversely attacked.



Destruction of Egri Qeran Qeddus Mika'el Church, Kilte Awlaelo
Source, CITG 2022

S. Killing of Religious Leaders at Zalambessa

Zalambessa town and its surrounding villages Husta, Adihaqi, and Terqe in Eastern Tigray have long stood as strongholds of Orthodox Christian faith and tradition. These communities settled within the kebeles of Zalambessa, Marta, and Addis Tesfa, are inhabited by farmers, artisans, elders, and, most importantly, religious leaders who serve as cultural and spiritual leaders of the people. The Orthodox Christian clergy in these areas are far more than ceremonial figures; they are bearers of centuries old oral traditions, guardians of moral guidance, and key facilitators of sacred rites, especially those related to mourning, burial, and ancestral remembrance. Within these communities, the priesthood is not only a spiritual calling but also a sacred institution entrusted with preserving intergenerational memory and identity.

Between 13 November 2020 and January 2021, Zalambessa and its surrounding villages came under brutal coordinated assault by Ethiopian National Defense Forces (ENDF) and Eritrean Defense Forces locally known as Shaebiya. These attacks were characterized by indiscriminate killings, artillery bombardments, and widespread destruction of civilian infrastructure. Particularly harrowing was the systematic targeting of civilians, including the elderly, women, children, and religious leaders. Soldiers moved door to door executing residents, looting properties, slaughtering livestock, and denying families the right to bury their dead. Testimonies recount the horror of children left alone with the corpses of their

parents, unburied bodies ravaged by scavengers, and families forced to bury loved ones inside their homes, violations that struck at the very core of cultural and religious life.

Among the 86 documented civilian victims, at least nine were ordained Orthodox priests. These priests were not killed accidentally or in crossfire; rather, they were deliberately sought out and murdered in the midst of performing religious duties. The known victims include:

Priest Gebre Tesfay, who was shot while reading the Bible aloud during morning prayers, Priest Gebretsadik G/Selassie, executed during an attack on his home, Priest Esayas Haile and his wife Mebrhite Hailu, killed in their home in front of their children; their daughter, shot while carrying her infant brother, survived but remains traumatized, Priest Hagos Tesfahiwot and Priest Ermias G/Selassie, both killed while serving their congregations, and four additional priests, whose names remain unconfirmed due to mass displacement and the chaotic aftermath of the attacks.

Witnesses describe the intended nature of these killings. Priests were not only executed but sometimes left unburied or buried improperly due to fear of further violence. In some instances, their bodies were desecrated or left alongside slaughtered animals. The symbolism of these acts cannot be overstated by murdering the priests, the attackers aimed to destroy the spiritual spine of the community.

The role of priests in Tigrayan society is multifaceted. They conduct essential funeral rites, provide spiritual instruction, lead communal rituals, preserve oral religious narratives, and often act as mediators in times of social war. Their absence paralyzed the spiritual life of Zalambessa. Churches were left empty. Sacred liturgies and funerals were suspended. Mourning families were left without guidance. The damage extended far beyond physical loss; it marked the rupture of a century's old spiritual lineage.

Testimonies from survivors reveal the depth of emotional trauma inflicted. One resident recounted, "They killed priests while they were reading the Bible... They didn't even let us bury our dead." The daughter of Priest Esayas Haile shared her haunting memory: "My father was shot with my mother. They thought I was dead too. I still hear the gunfire in my dreams."

These personal stories echo across the villages, illustrating the psychological and spiritual crisis left in the wake of the attacks.

The broader cultural impact is severe. The loss of ordained priests created a spiritual vacuum: churches stood without leadership, religious holidays passed unobserved, and children lost access to moral education. The oral teachings and liturgical knowledge that priests carried passed down for generations have been silenced. Community members, especially the youth, now face a spiritual disorientation that threatens the continuity of Tigrayan cultural identity.

The deliberate execution of religious leaders in Zalambessa constitutes not merely a violation of humanitarian law, but a clear act of cultural genocide. These were not random killings; they were calculated moves aimed at dismantling the institutions that hold the Tigrayan community together. The priests of Zalambessa represented memory, resilience, and identity. Their targeted deaths were meant to sever the threads that tie the people to their spiritual past and cultural future.

In conclusion, the atrocities committed in Zalambessa highlight the devastating intersection of war crimes and cultural destruction. The killing of priests was both a physical assault and a symbolic annihilation. It left communities bereft not only of their leaders but of the spiritual language that once united them. Any process of justice, reconciliation, or heritage restoration in Tigray must begin with the acknowledgment of this loss and the honoring of these spiritual martyrs whose absence continues to echo through the hollowed churches and haunted hearts of their people.

In summary, religious institutions in Tigray churches, mosques, and monasteries are deeply rooted in the region's historical and cultural consciousness. They serve not only as places of worship but as custodians of spiritual tradition, communal identity, and centuries-old heritage. During the Tigray War, these sacred spaces were not spared. Instead, they became deliberate targets of violence, desecration, looting, and military occupation by invading forces, primarily the Ethiopian National Defense Forces (ENDF), Eritrean Defense Forces (EDF), and associated local militias. The attacks on religious sites were not isolated acts of war but part of a broader strategy of cultural and spiritual erasure.

Field data, testimonies, and photographic evidence document extensive violations of religious sanctity. Churches were shelled during prayer services, priests and monks were executed or beaten, and access to sacred rituals was denied. In many cases, the Holy of Holies (Bet Meqdes) was forcibly entered by soldiers wearing shoes and carrying weapons, acts strictly forbidden in Orthodox tradition. Female military personnel were reported

entering sacred spaces barred to them by ecclesiastical law, mocking church services, and in some cases using the compounds for sexual acts or abuse. The desecration of tombs, burning of ancient manuscripts, and looting of religious artifacts all point to a pattern of cultural violence that goes far beyond incidental war damage.

The use of religious compounds as military bases often involving the storage of weapons, slaughter of livestock, and occupation by troops transformed sacred grounds into arenas of psychological and physical torment. Communities that relied on these institutions for moral guidance, spiritual comfort, and social unity were abruptly severed from them. Religious services such as baptisms, funerals, and holy day celebrations were suspended for weeks or months. The inability to bury the dead or conduct prayers violated not just religious law, but basic human dignity.

What emerges from the accounts is the deliberate nature of these attacks. The religious identity of Tigrayans, deeply intertwined with their heritage and language, became a prime target in an attempt to weaken the morale and identity of the population. Looting was not random; smaller sacred items were taken by individual soldiers, while larger or more valuable religious objects were removed under military supervision, likely for trafficking or ideological destruction. This systematic pattern underscores the ideological intent behind these crimes, one that aligns with the broader patterns of ethnic targeting, forced displacement, and cultural genocide reported by multiple international observers.

The implications of these acts are profound. Religious heritage, especially in rural Tigray, functions as a stabilizing and unifying force. Its destruction destabilizes communities, erodes collective memory, and inflicts long-term psychological trauma. The killing of clergy, the looting of irreplaceable sacred texts and the profaning of sanctuaries constitute not only violations of international humanitarian law (including the 1954 Hague Convention) but also moral crimes that cut to the soul of a people.

In sum, the targeted destruction of religious institutions during the Tigray War was not collateral; it was intentional. These acts were intended to fragment the spiritual backbone of Tigrayan society, erase its historical legacy, and create a future severed from its sacred past. Restoration of these sites, both materially and spiritually, must be a key component of post-war recovery, and justice must be pursued for the communities whose faith and identity were so profoundly violated.

The major findings in Transgression/violation of Church Order are

Entering the Church with Shoes and Guns, Abuse of Church Purpose, Churches Used as Ambush Points, Utilizing Churches for Acts of Sexual Violence, Killing of Religious elders, Profane and Waste of Holy Vestments, Disruption of Church Services, Disrespect of Religious institution and religious leaders, Arrest and Maltreatment of Religious leaders, Brutal Killing of Religious leaders and Civilian and Physical Grievance of religious leaders

Damage of Church and loss of clergies

According to the report of Orthodox Church of Tigray in May, 2021, More than 292 orthodox Churches have been partially and fully damaged. 14 of the damaged churches are monasteries. More than 121 churches have faced transgression order and Destruction of 26 monastic houses.

Fourteen (14) manuscripts are burned; 326 crosses are looted. They were made up of gold, silver, marble and bronze, 380 halos are damaged, 30 quintals of linseed, 30 quintals of sesame and 100 quintals of Qwarf (monks' special food) looted. More than 5347 big and small size sacred objects looted and vandalized

More than 1052 clergies have been massacred and been killed, from 1472 of the women religious members' respondents 383 of them are victims of rape and gang rape, two monks have been killed and 4055 clergies are physically injured. Destruction of clergy's houses so far discovered

The main impact of religious institution damage and disruption to religious services in Tigray is:

Social cohesion & community trust erode: *Religious institutions in crises are core hubs for information, mutual aid, and war mediation; when they go offline, preparedness, trust, and social connectedness decline, undermining recovery and resilience.*

Psychosocial harm increases: *Religious rites, gatherings, and leaders are major coping resources after collective trauma; interruption is linked with worse mental-health outcomes and fewer first-line supports for grief, anxiety, and distress.*

Weaker welfare/safety nets: *Churches and mosques in Ethiopia especially in Tigray commonly organize almsgiving, food sharing, burial societies, and support for*

widows/orphans; when curtailed, vulnerable households lose informal social protection that formal systems struggle to replace.

Fragmentation within religious governance: the war period fed divisions and politicization in the church, hampering unified pastoral outreach and reconciliation work; division slows restoration of services and trust.

Knock-on effects for health & education: where religious institutions host education and health messaging, disruptions hinder service uptake (e.g., vaccinations, TB care, and schooling) and community health and education communication problems already acute given the destruction of health and school facilities during the war.

Damage to Tigray Linguistics and Identity

The war on Tigray has caused significant damage to Tigray's linguistic heritage and cultural identity. Tigrigna language resources, including books and manuscripts, were destroyed or displaced, undermining the preservation of indigenous knowledge. Place names were changed from Tigrigna to other languages, eroding historical and cultural continuity. Even identity documents were altered, replacing "Tigray" with other ethnic or regional affiliations, weakening the collective sense of belonging. These assaults on language and identity represent not only material loss but also an attempt to dismantle the cultural foundations of Tigrayan society.

Damage to Tigray Linguistic Educational books and their damage type

The war on Tigray has caused significant damage to educational books in Tigrigna, Ge'ez, Kunama, and Irob, disrupting learning and threatening the preservation of linguistic and cultural knowledge among students and communities (Figure 25).

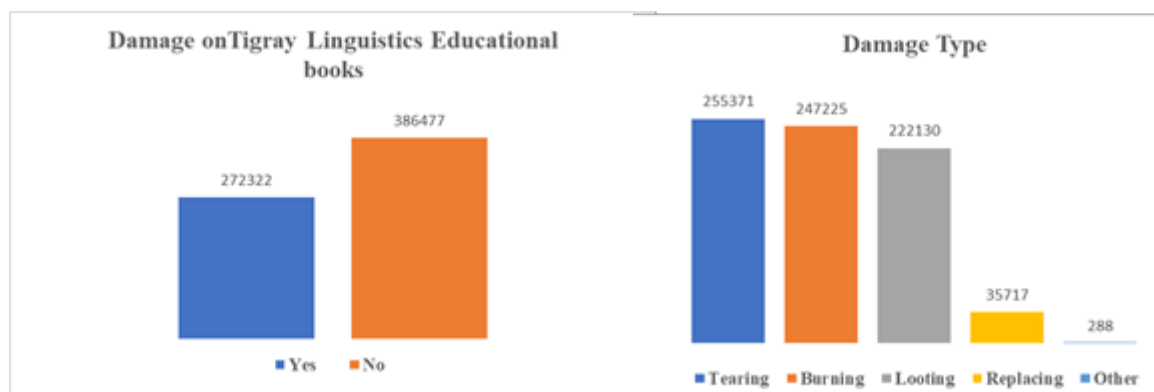


Figure 25. Damage on Tigray Linguistic Educational books and its damage type.
Source: CITG survey, 2022.

The war on Tigray has inflicted severe damage on linguistic educational materials, including books in Tigrigna, Ge'ez, Kunama, and Irob. The destruction took multiple forms, each varying in frequency and impact.

Tearing of books was widespread, rendering texts partially or wholly unusable for students and teachers. Burning caused total loss in many cases, destroying rare and irreplaceable volumes. Looting resulted in the disappearance of textbooks and manuscripts, depriving schools and communities of essential learning resources. Replacing books, although attempted in some areas, was limited and often inadequate to restore the lost linguistic and educational content

Damage to Tigray Linguistic non-educational books and their damage type

The war on Tigray has severely damaged linguistic heritage, including books and manuscripts in Tigrigna, Ge'ez, Kunama, and Irob. These texts, which preserve language, literature, history, and cultural identity, have been looted, destroyed, or displaced, threatening the continuity of intergenerational knowledge and the survival of minority languages (Figure 26).

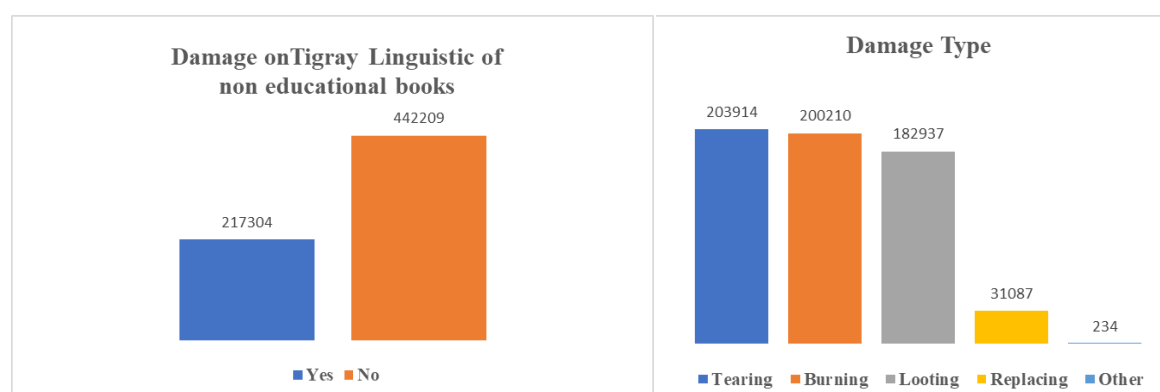


Figure 26. respond to the existence of Damage on Tigray Linguistic non educational books and the damaged quantity with its damage type.
Source: CITG survey, 2022.

The war on Tigray caused extensive damage to non-educational books in Tigrigna, Ge'ez, Kunama, and Irob, including literature, historical manuscripts, religious texts, and cultural writings. The types of damage varied in severity and frequency.

Tearing was common, leaving many texts partially destroyed and unreadable. Burning led to total loss of rare and irreplaceable works. Looting removed books entirely from communities, often for sale or personal gain. Replacement was minimal, limited by insecurity and scarcity, leaving long-term gaps in the preservation of linguistic and cultural heritage.

The cumulative effects of tearing, burning, looting, and limited replacement have severely undermined the preservation of Tigray's linguistic and cultural heritage. Communities lost access to historical, literary, and spiritual knowledge embedded in these texts, threatening intergenerational transmission of language, culture, and identity. The damage has both immediate and long-term consequences for cultural resilience and the continuity of minority languages.

Area Nomenclature Change and Effect

The war on Tigray has also affected the nomenclature of areas, with many place names originally in Tigrigna being altered or replaced with names in other languages (Figure 27). Such changes disrupt historical continuity, erase cultural identity, and weaken the connection of communities to their ancestral lands.

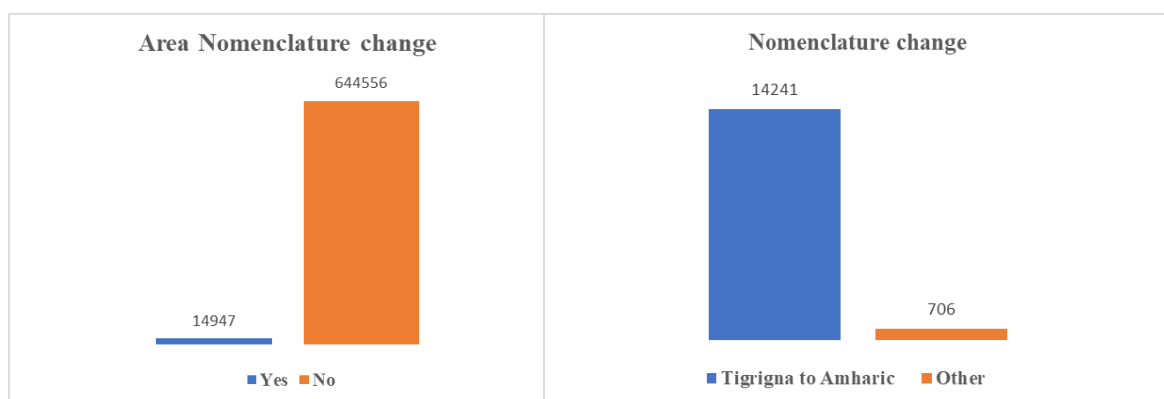


Figure 27. Area Nomenclature change and Effect.
Source: CITG survey, 2022.

During the war on Tigray, many towns, villages, and landmarks originally named in Tigrigna have been renamed in Amharic and to other languages of Afar and Eritrea. This practice has altered historical and cultural identifiers, erasing centuries-old place names that carry local heritage, memory, and community identity.

The renaming not only creates confusion in administrative records and maps but also undermines the sense of belonging and historical continuity for the local population. By replacing indigenous names, the process disrupts the symbolic connection between people and their ancestral lands, weakening the cultural landscape of the region

Change of Identity Card and Effect

The war on Tigray has led to the alteration of identity cards (Figure 28), with personal information originally recorded in Tigrigna being changed to Amhara, Afar and Eritrea. This practice affects individual identity recognition, creates administrative confusion, and undermines the cultural and linguistic heritage of Tigray's population.

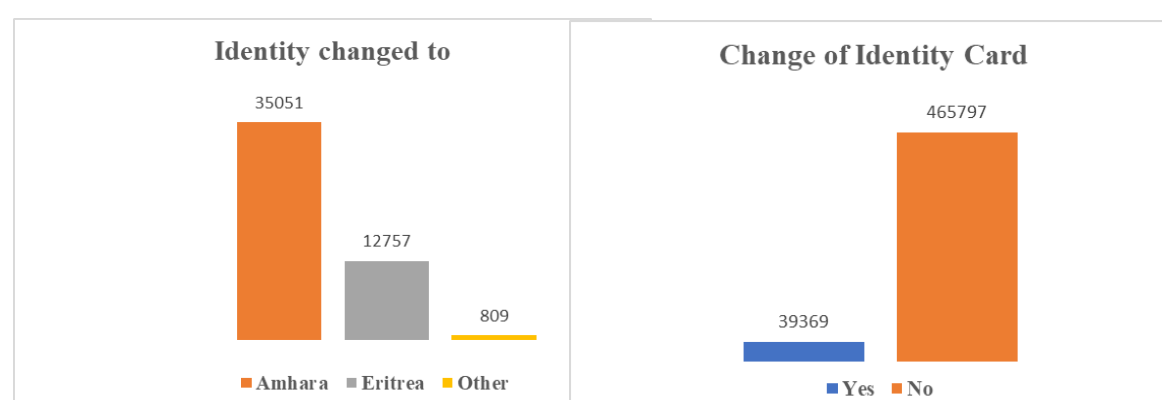


Figure 28. Shows the Change of Identity Card and Effect to households
Source: CITG survey, 2022.

During the war on Tigray, the war caused widespread alteration of personal identity records. Among surveyed households, over 39,000 households experienced identity card changes. Of these, more than 35,000 were altered to Amhara, over 12,000 to Eritrean registration, and more than 800 to other categories. From the changed identities, approximately 9,000 individuals within households had identity records changed across multiple jurisdictions, including Amhara, Eritrea, and other regions. These alterations reflect not only administrative manipulation but also attempts to redefine ethnic, regional, or national affiliation under the pressures of war.

The large-scale alteration of identity cards in Tigray represents a multi-layered disruption, affecting personal identity, legal status, household integrity, and social trust. Beyond administrative consequences, these changes threaten the preservation of Tigrayan cultural and ethnic identity and pose challenges for post-war reconciliation, reconstruction, and the protection of human rights.

The major impact of the damage on Tigray linguistic books, area nomenclature change, and identity card changes is summarized below:

Destruction of Tigrigna Linguistic Books: The war devastated Tigray's education system, leading to the widespread loss of books and educational materials, many of which were in Tigrigna through burning, looting, and destruction. This has severely diminished access to mother-tongue literature and undermined language-based learning and cultural transmission.

Forced Name Changes and Suppression of Tigrigna in Public Spaces: In areas like northwestern, Southern and Western Tigray occupied by Amhara forces, Tigrigna language use has been actively suppressed. Public communication, environments, and place names have been altered or erased, aiming to replace Tigrigna nomenclature with Amharic norms, effectively eroding local linguistic identity.

Erasure of Tigray Identity via Identity Cards: Numerous Tigrayans have had their identity cards forcibly confiscated and burned. In their place, new cards were issued in Amharic, stamped by Amhara authorities, with all references to "Tigray" removed. These changes amount to administrative erasure of ethnic identity and point to systemic efforts to obliterate Tigrayan presence.

Generally, War-related destruction has shattered Tigrigna literary heritage, reducing access to native-language texts. Concurrently, linguistic and administrative erasure through renaming and identity manipulation has undermined Tigray's cultural and ethnic identity, intensifying the war's assault on the region's linguistic and civic foundations.

Disruption of social and cultural values

The war on Tigray has caused severe disruption to social and cultural values, undermining traditional practices, communal cohesion, and shared norms. The war has weakened the transmission of heritage, disrupted community rituals, and eroded trust and solidarity that form the foundation of Tigrayan society (Figure 29).

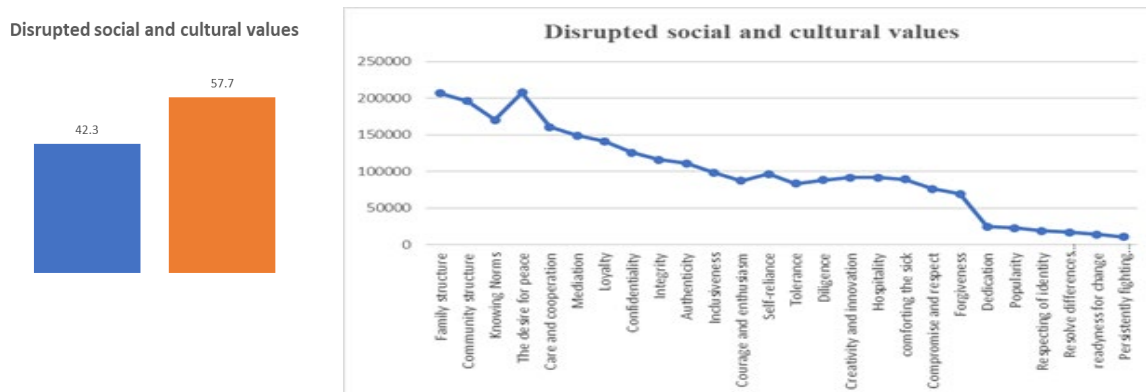


Figure 29. Disrupted or Disrupted social and cultural values.
Source: CITG survey, 2022.

The war on Tigray has highly disrupted social and cultural values that historically shaped individual behavior, family life, and community cohesion. Traditional frameworks such as family and community structure, norms of care, cooperation, and mediation, and virtues including loyalty, integrity, authenticity, and inclusiveness have been severely weakened. Practices that reinforce communal harmony such as hospitality, comforting the sick, compromise, respect, forgiveness, and resolving differences through dialogue have been curtailed, while capacities for self-reliance, diligence, creativity, and courage have been strained under conditions of insecurity. The disruption extends to collective aspirations, including the desire for peace, readiness for change, and persistently fighting backwardness, leaving communities fractured and social bonds eroded.

According to the above result the center of social and cultural values disruptions are:

Family and Community Structures: the war has dismantled traditional family and community networks. Displacement, loss of household members, and the destruction of communal spaces have weakened intergenerational bonds and eroded the social scaffolding that sustains shared norms and cultural identity.

Norms and Virtues: core social values—such as loyalty, confidentiality, integrity, authenticity, and inclusiveness have been challenged. The breakdown of trust and moral codes limits cooperation and reduces adherence to community norms, contributing to social fragmentation.

Care, Cooperation, and Mediation: Acts of mutual aid, mediation, and war resolution have been disrupted. Communities previously guided by principles of care, compromise, and dialogues have faced heightened tensions, making peaceful resolution of disputes more difficult.

Courage, Creativity, and Self-Reliance: the war has tested personal and collective resilience. While individuals are compelled to rely on self-reliance, courage, and innovative strategies to survive, prolonged insecurity limits the space for creativity, enthusiasm, and constructive social engagement.

Hospitality, Forgiveness, and Social Solidarity: cultural practices such as hosting guests, comforting the sick, forgiving past grievances, and maintaining social popularity have been diminished. These disruptions weaken the social fabric and reduce avenues for rebuilding trust and solidarity post-war.

