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TIGRAY: ATLAS OF THE HUMANITARIAN SITUATION

Date: 8 July 2021

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Link to configurable Web Application: <https://arcg.is/vmbWHO>

ABSTRACT

At the beginning of November 2020, an armed conflict emerged in Tigray, Ethiopia's northernmost region. The objective of this 'Atlas of the Humanitarian Situation' is to document and map the situation in which approximately 6 million Tigrayans currently find themselves. For this, we contacted key informants in different districts of Tigray to collect qualitative and quantitative evidence of the actual situation on the ground. We also confronted these data and testimonies with information disclosed by the Government of Ethiopia and by humanitarian organizations. The 24 maps in this atlas provide detailed information at the scale of districts (*woredas*) or sub-districts (*tabiyas*). Besides background information related to administrative divisions, social and natural resources - locations of internally displaced people, massacres and civilian casualties receive due attention. Humanitarian access and needs are particularly addressed; official data on humanitarian aid distribution are mapped, and contrasted to ground evidence related to such distributions. The final outlook, using a map of the onset of the growing season, forewarns that a continuation of the Tigray war may lead to another failed harvest in the next season.

Keywords: Civilian casualties; Internally Displaced People; Humanitarian needs; Humanitarian access; Humanitarian assistance; Ethiopia

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FUNDING & COPYRIGHT

The authors did not receive any financial support to carry out this research. This atlas (text, illustrations and maps) is free from copyright and can be reused without restriction, subject only to the obligation to acknowledge the source.

DISCLAIMER

All maps have been compiled according to the best of our knowledge and do by no means reflect a political opinion. For questions or suggestions related to this atlas, please contact tigraymaps@gmail.com. Except for the background information, all maps will be updated on a regular basis.

MAIN UPDATES IN THIS VERSION OF THE ATLAS (8 JULY) WITH RESPECT TO THE PREVIOUS VERSION

Several sections of this Atlas have been updated since the previous version, published on 11 June 2021. Here we provide a brief overview of the updates made. Previous versions of the maps can be consulted in the Web Application (<https://arcg.is/vmbWHO>).

Updated maps*

- Map 2 – Reported conflict incidents (section 1)
- Map 10 – Territorial control (section 4.1)
- Map 11 – Heatmap of fully documented casualties (section 4.2)
- Map 12 – Heatmap of reported casualties and occurrence of massacres (section 4.3)
- Map 15 – Sites with Internally Displaced People (section 5.3)
- Map 16 – Internal migration as a function of the initial population (section 5.3)
- Map 20 – Operationability of banking services and telecommunication services (section 5.6)

*Where maps have been updated, the corresponding text and references also have been updated.

Other

- Update of Annex A (list of massacres)
- Update of Annex B (monthly casualties)

LIST OF ACRONYMS

ADF	“Amhara Defence Force” – it does not formally exist but we refer to it as a combination of combatants belong to the Amhara Region Special Forces, Amhara militias and armed Fanno militants
BoFED	Bureau of Finance and Economic Development
CSA	Central Statistics Agency of Ethiopia
EDF	Eritrean Defence Force
ENDF	Ethiopian National Defence Force
EPRDF	Ethiopian People’s Revolutionary Democratic Front
GIS	Geographic Information System
GoE	Government of Ethiopia
IDP	Internally Displaced People
JEOP	USAID Food for Peace supported Joint Emergency Operation
MoP	Ministry of Peace
OCHA	UN Office for the Coordination of Humanitarian Aid
PP	Prosperity Party, the political party of Ethiopia’s Prime Minister Abiy Ahmed
REST	Relief Society of Tigray
TDA	Tigray Development Association
TDF	Tigray Defence Force
TPLF	Tigray People’s Liberation Front

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1. INTRODUCTION

At the beginning of November 2020, an armed conflict emerged in Tigray, Ethiopia's northernmost region, which borders Eritrea in the north and Sudan in the west. In the conflict, the Ethiopian National Defence Force (ENDF) and its allies – formal and informal military factions of the adjacent Amhara region (further referred to as “ADF” for “Amhara Defence Force”), the Eritrean Defence Force (EDF) and a minority of Somali soldiers – oppose the troops of the ousted Tigray Regional Government (further referred to as “TDF” for “Tigray Defence Force”), led by the Tigray People's Liberation Front (TPLF)¹² (Map 1). The TPLF is the political party formerly leading the Ethiopian People's Revolutionary Democratic Front (EPRDF).