Collective Aspirations: the war has hindered communities' ability to pursue long-term goals, including striving for peace, resolving differences through dialogue, and combating social backwardness. The interruption of these values compromises social resilience and the potential for post-war reconstruction and reconciliation.

The disruption of social and cultural values in Tigray is multidimensional, affecting the moral, psychological, and structural foundations of society. Families and communities are fragmented, communal norms are weakened, and the pathways for social cooperation, innovation, and peacebuilding are curtailed. The loss of these values threatens the continuity of cultural identity, social cohesion, and long-term resilience of the Tigrayan population.

Level of Damage

Religious Heritages, Cultural and social values had been experienced varying degrees of damage, affecting their historical, artistic, or social value. To assess and communicate the severity, damage level is presented in Figure 30. This classification helps prioritize conservation efforts and guide restoration strategies.

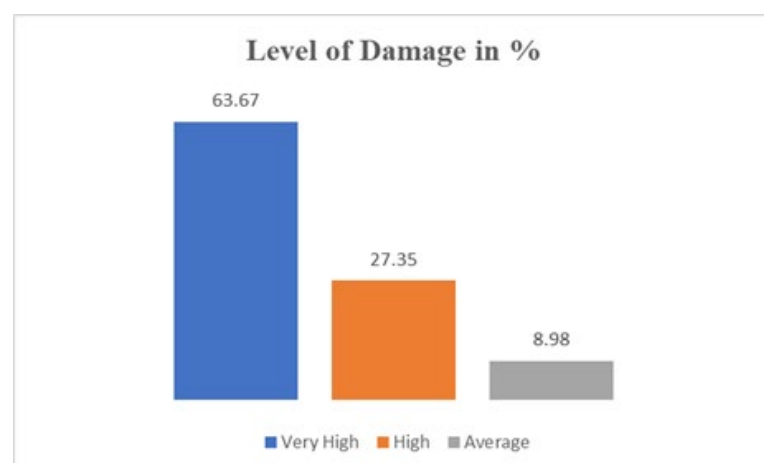


Figure 30. Disrupted social and cultural values.
Source: CITG survey, 2022.

The war on Tigray has imposed extensive damage of religious heritages and disruption of cultural and social values, leaving a profound impact on its identity and community values.

Assessments indicate that 63.67% of heritage sites suffered very high damage, reflecting widespread destruction where significant structures, artifacts, and cultural landmarks were completely destroyed or rendered irreparable. An additional 27.35% of sites experienced high damage, where major elements were compromised, though some restoration is still possible with extensive effort and resources. Meanwhile, 8.98% of heritage properties sustained average or moderate damage, retaining much of their structure and value but still requiring careful rehabilitation.

This alarming level of destruction underscores the urgent need for systematic documentation, conservation, and recovery strategies to safeguard Tigray's cultural legacy. The loss not only affects physical heritage but also disrupts social cohesion, traditional practices, and the transmission of historical knowledge to future generations.

Perpetrators

Cultural heritage damage is often caused by deliberate actions of specific actors, including individuals, armed groups, or institutions. These perpetrators may act for political, military, ideological, or economic motives, targeting heritage sites to destroy, loot, or erase cultural identity. Understanding who causes such damage is crucial for accountability, protection measures, and heritage preservation strategies (Figure 31).

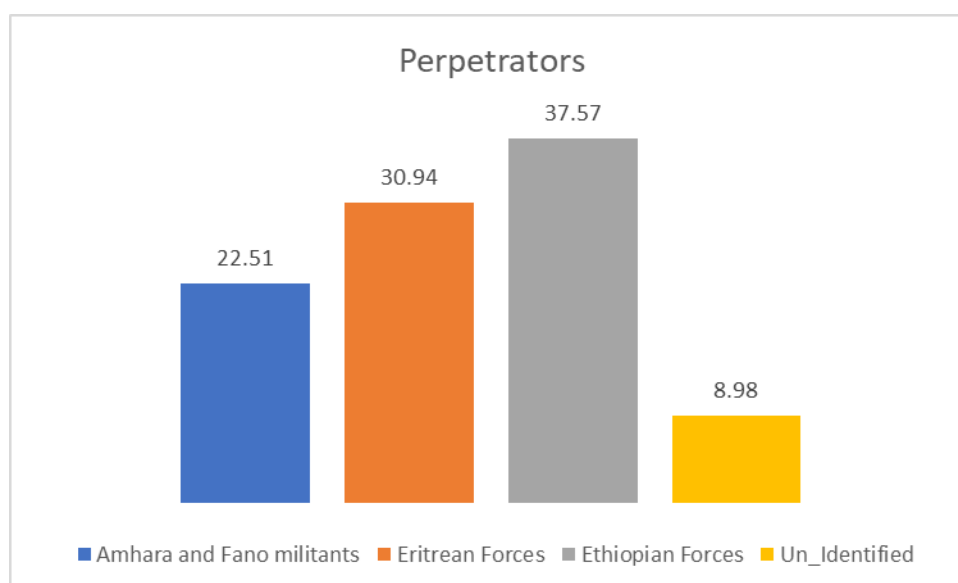


Figure 31. Shows the percentage to Perpetrators of movable heritage.
Source: CITG survey, 2022.

The destruction of cultural heritage in Tigray during the war has been perpetrated by multiple actors, each contributing to the widespread loss of historical and cultural assets.

The Assessments indicate that Ethiopian National Défense Forces were responsible for around 37.57% of the damage, reflecting significant direct involvement in the destruction of heritage sites.

Eritrean Défense Forces accounted for 30.94%, while Amhara forces contributed 22.51% of the damage. The remaining 9% of destruction is attributed to other unidentified groups, whose actions have further compounded the threat to Tigray's cultural legacy.

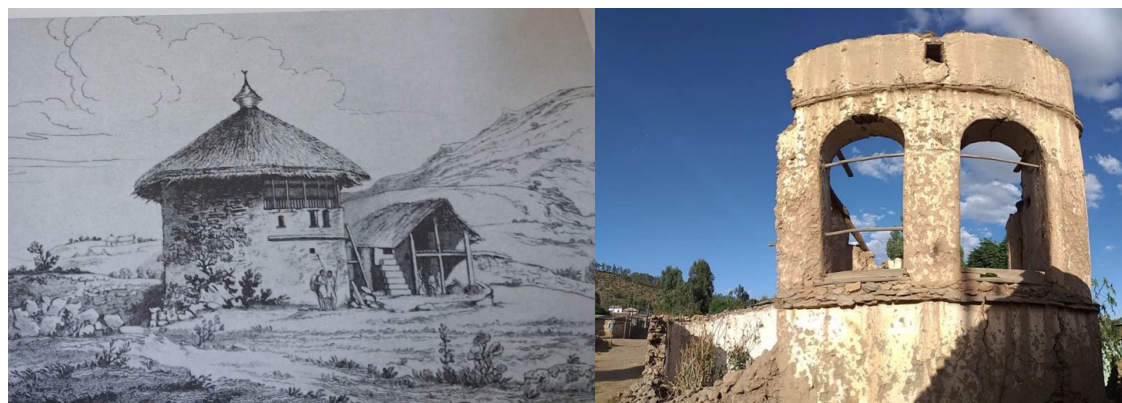
These figures highlight the multi-faceted nature of heritage destruction in the region, emphasizing the urgent need for documentation, accountability, and targeted conservation efforts to protect what remains of Tigray's irreplaceable cultural heritage.

To sum up, the war on Tigray severely damaged religious services, institutions, and values that form the foundation of community identity. Ancient churches, monasteries, and mosques were bombed, looted, and desecrated, with priceless manuscripts and relics destroyed. Clergy, monks, and worshippers were killed, and many institutions left without leaders, disrupting regular religious services and social rituals such as weddings, funerals, and festivals. Beyond physical destruction, the war fractured the Ethiopian Orthodox Church, leading to schism and loss of moral authority. This assault on sacred sites and traditions eroded the spiritual, cultural, and social values of Tigrayan communities, weakening identity, disrupting cohesion, and leaving deep scars of trauma and displacement. There is evidence that some destruction was intentional, meant not just to destroy buildings but as part of suppressing community identity, dominating narratives about history, possibly to demoralize or disperse communities. Religious institutions are not only about worship; they are centers for social life, moral teaching, and rites of passage (birth, marriage, and funeral). Religious institutions often mediate social norms, moral codes. When they are incapacitated, communities lose normal channels for dispute resolution, social support, and ethical guidance.

Damage of Historical Buildings and Property

The war has inflicted serious harm on historical buildings, traditional properties, and artistic or artisan works that embody the cultural identity of communities. Historical buildings and properties have suffered structural destruction and looting, while artistic and artisan works, including handcrafted objects, sculptures, and traditional artworks, have been damaged, stolen,

and lost. These damages represent not only physical losses but also the erosion of cultural memory, creativity, and continuity of heritage traditions.



Illustrations of Historical buildings. Raesi Woldemariam Residence and court, Cheleqot (left), Ruin of Historical building in Axum. (right)
Source, Henry Salt 1814 and Desta G T 2019

The war has caused extensive destruction to Tigray's historical buildings and traditional properties, with the greatest share borne by historical buildings. The damage to historical buildings is estimated at 408.6 million USD, representing 81.56% of the total, reflecting the large-scale destruction of Hidmo, debri gebela, and other historical architectural elements. In addition, historical properties account for 72.7 million USD, or 14.51% of the total damage, showing significant losses to cultural objects, cultural goods, pottery, and local farming and living tools having historical value. Meanwhile, artistic and artisan properties suffered damage valued at 19.7 million USD, making up 3.93% of the total, representing the loss of handcrafted works, sculptures, and traditional artistic creations (Table 72).

Table 72. Damage of Historical Building and Property.

Description	Damage Value in Million USD	Share in %
Historical Buildings	408.6	81.56
Historical Handcrafted property	72.7	14.51
Artistic and Historical Objects	19.7	3.93

Source: CITG survey, 2022

Together, these figures reveal that while all categories have been severely affected, the destruction of historical buildings has been the most devastating, threatening the very core of Tigray's cultural identity and legacy.

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Together, these figures reveal that while all categories have been severely affected, the destruction of historical buildings has been the most devastating, threatening the very core of Tigray's cultural identity and legacy

Damage of Historical Building

The war has severely affected traditional and historical buildings, destroying unique architectural elements that embody the cultural and social identity of Tigray. Structures such as ደብረ (Debri/Two story), ህድሞ (Hidmo), ኣዳራሽ (Adarash/Hall), ገበላ (Gebela/Verendah), and ሰቀላ (Seqela/Two story Hut) have suffered extensive damage, along with simpler forms like ቤት (Bet/Hut) and መረባ (Mereba/Courtyard). Essential architectural components including ዳርኩት (Durkukit/Gate), መስኮት (Window), ፀፍፀፍ (Tseftsef/Ceiling), ናሕሲ (Nahsi/Slab roof), መንደቅ (Wall), and ቅርጺ (Sculpture) were also destroyed.

As per the census, 32,291 (4.9%) of the respondents revealed that there is war damage to their traditional and historical buildings.(Figure 32)

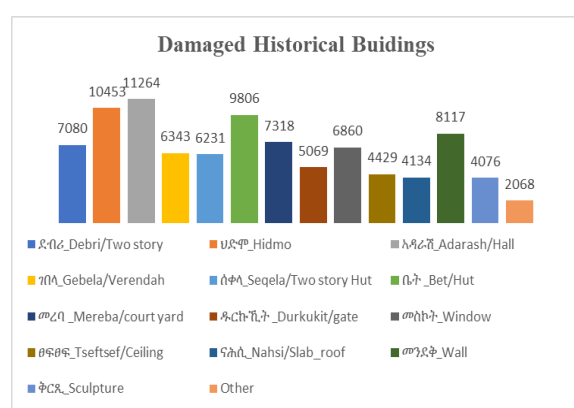


Figure 32. Damage of Historical Buildings.
Source: CITG survey, 2022.

The war has caused extensive damage to Tigray's historical buildings and architectural elements, with damage recorded across a diverse range of structures and components. Among the most affected are Adarash (Halls) with 11,264 cases, followed by Hidmo (10,453), Bet/Hut (9,806), and Mendeq Walls (8,117), showing the widespread devastation of traditional residential and communal spaces.

Other significant damages include Mereba (Courtyards) with 7,318, Debri (Two-story buildings) with 7,080, and Windows numbering 6,860, all of which represent the collapse of essential architectural features. Similarly, Gebela (Verandahs) suffered 6,343 cases, while Seqela (Two-story huts) recorded 6,231, further underlining the scale of the loss.

Smaller but still notable damages were documented in Durkukit (Gates) with 5,069, Tseftsef (Ceilings) with 4,429, Nahsi (Slab roofs) with 4,134, and Sculptures with 4,076.

Altogether, these figures reveal that the destruction has not only targeted monumental structures but also the everyday architectural and artistic elements that form the backbone of Tigray's cultural identity and historical continuity.

Damage level and perpetrators

The impact of war on historical buildings can be categorized into different levels to show the severity of damage. Very high damage refers to near-total loss or collapse, while high damage indicates serious harm with partial survival. Average damage reflects moderate impairment, with important features still intact. Low damage involves minor effects that do not threaten overall integrity, and very low damage represents negligible impact, often requiring only routine maintenance or monitoring.

These perpetrators may act for political, military, ideological, or economic motives, targeting heritage sites to destroy, loot, or erase cultural identity. The destruction of historical buildings in Tigray during the war has reached alarming proportions, with 66.24% of the damage categorized as very high, indicating near-total loss of structures, while 15.67% sustained high damage, and 14.51% moderate damage. Only a small fraction falls under low (3%) and very low (1%) levels, showing that the majority of buildings were severely affected (Figure 33).

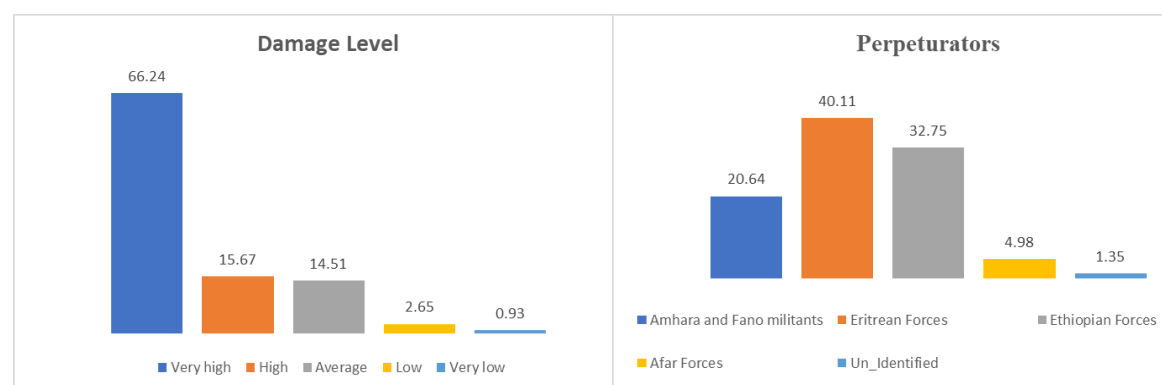


Figure 33. Damage level and perpetrators of Historical Building.
Source: CITG survey, 2022.

In terms of responsibility, Eritrean Defense Forces accounted for the largest share, 40.11% of the damage, followed by Ethiopian National Defense Forces with 32.75%, and Amhara and Fano militants contributing 20.64%. Additionally, Afar forces were responsible for about 5%, while unidentified groups caused less than 2%.

These figures reveal not only the devastating scale of destruction but also the coordinated involvement of multiple actors in dismantling Tigray's historical and cultural identity through the targeting of its architectural heritage

Damage of Historical and Handcrafted properties

The war has caused severe destruction to historical, traditional, and artistic properties, leading to the loss of irreplaceable historical and traditional properties, handcrafted properties that embody Tigray's cultural identity and heritage



Illustration of Historical, Artisan and Handcrafted properties. Axum and Enderta
Source, Anonymous and Mitcheli 2012

Figure 34 shows that 39,765 (6%), who face different types and levels of damage 619,019 (93.96%), are not damaged by their historical, traditional and art result properties.

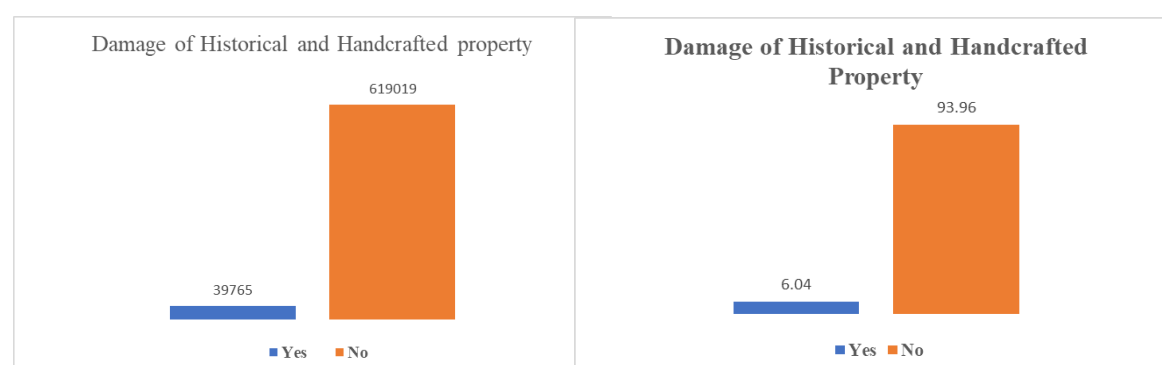


Figure 34. Damage of Historical and Handcrafted properties.
Source: CITG survey, 2022.

The damage of the listed historical, traditional and art result properties varies from the highest Tilffiy or embroidery (7.7%) to the lowest Eje tebab or handcraft 3331 (1.2%). The war has severely affected Tigray's traditional and historical objects, reflecting a profound loss of cultural heritage. Among the most affected are traditional and historical materials: Birana (manuscripts or parchments) account for 2.5% of the damage, representing the destruction of rare and irreplaceable historical knowledge. Embroidery and textile traditions also suffered heavily: Tilfi (7.7%) and Tilfi seelli (4.2%) show significant damage to traditional craftsmanship and artistic expression (Table 73).

Table 73. Damage of historical and traditional properties.

Type	Responses	
	Quantity	Percent
<i>Birana</i> , manuscript or Parchment	7192	2.5%
<i>Leqota</i> , pod	10364	3.6%
<i>Ma'esi</i> , tanned hid	12860	4.5%
<i>kebero</i> , drum	8679	3.0%
<i>Mihe</i> , sieve with large orifice	12778	4.4%
<i>Mekuhbaeti</i> ,	14120	4.9%
<i>wenfit</i> , sieve	15296	5.3%
<i>Tilfi</i> , embroidery	22269	7.7%
<i>tilfi seelli</i> , string paint or embroidery design	12219	4.2%
<i>Mahzel</i> , hide sling for carrying babies	12161	4.2%
Jirba, canvas	5449	1.9%
<i>laga</i> and <i>etro</i> , pot	9654	3.3%
<i>Messob</i>	15452	5.3%
<i>Sefeey</i>	15118	5.2%
<i>Chiguraf</i> , whip	8268	2.9%
<i>Ghabi</i> , mantle	16205	5.6%
<i>Sederya</i> , vest	8186	2.8%
<i>Mahder</i> , case	5982	2.1%
<i>Chama</i> , shoe	19045	6.6%
<i>Agelgil</i> , basket often leather covered	7528	2.6%
<i>Mekombya</i> , cover for food in dish	8730	3.0%
<i>Seteta</i>	11022	3.8%
<i>Metsian</i> or <i>miran</i> , narrow leather strap	7191	2.5%
<i>Kuta</i> , mantle	14343	5.0%
<i>Eje tebab</i> , handcraft	3331	1.2%
Total	283442	100.0%

Source: CITG survey, 2022.

Functional and domestic objects faced notable destruction as well. Sieve types, including Mihe (4.4%) and Wenfit (5.3%), highlight the disruption of traditional food processing methods. Leather and tanned items such as Ma'esi (4.5%), Mahzel (4.2%), and Metsian or Miran (2.5%) show losses in materials essential for clothing, carrying, and ritual purposes. Other domestic items like Laga and Etro pots (3.3%), Messob (5.3%), Sefeey (5.2%), and food covers (Mekombya, 3.0%) reflect the impact on traditional household practices.

Musical instruments and personal attire also experienced damage: Kebero drums (3.0%), Ghabi mantles (5.6%), Sederya vests (2.8%), Kuta mantles (5.0%), and Chama shoes (6.6%) reveal losses in cultural identity and ceremonial traditions. Smaller handcrafted items like Agelgil baskets (2.6%), Chiguraf whips (2.9%), Mahder cases (2.1%), and Eje Tebab handcrafts (1.2%) demonstrate that even minor but culturally significant objects were not spared.

In summary, the damage encompasses both functional and symbolic items, threatening not only daily life and traditional practices but also the intergenerational transmission of knowledge, artistry, and Tigray's unique historical identity.

Damage level and perpetrators of Historical and Handcrafted properties

The impact of war on Historical and Handcrafted properties can be categorized into different levels to show the severity of destruction. Very high damage refers to near-total loss or collapse, while high damage indicates serious harm with partial survival. Average damage reflects moderate impairment, with important features still intact. Low damage involves minor effects that do not threaten overall integrity, and very low damage represents negligible impact, often requiring only routine maintenance or monitoring.

These perpetrators may act for political, military, ideological, or economic motives, targeting movable heritages to destroy, loot, or erase cultural identity.

The war imposed devastating harm on Tigray's historical and handcrafted properties, with the majority falling under the most severe categories. An estimated 81.22% sustained very high damage, representing near-total destruction of cultural assets, while 12.45% suffered high damage, and around 5% moderate damage. Only a negligible proportion registered as low or very low damage (less than 2.5%), underscoring that almost all properties experienced serious harm (Figure 35).

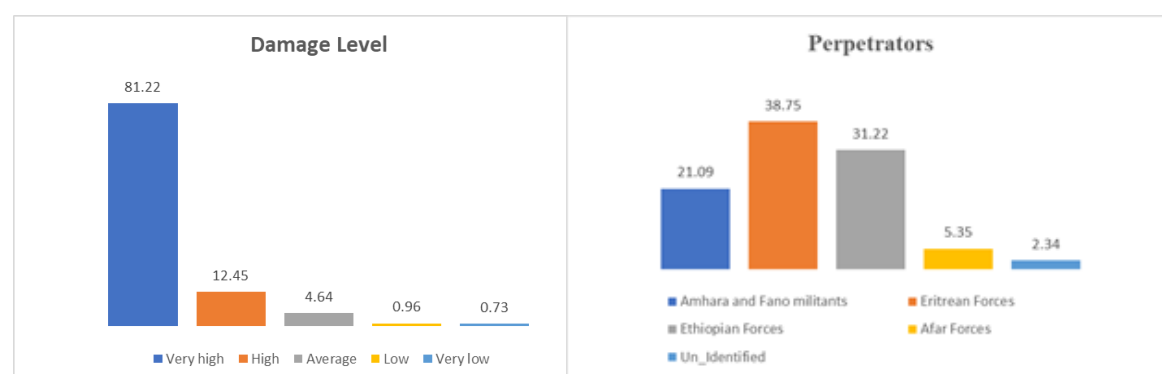


Figure 35. Damage level and perpetrators of Historical and Handcrafted properties.
Source: CITG survey, 2022.

Responsibility for this destruction is shared among multiple actors. Eritrean forces were responsible for about 38.75%, making them the primary perpetrators, followed by Ethiopian forces with 31.22%, and Amhara and Fano militants accounting for 21.09%. In addition, Afar forces contributed around 5%, while unidentified groups were responsible for less than 2.34%.

These figures highlight both the overwhelming scale of destruction and the deliberate role of armed groups in dismantling Tigray’s tangible heritage, threatening its cultural identity and the survival of centuries-old craftsmanship.

Damage of historical, traditional and art results properties

The war has caused severe destruction to historical, traditional, and artistic properties, leading to the loss of irreplaceable historical objects, artifacts, pottery, ceramics and painting works that embody Tigray’s cultural identity and heritage. The figure shows that 31,646 (4.8%), who face different types and levels of damage 627,137 (95.2%), are not damaged by their historical, traditional and art result properties (Figure 36).

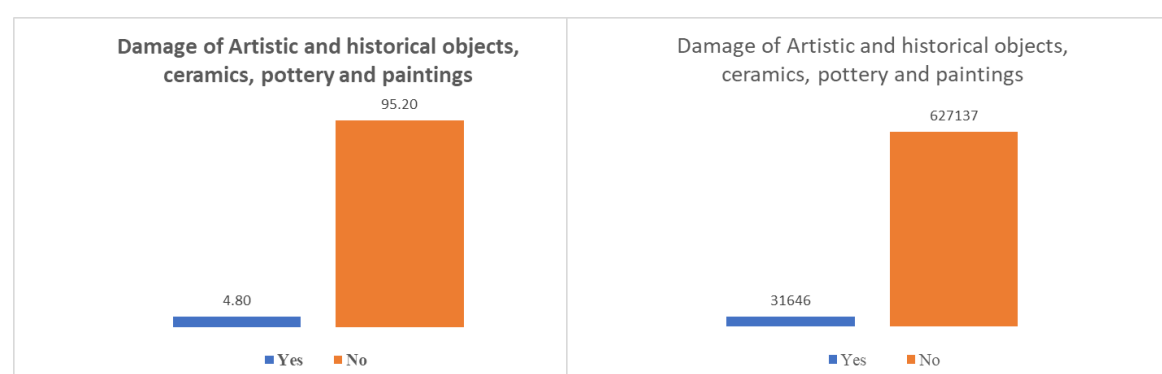


Figure 36. Damage of historical, traditional and art results properties.
Source: CITG survey, 2022.

The war in the region has led to significant damage to historical, traditional, and everyday cultural objects. Among these, agricultural tools such as Mesarea—used for ploughing—account for 5.1% of the total documented damage, highlighting the impact on traditional farming practices. Household items, which form the backbone of domestic life, were also heavily affected: Terepieza (tables) represent 6.0%, Arat (beds) 6.5%, Eton (stoves) 4.7%, and Wenber (chairs) 4.1%, reflecting the destruction of basic domestic infrastructure (Table 74).

Table 74. Damage of historical, traditional and art results properties.

Historical, traditional and art results properties	Quantity	Percentage
Mesarea, all tools for ploughing	11977	5.1%
Terepieza, table	14118	6.0%
Gebetia, Wooden-beam for playing pebbles	6922	2.9%
Decorative (for house)	8687	3.7%
Paint	7141	3.0%
Shekla wancha, Clay cup	10982	4.6%
Qerni wancha, Oxhorn cup	7840	3.3%
Chira, musical instrument	8321	3.5%
Eton, Stove	11165	4.7%
Laga, large pot for milk made up of Calabash	8388	3.5%
other wooden	5052	2.1%
Arat, bed	15473	6.5%
Mesateya, cup	12903	5.4%
Metsaweti meruut, Playing's for bride and groom	4973	2.1%
Megayetsi, decorative	9071	3.8%
Etro, pot	10216	4.3%
Tsahli, cooking dish	12013	5.1%
Meleket, musical instrument like saxophone	4506	1.9%
Kirar, musical instrument like guitar	5179	2.2%
Santim, coin	5427	2.3%
Qofo for grain, large container for grains	5965	2.5%
Wenber, chair	9766	4.1%
Kezera, stick	6183	2.6%
Memegebi, dish	6931	2.9%
Tsihuf, writings	3388	1.4%
Megogo, clay griddle	8577	3.6%
Geneey, large pot	3936	1.7%
Shanbeqo, musical instrument like trumpet	1922	0.8%
Metihan, mill	3386	1.4%
Shikina, Calabash	3464	1.5%
qofo for bee, beehive	3013	1.3%
Total	236885	100%

Source: CITG survey, 2022.

Traditional utensils and containers show notable losses as well. Cups like Shekla wancha (clay cups) make up 4.6%, Qerni wancha (oxhorn cups) 3.3%, and Mesateya (cups) 5.4%, while cooking vessels such as Etro (pots) 4.3%, Tsahli (cooking dishes) 5.1%, Laga (large calabash milk pots) 3.5%, and Geneey (large pots) 1.7% were also affected. Containers for grains and other storage items like Qofo for grain (2.5%) and Qofo for bee (1.3%) demonstrate the disruption to traditional food preservation and storage.

Musical instruments, integral to cultural and social life, were damaged, including Chira (3.5%), Meleket (1.9%), Kirar (2.2%), and Shanbeqo (0.8%). Decorative and artistic objects, such as household ornaments (Decorative for house 3.7%) and Megayetsi (3.8%), reflect the erosion of cultural aesthetics. Smaller but culturally significant items, including sticks (Kezera, 2.6%), dishes (Memegebi, 2.9%), clay griddles (Megogo, 3.6%), writings (Tsihuf, 1.4%), and

calabashes (Shikina, 1.5%) also suffered damage, showing that the cultural heritage impact spans both functional and symbolic objects.

In total, these damages not only represent the destruction of physical objects but also a profound disruption of the social, cultural, and artistic practices intertwined with them, affecting livelihoods, rituals, and the intergenerational transmission of knowledge.

Damage Level and Perpetrators

The impact of war on historical, traditional and art result/artisan properties can be categorized into different levels to show the severity of destruction. Very high damage refers to near-total loss or collapse, while high damage indicates serious harm with partial survival. Average damage reflects moderate impairment, with important features still intact. Low damage involves minor effects that do not threaten overall integrity, and very low damage represents negligible impact, often requiring only routine maintenance or monitoring

These perpetrators may act for political, military, ideological, or economic motives, targeting movable heritages to destroy, loot, or erase cultural identity. Understanding who causes such damage is crucial for accountability, protection measures, and heritage preservation strategies.

The cultural heritage of Tigray has suffered extensive damage across historical, traditional, and artisanal properties, reflecting both the intensity of the war and the diversity of actors involved. Analysis of the damage levels shows that very high damage accounts for 46.22% of affected properties, indicating widespread destruction of highly significant historical and artistic objects. High damage represents 17%, while average damage accounts for 16%, showing average impact on a range of artifacts. Less affected items include low damage at 12% and very low damage at 9%, reflecting minor or localized destruction (Figure 37).

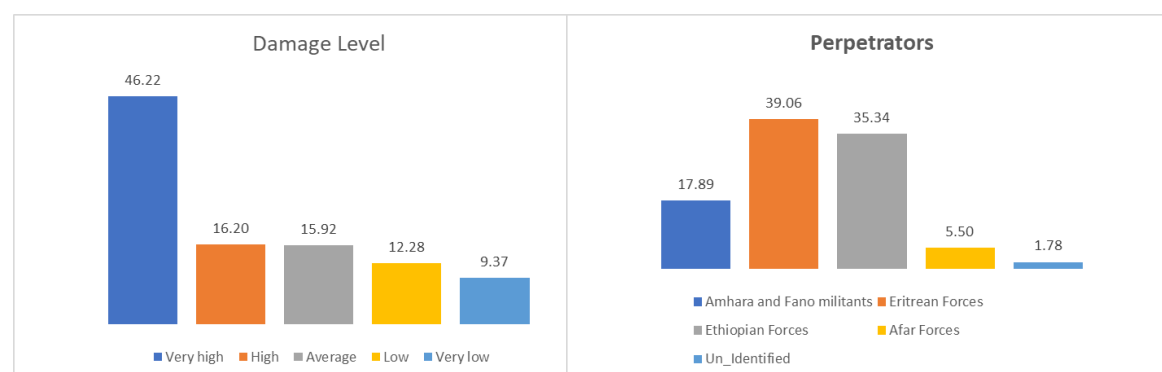


Figure 37. Damage level and perpetrators of Historical, traditional and art result/artisan properties.
Source: CITG survey, 2022.

The distribution of perpetrators further underscores the scale and complexity of the damage. Eritrean Defense Forces are responsible for 39.06% of the damage, followed closely by Ethiopian National Defense Forces at 35.34%, indicating that the majority of destruction was caused by state and allied military actors. Amhara and Fano militants contributed to 17.89% of the damage, while Afar forces accounted for around 5.5%, and unidentified groups were responsible for less than 2%, suggesting that smaller armed groups played a limited role.

Overall, this data illustrates a pattern in which the most significant damage—particularly to irreplaceable historical sites, traditional artifacts, and artisan works, was concentrated under the actions of organized military forces, with the remaining damage dispersed among smaller groups. The high proportion of very high damage highlights an urgent need for documentation, protection, and restoration initiatives to safeguard the region’s cultural and historical legacy.

Summary of historical buildings, historical properties, artisan & handcrafted properties damage of Tigray

Traditional Buildings and other vernacular architecture (e.g., “hidmo” houses, stone dwellings in villages) have been destructed, left neglected, deteriorating from the effects of war, displacement, lack of restoration, and sometimes violent damage.

Numerous artisan and handcrafted heritage items also suffered. Wooden and leather local ploughing elements, wooden and pottery housing goods, illuminated manuscripts, relics, and sacred objects many small but deeply meaningful were stolen, destroyed, or displaced.

The damage is both physical and symbolic: not only the loss of walls, roofs, artifacts, but the erosion of indigenous knowledge, local traditions of craftsmanship, the loss of community gathering spaces, and the erasure of visual and tangible connections to ancestral culture. The destruction affects tourism potential, academic study, spiritual practices, and the communal sense of identity

Damage and loss of Cultural Heritages of Tigray

Cultural heritage, encompassing historical sites, traditional artifacts, and artisanal creations, has long been an integral part of community life in Tigray. These tangible and intangible assets reflect the region’s rich history, social values, and artistic traditions, serving as markers of identity, memory, and continuity across generations. They are not only repositories of knowledge and craftsmanship but also vital to social cohesion, rituals, and everyday practices of local communities.

The recent war, however, has severely disrupted this cultural landscape. Respondents report widespread damage to historical buildings, traditional objects, and archaeological sites, ranging from minor deterioration to complete destruction (Figure 38). This damage threatens not only the physical existence of these cultural properties but also the social and cultural practices they support, eroding community identity and intergenerational knowledge transmission. Understanding the extent and nature of this damage is crucial for planning effective preservation, restoration, and safeguarding strategies.

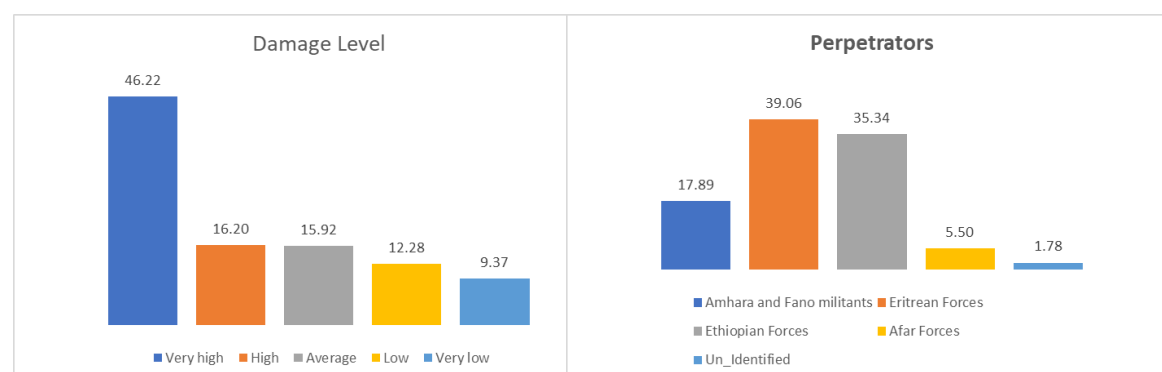


Figure 38. The existence and damage of cultural heritages in their vicinity.
Source: CITG survey, 2022.

Survey responses on the existence of cultural heritage in respondents' vicinities reveal a mixed awareness among the local population. About 35% of respondents acknowledged the presence of cultural heritage, while 45% reported no known cultural heritage nearby, and 20% were unsure or did not know. This indicates that while a significant portion of the community is aware of local historical and traditional assets, a larger share either lacks knowledge or does not recognize their existence, highlighting gaps in community awareness and documentation.

Among those who confirmed the presence of cultural heritage (35%), the reported damage is substantial. Approximately 70% of the known cultural heritage has suffered some form of damage, reflecting the severe impact of recent wars and neglect. Meanwhile, 22% of these cultural properties remain undamaged, showing that some heritage sites or objects have survived relatively intact. The remaining 8% of respondents did not know the condition of the cultural heritage, indicating uncertainty and a lack of comprehensive monitoring.

Overall, these findings underscore both the vulnerability of cultural heritage and the need for increased awareness, documentation, and protection measures, particularly in areas where communities are unaware of their local heritage or uncertain about its condition.

Types of Cultural Heritage Items in the surroundings and vicinity

The surroundings and vicinities of many communities of Tigray are home to a rich variety of cultural heritage, reflecting centuries of historical, social, and artistic development (Table 75). These heritage types encompass historical buildings and palaces, which showcase architectural styles and the legacy of past leadership, as well as historical places such as battlefields that bear witness to significant events. Archaeological and anthropological sites provide insights into ancient human activity, while historical cities preserve urban layouts and social organization from earlier periods.

Table 75. Types of Cultural Heritage Items in the surroundings and vicinity.

Type	Responses	
	Number	Frequency
Historical building	67384	5.5%
Palace	45524	3.7%
Historical place (battle field)	40603	3.3%
Archaeological and anthropological site	30336	2.5%
Historical city	45530	3.7%
Stelae/obelisk	87950	7.1%
Religious site	152077	12.3%
Tomb	84415	6.9%
Museum	43895	3.6%
Throne site	22678	1.8%
Cave paintings/arts	16822	1.4%
Cultural center	18853	1.5%
Market place	44061	3.6%
Coin	25488	2.1%
Cross	51979	4.2%
Manuscript	49032	4.0%
Crown	21299	1.7%
Stamp	19555	1.6%
Battle instruments	13961	1.1%
Artistic instruments	16385	1.3%
Outcomes of handicraft	15123	1.2%
Fossils	6502	0.5%
Sculpture	14338	1.2%
Park	10181	0.8%
Protected reserves	30451	2.5%
Landscape/geology	16918	1.4%
Mountain	45738	3.7%
Water body	24779	2.0%
Waterfall	16797	1.4%
Forest	44053	3.6%
Wildlife	37511	3.0%
Birds	37471	3.0%
Natural beauty	33928	2.8%
Others	287	0.0%
Total	1231904	100.0%

Source: CITG survey, 2022.

Other heritage types include stelae/obelisks, religious sites, tombs, and throne sites, which embody spiritual, ceremonial, and political traditions. Museums and cultural centers serve as repositories and exhibition spaces for preserving knowledge and art. Additionally, cave paintings and other artistic expressions capture early human creativity, and marketplaces reflect traditional economic and social interactions. Together, these diverse heritage types form a mosaic of cultural identity, linking the past to the present and sustaining community memory, knowledge, and social cohesion.

Damage Nature of Cultural Heritages in their Vicinity and surroundings

The cultural heritages in the vicinity and surroundings have been exposed to multiple forms of damage, both deliberate and incidental. These damages include intentional vandalism and collateral destruction during war, as well as burning and other acts that threaten their survival. Some sites suffered from inheritance disputes or replacement and spraying, while others were broken or misused as military camps. In addition, significant heritage objects were taken to Ethiopia, Eritrea, and even transferred to other countries, resulting in the displacement and loss of valuable cultural identity and history.

The cultural heritages in the vicinity and surroundings have experienced diverse forms of destruction, each reflecting different natures and intentions. The most severe damage occurred through breaking (13.55%), where monuments and artifacts were deliberately destroyed, followed closely by burning (12.75%) and collateral damage (12.32%), the latter resulting from armed war and indiscriminate attacks (Figure 39.).

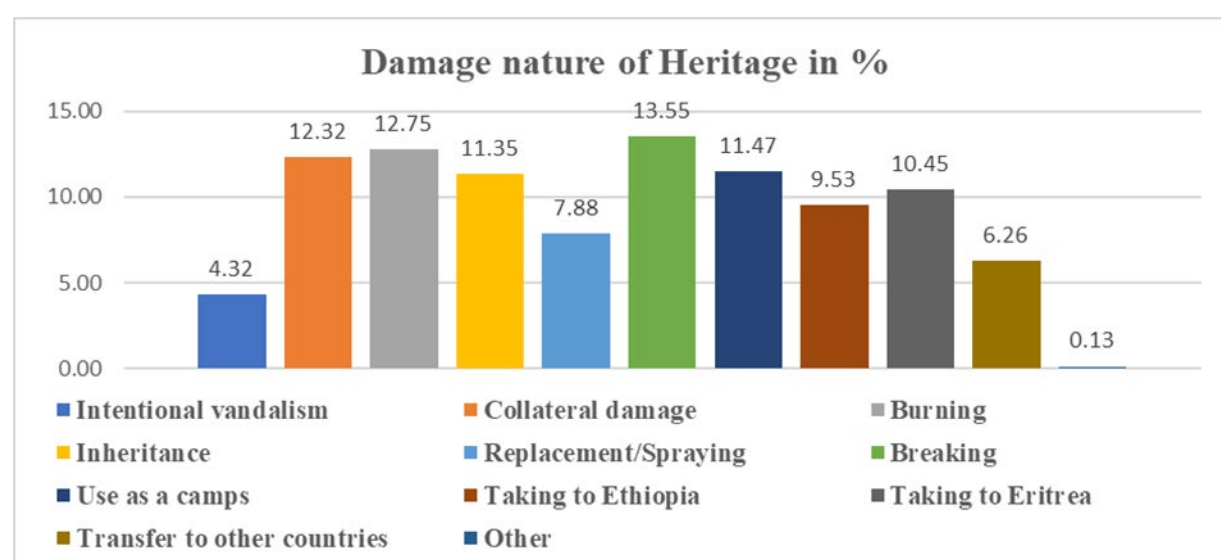


Figure 39. Damage Nature of Cultural Heritages in their Vicinity and surroundings.
Source: CITG survey, 2022.

Use as military camps (11.47%) and inheritance-related disputes (11.35%) also contributed significantly, showing how heritage sites were misappropriated for non-cultural purposes. Meanwhile, taking to Eritrea (10.45%) and taking to Ethiopia (9.53%) highlight intentional removal and looting of heritage materials, while transfer to other countries (6.26%) represents forced displacement and trafficking of cultural property.

Other forms, such as replacement or spraying (7.88%), reveal acts of alteration and defacement that compromise authenticity, whereas intentional vandalism (4.32%), like what was announced by international media old geez manuscript and geez books on E-bay, though lower in weight, reflects deliberate acts aimed at erasing identity and memory.

Overall, these damages expose a combination of intentional destruction, misuse, and displacement of cultural heritage, reflecting both deliberate attacks on identity and collateral consequences of war and instability.

Impact of Cultural Heritage losses in the value of Tigray

The loss of cultural heritage in Tigray has had profound impacts on the region's historical, social, and economic values. Cultural heritage is not only a reflection of collective memory and identity but also a foundation for social cohesion, spiritual life, and knowledge transfer across generations. Its destruction weakens community bonds, erodes traditional values, and undermines a sense of belonging. Economically, it diminishes opportunities for cultural tourism and sustainable development, while socially; it disrupts practices of peacebuilding, hospitality, and creativity that are deeply rooted in Tigrayan culture. Ultimately, the loss of heritage represents not only the disappearance of physical monuments and artifacts but also the erosion of the living values, pride, and resilience that define Tigray's identity.

The destruction and loss of cultural heritages in Tigray have deeply affected the region's values, with varying degrees of impact. The greatest effect is seen in the economic value (13.68%), where heritage loss has diminished tourism potential, cultural industries, and livelihood opportunities tied to historical assets. Closely following is the spiritual and religious value (13.61%), as sacred sites, churches, and religious artifacts have been destroyed or looted, weakening faith practices, traditions, and the spiritual foundations of communities (Table 76).

Table 76. Types of Cultural Heritage Items in the surroundings and vicinity.

Type	Responses	
	Number	percent
Spiritual and religious	138687	13.6%
Economical	139394	13.7%
Cultural	130552	12.8%
Social	132714	13.0%
Moral	130319	12.8%
Scientific	112098	11.0%
Aesthetical	120756	11.8%
Educational	114525	11.2%
Total	1019045	100.0%

Source: CITG survey, 2022.

The social value (13.02%) has also been significantly damaged, as cultural spaces that once fostered unity, cooperation, and community gatherings have been lost. Similarly, the cultural value (12.81%) of Tigray has been eroded, with the destruction of identity markers, traditions, and heritage expressions. The moral value (12.79%) has been undermined, as acts of destruction, looting, and desecration created a sense of injustice and loss of integrity within society.

In addition, the aesthetic value (11.85%) has been compromised through the disappearance of unique artistic works, architecture, and landscapes that once symbolized beauty and creativity. The educational value (11.24%) has declined, as heritage sites and objects that served as sources of knowledge and historical learning are no longer accessible. Finally, the scientific value (11.00%) has been weakened, with the destruction of archaeological and anthropological sites that could have provided insights into Tigray's history and human development.

Generally, the loss of cultural heritage in Tigray has had a multidimensional impact, affected the spiritual, social, cultural, moral, and economic fabric of society, while also weakening its educational and scientific foundations for future generations

Damage Level and perpetrator of Cultural Heritage of Tigray

The impact of war on Cultural heritages can be categorized into different levels to show the severity of destruction. These perpetrators may act for political, military, ideological, or economic motives, targeting movable heritages to destroy, loot, or erase.

The damage inflicted on cultural heritages in Tigray has reached alarming levels, with the majority falling under very high destruction (48.59%), indicating the severe and often irreversible loss of monuments, artifacts, and heritage sites. This is followed by average damage (17.02%) and high damage (16.09%), showing that even when not completely

destroyed, many cultural properties suffered significant harm. Meanwhile, low (11.63%) and very low damage (6.68%) represent smaller but still notable impacts on less vulnerable or more protected sites (Figure 40).

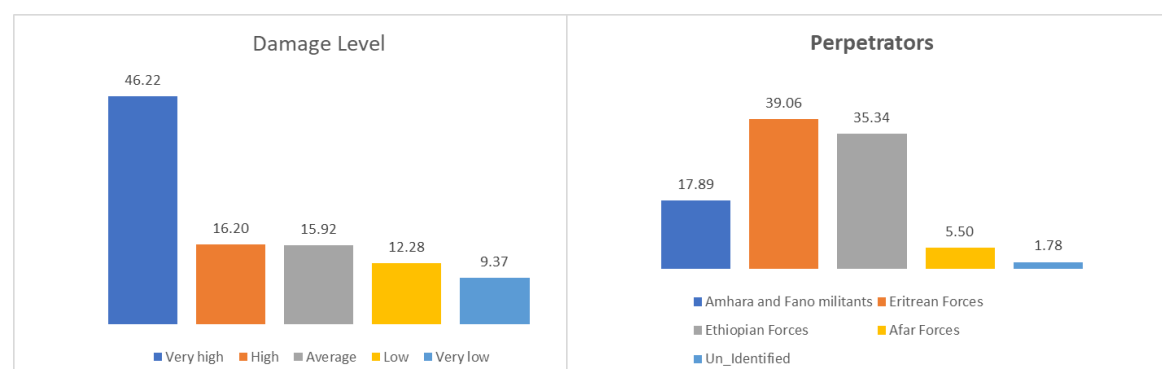


Figure 40. Damage Level and perpetrator of Cultural Heritage
Source: CITG survey, 2022.

In terms of perpetrators, the Eritrean defense force (39.06%) emerges as the leading force behind heritage destruction, responsible for nearly two-fifths of the total damage. The Ethiopian defense force (35.34%) follows closely, contributing significantly to widespread losses. Amhara and Fano militants (17.89%) also played a major role, particularly in looting and targeted attacks. On a smaller scale, afar militants (5.50%) were involved in selective incidents of damage. Unidentified actors (1.78%) account for minimal but still concerning cases of destruction Figure 41. and Figure 40).

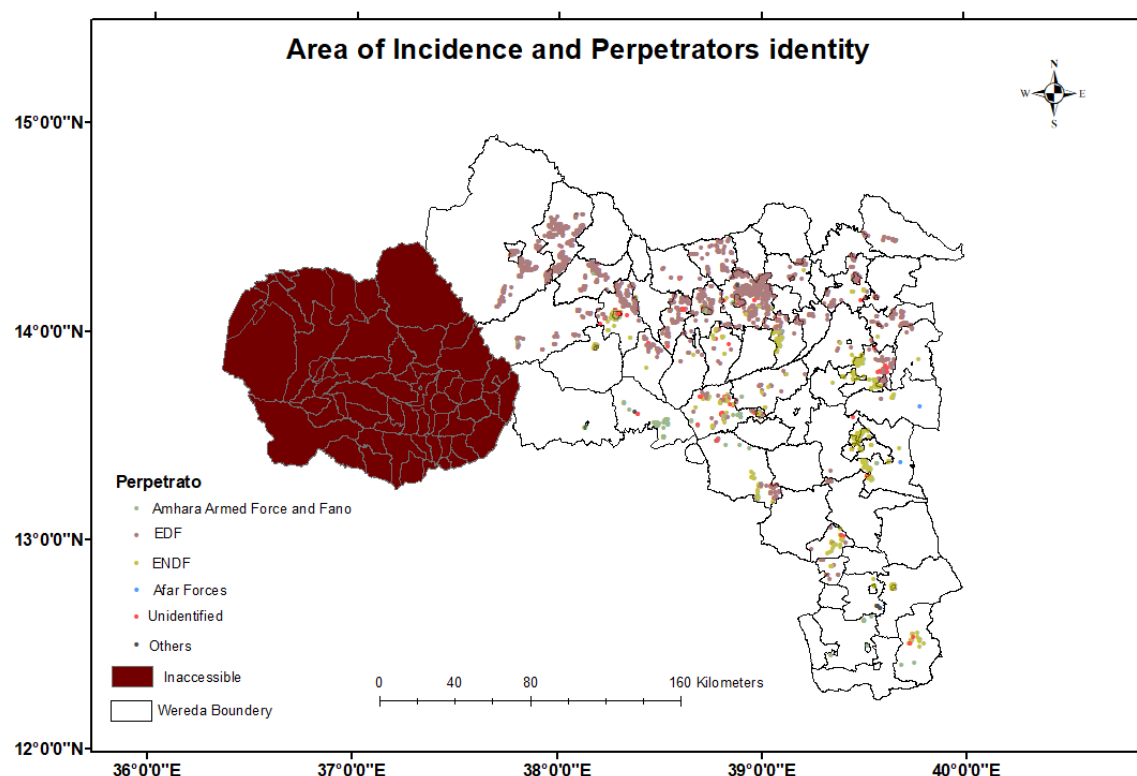


Figure 41. Area of Incidence and perpetrators.
Source: CITG survey, 2022.