In the conflict, the Government of Ethiopia (GoE), led by PM Abiy Ahmed, has for months denied the presence of Eritrean soldiers in the Tigray Region. On 3 March, it issued an ambiguous statement to the effect that Ethiopia ‘did not invite’ Eritrean troops and on 26 March, the withdrawal of Eritrean troops was formally announced³. At the end of June 2021, however, Eritrean soldiers were more firmly entrenched than ever⁴.

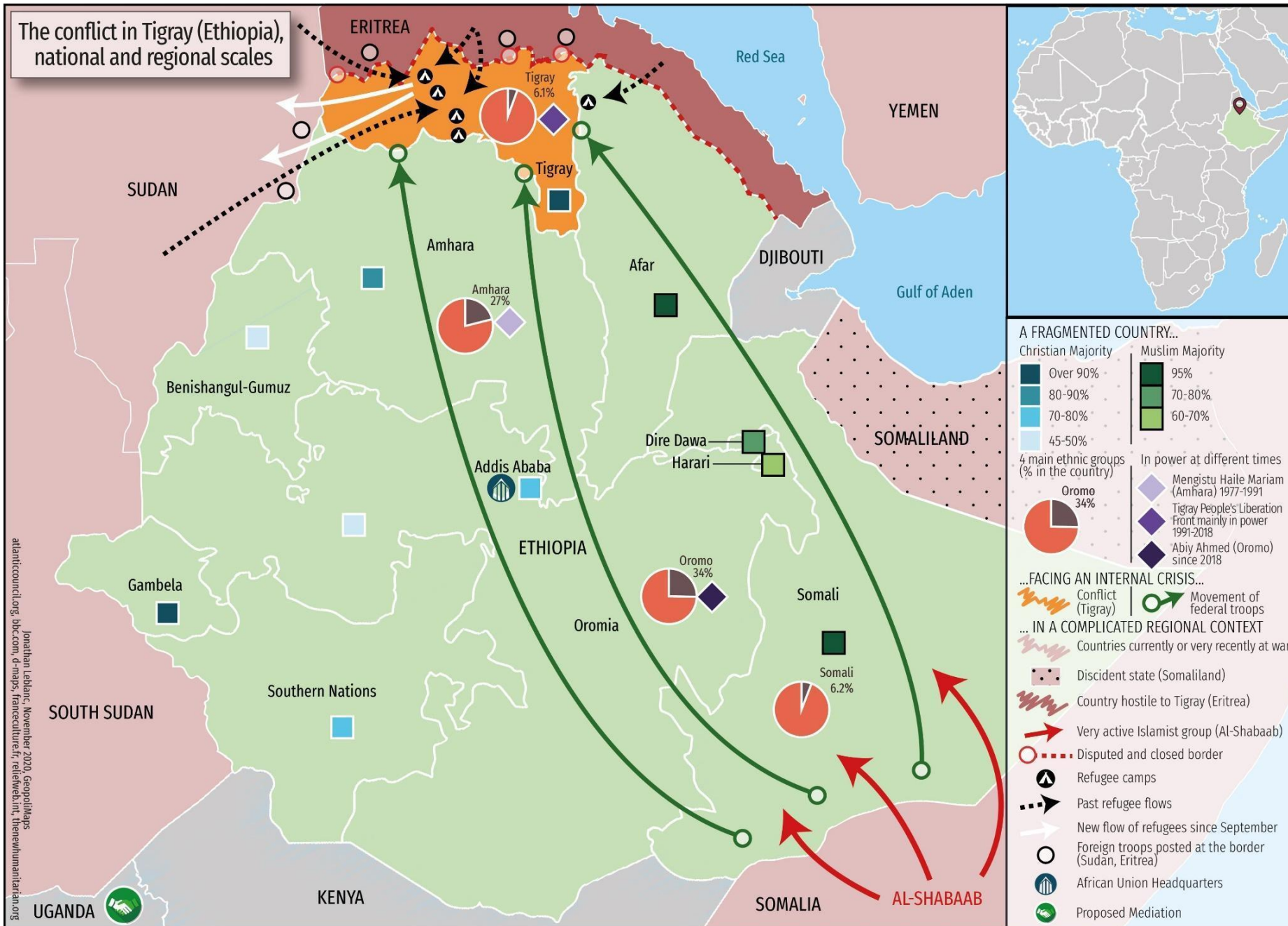
In an official communiqué on 29th November, the Government of Ethiopia stated that the military operation in Tigray was completed, and Prime Minister Abiy Ahmed appointed an “Interim Government of Tigray”. However, as from that moment, the armed conflict has continued at large scale for another seven months (Map 2), hundreds of thousands of people have been internally displaced and the number of reports on severe atrocities against unarmed civilians has grown unabated. These reports systematically document massacres, widespread sexual violence, the destruction of civilian infrastructure, mass looting etc. As communication lines have not been fully operational since November, the existing reports