Taken together, the data reveal that cultural heritage in Tigray has endured systematic and intentional destruction, with most of the devastation concentrated in the very high category and overwhelmingly perpetrated by external (ENF and Somalian Forces) and internal armed forces (ENDF, Amhara and Afar forces). This not only represents a physical loss but also a deep wound to the identity, history, and values of Tigrayan society.

Destruction of Archaeological Sites and Museum Collections

During the Tigray war many archaeological sites and museum collections as well as their physical buildings were damaged. Based on the study of the commission, the following potential archaeological and museum collections had been recorded.

Archaeological Museum of Aksum/AMA/

Situated in the historic city of Aksum, a designated world heritage site, the Archaeological Museum stands as a repository of unique artifacts chronicling the Aksumite civilization. This museum holds collections dating from the pre-Aksumite to the post-Aksumite periods, which were acquired through field excavations and donations. The museum has three sections: pre-Aksumite section, which exhibits findings dated back to 8/9th-early 2ndc B.C, Aksumite section, which displays findings dated to 150 B.C. - 700 A.D, and the post-Aksumite section, which exhibits collections dated to 700-900/1000 A.D. All these sections were full of collections, mainly of the archaeological findings from Aksum and its locality.

Unfortunately, during the war on Tigray the museum faced severe devastation. According to the museum curator, the allied forces of Ethiopia (ENDF, Amhara and Afar forces) and Eritrea subjected the entire city and museum compound to relentless shelling. Upon their arrival, the invaders forcibly broke into the museum, establishing a base within its sacred walls. The repercussions of this incursion were catastrophic. In the wake of this war, the museum bore witness to the looting of significant historical treasures. Among the losses 23 gold and silver coins, each possessing a history spanning more than two millennia were smuggled. These invaluable artifacts, once safeguarded within the museum's walls, fell prey to the ravages of war.



Destruction of the museum collections, Axum
Source, CITG 2022

The museum's interior, once adorned with carefully curated pottery and ceramic collections, suffered extensive damage. The bombardment led to the collapse and breakage of these artifacts, erasing tangible connections to the Aksumite civilization. The devastation endured by the AMA serves as a poignant testament to the profound impact of armed wars on the preservation of the shared cultural heritage. While delving into the specifics of this case, it becomes increasingly apparent that the losses extend far beyond material damage, encompassing the erasure of ancient narratives and the cultural tapestry that once adorned the region.

Table 77. The destruction of Archaeological Museum of Aksum and its collections.

S/n	Object/Item	Missing/ form of Damage	Alleged Perpetration	Significance of the Object
1	Pre-Aksumite and Aksumite period coins	Stolen (23 gold coins)	ENDF and EDF	The Aksum archaeological museum was established to preserve the precious collections for science, research, heritage
2	Variety potteries of multi-purpose	Most of them are damaged, but few are in good condition.	ENDF and EDF	
3	Inscriptions	Scattered	ENDF and EDF	
4	Stone tools	Scattered	ENDF and EDF	

S/n	Object/Item	Missing/ form of Damage	Alleged Perpetration	Significance of the Object
5	Agricultural products and tools	Damaged and scattered	ENDF and EDF	preservation, and economic importance.
6	Jewelries	Demolished	ENDF and EDF	
7	Bones of animals and chicken	Scattered	ENDF and EDF	
8	Statues	Impaired	ENDF and EDF	
9	In-situ site structure (ancient burial structure within the museum)	Serious collapse	ENDF and EDF	
10	Aksumite architecture, and technology,	Few are destroyed, but most of them are in good condition	ENDF and EDF	

Source: CITG survey, 2022.

Temporary Archaeological Museum of Adigrat /TAMA/

This archaeological museum is located in the city of Adigrat, approximately 25 km from the Menebeyti archaeological site where the collections were discovered. This museum has three store rooms and all the collections were collected by the Eastern Tigray Archaeological Project (ETAP) directed by Professor Catherine D'Andrea since 2004 (D'Andrea, 2016). Under the ETAP project, Mezber and Menebeyti archaeological sites have been surveyed and excavated. During their archaeological investigations, a unique material that records over 300,000 artefacts and other cultural remains spanning more than 2000 years of Tigrayan history from 1600 BCE to CE 700 was discovered and stored in the museum.

With the initial interest to investigate from the Pre-Aksumite period to the Aksumite transition and Aksumite periods, the ETAP project has yielded new evidence on the early beginnings of agriculture, the indigenous origins of social complexity in the Horn of Africa, and the emergence of state societies in the region. The findings from the sites indicate that pre-Aksumite rural villages were occupied since at least 1600 BC in the Gulomekada region, with an agricultural economy based on barley, lentil, cattle, goat, sheep, chickens, and probably *Teff* (D'Andrea et al. 2008a).

Early in the war, in December of 2020, the store rooms were looted, shelled, and burned down. These rooms held a unique material record of well over 300,000 artefacts, including 28,000 diagnostic ceramics, and over 33,000 litchis (one of the largest lithic collections in Eastern Africa), and other cultural remains were completely destroyed by the perpetrators.

According to the informants, the aim of the destruction was to intentionally misplace the historical artifacts that have a direct relation with society. Protective doors and windows were

shattered, and the fragility of glass and tables caused artifacts to crash down, resulting in irreparable loss, theft, and destruction of historically significant items. The intentional targeting by the EDF dealt a severe blow not only to the tangible heritage within the museum but also to the broader mission of preserving and educating about the rich history embedded in the relics of the museum.



Before destruction



After destruction

Destruction of the museum and its collections, Adigrat
Source: CITG survey, 2022.

Shockingly, all the collections, including the physical building of the museum, are completely destroyed and have disappeared forever.

Table 78. Obliteration to the Temporary Museum of Adigrat

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Object
1	Potteries (both complete and fragments)	Absolutely destroyed	EDF	All the collections had crucial significance for various purposes because they help to understand the earliest human evolution, inventions, knowledge and way of life, social cohesion, trade, cultural practices, agriculture, and alike. All the collections are belonging to the Pre-Aksumite and Aksumite periods civilization.
2	Ornaments	Absolutely destroyed	EDF	
3	Ancient coins	Absolutely destroyed	EDF	
4	Ancient glass	Absolutely destroyed	EDF	
5	Agricultural tools	Absolutely destroyed	EDF	

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Object
6	Cereals	Absolutely destroyed	EDF	
7	Stone tools	Absolutely destroyed	EDF	
8	Ancient stamps	Absolutely destroyed	EDF	
9	Bone fragments	Absolutely destroyed	EDF	

Source: CITG survey, 2022.

Mai-Adrasha Archaeological site and Temporary storehouse in Shire/TASS/

This temporary house is located in the northwestern part of Tigray, nestled in the city of Shire. This storehouse was basically established after the discovery of the Mai-Adrasha site near the Shire town. All the collections stored in the temporary house were sourced from the newly discovered site of Mai-Adrasha. This archaeological site, dating back to 1250 BC, is considered the oldest site in northern Ethiopia. The findings of the site were stored in a room within a temporary building or shelter to ensure their preservation and for further analysis purposes.

However, the potential findings were stored within the storehouse; it also became a victim of the war. According to Barnard and Wendrich (2022), both the Ethiopian and Eritrean forces shelled the building during the war, causing irreparable damage. The shelves and boxes within the temporary storage facility were broken, emptied, and destroyed. The artifacts, once carefully studied and preserved, were reduced to ruins. The director of the archaeological excavation of Shire said,”

“Excavated finds from Mai Adrasha have been dated back to 1250 BC, making it the oldest site in northern Ethiopia. All finds were washed, documented, catalogued, and analyzed, after which they were stored in a room in the regional administrative building. In December 2020, this building was bombed by Ethiopian and Eritrean forces. The shelves are now empty, and all boxes thrown to the ground. Later, some of the local people took the opportunity to visit the storeroom and further damage the boxes. Not a single box is now in good condition; every box is destroyed, and most of the finds are broken, some of them stomped into dust (Barnard and Wendrich 2022: 53).

The researcher noted that there is no trace of the artifacts remaining in their original state; they are unequivocally destroyed. Observations at the temporary store, coupled with testimony from the project team, confirm the devastating loss of the collections, emphasizing that they are gone

forever. The destruction of Mai Adrasha's archaeological collections not only erases a tangible link to ancient history but also raises concerns about the long-term impact on our ability to reconstruct and comprehend the historical narrative of the region.



Destruction of the temporary museum and its collections, Shire store house
Source: CITG 2022.

The loss of Mai Adrasha's artifacts serves as a touching reminder of the urgent need for international cooperation and stringent measures to protect archaeological treasures during periods of war. It reinforces the call to prioritize the safeguarding of cultural heritage, ensuring that the invaluable artifacts that bridge our understanding of the past remain preserved for future generations.

Table 79. Collection destruction of Shire store House.

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Objects
1	Pre-Aksumite and Aksumite Potteries	Absolutely destroyed	ENDF and EDF	All these objects were significant for reconstructing the past culture of the society.
2	Ancient ornaments	Absolutely destroyed	ENDF and EDF	
3	Ancient coins and stamps	Absolutely destroyed	ENDF and EDF	
4	Ancient glass	Absolutely destroyed	ENDF and EDF	
5	Agricultural tools and cereals	Absolutely destroyed	ENDF and EDF	
6	Stone tools	Absolutely destroyed	ENDF and EDF	

Source: CITG survey, 2022.

Archaeological Museum of Wukro/AMW/

The Archaeological Museum of Wukro located in the town of Wukro, which is 45 km north of Mekelle, stands as a custodian of diverse archaeological collections. These collections are

sourced from the Pre-Aksumeite, Aksumeite, and Post-Aksumeite sites of Meqaber Ga'ewa, Gud-Bahri iron slag site, Waqrida, and Mariam Anza. Established with the expertise of German professionals, this museum held a prominent place as one of the most visited cultural sites in the town. The museum's primary exhibits are discoveries from Meqaber Gaewa, located 7 km southeast of Wukro town, notably the impressive Sabaeen Deity temple dating back to the 8th century BC. Additionally, the collection comprises artifacts collected through donations and gifts. Comparatively, this museum is safe from looting and serious destruction.



The status of Wukro museum collections, Wukro
Source: CITG 2022.

However, due to long-term closure of the museum building, the collections had been exposed to decay, termite attack, and moisture.

Table 80. Highlights destruction and damage to the Archaeological Museum of Wukro

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Object
1	Variety typology Pre-Aksumite and Aksumite potteries, and unique Amphora	Partially decayed	ENDF and EDF	Overall, the archaeological museum is fundamental for variety stakes assisting in research, history, documentation, art, and science, and socio-economy.
2	Variety bronze Coins	Good condition	ENDF and EDF	
3	Incent burner	Lightly decayed	ENDF and EDF	
4	Female statue	Good condition	ENDF and EDF	
5	Structure of Temple of Al-Muqah used for scarifications	Good condition	ENDF and EDF	
6	Variety Jewelries, and Perfume containers, Foot washer	Lightly decayed	ENDF and EDF	
7	Stamp	Good condition	ENDF and EDF	

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Object
8	Grinding stones, stone tools	Good condition	ENDF and EDF	

Source: CITG survey, 2022.

Temporary Archaeological Museum of Freweyni/TAMF/

This temporary museum is located in the Eastern part of Tigray, Wereda Freweyni, on the main road to Adigrat. The Collection House of Freweyni, an integral part of the ongoing French-Ethiopian Archaeological Mission in Eastern Tigray, represents a crucial archaeological project primarily focused on uncovering ancient occupation from the Pre-Aksumite to the late Aksumite period in Freweyni town and its vicinity. The project held tremendous promise with numerous significant archaeological findings identified at various sites, and the corresponding artifacts were meticulously stored in a temporary house in Freweyni town. Mainly, the collections of this **TAMF** museum were from the Endagewergis and Waqarida archaeological sites.

According to witnesses from members of the research team, the **TAMF** fell victim to looting and destruction, leaving nothing but the haunting remnants of what was once priceless collections. This incident casts a stark light on the vulnerability of cultural artifacts even within the confines of ongoing archaeological projects. Analysis of this case reveals the interconnected challenges faced by archaeological missions during times of war. The intentional destruction and looting of such a significant collection underscore the broader threat to archaeological endeavors in warzones. Beyond the immediate loss of artifacts, the incident at **TAMF** raises questions about the long-term impact on the region's archaeological record and the ability to reconstruct and understand its ancient history.

Table 81. Destruction collection in the temporary museum

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Object
1	Aksumite and post Aksumite potteries	Completely damaged	EDF	These collections were representations the societies culture, history and identity. The community has a direct relation with the collections which testifies their past way of life. All the civilizational activities of the society are bestowed on these collections.
2	Grinding stones and stones	Partially damaged	EDF	
3	Ornaments (ancient plastic and clay beads)	Looted	EDF	
4	Metal artifacts	Partially damaged	EDF	
5	Incense burners	Completely damaged	EDF	

Source: CITG survey, 2022.

Furthermore, the devastation witnessed in this case emphasizes the need for heightened security measures and international collaboration to safeguard ongoing archaeological projects during periods of the war. It prompts a critical examination of the delicate balance between the pursuit of knowledge through archaeological exploration and the imperative to protect and preserve cultural heritage during unsettled times. TAMF serves as a poignant example, highlighting the delicate interplay between war, cultural preservation, and the pursuit of historical understanding in archaeological missions.

Emperor Yohannes-IV Palace Museum/EYPM/

This palace museum is located in Mekelle, the capital of Tigray, on the way to the Mekelle-Adigrat main road. This museum is dedicated to Emperor Yohannes IV, which was built from 1864 to 1867 within three consecutive years by Emperor Yohannes IV and his descendants. Accordingly, this museum was established as a royal palace for Emperor Yohannes and his family and underwent a significant transformation into a museum with the invaluable support of UNESCO. This museum stands as a high point of cultural and historical significance, boasting rich collections encompassing ethnography, historical artifacts, manuscripts, archives, and other collections dedicated to Emperor Yohannes-IV.

Like the other museums, the echoes of war cast a dark shadow over this palace museum. During the war on Tigray, the Ethiopian National Defense Forces occupied **EYPM** and its compounds for an extended period. What was once a sanctuary of cultural heritage become a military camp, repurposed as a command center, kitchen, and sleeping quarters. The aftermath of this occupation revealed a scene of devastation a museum stripped bare, its contents broken, cleared, and the walls adorned with hate-filled graffiti directed towards the Ethnic Tigrayans.

The despoliation of the Museum is a touching illustration of the severe impact armed war can have on cultural heritage. The intentional repurpose of this historically significant site for military use resulted not only in the tangible loss of invaluable artifacts but also in the deliberate defacement of cultural and symbolic identity. The hate-filled graffiti serves as a stark reminder of the broader consequences of war on the fabric of a region's cultural heritage.



The destruction of the palace museum, Mekelle
Source, TMH 2022

The significance of this case extends beyond the local context. **EYPM** holds UNESCO-recognized heritage status, and recent renovations have heightened its potential for further recognition as a World Heritage site. The compromise and desecration of such a culturally and historically significant institution underscore the global implications of the Tigray war on the preservation of world heritage. This heartbreaking example emphasizes the urgent need for international attention and concerted efforts to safeguard cultural treasures amid war situations.

Table 82. Destruction to the Emperor Yohannes-IV Palace Museums

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Object
1	Variety Ethnographic and household collections	Looted	ENDF and EDF	All these historic and ethnographic collections were significant to know the history of the emperor and their governance systems. They were also used to interpret the material evidence of the human race, human activity during the then times.
2	Royal family collections	Looted and destroyed	ENDF and EDF	
3	Wooden chair throne of Emperor Yohannes	Partially broken	ENDF and EDF	
4	Light artilleries	Looted	ENDF and EDF	
5	Horse decors	Looted	ENDF and EDF	
6	Gifts from European royal families	Looted	ENDF and EDF	
7	Ivories	Looted	ENDF and EDF	
8	Carpets	Looted	ENDF and EDF	
9	Religious books, crosses, archives, documents, photos, news papers	Looted	ENDF and EDF	
10	Wooden doors and windows	Partially damaged and broken		

Source: CITG survey, 2022.

The Monumental Martyrs' Museum of Tigray/MMMT/

It is found in the city of Mekelle. Established in February 2003, it is one of the purposefully established museums in Tigray to commemorate the seventeen-year struggle against the Derg Regime of 1974-1991. This monument, endorsed by the entire Tigray community, symbolizes the sacrifices made for identity, history, culture, freedom, and sociocultural dimensions during those tumultuous years. It serves as a significant heritage center, embodying nationalism, national heroic culture, resilience, freedom, and equality for the people of Tigray and Ethiopia.

Since its commencement, the institution has been a prominent tourist destination in Mekelle, offering event and convention services, a museum with rich collections, parking facilities, sightseeing opportunities, a library, statues of freedom fighters, and an array of war artillery ranging from small to huge. The museum, a key component of the center, showcases a wealth of collections predominantly depicting the history of the people of Tigray's struggle for independence, spanning from the 1930s *Kedamay Woyane* Movement to the 17-year war.

Regrettably, like many other heritage centers in Tigray, the MMT was subjected to targeted attacks during the war. Contrary to international laws governing humanity and heritage protection conventions, evidence of hate-filled and ethnically sensitive graffiti on the museum walls was discovered. Along with this, looting of iconic pictures of the fighters, destruction of all historical evidence that depict the struggle and the stuffs were completely damaged. According to the museum curators and management, a total of 6359 collections were destroyed by the federal forces (ENDF and Federal police) with the intention of erasing the identity of the Tigray people.



Destruction of The Monumental Martyrs' Museum of Tigray, Mekelle
Source, CITG

The damage of the MMMT represents not only an attack on a physical structure but an assault on the collective memory and identity of the people it commemorates. The deliberate targeting of such a symbolic element of national pride and resilience reveals the strategic intent to erase cultural heritage tied to the region's struggle for freedom. As shown in the above figure, the graffiti written in the Amharic language literally means” *A house constructed by Mice ruined by the cat’s Echo,*” meaning the combatant forces are undermining the museum collections, and said as they have hands-on power to destroy the museum and its collections.

Table 83. Damage of MMMT

S. N	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Objects
1	Heavy and light artilleries/armaments, radios, military vehicles, and a helicopter	-Except the helicopter; almost all are totally destroyed; but the helicopter was lightly damaged	ENDF	The heritage center has been considered as symbol of nationalism, national heroic culture, resilience, freedom, and a benchmark of freedom and equality for the entire peoples of Ethiopia in the last 30 years after the downfall of the dictator government. Since its establishment, the
2	Variety household goods used by the fighters at the fronts	Completely destroyed	ENDF	
3	Variety clothes and shoes used during the struggle	Completely destroyed	ENDF	
4	Musical instruments and cultural ornaments	Completely destroyed	ENDF	
5	Historical photos of fighters, party symposium, party elections and meetings, and photos of the first	Completely destroyed	ENDF	

S. N	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Objects
	woyane movement, photos of socio-cultural and economic situations of Tigray people			center was one of the best tourist and heritage sites in Mekelle with preferable event and convention services, museum with rich collections, parking, sightseeing, library, zoo, marvelous statues of freedom fighters, and small to huge war artilleries.
6	Historical documents, archives, stationary equipment, certificates, and gifts	Most of them destroyed, and few were lightly damaged and scattered	ENDF	
7	Handcrafts, paintings, and sculptures	Completely destroyed	ENDF	
8	Cemetery of the heroes passed during the bitter 17 years struggle	Heavily damaged and broken	ENDF	
9	The 55-meter giant statue martyrs, and statues of heroes	The giant statue of martyrs stayed safe, but the statues of heroes and other structures had been partially damaged	ENDF	

Source: CITG survey, 2022.

The Ethnographic Museum of Irob/EMI/

It is found in Irob Wereda at the town of Dewuhan. It was established in 2016 and used as a permanent ethnographic museum for the people of Irob. It exhibits a history of the Irob ethnic groups, ranging from their settlement pattern to the instruments they were/are used. It was among the best ethnographic museums in Tigray. The Irob people have an exceptional cultural identity, which includes their language and traditional practices that have been shaped by their ancient experiences. The collection of EMI was mainly acquired through donation, purchase, gift, artwork, and field survey. All the collections displayed in the museum were representations of the ethnic groups of Irob. They represent the previous and current geographical context, historical background, cultural identity, livelihood and economy, social organization, and religion of the society. In short, this museum was used as the center of the Irob people's cultural identity.

The museum exhibited more than 46 types of collections, which can describe the political, cultural, and social organization of the people. The building of the museum and its collections were totally damaged and looted. According to the view of the respondents and the local community, this museum was intentionally destroyed by the Eritrean troops through heavy artillery. The targeting and looting of EMI reveal a calculated effort to erase not just physical artifacts but also the cultural identity of the Irob people. The intentional destruction of a repository meant to preserve the rich ethnographic history of the community reflects a broader strategy to undermine the cultural fabric of the region. According to the museum curator, the Eritrean troops were relentlessly emptying all the collections of the museum and shipping them to Eritrea.



Destruction of the Irob ethnical museum and its collections, Irob
Source, CITG 2022

The destruction of this ethnographic museum signifies a profound loss for the Irob people, as it deprives them of a tangible connection to their heritage and traditions. The erasure of cultural artifacts and historical records disrupts the transmission of generational knowledge. For the Irob people, this assault on the museum is an assault on their identity. The destruction of the museum is not just a loss of artifacts; it inflicts emotional and psychological trauma on the Irob community. It disrupts the inter-generational storytelling and cultural practices that are integral to community cohesion.

Table 84. destruction collection on the Ethnographic Museum of Irob

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Objects
1	Head master	Partially damaged and looted	EDF	All these collections represent the previous and current geographical context, historical background, cultural identity, livelihood and economy, social organization and religion of the Irob people cultural identity.
2	Ancient agricultural tools	Looted	EDF	
3	Traditional clothes	Completely damaged	EDF	
4	Traditional utensils	Partially damaged and looted	EDF	
5	Photo gallery	Completely damaged	EDF	

Source: CITG survey, 2022.

Ethnographic Museum of Kunama/EMK/

It is found in the north west of Tigray, Wereda Tahtay Adiabo, Tabia Lemlem, in the town of Sheraro. The EMK is dedicated to the ethnic Kunama community in the Tigray region. The museum showcased the rich artifacts and lifestyles of the Kunama people, representing valuable cultural and historical heritage. The Kunama people, particularly those completely displaced from their villages, faced restricted access due to the ongoing control of their settlements by Eritrean forces. Consequently, the Ethnographic Museum was repurposed into an Internally Displaced Persons (IDP) center in Sheraro city. Inside the museum's exhibition room, 29 family heads took residence, while an additional 12 family heads constructed temporary houses within the compound. Presently, the museum stands closed, with all artifacts having been destroyed and looted during the course of the war events.

The transformation of the Museum into an Internally Displaced Persons (IDP) center is a stark illustration of the impact of war on cultural institutions. The intentional destruction and looting of the museum's artifacts by the Eritrean Defense Force not only erased tangible representations of Kunama culture but also disrupted the continuity of generational knowledge.

The destruction of the EMK signifies the erasure of tangible connections to Kunama cultural identity. The deliberate targeting of the museum's artifacts reflects a broader strategy to undermine the cultural fabric of the Kunama community. The conversion of the museum into an IDP center reveals the immediate impact of war on the Kunama people.



The destruction of kunama ethnical museum, Kunama
Source, CITG 2022

The closure and destruction of the museum have broader implications for the Kunama community's sense of identity. Cultural institutions play a vital role in shaping and preserving a community's identity, and their destruction exacerbates the trauma experienced by the Kunama people. (popular Archaeology, 2023).

Table 85. Destruction and Damage to the Ethnographic Museum of Kunama

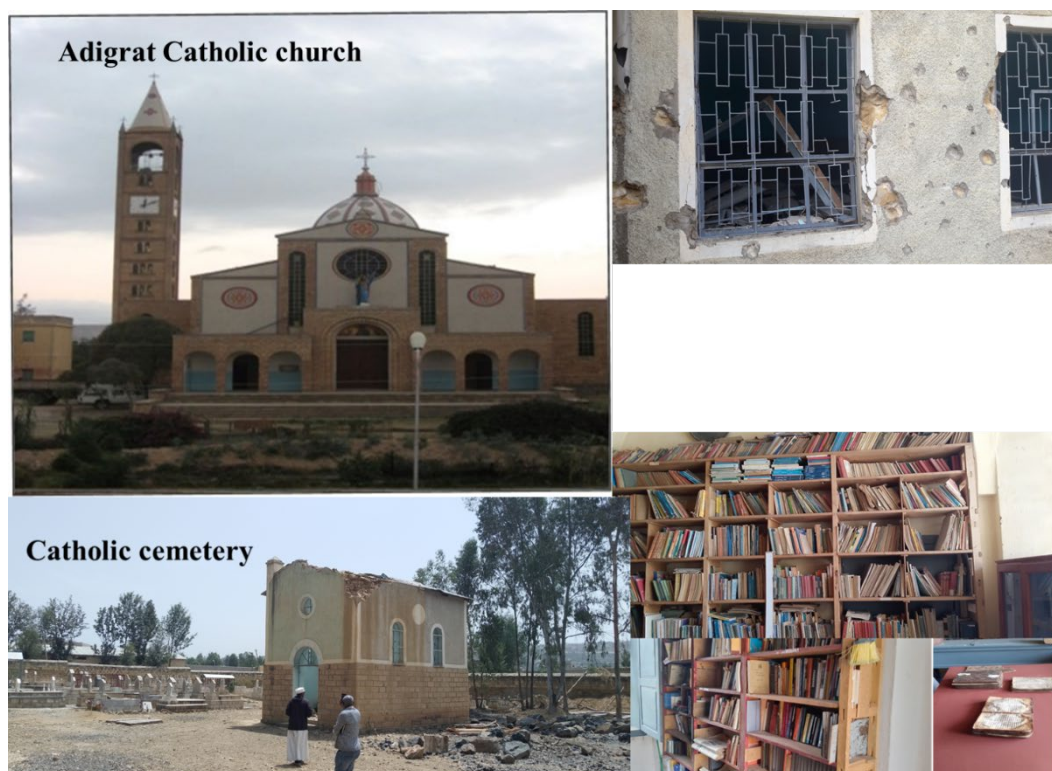
S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Object
1	Traditional music instruments	Completely damaged	ENDF and EDF	Exemplifies the lifestyle of the Kunama people.
2	Head masters	Partially damaged and looted	ENDF and EDF	
3	Replica of their traditional houses	Looted	ENDF and EDF	
4	Agricultural instruments	Completely damaged	ENDF and EDF	
5	Traditional vestments	Partially damaged and looted	ENDF and EDF	

Source: CITG survey, 2022.

Archive and Library of the Adigrat Catholic Church/ ALCC/

This archive is found in the town of Adigrat inside the Catholic church of Adigrat. The Archive and Library of the Catholic Church, a venerable repository housing a wealth of historical treasures, faced partial damage during a half-day shelling by Eritrean forces in Adigrat city. The center boasts a diverse collection, encompassing letters from Ethiopian emperors, books

detailing African and Ethiopian history, significant manuscripts, diaries, a Ge'ez-Latin dictionary, an array of science and theology books, the inaugural document of the 120 rock-hewn churches in Tigray, holy literature, old musical instruments, and unique archives inscribed in Latin, chronicling European expeditions to Abyssinia.



The destruction of the archives in Cathedral church of Adigrat, Adigrat
Source, CITG 2022

The targeted shelling by Eritrean Defense Forces inflicted partial damage on the Archive and Library of the Catholic Church, resulting in fallen shelves and scattered collections. This incident illustrates the vulnerability of cultural institutions during war, where even repositories of immense historical significance become casualties. Hence, it is known that libraries house not only books, but the intellectual and cultural memory of a people.

Table 86. Damage to the Archive and Library of the Catholic Church

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Objects
1	Holly Books and Manuscripts	Partial damage due to shelling, scattered, and tearing	EDF	The collections are very important enough to the church followers, historians, academicians, researchers, etc
2	Exceptional history and philosophical books	Partial damage, scattered, and tearing	EDF	
3	Historical Archives and documents	Lightly damaged; scattered	EDF	
4	Historical Newspapers, Diaries,	Scattered and tear	EDF	
5	Musical Instruments	Not damaged	EDF	
6	Variety academic books of the 19-20 th C	Scattered due to shelling	EDF	

S/n	Object/Item	Form/ level Damage	Alleged Perpetration	Significance of the Objects
7	Old Seminary buildings	Heavy damage due to shelling on the building side	EDF	

Source: CITG survey, 2022.

Marta and Adigrat public libraries

These libraries are found in Adigrat town, in Eastern Tigray. The Marta and Adigrat public libraries were among the famous libraries in Tigray which holds old books and student text books. The Marta library holds more than 14000 different books ranges from old books to new student texts while the Adigrat Public library also holds more than 100,000 books. Thus, the respondents argue that more than 90% of the books were damaged and the remaining 10% were stolen by the local gangsters. The libraries are now completely empty.

The destruction of the libraries by the Eritrean forces was beyond mere collateral damage. The respondents argue that the combatants were jealous of literacy in Tigray. The Eritrean Defense Forces who purposefully destructed the libraries said in the local knowledge “ንሕና ትምህርቲ ኣብ ዘይንግሃረሉ ግዜ ንስኩም ድግርን ማሰተርን ሓዝኩም” Meaning “When we were out of education, you holds degree and master’s”. Hence, it is known that libraries house not only books, but the intellectual and cultural memory of a people. Therefore, damaging and burning the books and archives by the Eritrean forces was for the purpose to eliminate a community's access to knowledge that withstands their identity.

In general, the level of destruction of public libraries and archives in Adigrat is huge. Some of them are damaged and others are also looted by both the members of the Eritrean Defense Forces and gangsters.



Destruction of Marta and Adigrat Public libraries, Adigrat
Source, CITG 2022

Nature and Extent of Damage of the Archaeological sites and museum collections

The war has resulted in the documented damage, destruction, and theft of cultural heritage materials, museum collections, and buildings across the Tigray Region. Equivalent to the destruction of cultural heritages, local communities have been harmed by invading forces, which inflicted widespread gender-based violence, extra-judicial killings, and massacres.

Archaeological collections (Artifacts and Eco-facts), photographs, documents, ethnographic collections, and paintings were vandalized or looted. All collections within the museums are totally damaged, and some of them have been looted. Beyond the physical destruction in the museum's collections, museums like the **MMMT** and **EYPM** were also used by the Ethiopian National Defense Force as a detention center, leading to further destruction and the use of the sites for torture and sexual violence against captured Tigrayan civilians.

In the Tigray Regional State, the investigation of museum institutions revealed the loss of immense museum collections. For example, in the Ethnographic Museum of Irob, more than 46 types of collections, and 102 in number, which can describe the political, cultural, and social organization of the people, were totally damaged and looted by EDF. The same is true, in the museum of **TAMA**, over 300,000 unique artefacts, including 28,000 diagnostic ceramics, and over 33,000 lithics (one of the largest lithic collections in Eastern Africa), and other cultural

remains were completely destroyed by the perpetrators. According to the museum curators and management of the museum of **MMMT**, a total of 6359 collections were totally destroyed by the federal forces with the intention to erase the identity of the Tigray people. In **TASS**, archaeological collections dating back to 1250 BC were totally damaged and looted.

Thus, the destruction and looting of museum collections have resulted in the irreversible loss of valuable cultural heritage, impacting national identity and historical narratives. The information lost with the destroyed artifacts is irreplaceable. This extent of destruction was intentionally intended to misplace the historical artifacts that have a direct relation with society.

Impact on the destruction of the Archaeological sites and museum collections

The Tigray war has perpetrated an appalling toll on museums and cultural institutions, causing profound losses with universal significance. The looting of community heritages leads to the extinction of culture, history, and social values (Udvardy et al., 2003). It wrought enormous destruction upon the region's cultural heritage and museums. Museums, libraries, cultural centers, and other vital social infrastructures were deliberate targets during the war. Archaeological sites, museums, and memorial sites suffered extensive damage, compounded by the impact on religious buildings and their surroundings. The repercussions were staggering, resulting in the loss of museums and religious artifacts, including coins, ethnographic collections, archives, historical items, libraries, books, documents, and a vast array of archaeological collections. These kinds of intentional destruction are a crime against the right to survival for future generations (Meskell, 2002).

Moreover, interviews conducted with museum curators and experts, coupled with document surveys, provided further evidence of intentional destruction and looting of museums perpetrated by ENDF and EDF. Throughout the war, ICOMOS (2021) consistently raised concerns about the occurrence of cultural cleansing, emphasizing the deliberate destruction of sites and the plundering of manuscripts and artifacts by ENDF and EDF, posing a significant risk of illicit trafficking. Equally noteworthy were field observations by the researchers, which revealed that prominent museums, libraries, and archives in Tigray had been systematically destroyed and looted.

In a depressing revelation, it became apparent that these forces not only intentionally destroyed these institutions but also strategically left museums unprotected, facilitating their targeted looting by heritage hunters and other irresponsible entities. The destruction violates a multitude of heritage protection laws and conventions. At the national level, it contravenes Ethiopia's

constitution, infringing on the right to express, develop, and promote culture (Article 39). Additionally, it clashes with the state's duty to preserve historical and cultural legacies (Article 41) and the obligation to protect natural and historical sites (Article 91).

Internationally, the destruction contradicts several heritage protection legal frameworks, including the 1954 Hague Convention and its Protocols, the 1970 UNESCO Convention, and the 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage. Despite Ethiopia and Eritrea being signatories to these conventions, their actions have directly undermined the principles they pledged to uphold.

For instance, Ethiopia's signing of the 1970 UNESCO Convention aimed at preventing the illicit export of cultural objects ([Proclamation Number 374/1996](#)) becomes paradoxical as the nation actively participated in destroying its heritage. Both Ethiopia and Eritrea's involvement in the destruction of museums, large libraries, and archives contradicts the 1954 Hague Convention, which emphasizes preventing any form of theft, pillage, or misappropriation of cultural property. The intentional and collateral destruction not only disregards legal obligations but also undermines the global commitment to protect our shared cultural heritage.

The researcher's case study sheds light on the devastating impact of the Tigray War on cultural preservation efforts, emphasizing the urgent need for international awareness and concerted efforts to protect invaluable relics and historical sites from such deliberate destruction. The plight of the temporary museum in Adigrat and the Ethnographic Museum in Irob serves as a stark reminder of the imperative to prioritize the protection of cultural heritage, especially during times of war, to ensure the preservation of our shared human history.

Upon delving into the destruction, it becomes apparent that such incidents not only lead to the physical loss of tangible artifacts but also undermine the fundamental historical narratives that contribute to shaping the identity of both the people and the region.

Moreover, interviews conducted with museum curators and experts, coupled with document surveys, provided further evidence of intentional destruction and looting of museums perpetrated by Ethiopian and Eritrean forces. Throughout the war, the occurrence of cultural cleansing, emphasizing the deliberate destruction of sites and the plundering of manuscripts and artifacts by Ethiopian and Eritrean troops, posed a significant risk of illicit trafficking and had been systematically destroyed and looted.

In summary, the witnesses in the communities expressed the belief that the focus of the war efforts was to destroy cultural and religious heritage in an attempt to undermine the pride of the people in Tigray in conserving these age-old sites for humanity. In terms of social impact, the destruction undermined the community leadership, as they felt they had failed to protect these sacred places. This, in turn, undermined the communities, who rely on the shared sacred values that are symbolized by the religious places and objects they cherish.

Many cultural heritages have suffered from the war on Tigray that is damaged, destroyed and looted. Heritage sites such as religious centers, museums and archaeological sites were indiscriminately shelled by heavy artillery. Hence, church buildings and mosques were ruined, and their church treasures looted, burned, and museum collections plundered. As a result, the Tigray community (religious people) loses its cultural identity.

It was observed that the looting and theft were perpetrated in two different ways, as per the instructions of the EDF commanders. Smaller objects could be taken by troops for ‘personal use’. The larger objects of greater value were taken separately, and not as individual looted belongings to individual troops.

In addition, their de facto denial proves that the destruction was premeditated and deliberate. Moreover, the pattern and magnitude of the heritage destruction as well as how each destruction happened. Finally, it proved that heritage and history cleansing is one goal of the war on Tigray; it is a policy that has an ideological component.

Heritage destruction in Tigray has been perpetrated by the robust state itself and its licensees. In many cases, the combined forces’ selection and targeting of the most valuable ones suggests destroyers well oriented by anti-Tigray identity.

Looting, damage, and destruction that are occurring as part of the Tigray war are not due to war collateral damage but are premeditated, systematic, and deliberate targets of all the non-Tigrayan forces.

In the war on Tigray, as documented by internationally renowned organizations, cultural predation, attacks on cultural heritage, territorial invasion, [forced assimilation](#), and [ethnic cleansing](#) are committed by the joint Ethiopian, Eritrean, and local Amhara forces on the Tigrayan population. In addition to the already created [humanitarian Armageddon](#) and loss of the Tigray population, cultural heritage has been highly adversely affected, primarily due to premeditated destruction campaigns. It is particularly tragic because embattled Tigray stands

out for its archaeological, historical, and sacred heritage, as well as traditions and values as a composite product of long-spanning civilizations.

Some individuals and international groups define, cultural genocide/cultural cleansing as “acts and measures undertaken to destroy nations' or ethnic groups' culture through spiritual, national, and cultural destruction”. It involves the eradication and destruction of cultural artifacts, such as books, artworks, and structures and in general people’s identity (United Nations Declaration on the Rights of Indigenous Peoples, 2007 and Raphael Lemkin, 1944).

Among many other potential reasons, cultural genocide may be committed for religious motives as part of a campaign of ethnic cleansing to remove the evidence of a people from a specific history; as part of an effort to implement, in which the past and its associated culture is deleted and history is reset. It exactly happened in all parts of Tigray by the perpetrators. Many reports (international Media, researchers, organizations, and states of the world) have confirmed that ethnic cleansing and making the people with zero identity was the intention of the war. Comprehensively, the major Criminal Acts in the Tigray heritages are summarized as follows:

Making heritages and collection the objects of attack

This refers to the deliberate targeting, destruction, looting, or vandalism of cultural heritage sites, monuments, sacred places, museums, archives, and their collections during armed war, political violence, or social unrest. This act aims to destroy or undermine a community’s history, identity, memory, and cultural continuity by attacking the physical and symbolic representations of their heritage

Using heritages and their surrounding for military purpose

This relates to the deliberate utilization of cultural heritage sites, monuments, sacred places, museums, or the areas around them for military activities such as fortification, troop deployment, storage of weapons, or launching attacks. This practice not only compromises the protection of cultural heritage but also exposes the site and surrounding civilian populations to damage and danger during armed war

Destruction, appropriation or reprisal of heritages

Destruction, appropriation, or reprisal of heritages refers to deliberate acts that damage, destroy, seize, or retaliate against cultural heritage—including monuments, sacred sites,

museums, archives, and other tangible or intangible cultural assets—often as part of armed war, political oppression, or ethnic/religious targeting. These acts aim to erase a community's history, identity, and cultural memory, whether through physical destruction, theft, or punitive measures against a group by targeting its heritage

Conducting any illicit act (trafficking, theft, pillage, vandalism...) on heritages

The above title discusses the illegal or unauthorized actions directed at cultural heritage, including stealing, selling, looting, defacing, or destroying cultural property such as monuments, museums, artifacts, religious objects, and other tangible or intangible heritage. These acts violate national and international laws and threaten the preservation of cultural memory, community identity, and historical continuity

Making heritages under special/enhanced protection the objects of attack and destroying

This refers to the deliberate targeting, assault, or destruction of cultural heritage sites that have been granted legal protection under national or international law, such as UNESCO World Heritage Sites, protected monuments, or recognized sacred places. This includes acts that damage, destroy, or compromise these sites, despite their special status intended to safeguard them during armed war or other threats. Such actions violate international conventions

This is considered a serious violation of international law, including the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed War

Generally, the war on Tigray has inflicted extensive and deliberate destruction on the region's cultural heritage. Hundreds of archaeological sites, and monuments—including globally significant sites like the Akusum area and Yeha Temple were shelled, bombed, looted, burned, or vandalized. This assault was not collateral but purposeful, aimed at suppressing Tigrayan identity, rewriting history, and terrorizing communities with hate-filled messaging and attacks on symbolic sites. The war's information blackout has complicated damage assessment, but accumulating eyewitness accounts, and scholarly surveys indicate systematic heritage targeting a form of cultural cleansing.

The Impact of Cultural Heritage, Religion institutions, and values damage of Tigray

The Impact of Cultural Heritage, Religious institutions and values damage of Tigray is multi-dimensional, affecting not only the physical heritage but also the social, cultural, spiritual, and

economic fabric of communities. Below is a key impact on the Tigray cultural heritages and historical objects.

1. Cultural and Historical Loss

- Destruction of centuries-old heritage sites such as Palaces, Temples, manuscripts, and artworks results in an irreversible loss of historical knowledge and cultural identity.
- Many of these heritages represent unique aspects of Tigrayan and Ethiopian civilization, including Aksumite architecture, ancient inscriptions, and religious traditions.

2. Damage of Religious Institutions

- Destruction and Looting of Sacred Sites: Ancient Orthodox churches, mosques, and monasteries have been damaged, looted, or militarized, violating their sanctity and affecting both spiritual and community life.
- Interruption of Religious Services and Pilgrimage: War has made it impossible for people to practice religious rituals, observe holy days, or make pilgrimages to sacred sites, weakening spiritual resilience and communal bonds.
- Loss of Religious Treasures: Sacred manuscripts, crosses, vestments, and icons have been stolen or destroyed, severing a deep connection between faith, culture, and material heritage.

3. Collapse of Social and Cultural Values

- Disintegration of Community Identity: With the destruction of cultural and religious symbols, people experience displacement not just physically, but culturally and spiritually, leading to a weakening of shared identity and values.
- Psychosocial Trauma: The loss of sacred and cultural symbols contributes to grief, disorientation, war resolution and trauma, particularly among elders and religious leaders.
- Moral and Ethical Erosion: In areas where religious institutions traditionally provided moral guidance, and community cohesion, their weakening results in a void in social governance and value systems.

4. Erosion of Identity and Social Cohesion

- Heritage sites are core to **community identity**, belonging, and collective memory.
- Their destruction undermines **social cohesion, intergenerational continuity, and cultural resilience**, especially in post-war recovery.
- Destruction of sacred and historic sites has severed the Tigrayan people from symbols of communal memory and identity, such as centuries-old manuscripts and ritual spaces, inflicting profound cultural trauma.

5. Economic Impact

- Cultural heritage is a potential source of income through tourism and cultural industries. The income generated through the cultural heritage was collapsed.
- The destruction of heritage infrastructure (museums, heritage sites, etc.) means lost economic opportunities and long-term development setbacks for the region.
- Tigray's rich heritage once attracted tourists and pilgrims. The widespread destruction and travel bans obliterated regional tourism, undermining livelihoods of guides, hotels, artisans, and broader local economies.

6. Damage to Intangible Cultural Heritage

- War disrupts oral traditions, rituals, craftsmanship, and knowledge systems, especially when communities are displaced or cultural leaders are lost.
- This leads to the weakening of cultural transmission from elders to younger generations.

War and restricted access have halted archaeological and anthropological research and digitization efforts. Institutions and scholars lost invaluable materials and opportunities for knowledge production and exchange.

7. Psychological and Emotional Trauma

- Communities experience trauma and grief when culturally meaningful places are destroyed.

- This contributes to a sense of cultural erasure and emotional disconnection from ancestral heritage.

8. Weakening of Heritage Institutions

- War damages or disables archives, museums, universities, and religious institutions responsible for protecting and managing heritage.
- Loss of records, staff, and resources undermines heritage conservation capacity.

Generally, the war on Tigray has resulted in physical destruction, cultural erasure, spiritual disruption, economic loss, and social fragmentation, making the protection and restoration of cultural heritage an essential part of peacebuilding and recovery.

5.4. Conclusion and Recommendations

Conclusions

The Tigray War, which began in November 2020, has had devastating consequences for human life, infrastructure, and cultural heritage. Among the most tragic outcomes has been the widespread destruction and looting of cultural heritages that represent the rich and diverse history of the region. It has resulted in an unprecedented cultural crisis, marked by the widespread destruction, looting, and damage of the community's rich and irreplaceable cultural heritages. This destruction extends across a broad spectrum of cultural assets, including archaeological sites, museum collections, religious institutions and their rituals, historic buildings, and centuries-old and contemporary local handcraft traditions. The cumulative impact is not only physical, but also spiritual, communal, and intergenerational.

Tigray, home to some of the oldest human settlements, history, and early religious traditions in Africa and considered the cradle of civilization, has suffered devastating misfortunes to its historical and archaeological legacy. Many ancient sites, churches (both carved into rock and built churches), manuscripts dating back centuries, and museum collections have been systematically looted, burned, or destroyed. Institutions like the Axum archaeological museum and Mekelle martyrs' monumental memory- both symbols of Tigray history have been targeted, looted and destroyed. This tangible loss is immeasurable and irreplaceable, representing a split in the historical continuum of the Tigray history and civilization.

The same is true to the other cultural and traditional marks of Tigray identity; religious institutions have also been excessively affected. Different churches, mosques, and monasteries were attacked; many of them heritage-listed and considered sacred spaces have been bombed, vandalized, looted, or occupied by the combatant forces. The religious institutions were not simply buildings but they were living spaces of worship, learning, and spiritual identity. All kinds of religious services ranging from communal mass to funereal practices were totally concealed. The religious norms were purposefully violated. Clergy men were attacked, and sacred items including ancient bibles, icons, and relics were desecrated, burned or stolen. This has disrupted centuries-old religious practices, ceremonies, and the intergenerational transmission of spiritual traditions. As a result, many religious institutions served as military camps and fortresses.

The destruction of historical buildings and cultural properties during the Tigray War represents a profound loss for the Tigray community. These sites, which include ancient buildings, handcrafts, and architectural treasures, are irreplaceable records of human identity. The deliberate or collateral destruction of the historical buildings and properties throughout the Tigray region were beyond the physical damage. It is the loss of cultural heritage that deepens the wounds of war, eroding a community's sense of history, pride, and continuity. The act represents an attack on the memory, and soul of a people.

Handcrafted traditions (like pottery, weaving, icon painting, wood carving, and manuscript illumination) which were passed down through generations were victims of the war. With the displacement of craftsmen, destruction of local markets, and loss of materials and tools, many of these traditional practices are extinct. These crafts are not only economic livelihoods but also vital transferors of culture, symbolism, and oral history. Their loss threatens the intangible cultural fabric of Tigray society.

Cultural heritage is not neutral; it represents a people's identity, memory, and values. Thus, the systematic nature of destruction, particularly targeting objects and institutions associated with Tigrayan identity, has raised alarms of cultural cleansing. The erasing of symbols of heritage of the Tigray community and its full destruction represents, leaving Tigray and its people without any tangible heritage. Thus, the war has sought to demoralize communities, silence historical narratives, and assert ideological dominance. The perpetrators' acts go beyond collateral damage; they were strategic assaults on the cultural soul of a people.

The destruction of cultural heritage deeply affects the psychological and communal wellbeing of the people. Cultural sites and objects are vessels of collective memory, identity, and historical pride. The loss of cultural sites and properties due to the war on Tigray leads to a sense of grief and trauma. It tends to disconnect generations from their roots, unable to access the physical markers of their history. The social bonds formed through shared traditions, festivals, and religious rituals are frayed, and community cohesion is weakened due to the devastating war.

In general, the war on Tigray has imposed profound and complex damage on the region's cultural heritage. The destruction of archaeological sites, religious institutions, museums, historical buildings, and traditional crafts is not only a cultural loss but also a humanitarian and existential one. Thus, as the region works toward recovery, the preservation and restoration of

its heritage must be integral to reconciliation, healing, and rebuilding not an addition, but should be a foundation.

The **1954 Hague Convention** in Tigray is violated. The Hague Convention requires the protection of cultural property during armed war, prohibiting military use, destruction, and targeting of heritage sites. However, all these regulations were violated as follows:

- Deliberate targeting of religious and historic sites (like Church of St. Mary of Zion in Aksum and the al-Nejashi Mosque) were shelled and looted.
- The use of cultural and religious sites as military camps, violates the prohibition against using heritage for military purposes.
- Looting of manuscripts, relics, and artifacts from monasteries, churches, and museums, contravening both the First Protocol (ban on export from occupied territories) and the general protection obligations.
- Destruction of archaeological and anthropological sites, undermining humanity's shared heritage.

Moreover, the Paris Convention (1970) was also violated in the following way. The Paris Convention prohibits illicit export, trafficking, and illegal transfer of cultural property. However, this convention is violated as follows

- Mass theft and transfer of cultural property from churches, monasteries, and museums to Eritrea, Ethiopia, and other countries.
- Illicit trade and trafficking of manuscripts, crosses, icons, and artifacts. some appearing in foreign markets contradicting obligations to prevent illegal export and import.
- Denial of restitution rights, as displaced heritage has not yet been systematically returned, violates the principles of source-country ownership

Generally, the Tigray war represents a clear case of cultural heritage violations under both conventions.

Recommendations

Following the descriptive and empirical analysis on the effect of war and siege in Tigray, the community and researchers had suggested many recommendations.

Cultural heritage is a crucial part of any community's history, binding generations through shared beliefs, traditions, and architecture. In Tigray, the deliberate targeting or collateral damage to such sites has not only violated international norms and laws, but has also wreaked deep psychological and emotional wounds on the affected communities. Thus, it calls for urgent action both to protect what remains and to ensure that such heartbreaks are never repeated. Rebuilding Tigray's cultural heritage is not just about restoring monuments; it is about restoring dignity, identity, and hope to a people whose history has been violently disrupted. Thus, the following are set as recommendations to restore and sustain the heritages.