in all likelihood only cover the tip of an iceberg and the full scale of destruction has yet to become clear.

On 28 June 2021, the Government of Ethiopia unilaterally declared ceasefire and withdrew most of its troops from Tigray⁵. The ceasefire is stated to last until the end of the farming season (i.e. end of September) and is intended to facilitate agricultural production and aid distribution, while allowing “rebel fighters to return to a peaceful road”. The withdrawal of the ENDF came after the TDF had launched a major offensive – Operation Alula – starting from 18 June and coinciding with Ethiopia's national elections on 21 June, and had recaptured several major towns in the region. On 28 June, the TDF recaptured the regional capital Mekelle and the TPLF leaders reappeared in public again after months of guerrilla warfare. A cheering crowd welcomed the TDF troops into the city⁶. The ceasefire is unilateral as the Tigray government poses strict conditions⁷; conditions to which the Amhara Region does not agree as they do not want to withdraw their forces from Western Tigray and parts of Southern Tigray. As communication lines are blocked again, information on events and evolutions occurring after June 28 only surfaces slowly. An important confirmed event is that one bridge (near Embamadre) and probably two other bridges over the Tekeze River were cut or damaged⁸. As the Tekeze River is a major natural boundary dissecting the landscape and hence the region, this will further hinder the upscaling of the humanitarian response. In addition, as the Ethiopian Government is denying access to humanitarian actors, worsening the man-made famine conditions, the current situation is considered a siege rather than a ceasefire by many⁹.