Mitigation and Restoration Strategies

This strategy aims to prevent/ minimize further damage and preparing for future works and risks and integrate cultural heritage protection into post-war recovery and urban planning

➤ Heritage Risk Mapping and Documentation

The existing heritages and some of the partially damaged heritages need comprehensive documentation and mapping. Besides, developing a risk and vulnerability map of the destroyed heritage sites and the existing heritages is very helpful to maintain Tigray cultural heritages.

➤ Community Engagement and Awareness

The local community should be involved in any documentation and restoration works of the damaged heritage. This helps to develop the strong ownership of the heritage and future sustainability.

➤ Emergency Preparedness Plans

Since, the Tigray war has many uncertainties to end peacefully, developing site specific emergency preparedness and response plans is important. So, concerned bodies and heritage advocates should be aware of the heritage emergency plan. Moreover, heritage custodians like religious leaders, museum staff, and local authorities should train in safeguarding heritages during war.

➤ Full-scale Heritage Damage Assessment

A detailed and full-scale aerial coverage heritage damage assessment is required. While doing this, recording sites/ heritages that need immediate conservation should be identified.

➤ Establishing a memorial museum

The majority of respondents strongly recommended the establishment of a museum to document the war on Tigray as a means of remembrance and prevention of recurrence. They emphasized that such a museum should prioritize documenting sexual violence and assault, murder and human atrocities, and the destruction of heritage. These responses highlight the urgent need for a comprehensive war museum to preserve memory, honor victims, and advocate for “never again.”

The destruction of Tigray’s cultural heritage is not just a regional tragedy; it is also a loss to the world. Thus, international organizations have a responsibility to:

- Support documentation and restoration efforts the existing heritages of Tigray
- Promote education and awareness around the importance of heritage preservation in war zones
- Helps to restitute looted heritages across borders and institutions

Provide financial support for cultural and religious sites in the Tigray region, and assist in the reconstruction of religious, cultural, and historic institutions damaged or destroyed during the war on Tigray.

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6. Damage and Loss to the Social Welfare Organizations

6.1. Background

Social protection encompasses a range of policies and initiatives aimed at alleviating poverty, reducing vulnerability, and addressing social exclusion by providing support to individuals and communities. Its primary goal is to ensure a minimum standard of living, enhance economic stability, and safeguard against risks such as job loss, illness, disability, aging, or natural disasters. Key elements include social assistance (e.g., cash transfers or food aid), social insurance (e.g., pensions or health coverage), labor market programs (e.g., job training or wage support), and access to essential services like healthcare and education (International Labour Organization, 2017).

Social Protection Institutions fit entities with structured interventions (e.g., REST’s relief efforts) but are less intuitive for informal systems like Equb and Edir, which lack formal policy frameworks. It may also imply a more institutionalized approach, which could exclude community-driven or advocacy-focused groups. (International Labour Organization, 2017)

The most fitting collective term is “**social welfare organizations**”, capturing their shared goal of enhancing social and economic well-being. This term, recognized by the IRS, includes informal institutions (Equb, Edir), formal entities (saving and loan associations, TDA, REST), advocacy groups (fighters, war wounded, teachers, women’s, youth, children of martyrs’ association), and faith-based organizations (Catholic associations) (IRS, 2023).

Social Welfare Organizations accommodate the full spectrum of both the protective (e.g., emergency aid) and promotive (e.g., economic empowerment) roles, as well as the cultural emphasis on mutual aid in Ethiopia. It reflects the community-driven and advocacy aspects of these entities, making it more inclusive (Social Work Institute, 2023). In other definition, informal mutual aid (Equb, Edir), advocacy groups (fighters, teachers associations), and faith-based charity associations (Catholic associations), which have a broad scope, align with the cultural and institutional diversity in Ethiopia, where traditional and modern systems coexist. (IRS, 2023)

Social welfare organizations in Ethiopia, ranging from traditional mutual aid systems like Equb and Edir to formal entities like TDA and REST, play a critical role in reducing poverty, vulnerability, and social exclusion. The Tigray War (2020–2022) caused widespread devastation, including up to 700,000 deaths, 120,000 cases of sexual violence, and the

displacement of nearly 2 million people, severely disrupting these organizations' operations (Lowy Institute, 2025)

Globally, wars like those in Syria and Yemen illustrate how war disrupts social welfare organizations. In Syria, community-based groups faced funding shortages and displacement, similar to Equb and Edir's challenges (Breton, 2001). In Yemen, NGOs like Save the Children shifted to cash-based aid to bypass blockades (Mok, 2005), which is a potential strategy for REST and TDA. Studies emphasize that organizations with strong community ties, like Edir, often recover faster due to social capital, while formal entities like BoSAR require external support to rebuild (Beck & Eichler, 2000).

Across Africa, wars like those in South Sudan and the Democratic Republic of Congo show similar impacts on social welfare organizations. In South Sudan, civil war disrupted community-based savings groups, as displacement and economic collapse limited contributions (Atim, 1998). In the Democratic Republic of Congo, NGOs faced looting and restricted access, mirroring REST's challenges during the Tigray War (Jutting, 2003). Faith-based organizations, like Catholic associations in Rwanda, adapted by focusing on psychosocial support post-war, a strategy relevant to Ethiopia's war wounded and martyrs' children associations.

Social welfare organizations in Ethiopia, ranging from traditional mutual aid systems like Equb and Eddir to formal entities like TDA and REST, play a critical role in reducing poverty, vulnerability, and social exclusion. The Tigray War (2020–2022) caused widespread devastation, including up to 700,000 deaths, 120,000 cases of sexual violence, 8 million children affected and the displacement of more than 21.4 million Ethiopian people are in need of humanitarian assistance mostly in Tigray where 90% of Tigrays' population relies on emergency aid for survival, severely disrupting these organizations' operations (Lowy Institute, 2025).

The Tigray war decimated social and economic infrastructure, with 70% of schools and health facilities in Tigray damaged, affecting organizations' service delivery (Social Science in Humanitarian Action, 2022). Aid blockades restricted access to cash, fuel, and supplies, crippling organizations like REST, which faced looting of 33 warehouses and 70 vehicles (Relief Society of Tigray, 2012). Community-based systems like Equb and Edir struggled as economic disruptions reduced members' contributions, while displacement scattered communities, weakening social networks (Woldie, 2015). Studies note that war aggravated

food insecurity, with 5.2 million Tigrayans facing extreme hunger, challenging organizations' capacity to respond (Refugees International, 2021). Formal entities like BoSAR faced bureaucratic delays, while advocacy groups (e.g., teachers, fighter's associations) saw reduced influence due to political targeting (Africa Social Work Network, 2020).

Tigray was known for its strong tradition of community-based organizations such as the Tigray Development Association (TDA), the Relief Society of Tigray (REST), and various professional and social associations, including youth, women's, teachers, martyrs', and veterans' organizations. These groups mobilized both local and diaspora resources to sustain education, health services, and rural development projects. REST, as the largest operational NGO in the region, exemplified this impact: In 2012 alone (a pre-war benchmark), it assisted 1.38 million people across 38 woredas, with the Productive Safety Net Program (PSNP) serving 705,177 food-insecure individuals and enabling 121,000 households to graduate from dependency representing 70% of all Tigray graduations that year. REST's initiatives included developing 1,963 hectares of irrigated land for 7,852 households, establishing 735 micro-gardens for women-headed households (yielding weekly surpluses of ETB 25), and providing maternal/child health services to 31,760 women, resulting in 3,552 first-time antenatal visits and 1,137 institutional deliveries. Education efforts enrolled 3,732 children in alternative basic education centers and 6,939 adults in functional literacy programs, with 93-98% completion rates. Overall, REST's budget that year totaled ETB 832 million (USD 44.5 million), achieving 90-100% of targets and improving incomes by up to 75% for beneficiaries through high-value crops and livestock. TDA complemented these by focusing on education and development, though specific pre-2020 metrics are less detailed in available records (REST, 2013).

Before the war, Tigray's social welfare organizations existed on a unique blend of formal and informal structures. Tigray's pre-war social welfare organizations were built on a collaborative, multi-layered approach that integrated informal and formal community structures. Local groups like Community-Based Savings and Loan Associations (CBSLAs) and Community-Based Social Service Associations (CBSSAs) addressed local needs and financial inclusion. Larger organizations, including Community-Based Social Service Organizations (CBSSOs) and Community Development Organizations (CDOs) of the social welfare organizations, complemented government efforts by providing social services and stimulating economic development. This collaborative approach fostered a robust social safety net, reducing vulnerability and promoting community well-being. Understanding this pre-war system,

especially the prevalence and impact of these institutions, is crucial for rebuilding Tigray's social welfare organizations infrastructure and ensuring its future resilience.

Before the outbreak of the war, social welfare organizations in Tigray played a critical role in supporting community development, poverty reduction, and social protection. These organizations ranging from community-based associations to faith-based institutions and formal development agencies were instrumental in addressing the needs of vulnerable groups such as orphans, persons with disabilities, war veterans, the elderly, and impoverished households. Their activities complemented government services by providing humanitarian assistance, education support, healthcare outreach, and livelihood opportunities, thereby strengthening social resilience in the region.

Tigray was known for its strong tradition of community-based organizations such as the Tigray Development Association (TDA), the Relief Society of Tigray (REST), and various professional and social associations, including youth, women's, teachers, martyrs', and veterans' organizations. These groups mobilized both local and diaspora resources to sustain education, health services, and rural development projects. Faith-based institutions, particularly the Ethiopian Orthodox Church and Catholic organizations, also played a central role in providing social assistance and moral support, often acting as safety nets for the most marginalized populations.

Collectively, these institutions fostered a culture of solidarity and self-reliance that was crucial in mitigating poverty and promoting inclusive development. Prior to the war, they were regarded as pillars of Tigray's social fabric, working in close partnership with government structures and international partners. This strong institutional presence made Tigray a region where social welfare systems were relatively better organized compared to many other parts of Ethiopia, positioning it for progressive community development and resilience—until the war disrupted their functions and undermined their capacity to serve society.

6.2. Operational definitions

Advocacy Groups: Refers to the fighters, war wounded, youth, children of martyrs, teachers' and Tigray women's associations, which focus on representing specific groups (veterans, educators) to secure benefits like pensions or better working conditions.

Community-Based Savings and Loan Associations (CBSLAs): These are legally licensed and formal, self-help financial institutions with low interest rates, like the well-known saving and loan associations and cooperatives mostly found in every woreda.

Community-Based Social Service Associations (CBSSAs): These are small local groups, such as the coalitions and cooperatives that address specific social needs through collaborative efforts to achieve common goals and contribute to community well-being.

Community-Based Social Service Organizations (CBSSOs): Large-scale associations, often regionally or nationally recognized organizations like the Relief Society of Tigray (REST), provide crucial social and humanitarian services, complementing government initiatives.

Community Development Organizations (CDOs): They are parts of the social welfare organizations which are large-scale associations like the Tigray Development Association that focus on economic development within communities, promoting job creation and income generation.

Eddir: This traditional Ethiopian community organization supports its members during ceremonies and the mourning process, where members contribute monthly to a collective fund, which is used to assist one another in times of need, fostering solidarity and communal support.

Equb: Informal self-help financial institutions that facilitate rotating savings and credit schemes among members, fostering financial resilience within communities.

Faith-Based Charity: Catholic associations (e.g., Caritas Ethiopia), which provide humanitarian aid, education, and health services rooted in religious values.

Lifinti: In our community, "lifinti" (ሊፍንቲ) symbolizes the essence of collaboration. Just as we take turns adding ingredients to the pot, each person plays a vital role in supporting one another, turn by turn. This communal effort blends our strengths, creating a nourishing environment where everyone thrives together.

Wefera: "Wefera" (ወፈራ) refers to a form of collaboration that emphasizes working together, particularly among community members in rural areas. It highlights the importance of cooperation and collective effort in accomplishing tasks or projects, reflecting the communal spirit prevalent in rural Ethiopia.

Regarding the number of Equb, Eddir, CBSLAs, CBSSAs, CBSSOs, and CDOs, as they are structured in a different way of arrangement, we could not get the baseline information for how

many social welfare organizations were in Tigray. To conduct this damage and loss assessment study, a census approach has been used.

6.3. War Effect

Profile of Assessed firms

The war on Tigray fought from 2020–2022 had devastating effects on the region, impacting social welfare organizations and the broader population. The war caused significant human and financial losses and material damage. Social welfare organizations, include five categories; the Tigray Development Association, Relief Society of Tigray (REST), Tigray Youth Association, Tigray women’s association, Teachers Association, Children of Martyrs Association, Fighters Association, War Wounded Association, and Catholic faith-based groups, as a large-scale social welfare organization, CBSLAs, CBSSAs, Eddir, and Equb.

As stated Table 87, the study focused on a diverse network of 1,115 social welfare organizations, crucial for supporting community development and resilience, particularly in the aftermath of the 2020–2022 War in Tigray. These include 9 large-scale social welfare organizations (e.g., Tigray Development Association, Relief Society of Tigray), 125 community-based social learning associations (CBSLA), 655 community-based social service associations (CBSSA), 276 Eddir (traditional mutual aid groups), and 50 Equb (rotating savings and credit groups). These entities provide essential services such as humanitarian aid, education, and support for vulnerable populations, but faced severe disruptions due to war and siege in Tigray. Their extensive presence underscores their vital role in addressing social, economic, and recovery challenges in Tigray, necessitating coordinated efforts to rebuild and sustain their operations. Their damage and loss will be explained in detail in their respective category.

Table 87. Profile Assessed of social welfare organizations

Classification of social welfare organizations	Number of institutions
large-scale social welfare organization	9
CBSLA	125
CBSSA	655
Eddir	276
Equb	50
Total	1115

Source: CITG survey, 2022.

Damages and Loss (Overall)

Table 88 shows the summary of damage on asset and infrastructures of the social welfare organization across five categories of the Large-Scale Social Welfare Organization, CBSLA, CBSSA, Eddir, and Equb revealing a total economic loss of damage of USD 47.54 million USD. The damages span diverse asset categories, from infrastructure like buildings to operational assets like office equipment, with significant variations in impact across organizations. Building damages dominate, totalling USD 12.22 million, reflecting the high cost of infrastructure losses. CBSSA reports the highest impact at USD 7.14 million followed by Large-Scale Social Welfare Organization at USD 3.32 million and CBSLA at USD 1.36 million. Eddir and Equb contribute smaller amounts (USD 0.18 million and USD 0.22 million, respectively), emphasizing the need for targeted structural recovery efforts, particularly for CBSSA.

Table 88. Summary of damage on assets and infrastructures of social welfare organizations (value in million USD)

Property Damaged	Large-Scale Social Welfare Organization		CBSLA		CBSSA		Eddir		Equb		Total Damage (USD)
	Damaged Qty	Damage (USD)	Damaged Qty	Damage (USD)	Damaged Qty	Damage (USD)	Damaged Qty	Damage (USD)	Damaged Qty	Damage (USD)	
Building	279	3,323,123.69	160	1,364,547.7	580	7,143,637.25	30	175,798.59	16	217,137.81	12.22
ICT Equipment	1,501	1,276,971.91	91	19,054.26	148	62,632.76	38	3,674.91	17	10,759.72	1.37
Books and Records	3,896	10,264.60	18,388	585,115.81	36,087	490,409.45	96	983.3	624	11,271.20	1.10
Cafeteria & Amusement	95	1,837.46	3	406.36	2,801	406,613.96	796	2,721.38	1	35.34	0.41
Cash	1,250,438	22,092.55	14,713,648	259,958.45	146,350,219	2,585,692.91	555,550	9,815.37	2,559,000	45,212.01	2.92
Consumable Goods	34,807	1,855,623.00	6,052	184,859.36	46,113	1,390,950.93	13,158	321,251.87	19	881.63	3.75
Electric Materials	2,252	176,148.41	788	26,468.20	2,747	543,153.32	151	2,606.01	5	33,568.90	0.78
Library			201	2,130.74	1,994	31,856.89					0.03
Machineries			19	4,893.99	21,405	4,917,303.89			1	265,017.67	5.19
Materials of Music & Art					380	112,183.90	1	6.18	1	88.34	0.11
Materials of Sport					814	18,393.99			5	265.02	0.02
Office Equipment	2,221	2,945,055.02	9,215	196,000.39	13,519	619,139.47	903	5,769.08	34	11,638.52	3.78
Office Furniture	14,680	1,498,130.81	2,463	477,938.02	8,561	1,296,006.55	7,696	229,386.75	57	21,484.10	3.52
Spare Parts	296	44,210.42	5,005	10,559.19	254	12,950.53	80	967.31			0.07
Vehicles	140	7,150,308.29	1	1,766.78	47	3,757,158.05			3	12,234.98	10.92
Wastage Disposal & Water Treatment			8	8,975.27	5,186	807,426.67	8,128	514,546.34	4	2,897.53	1.33
Total	1,310,605	18,303,766.15	14,756,042	3,142,674.52	146,490,855	24,195,510.52	586,627	1,267,527.10	2,559,787	632,492.76	47.54

Source: CITG survey, 2022.

Vehicles rank second with USD10.92 million in damages, primarily driven by Large-Scale Social Welfare Organization (USD 7.15 million) and CBSSA (USD 3.76 million), indicating a concentration of high-value vehicular assets. Machineries, totalling USD 5.19 million, are almost entirely affected at CBSSA (USD 4.92 million), with Equb adding a modest USD 0.27 million, highlighting CBSSA's reliance on specialized equipment (Table 88).

Office Equipment (3.78 million) and Consumable Goods (3.75 million) are major contributors, with Large-Scale Social Welfare Organization leading in Office Equipment (2.95 million) and Consumable Goods (1.86 million). CBSSA follows closely with 0.62 million and 1.39 million, respectively. Office Furniture (3.52 million) shows significant losses at Large-Scale (1.50 million) and CBSSA (1.30 million), reflecting their large operational footprints.

Table 88 also depicts that, cash losses total 2.92 million, with CBSSA dominating at 2.59 million followed by CBSLA (0.26 million) and Equb (0.045 million). Large-Scale's 0.022 million suggests lower per-unit value compared to its other categories. Wastage Disposal & Water Treatment (1.33 million) is led by CBSSA (0.81 million) and Eddir (0.51 million). Books and Records (1.10 million) are notably affected at CBSLA (0.59 million) and CBSSA (0.49 million). ICT Equipment (1.37 million) is driven by Large-Scale (1.28 million).

Categories like Cafeteria & Amusement (0.41 million), Electric Materials (0.78 million), Library (0.03 million), Spare Parts (0.07 million), Materials of Music and Art (0.11 million), and Materials of Sport (0.02 million) show lower impacts. CBSSA leads in Cafeteria & Amusement (0.41 million) and Electric Materials (0.54 million), while Large-Scale has minimal presence in these categories (Table 88).

The USD 47.54 million in total damages underscores the urgent need for coordinated recovery efforts across these organizations. By prioritizing high-impact categories like cash, buildings, vehicles, and machineries, stakeholders can allocate resources efficiently to mitigate future risks and restore operations.

Looted damages represent the largest category of losses at 22.79 million USD (48% of total), overwhelmingly driven by CBSSA with 10.73 million USD and large-scale social welfare organization contributing 10.44 million USD (Table 89). This indicates systematic targeting of high-value assets across these major institutions. CBSSA alone accounts for nearly half of all looted damages, highlighting its vulnerability to organized theft during the period.

Table 89. Summary of damage type on assets and infrastructures of social welfare organizations

Institutional category	Damage type on social welfare organizations in millions USD					
	broken	burned	destroyed	Looted	unspecified	Grand Total
CBSLA	0.80	0.36	0.87	1.07	0.03	3.14
CBSSA	2.57	6.18	4.31	10.73	0.41	24.20
Eddir	0.07	0.86	0.12	0.21	0.01	1.27
Equb	0.09	0.06	0.14	0.34	0.00	0.63
large-scale social welfare organization	2.29	2.54	2.94	10.44	0.09	18.30
Grand Total	5.83	9.99	8.37	22.79	0.55	47.54

Source: CITG survey, 2022.

Burned damages rank second at 9.99 million USD (21% of total losses), with CBSSA dominating at 6.18 million USD more than double the next highest contributor. Large-scale follows with 2.54 million USD, while smaller organizations like Eddir (0.86 million USD) show disproportionate impact relative to their size. This pattern suggests arson was concentrated in operations with significant physical infrastructure (Table 89).

Destroyed and Broken damages together comprise 30% of losses, with destroyed (8.37 million USD) slightly exceeding broken (5.83 million USD). Large-scale leads destroyed damages at 2.94 million USD, while CBSSA tops broken damages at 2.57 million USD. The combined 14.20 from these intentional physical damages underscores widespread vandalism across institutional assets. Organizational burden reveals extreme concentration: CBSSA (24.20 million USD) and large-scale (18.30 million USD) together account for 89% of total losses (42.50 million USD of 47.54 million USD). CBSLA (3.14 million USD) ranks third but remains significantly smaller, while Eddir (1.27 million USD) and Equb (0.63 million USD) contribute minimally (Table 89). This disparity reflects operational scale differences rather than varying vulnerability rates.

Unspecified damages remain negligible at 0.55 (1%), distributed across all organizations with no single dominant contributor. The clarity in damage classification (99% specified) enables precise intention analysis, confirming looting as the primary threat vector. Summary of damage level on assets and infrastructures of social welfare organizations.

Complete damage dominates total losses at USD 33.50 million (70% of total), with CBSSA (USD 18.54M) and large-scale (USD 12.63M) accounting for 93% of this category (Table 90). These major institutions suffered near-total asset destruction, indicating systematic targeting of their extensive infrastructure and high-value inventories during the crisis.

Table 90. Summary of damage level on assets and infrastructures of social welfare organizations

Institutional category	Damage level on social welfare organizations in millions USD					Grand Total
	Complete damage	High damage	Moderate damage	Low damage	Unspecified	
CBSLA	1.70	0.63	0.48	0.31	0.02	3.14
CBSSA	18.54	2.81	2.00	0.74	0.11	24.20
Eddir	0.28	0.74	0.13	0.04	0.08	1.27
Equb	0.35	0.14	0.02	0.12	0.00	0.63
Large-scale social welfare organization	12.63	3.50	1.97	0.20	-	18.30
Grand total	33.50	7.82	4.61	1.40	0.20	47.54

Source: CITG survey, 2022.

High damage totals USD 7.82 million (16%), led by large-scale (USD 3.50M) and CBSSA (USD 2.81M). Eddir shows disproportionate vulnerability at USD 0.74M relative to its size, suggesting severe impact on critical operational assets. This category reflects substantial but not total compromise of essential equipment and facilities.

Moderate damage (USD 4.61M) and low damage (USD 1.40M) together comprise only 13% of losses. CBSLA bears the heaviest moderate burden at USD 0.48M, while CBSSA dominates low damage at USD 0.74M. These levels indicate peripheral impacts on secondary assets, preserving core operations across most organizations. Organizational exposure reveals extreme concentration: CBSSA (USD 24.20M) and large-scale (USD 18.30M) endure 89% of total losses (USD 42.50M of USD 47.54M). Complete damage constitutes 77% of CBSSA's losses and 69% of large-scale's, while CBSLA (USD 3.14M) maintains balanced severity distribution.

Unspecified damage is negligible at USD 0.20 million (0.4%), confirming 99.6% classification accuracy. The overwhelming dominance of complete damage (USD 33.50M) underscores the crisis's catastrophic impact on major social welfare organizations, while moderate/low categories preserved operational continuity for smaller entities.

Looting caused the highest losses at USD 22.97 million (48% of total), with CBSSA (USD 10.73M) and large-scale (USD 10.62M) accounting for 93% of all theft. Burning followed at USD 7.28 million (15%), led by CBSSA (USD 3.63M) and large-scale (USD 2.46M). These civilian-targeted crimes represent 64% of total damages (Table 91).

Table 91. Summary of damage mechanism on assets and infrastructures of social welfare organizations

Institutional category	Damage mechanism on social welfare organizations in millions USD							Grand Total
	Airstrike	artillery bombardment	breaking	bullet	burning	looting	unspecified	
large-scale social welfare organization	0.93	1.69	1.29	1.21	2.46	10.62	0.11	18.30
CBSLA	-	0.65	0.02	0.29	0.38	1.07	0.73	3.14
CBSSA	0.02	2.76	0.19	0.91	3.63	10.73	5.95	24.20
Eddir	-	0.22	0.01	0.02	0.76	0.21	0.04	1.27
Equb	0.06	0.02	0.00	0.01	0.06	0.34	0.15	0.63
Grand Total	1.00	5.33	1.52	2.44	7.28	22.97	6.99	47.54

Source: CITG survey, 2022.

Military actions totalled USD 8.77 million (18%), primarily from artillery bombardment (USD 5.33M) affecting CBSSA (USD 2.76M) and CBSLA (USD 0.65M). Bullet damage (USD 2.44M) and airstrikes (USD 1.00M) had lesser impact. Breaking was minimal at USD 1.52 million (3%).

CBSSA (USD 24.20M) and large-scale (USD 18.30M) suffered 89% of total losses (USD 47.54 million), while CBSLA (USD 3.14M), Eddir (USD 1.27M), and Equb (USD 0.63M) had limited exposure. Unspecified damages accounted for USD 6.99 million (15%).

Table 92 reveals a total damage of USD 47.54 million across social welfare organizations, with CBSSA (USD 24.20M) and large-scale social welfare organization (USD 18.30M) bearing the brunt at 89% of losses. Looting dominates as the primary damage nature at USD 22.79 million (48%), split mainly between CBSSA (USD 10.73M) and large-scale (USD 10.44M), indicating widespread theft of assets. Deliberate destruction follows at USD 14.53 million (31%), led by CBSSA (USD 9.62M) and large-scale (USD 3.40M), while deliberate burning totals USD 5.96 million (13%), affecting all organizations with large-scale (USD 2.50M) and CBSSA (USD 2.16M) hit hardest.

Table 92. Summary of the nature of damage on assets and infrastructures of social welfare organizations

Nature of damage category	Institutional category and damage in million USD					Grand Total
	large-scale social welfare organization	CBSLA	CBSSA	Eddir	Equb	
collateral damage	-	0.01	0.09	0.02	0.01	0.13
deliberate breaking	1.87	-	-	]-	-	1.87
deliberate burning	2.50	0.38	2.16	0.81	0.11	5.96
deliberate destruction	3.40	1.30	9.62	0.18	0.02	14.53
Looting	10.44	1.07	10.73	0.21	0.34	22.79
unspecified	0.09	0.36	1.45	0.04	0.15	2.09
used as a camp	-	0.01	0.15	-	-	0.16
Grand Total	18.30	3.14	24.20	1.27	0.63	47.54

Source: CITG survey, 2022.

Smaller categories include deliberate breaking at USD 1.87 million (4%), exclusively impacting large-scale, and unspecified damages at USD 2.09 million (4%), mostly in CBSSA (USD 1.45M). Incidental damages are minimal that shows at the USD 0.13 million (0.3%) across smaller entities, and used as a camp at USD 0.16 million (0.3%), primarily in CBSSA (USD 0.15M).

Intentional clues emerge strongly, as deliberate categories breaking, burning, destruction and looting comprise USD 45.15 million (95%), suggesting systematic targeting rather than accidental harm. Collateral and camp usage imply some unintentional or occupational effects, but their negligible share points to predominantly purposeful attacks on major institutions like CBSSA and large-scale.

Total damages to social welfare organizations reached USD 47.54 million, with CBSSA (USD 24.20M) and large-scale (USD 18.30M) suffering 89% of losses. Joint forces caused the second

highest damage following ENDF at USD 11.69 million (25%), primarily targeting CBSSA (USD 5.51M) and large-scale social welfare organizations (USD 4.06M). ENDF causes the highest damage at USD 12.95 million (27.25%), with large-scale (USD 7.72M) bearing the heaviest weight of damage (Table 93).

Table 93. Summary of the perpetrators of damage on assets and infrastructures of social welfare organizations

Perpetrators of the damage category	Institutional category and damage in million USD					Grand Total	% Share of damage
	large-scale social welfare organization	CBSLA	CBSSA	Eddir	Equb		
Afar forces	0.29	-	0.01	-	-	0.30	0.63
Amhara forces	0.00	1.13	7.26	0.00	0.01	8.41	17.69
Bandit	0.22	-	2.15	-	-	2.37	5.00
EDF	1.41	0.69	3.05	0.08	0.00	5.22	10.99
EFP	1.27	-	-	-	-	1.27	2.66
ENDF	7.72	0.22	4.30	0.55	0.17	12.95	27.25
Joint forces	4.06	1.05	5.51	0.61	0.45	11.69	24.58
Other	3.33	0.06	1.92	0.02	0.00	5.33	11.21
Grand Total	18.30	3.14	24.20	1.27	0.63	47.54	100.00

Source: CITG survey, 2022. Joint forces refer to any combination of perpetrators listed in the table.

CBSSA shows diverse perpetrator exposure: Amhara forces (USD 7.26M), Joint forces (USD 5.51M), ENDF (USD 4.30M), and bandits (USD 2.15M) collectively caused USD 19.22M (79% of CBSSA's losses). Large-scale was predominantly hit by ENDF (USD 7.72M), Joint forces (USD 4.06M), and EDF (USD 1.41M), accounting for 72% of its damages.

Smaller organizations (CBSLA, Eddir, Equb) suffered USD 5.04M combined, mainly from Joint forces (USD 2.11M) and ENDF (USD 0.94M). Bandits caused USD 2.37M concentrated in CBSSA and large-scale, while EDF (USD 5.22M) and Other (USD 5.33M) show targeted impacts.

Finally, ENDF (27.25%) and Joint forces (24.58%) dominate as primary perpetrators, with CBSSA and large-scale systematically targeted across multiple actors, confirming coordinated attacks on major social welfare infrastructure and assets.

The provided Table 94 presents a detailed breakdown of financial damages inflicted by various perpetrators during the war on Tigray, totalling approximately USD 47.54 million across multiple asset categories. The damages are categorized by asset types such as buildings, vehicles, machinery, and office equipment, with perpetrators including Afar forces, Amhara forces, bandits, EDF (Eritrean Defence Forces), EFP (Ethiopian Federal Police), ENDF (Ethiopian National Defence Forces), joint forces, and unspecified "other" actors.

Table 94. Damage to social welfare organizations by Item type by perpetrators.

Item type	Afar forces	Amhara forces	Bandit	EDF	EFP	ENDF	Joint forces	Other	Grand Total
ICT equipment's		12,190.81	4,770.32	6,134.28	5,724.38	893,863.50	51,987.12	398,423.14	1,373,093.55
Books and records		602,926.41		292,511.84		78,247.81	123,625.97	732.33	1,098,044.37
Building	89,464.78	3,146,254.42	339,222.61	1,693,604.06		2,154,256.08	4,224,417.84	577,025.24	12,224,245.04
Cafeteria & amusement		337,367.49		25,689.05		44,321.55	1,356.54	2,879.86	411,614.49
Cash		508,147.79	1,574,588.34	37,542.37	742.05	180,735.87	197,507.84	423,507.03	2,922,771.29
Consumable goods	35.34	535,354.24	98,809.19	257,761.24	677,539.31	351,350.88	1,381,680.86	451,035.74	3,753,566.80
Electric materials		15,580.53	15,618.37	114,492.93		270,220.85	211,003.89	155,028.27	781,944.84
Library		8,950.53				17,702.30	7,334.81		33,987.63
Machineries		1,998,855.12	97,441.70	17,749.12		1,774,028.27	826,077.74	473,063.60	5,187,215.55
Materials of Music and art		6,272.08		19,636.93			86,369.41		112,278.42
Materials of sport						4,416.96	14,242.05		18,659.01
Office equipment	2,120.14	25,725.27	5,477.03	469,018.09	30,600.71	474,693.82	461,327.14	2,308,640.28	3,777,602.47
Office furniture		40,977.03	11,201.41	674,686.27	133,475.53	924,418.57	1,416,713.56	321,473.85	3,522,946.23
Spare parts		16,033.57	1,802.12	2,769.43		44,210.42	1,007.07	2,864.84	68,687.45
Vehicles	209,351.22	1,152,826.86	225,759.72	1,603,403.45	418,278.16	5,215,360.07	1,927,413.75	169,074.90	10,921,468.11
Wastage disposal & Water Treatment				8,480.57		526,790.13	753,327.76	45,247.35	1,333,845.80
Grand Total	300,971.48	8,407,462.16	2,374,690.81	5,223,479.61	1,266,360.14	12,954,617.06	11,685,393.34	5,328,996.45	47,541,971.05
% share of damage	0.63	17.68	4.99	10.99	2.66	27.25	24.58	11.21	100.00

Source; CITG survey 2022

The ENDF emerges as the largest single perpetrator, responsible for 27.25% of the total losses (USD 12.95 million), followed closely by joint forces at 24.58% (USD 11.69 million) and Amhara forces at 17.68% (USD 8.41 million). This distribution highlights the significant role of state and allied military actors in the destruction, with bandits and unspecified perpetrators contributing smaller but notable shares (4.99% and 11.21%, respectively).

The data underscores a systematic pattern of asset targeting, particularly high-value infrastructure, suggesting coordinated efforts to disrupt economic and social functions.

Focusing on perpetrator-specific impacts, the ENDF's damages are widespread, with major hits to vehicles (USD 5.22 million), buildings (USD 2.15 million), and machinery (USD 1.77 million), indicating a focus on mobility and operational assets. Joint forces, likely combinations of ENDF, EDF, and others, inflicted heavy losses on buildings (USD 4.22 million) and consumable goods (USD 1.38 million), reflecting amplified destruction through collaborative operations. Amhara forces targeted cash (USD 0.51 million) and buildings (USD 3.15 million), possibly emphasizing looting and structural demolition. In contrast, bandits concentrated on cash (USD 1.57 million), suggesting opportunistic theft, while EDF's damages were prominent in buildings (USD 1.69 million) and vehicles (USD 1.60 million). Smaller contributors like Afar forces and EFP had minimal overall impact (0.63% and 2.66%), primarily affecting vehicles and consumables, which may indicate localized or secondary involvement.

Asset-wise analysis reveals buildings as the most severely affected category, accounting for USD 12.22 million (25.71% of total), followed by vehicles at USD 10.92 million (22.97%) and machinery at USD 5.19 million (10.92%). These high-value items suggest deliberate sabotage of infrastructure and transportation, critical for community and economic recovery. Office-related assets, including equipment (USD 3.78 million) and furniture (USD 3.52 million), also suffered significantly, pointing to vandalism in administrative and operational spaces. Consumable goods (USD 3.75 million) and cash (USD 2.92 million) indicate looting, while niche categories like wastage disposal & water treatment (USD 1.33 million) highlight disruptions to essential services. Lesser damages in libraries (USD 0.03 million) and arts/sports materials (USD 0.13 million combined) reflect secondary impacts on cultural and recreational resources.

Overall, the table illustrates a war-driven economic devastation characterized by intentional destruction and looting, with over 70% of losses attributed to military and joint operations. This pattern necessitates targeted reconstruction efforts, particularly for buildings and vehicles,

to restore functionality in affected regions. Enhanced security measures for high-value assets and international accountability for perpetrators could mitigate future risks. The data also calls for comprehensive recovery programs, focusing on both physical rebuilding and economic support for communities reliant on these assets.

As Table 95 indicate, the loss summary data of social welfare organizations reveals a substantial financial impact totalling USD 230.53 million, distributed across various categories such as income loss, production and service revenue loss, and financial liabilities. Large-scale social welfare organizations bear the overwhelming majority of the losses, accounting for USD 165.57 million, which is 71.82% of the total. Their most significant losses are from production and service revenue (USD 148.98 million) and income loss (USD 12.69 million), reflecting their extensive operational scale and reliance on continuous service delivery.

Table 95. Loss summary of social welfare organizations

Kind of Institution	Loss summary of social welfare organization in million USD							Share (%)
	Additional Service Provision Cost	Financial Liability	Income Loss	Production & Service Revenue Loss	Governance Loss	Risks and Vulnerabilities Mitigation	Total Loss	
Large-scale social welfare organization	2.8	0	12.69	148.98	0.96	0.14	165.57	71.82%
CBSSA	0.91	1.56	1.66	49.63	-	-	53.76	23.32%
CBSLA	0.1	0.49	2.13	7.65	-	-	10.37	4.50%
Eddir	0.2	0.02	0.02	0.13	-	-	0.37	0.16%
Equb	0.04	0	0.12	0.3	-	-	0.46	0.20%
Total	4.05	2.07	16.62	206.69	0.96	0.14	230.53	100.00%

Source: CITG survey, 2022.

In contrast, Community-Based Savings and Credit Associations (CBSSA) recorded the second-highest losses at USD 53.76 million, comprising 23.32% of the total. Unlike the large institutions, CBSSAs incurred higher financial liabilities (USD 1.56 million) and income loss (USD 1.66 million), indicating a heavier burden on their financial structure due to disruptions. CBSLA (Community-Based Savings and Loan Associations) follow with a modest 4.50% share, mainly affected by income loss (USD 2.13 million) and production and service revenue loss (USD 7.65 million).

The Eddir and Equb institutions report minimal losses of USD 0.37 million and USD 0.46 million, respectively, together accounting for 0.36% of the total. This suggests that smaller or more localized welfare structures are less exposed to large-scale economic shocks or operate on a more resilient model. Notably, governance loss (USD 0.96 million) and risk and

vulnerability mitigation (USD 0.14 million) were only recorded for large-scale institutions, indicating a differentiated impact where larger entities also face structural and administrative setbacks during the war on Tigray.

Loss of professional and skilled Labor on large-scale social welfare organizations

The war on Tigray, which raged from November 2020 to November 2022, brought about extensive social upheaval and significant human loss throughout the region. This war, characterized by intense violence and mass displacement, severely disrupted community structures and placed extraordinary demands on large-scale social welfare organizations. These entities encountered substantial obstacles, such as restricted humanitarian access, inadequate funding, and the pressing need to combat widespread malnutrition, disease, and the displacement of millions.

The data in Table 96 captures human losses and injuries among members of 9- large-scale social welfare organizations only, (including advocacy groups, faith-based associations, CBSSOs, and CDOs) totalling 59 cases. Males represent 69% (41 cases), while females account for 31% (18 cases). Among females, deaths are predominant (9 cases), followed by physical harm (5) and torture (4). For males, the reported number of deaths are (29), followed by physical harm (12). This disparity suggests males in these organizations face a higher risk of fatal outcomes, possibly due to their roles in advocacy or community engagement.

Table 96. Loss of professional and skilled Labour on large scale social welfare organizations.

Gender	Injury Type	Education Level (Count)	List of perpetrators				Total
			EDF	EFP	ENDF	ENDF/EDF/EFP	
Female	Death	Diploma:1, First Degree:2, Informal Education:1, Primary Education:1, Secondary Education:4	3	4	1	1	9
	Physical Harm	Primary Education:3, Secondary Education:1, PhD:1	3	2			5
	Torture	Diploma:2, Primary Education:2 Diploma:8, First Degree:1, Informal Education:2, Primary Education:4, Secondary Education:13, Unable to Read and Write:1		3	1		4
Male	Death	Diploma:4, First Degree:1, Informal Education:2, Primary Education:2, Secondary Education:3	4	19	3	3	29
	Physical Harm	Diploma:4, First Degree:1, Informal Education:2, Primary Education:2, Secondary Education:3	6	4	1	1	12
Total			16	32	6	5	59

The education levels of the victims show that Ph.D. (1), First Degree (4), Diploma (15 cases: 3 females, 12 males), Secondary Education (21 cases: 5 females, 16 males), Primary Education (12 cases: 6 females, 6 males), Informal Education (5 cases) and Unable to Read and Write (1). This indicates that individuals with mid-level education (secondary or diploma) in these organizations are disproportionately impacted, potentially reflecting their active involvement in fieldwork or advocacy.

Perpetrators include the Eritrean Défense Forces (EDF), Ethiopian National Defence Force (ENDF), a combined ENDF/EDF/EFP group, and Ethiopian Federal Police (EFP). EFP is the leading perpetrator, linked to 32 cases (55%: 9 females, 23 males), notably 19 male deaths. EDF accounts for 16 cases (26%), with notable involvement in male physical harm (7 cases). ENDF and ENDF/EDF/EFP each contribute smaller shares (6 and 5 cases, respectively). The prominence of EFP suggests significant challenges for social welfare organizations operating in areas under its influence, possibly due to wars with advocacy or service activities.

Association Leaders, Equb and Eddir members loss

The war on Tigray inflicted profound human losses on community-based associations, particularly Equb and Eddir, which are essential to the region's social cohesion and economic stability. These traditional mutual aid groups, designed to foster economic resilience and social unity, were severely disrupted as their members faced death, displacement, and trauma, undermining the foundational support systems of these communities.

Data collected through ODK from 1,106 community-based associations, including Equb and Eddir, revealed significant human rights violations among their members. Among males, 319 cases were reported, comprising 3 abductions, 131 deaths, 149 instances of physical harm, and 36 cases of torture. Among females, 56 cases were documented, including 22 deaths, 2 gender-based violations, 28 instances of physical harm, and 4 cases of torture. The victims were distributed across institutions as follows: 49 from Community-Based Savings and Loan Associations (CBSLAs), 251 from Community-Based Social Support Associations (CBSSAs), 57 from Eddir, and 18 from Equb.

The data reveals varying levels of responsibility among perpetrators. The Ethiopian National Defense Force (ENDF) was responsible for the most violations, totaling 164 cases, underscoring its significant role. The combined ENDF and Eritrean Defense Forces (EDF)

group followed with 104 violations, indicating a substantial joint impact. The EDF alone accounted for 60 cases, while Amhara Forces were linked to 15 violations. Other groups had fewer violations: ENDF, EDF, and Afar Forces (1 case), ENDF and Amhara Forces (6 cases), ENDF, EDF, and Amhara Forces (12 cases), and a coalition of ENDF, EDF, Amhara Forces, and Afar Forces (6 cases).

Summary of damage and loss on large-scale social welfare organizations, CBSLA, CBSSA, Eddir and Equb

The total financial toll on social welfare organizations amounts to USD 278.07 million, of which USD 47.54 million (17.1%) is direct damage to infrastructure and assets, while USD 278.07 million (82.9%) represents losses from disrupted services and operations. The burden is distributed unevenly across categories, with large-scale social welfare organizations accounting for the overwhelming majority at USD 183.87 million (66.12%). Although they represent less than 1% of the institutions, the magnitude of their damage and loss underscores their systemic vulnerability and highlights how disruption at the top institutional level severely weakens the broader social protection system (Table 97).

Table 97. Summary of Damage and Loss by Welfare organization.

Classification of social welfare organizations	Number of institutions	Damage in Millions (USD)	Loss in Millions (USD)	Total damage & loss in Millions (USD)	% Share
Large-scale social welfare organizations	9	18.3	165.57	183.87	66.12
CBSLA	125	3.14	53.76	56.9	20.46
CBSSA	655	24.2	10.37	34.57	12.43
Eddir	276	1.27	0.46	1.73	0.62
Equb	50	0.63	0.37	1	0.36
Grand Total	1115	47.54	230.53	278.07	100.00

Source: CITG survey, 2022.

At the community level, CBSLA absorbed USD 56.9 million (20.46%) in damage and loss, driven largely by losses in financial services that households rely on for coping and recovery. CBSSA, despite having the highest number of institutions (655, nearly 60% of the total), sustained USD 34.57 million (12.43%), indicating widespread though relatively lighter financial impact compared to large-scale actors. Together, these two community-based structures show how both financial networks and local service associations were hit hard, limiting grassroots resilience and undermining daily survival mechanisms for vulnerable groups.

Traditional community institutions, Eddir (USD 1.73 million, 0.62%) and Equb (USD 1 million, 0.36%), absorbed much smaller monetary losses, but their disruption carries significant social consequences. These institutions represent vital cultural safety nets, supporting burial systems, solidarity networks, and informal credit. Their weakening though not financially heavy signals an erosion of trust and collective coping mechanisms within society. In total, the combined pattern of concentrated large-scale losses and widespread grassroots damage demonstrates a severe weakening of both the formal welfare infrastructure and the informal community support systems.

The pattern and scale of damage strongly suggest that the destruction was not incidental but rather intentional and targeted. The concentration of massive losses in large-scale institutions, coupled with widespread erosion of grassroots associations, indicates an effort to dismantle both the institutional backbone and the community-level safety nets of social welfare organizations. This points to a deliberate strategy to weaken societal resilience, disrupt solidarity systems, and undermine the population's ability to recover from crisis, leaving communities more vulnerable and dependent.

Social and Cultural Value Hindrance in Tigray: A Household Perspective on War's Consequences

Hindrance to Social and cultural values

Figure 42 presents the responses of households regarding the interruption of existing social and cultural values due to the war and blockade. Out of a total of 658,776 respondents, 379,781 (57.65%) reported that there was no hindrance to their social and cultural values, while 278,995 (42.35%) indicated that there was indeed a hindrance.

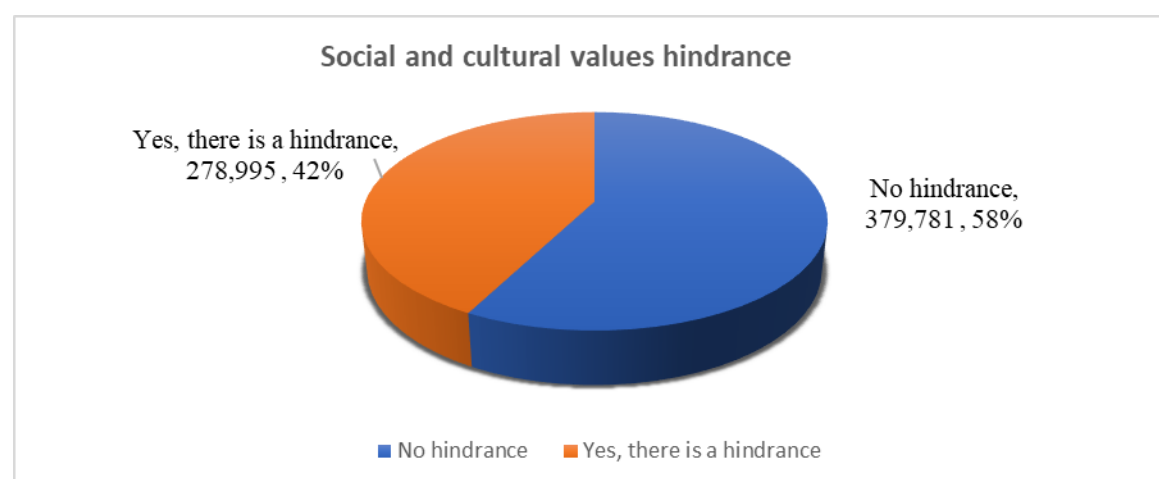


Figure 42. Social and cultural values hindrance,
Source: CITG survey, 2022.

The findings reveal that while a majority of households (over half) felt that their social and cultural values remained intact despite the war and blockade, a significant proportion more than two-fifths perceived disruptions. This highlights a notable divide in community experiences and resilience. The relatively high percentage of households reporting no hindrance may reflect strong cultural resilience, social cohesion, or reliance on traditional coping mechanisms that allow communities to preserve their values during crises.

On the other hand, the 42.35% who reported hindrance signal an important concern: nearly half of the population feels that their cultural practices, traditions, and social structures have been negatively affected. This disruption could be attributed to displacement, breakdown of community gatherings, loss of cultural institutions, or restrictions on social interaction caused by the ongoing blockade and war.

Overall, the results emphasize both resilience and vulnerability within society. While many households demonstrate cultural continuity, a substantial portion experience erosion of their values indicating the need for interventions that strengthen community networks, safeguard cultural traditions, and provide psychosocial support to mitigate the long-term effects of the war.

Categories of Disrupted Interpersonal and Social Relationships

Figure 43 outlines the details of the interpersonal & social relationships affected by the war, siege, and blockage (out of 278995 respondents' that stated existence of hindrance to their social and cultural values). It illustrates the types of interpersonal and social relationships reported as broken among the 278,995 respondents who agreed that there was a hindrance to their social and cultural values due to the war, siege, and blockade. The most frequently cited disruption was in family bonds (74.05%), followed closely by the breakdown of social bonds (70.17%). Similarly, large proportions of respondents indicated disruptions in their understanding of acceptable and unacceptable norms (61.02%) and consideration and cooperation among community members (57.68%). Meanwhile, disruptions in hospitality (33.29%), visiting patients and offering sympathy (32.44%), and inclusiveness (35.75%) were reported less frequently but still represent substantial challenges.

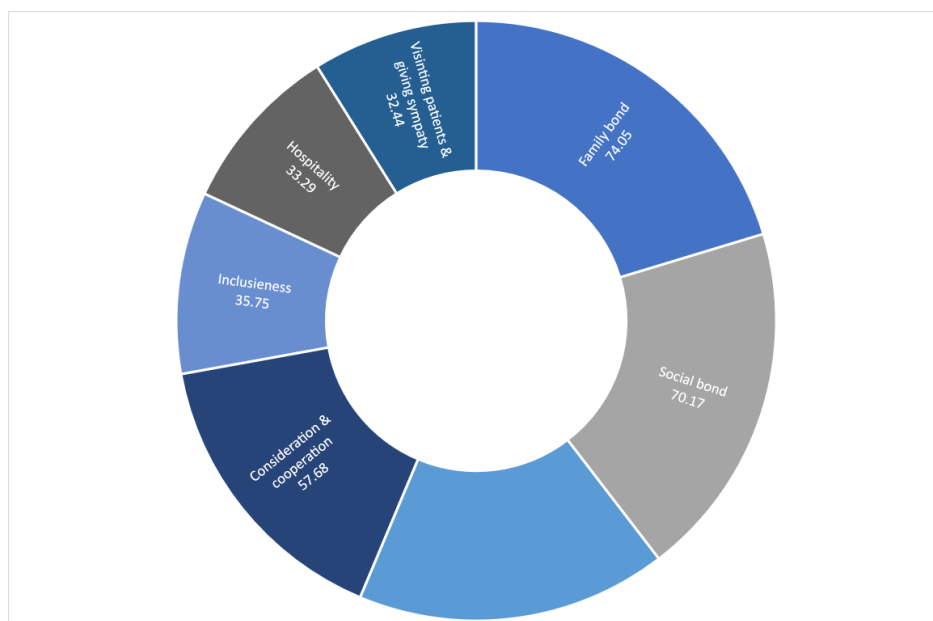


Figure 43. Categories of Disrupted Interpersonal and Social Relationships.
Source: CITG survey, 2022.

The findings suggest that the war, siege, and blockade have had a profound impact on the core of interpersonal and social relationships within affected communities. The most critical area of concern is the weakening of family bonds, reported by nearly three-quarters of respondents' that stated existence of hindrance to their social and cultural values. This indicates that the war has not only disrupted community-level interactions but has also penetrated the household level, undermining the primary support system in times of crisis.

Similarly, the high percentage of respondents noting a breakdown in social bonds (70.17%) underscores the erosion of broader community networks, which are essential for mutual support, resource-sharing, and collective coping mechanisms. The significant proportion of respondents highlighting disruptions in norms, cooperation, and consideration further reflects a decline in social cohesion and mutual trust, possibly due to heightened stress, scarcity of resources, and restrictions on movement and gatherings.

While slightly fewer respondents reported a breakdown in practices such as hospitality, inclusiveness, and sympathy-giving, these still represent notable impacts on the cultural fabric of society. The decline in such practices suggests that war not only strains survival mechanisms but also erodes symbolic and traditional expressions of care, empathy, and solidarity.

Overall, the data demonstrates that interpersonal and social relationships both at the family and community levels have been deeply strained. This breakdown not only undermines social resilience but also increases vulnerability to long-term psychosocial harm. Rebuilding these

bonds will require deliberate community-based interventions, the restoration of safe spaces for interaction, and cultural preservation initiatives that reinforce solidarity and mutual support.

Trust, Ethics, and Integrity as Compromised Values

Table 98 outlines the details of the trust, ethics & integrity-related values affected by the war, siege, and blockage (out of 278995 respondents' that stated the existence of hindrance to their social and cultural values).

Table 98 presents the types of trust, ethics, and integrity-related values reported as compromised values among the 278,995 respondents who indicated that their social and cultural values were hindered by the war, siege, and blockade. The most frequently cited disruption was in trustworthiness (50.74%), followed by confidentiality (45.23%) and integrity (41.80%). Other values reported as affected include faithfulness (40.09%), forgiveness (25.95%), and dedication (24.27%).

Table 98. Trust, Ethics, and Integrity as Compromised Values.

Trust, Ethics & Integrity	Number	Percent
Trustfulness	141576	50.74
Confidentiality	126196	45.23
Integrity	116611	41.80
Faithfulness	111836	40.09
Forgiveness	72397	25.95
Dedication	67701	24.27

Source: CITG survey, 2022.

The finding shows that the war and blockade have significantly undermined values associated with trust, ethics, and integrity, which are fundamental to sustaining both interpersonal and community relationships. Trustfulness, reported by more than half of the respondents' that stated the existence of hindrance to their social and cultural values, emerges as the most severely affected, reflecting how prolonged instability and war erode confidence between individuals, families, and communities. The erosion of confidentiality and integrity further suggests a decline in social reliability and moral standards, possibly fuelled by fear, scarcity of resources, and the breakdown of law and order.

The weakening of faithfulness (40.09%) indicates that strained conditions have affected loyalty and commitment within personal and communal bonds, while lower but still notable disruptions in forgiveness (25.95%) and dedication (24.27%) highlight how prolonged hardship can diminish tolerance, compassion, and perseverance. Although these values are

reported less frequently than trust-related issues, their breakdown further compounds the deterioration of the social fabric, limiting prospects for reconciliation and collective healing.

Overall, the results illustrate that trust, ethics, and integrity core pillars of community resilience have been significantly compromised. The erosion of these values not only undermines immediate social cohesion but also poses long-term challenges to rebuilding peace, reconciliation, and development.

Social Harmony and War Resolution as Compromised Values

Figure 48 outlines the details of the social harmony & war resolution-related values affected by the war, siege, and blockage (out of 278995 respondents' agreement for the existence of hindrance to their social and cultural values). It presents the types of social harmony and war resolution values that respondents reported as being broken due to the war, siege, and blockade, among the 278,995 who acknowledged hindrance to their social and cultural values. The most affected value was hopes for peace, cited by 74.51% of respondents, followed by reconciliation (53.41%). In contrast, fewer respondents reported disruptions in tolerance and respect (27.90%) and in the belief in dialogue (23.53%) (Figure 44).

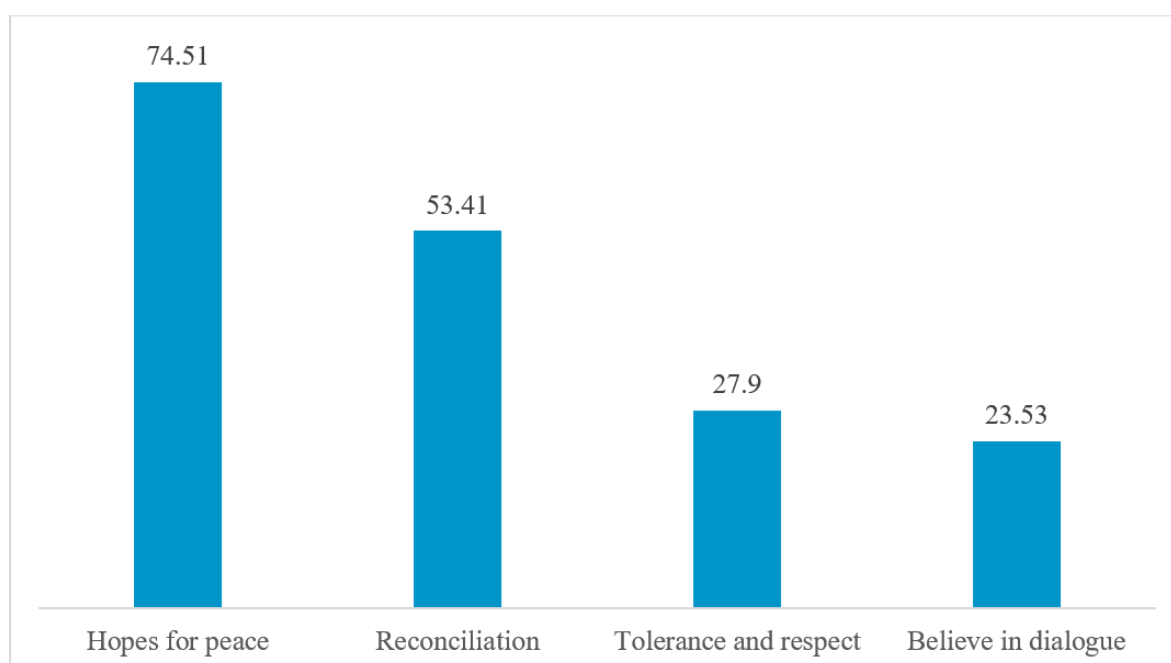


Figure 44. Categories of Disrupted Interpersonal and Social Relationships.
Source: CITG survey, 2022.

The findings reveal that the war and blockade have severely undermined community aspirations for peace and reconciliation, which are crucial for long-term stability and

coexistence. The loss of hope for peace, reported by nearly three-quarters of respondents, indicates a widespread sense of despair and disappointment. This decline in optimism poses a significant barrier to recovery, as hope is often the foundation for resilience, collective action, and rebuilding.

Similarly, over half of the respondents highlighted the erosion of reconciliation, suggesting that divisions and hostilities have deepened within communities. This breakdown undermines opportunities for healing and may prolong cycles of mistrust and war.

While fewer respondents reported disruptions in tolerance, respect, and belief in dialogue, the percentages (27.90% and 23.53%) still represent considerable challenges. These values are essential for fostering mutual understanding and resolving disputes peacefully. Their erosion, even at relatively lower levels, reflects how protracted war diminishes the willingness to engage constructively across differences. Overall, the data underscores that social harmony and war resolution values are among the most heavily impacted dimensions of cultural and social life. Without restoring hope for peace and mechanisms of reconciliation, societies face the risk of prolonged fragmentation and weakened social cohesion.

Personal Strength and Resilience as Compromised Values

The following table outlines the details of the Personal Strength & Resilience-related values affected by the war, siege, and blockage (out of 278995 respondents' agreement for the existence of hindrance to their social and cultural values).

Table 99 outlines the types of personal strength and resilience values that respondents reported as being broken due to the war, siege, and blockade, among the 278,995 who acknowledged hindrances to their social and cultural values. The most affected value was self-sufficiency (35.01%), followed by innovativeness (33.17%), hardworking (32.03%).

Table 99. Personal Strength and Resilience as Compromised Values.

Personal Strength & Resilience	Number of respondents	percent
Self-sufficient	97665	35.01
Resilience	84818	30.40
Hardworking	89376	32.03
Innovativeness	92530	33.17

Source: CITG survey, 2022.

The findings indicate that the prolonged crisis has weakened key elements of individual capacity and coping strategies. The breakdown of self-sufficiency (35.01%) reflects how households and individuals have become increasingly dependent on external aid and support

mechanisms due to restrictions, resource shortages, and economic collapse. This dependency undermines the traditional value of self-reliance, which often plays a critical role in survival and dignity during hardship.

Similarly, the disruption of innovativeness and hardworking values (33.17% and 32.03%, respectively) suggests that creativity, productivity, and persistence have been constrained by limited opportunities, restricted movement, and the psychological burden of living under siege.

Perhaps most concerning is the reported decline in resilience (30.40%), as resilience represents the core of psychological endurance and adaptive capacity in times of adversity. Although fewer respondents identified this value compared to others, the fact that nearly one-third felt their resilience had been eroded reflects the deep emotional and mental strain caused by protracted war.

Overall, the data demonstrates that the war and blockade not only disrupt communal and social values but also weaken personal strengths that are critical for survival and recovery. The erosion of these values highlights the urgent need for psychosocial support, livelihood programs, and empowerment initiatives that help individuals rebuild their sense of self-reliance, courage, and adaptive capacity in the face of ongoing challenges.

Engagement in locally established community based social associations

Table 100 outlines whether members of the community were engaged in locally established institutional settings like “Equip”, “Eddir”, Association “Maheber”, Campaign “Wefera”, and Coalition “Lifnti” before the war erupted. Table Table 100 presents household members’ engagement in locally established social institutions such as *Equip*, *Eddir*, Associations (*Maheber*), Campaigns (*Wefera*), and Coalitions (*Lifnti*) before the war. Out of the total 658,773 respondents, 356,674 individuals (54.1%) reported no engagement in such institutions, while 302,099 individuals (45.9%) confirmed their participation. This indicates that, before the war, slightly less than half of the respondents were actively engaged in community-based institutional settings.

Table 100. Engagement in locally established social institutions before the war.

Respondents’ reply	Number	%
No engagement at all	356674	54.1%)
Yes, there is an engagement	302099	45.9%)
Total respondents	658773	100%

Source: CITG survey, 2022.

The findings demonstrate that locally established institutions played a meaningful but not universal role in community life before the war. Nearly half of the population (45.9%) engaged in *Eddir*, *Maheber*, *Wefera*, and similar structures, reflecting their importance in promoting solidarity, mutual aid, and social networking. These institutions traditionally serve as platforms for collective problem-solving, social support during crises, and cultural or religious practices, which likely contributed to the resilience and cohesion of those who participated.

However, a slightly larger proportion (54.1%) reported no engagement in locally established social institutions before the war. This finding suggests that participation was not evenly distributed across the population and that barriers may have existed, possibly linked to urban–rural differences, generational shifts, economic conditions, or reduced trust in such institutions before the outbreak of war. The lower engagement rate may also point to the gradual erosion of traditional institutions in some areas, particularly where modern social structures or migration have reshaped community life.

Overall, the table highlights both the enduring relevance and the limitations of local institutions in fostering collective participation before the war. Strengthening inclusiveness and revitalizing these institutions could be key to post-war community rebuilding, reconciliation, and social cohesion.

Type of engagement in locally established community based social institutions/associations

Table 101 outlines the details of the types of engagement in locally established social institutions/ community based social associations (out of 302,099 respondents stated they engage in locally established social institutions). It presents the distribution of engagement types among the 302,099 respondents who reported participating in locally established social institutions before the war. The results indicate that the most widely practiced form of engagement was participation in *Equb* (56.04%), followed by involvement in *Eddir* (50.07%) and local *Associations* (48.11%). Participation in *Campaigns (Wefera)* was reported by 34.21% of respondents, while engagement in *Lifnti (Coalition)* was the least common, involving 32.91% of participants.

Table 101. Engagement in Locally Established Social Institutions Before the War.

Social welfare	Number of Participants	Percent
Equb	169,292	56.04
Eddir	151,264	50.07
Association	145,345	48.11
Campaign	103,333	34.21
Lifnti 'Coalition'	99,422	32.91

Source: CITG survey, 2022.

The findings reveal that community members' engagement in social institutions/community based social associations before the war was diverse, with different institutions serving distinct socio-economic and cultural functions.

- High participation in Equb (56.04%) indicates the centrality of informal financial systems that support saving, credit, and economic solidarity. This reflects a reliance on mutual financial arrangements in contexts where formal banking may be limited or inaccessible.
- Eddir (50.07%) also attracted substantial engagement, highlighting the cultural significance of traditional funeral associations and their vital role in social support, particularly in times of loss and crisis.
- Associations (48.11%) reveal an active orientation towards collective organization, often based on occupational, religious, or community interests.
- Engagement in Campaigns (Wefera) (34.21%) suggests that organized community labor and collective action were still practiced but less widespread than financial and funeral associations.
- Lifnti (Coalition) (32.91%), though the least engaged form, reflects a community-oriented mechanism for mobilization and solidarity, possibly requiring higher levels of trust and coordination, which may explain its relatively lower participation rate.

Taken together, the data reveal that while financial and welfare-oriented institutions (*Equb* and *Eddir*) were the most dominant, collective action frameworks (*Wefera* and *Lifnti*) attracted a smaller proportion of participants. This highlights how traditional institutions were more strongly rooted in immediate economic and social welfare needs, while broader coalitional forms of engagement were less widespread.

The findings underscore the resilience of traditional community institutions in maintaining social cohesion before the war. They also suggest potential entry points for post-war recovery efforts particularly by leveraging the strength of *Equb* and *Eddir* as foundational platforms to rebuild trust, expand inclusiveness, and revitalize collective action mechanisms such as *Wefera* and *Lifnti*.

Continuation of engagement in locally established community based social associations

Table 102 outlines the details of the continuation of engagement in locally established social institutions (out of 668,656 respondents' agreement for their continuation of engagement in locally established social institutions) during the war and siege period. It presents the status of household members' continued engagement in locally established community-based social associations during the war and siege period, based on 668,656 respondents. A majority of respondents (358,067 or 53.55%) reported no engagement or discontinuation of participation during the war. Meanwhile, 274,786 individuals (41.10%) indicated that they continued to engage in such institutions despite the difficult circumstances. Additionally, 35,803 respondents (5.35%) did not respond.

Table 102. Continuation of engagement in locally established community-based social institutions.

Respondents reply	Number	Percent
No engagement or continuation during the war and siege period	358067	53.55
Yes, there was engagement or continuation during the war and siege period	274786	41.10
Not responded	35803	5.35

Source: CITG survey, 2022.

The results show that the outbreak of war and the imposition of a siege significantly disrupted community engagement in traditional social institutions. More than half of the respondents discontinued their participation, reflecting how insecurity, displacement, resource shortages, and restricted mobility weakened collective community life. The war not only created physical and economic barriers but also eroded the social trust and stability necessary for sustaining institutions like *Equb*, *Eddir*, *Wefera*, and *Lifnti*.

Nevertheless, the fact that 41.10% of respondents maintained their engagement is notable. This demonstrates the resilience and adaptive capacity of local institutions, which often serve as lifelines during crises. In contexts where formal state structures were weakened or absent, institutions such as *Eddir* and *Equb* likely continued to provide mutual aid, emotional support,

and essential coping mechanisms. This persistence highlights their enduring relevance even under extreme conditions.

The 5.35% non-response rate may also indicate uncertainty, fear of disclosure, or limited accessibility during the survey period further underscoring the destabilizing effect of war on social systems.

Overall, the findings reveal a dual reality: while the war significantly undermined social engagement, a substantial proportion of community members continued to rely on and sustain local institutions as vital mechanisms of solidarity and survival. These results suggest that strengthening and revitalizing such institutions in the post-war period could play a crucial role in rebuilding social cohesion, restoring trust, and fostering recovery.

Reasons for discontinuing in the engagement

Figure 45 highlights the major reasons cited by the respondents (out of 358,067) who were unable to continue their participation in locally established social institutions during the war and siege period and after. The most frequently reported barrier was economic problems (268,967 respondents, 75.12%), followed by social problems (239,129 respondents, 66.78%) and psychological problems (216,642 respondents, 60.50%). A small fraction (1,021 respondents, 0.29%) attributed their disengagement to other unspecified reasons. The findings underscore that multiple, overlapping challenges contributed to the breakdown of community engagement during the war and siege period.

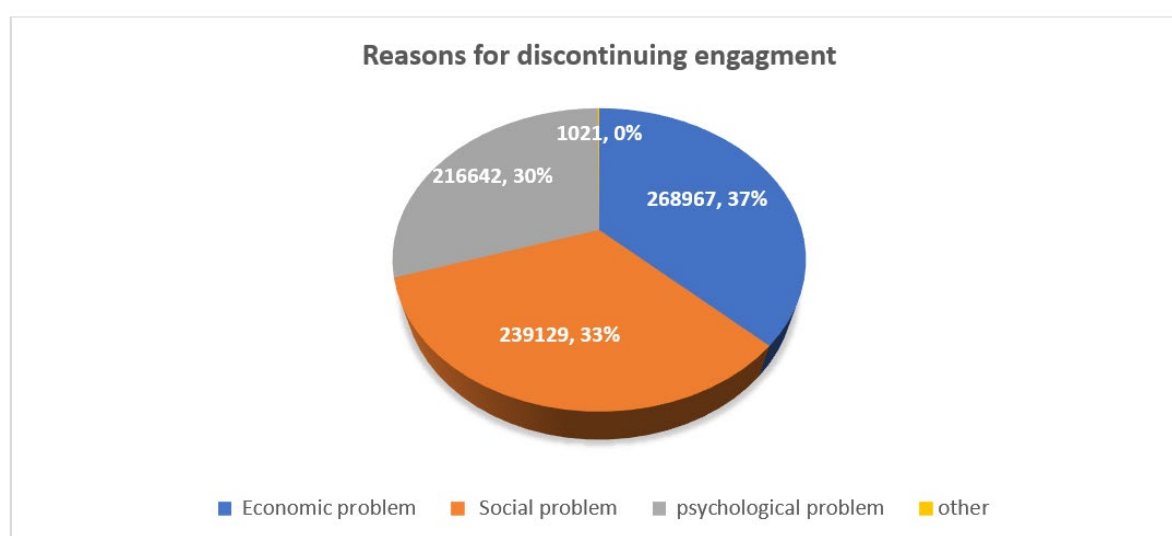


Figure 45. Reasons for discontinuing engagement.
Source: CITG survey, 2022.

Economic problems (75.12%) emerged as the most significant barrier, reflecting the widespread financial hardship, loss of livelihoods, inflation, and resource scarcity experienced during the war. Since many institutions, such as Equb and Eddir depend on financial contributions, economic strain likely made participation unsustainable for the majority.

Social problems (66.78%) point to the erosion of trust, fragmentation of communities, and disruptions in interpersonal relationships caused by displacement, insecurity, and war-related divisions. These conditions weakened the cooperative foundations upon which traditional institutions rely.

Psychological problems (60.50%) emphasize the profound mental and emotional toll of war. Trauma, grief, fear, and stress diminished individuals' ability or willingness to remain engaged, even when institutions were still operational. Other reasons (0.29%) played a very minor role, suggesting that the primary obstacles were overwhelmingly economic, social, and psychological.

Overall, figure 3.9 shows that the decline in engagement was not caused by a single factor but rather by a convergence of material hardship, social disruption, and psychological distress. The war and siege not only undermined the financial capacity of households but also fractured the social fabric and weakened individuals' mental resilience.

These findings highlight the urgent need for holistic post-war recovery strategies that address livelihood restoration, community reconciliation, and psychosocial support. Rebuilding trust and reducing economic vulnerability will be essential to revitalizing traditional institutions and enabling them to reclaim their central role in community resilience and social cohesion.

Impact of the war On Social Welfare Organizations

The war, siege, and blockades have profoundly disrupted the operations of social welfare organizations in Tigray, including Equb, Eddir, and a wide range of associations and community-based initiatives that historically played a vital role in mutual aid, war resolution, and development. These disruptions caused a total financial loss exceeding USD 278.07 million, leading to widespread economic collapse that increased poverty, reduced access to essential services, weakened social cohesion, and triggered large-scale displacement collectively impeding long-term recovery and development. One of the most severe social impacts has been the weakening of community cohesion, which has deepened tensions and divisions among the population. Traditionally, social welfare initiatives fostered inclusion and

cooperation, yet their capacity was severely compromised during the war. A household survey of 658,776 respondents revealed that 42.35% experienced direct hindrances to social and cultural values, with 74.05% reporting broken family bonds, 70.17% fractured social ties, 61.02% erosion of social norms, and 57.68% declining cooperation. Ethical values and trust were also heavily affected: trustworthiness fell to 50.74%, optimism and hope for peace dropped by 74.51%, and self-sufficiency declined to 35.01%. As a result, community participation in local institutions fell sharply, with 53.55% of respondents discontinuing their involvement due to economic (75.12%), social (66.78%), and psychological (60.50%) barriers. The humanitarian toll of the war was catastrophic, with an estimated 700,000 deaths, 120,000 cases of sexual violence, and nearly 2 million people displaced (Lowy Institute, 2025). These displacements created humanitarian crises that overwhelmed already limited resources and further undermined the ability of social welfare organizations to deliver essential programs and humanitarian assistance. In addition, the war eroded public trust in both formal and informal social welfare organizations, as their perceived failure to protect communities deepened disappointment and delegitimized government agencies and community-based organizations. This loss of trust now stands as a major obstacle to post-war reconstruction and reduces the community's willingness to participate.

6.4. Conclusion and Recommendations

Conclusions

The war on Tigray was quite different from the wars in other parts of the world, in which the federal government completely sieged its own people, prevented food and medicine from entering the region, invited the entire Eritrean army and cooperated with all regions and other foreign forces. This study assessed the damage and loss of the social welfare organizations and its effects during the war and blockade in Tigray and drew the following conclusions.

- The war caused approximately 278.07 million USD of total damages and losses. The war also negatively affected the functioning of the social welfare organizations which had a positive impact on the economy and social well-being of the people of Tigray.
- The war resulted in a significant human loss, with 59 cases of death, injury, and torture among large-scale organization members, predominantly perpetrated by the Eritrean Defense Forces (EDF) and Ethiopian National Defense Forces (ENDF). Social fabrics are eroded, with 42.35% of 658,776 surveyed households reporting disruptions to cultural values, family bonds (74.05%), and social cohesion (70.17%), undermining community resilience.
- Traditional institutions like Equb and Eddir faced operational collapse due to reduced contributions, displacement, and asset looting. Over 53.55% of respondents discontinued engagement in local institutions, driven by economic (75.12%), social (66.78%), and psychological (60.50%) challenges, weakening mutual aid networks.
- A significant portion of damages was deliberate, with EDF, ENDF, EFP, and Amhara forces responsible for over 76% of asset destruction, including looting (83.59% of vehicle damages) and artillery bombardment (68.42% of building damages).
- The erosion of trust in institutions, loss of cultural values (e.g., nationalism at 25.15%), and weakened governance structures threaten long-term development. The war's impact on social welfare organizations necessitates urgent, coordinated rebuilding efforts to restore economic stability and social cohesion.

Recommendations

To address the devastating impacts of the Tigray War on social welfare organizations and foster recovery, the following recommendations are proposed;

- To address the whole picture of the war effect in Tigray, the remaining uncovered areas of the region should be assessed. Otherwise, it seems difficult to show the whole picture of damage and loss of the social welfare organizations in the region.
- Invest in revitalizing Equb, Eddir, CBSLAs, and CBSSAs by providing financial support, training, and infrastructure restoration. These institutions should be prioritized to reconnect communities and rebuild social bonds.
- Launch community-driven initiatives to restore trust, social harmony, and cultural values. Programs fostering dialogue, psychosocial support, and reconciliation to address the disrupted values, rebuilding hope for peace and social cohesion.
- Engage international organizations for financial and technical assistance to rebuild infrastructure, pursue justice mechanisms to hold perpetrators accountable and ensure compensation for deliberate damages.
- Design a post-war recovery and reconstruction strategy for the social welfare organizations, the community-based associations, and the informal institutions shall gain proper attention. The need to rebuild and restore such social service providers is a pillar to bring back again and reconnect the social bonds of the community.

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