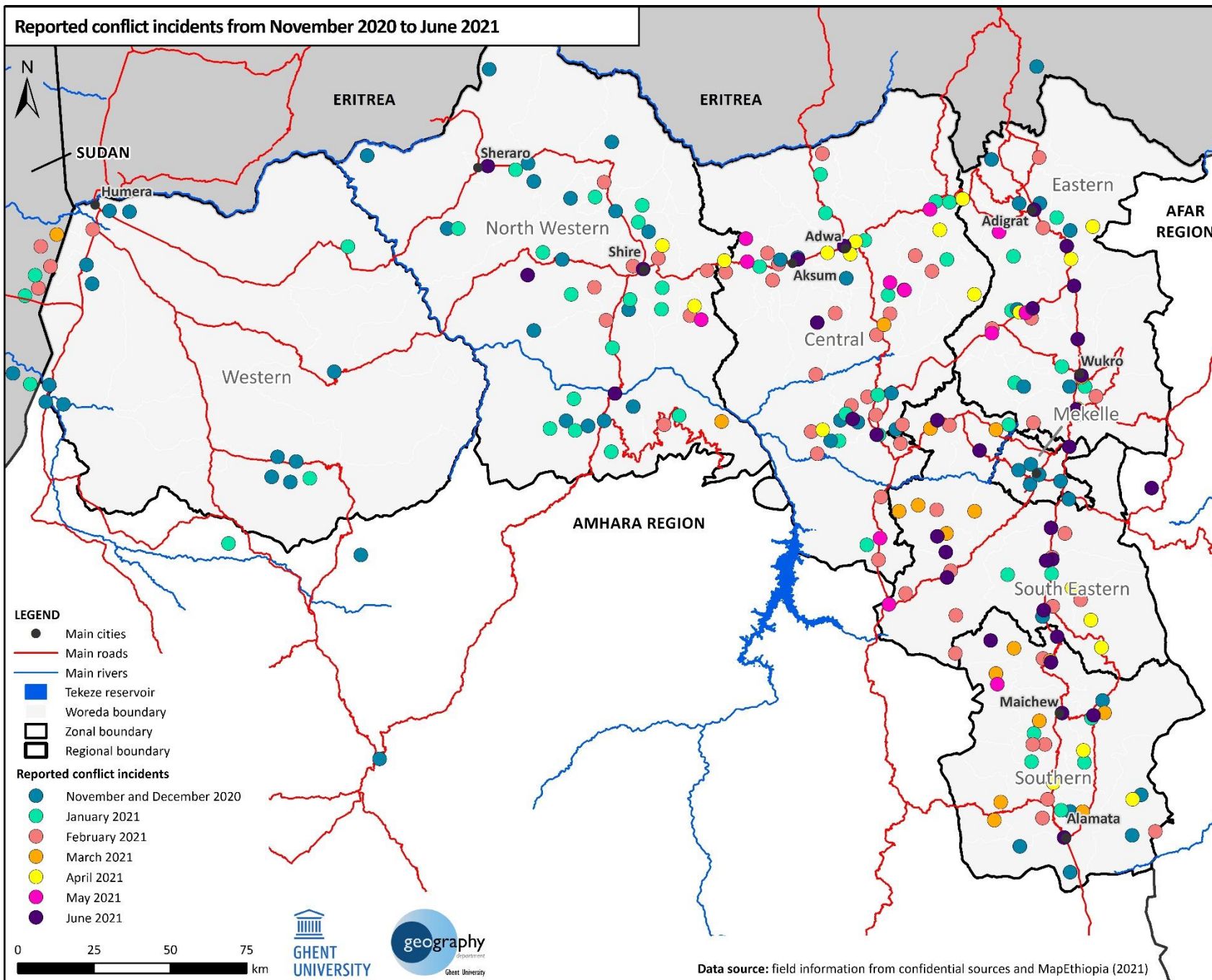
As a result of the conflict, which emerged in the aftermath of a destructive locust plague and in the context of the ongoing COVID-19 pandemic, many Tigrayans have become in dire need of humanitarian aid, food as well as medical supplies and health care services. In spite of the official line of the GoE, 'formal' humanitarian aid so far has not reached many of the people who need it most, due to restricted accessibility because of safety issues¹⁰. This is recognised by several government officials at the grassroots level, and was reiterated by senior humanitarian aid workers recently.

Considering this information, the objective of this 'Atlas on the Humanitarian Situation' is to document and map as much information as possible on the situation in which approximately 6 million Tigrayans find themselves. For this, we contacted key informants in different woredas (districts) of Tigray and collected qualitative as well as quantitative evidence of the actual situation on the ground. As communication lines are still blocked, we document pieces of a bigger puzzle, yet to be fully reconstructed. By providing spatially explicit information, we hope to transfer useful information to humanitarian and development actors.



Map 1
National and international context at the start of the Tigray War.

Data source:
GepoliMaps (2020)



Map 2
 Reported conflict incidents in the first eight months of the Tigray War, including battles, ambushes, air strikes, drone attacks and shelling (reported up to 5 July 2021).

Data source:
 Field information from confidential sources and MapEthiopia (2021) (the map may not be fully comprehensive)

2. Methodology

2.1. Interviews

To collect qualitative and quantitative evidence on the actual situation on the ground, we conducted numerous interviews with people from different woredas in Ethiopia. This was possible given our long-term involvement in Tigray as researchers, through family links, as previous staff of the Bureau of Agriculture, as lecturers... Over time, a large network of friends and colleagues has been established.

In the context of these interviews, it should be noted that communication lines in Tigray were blocked on 4 November 2020, at the start of the conflict. In the month of November, there has been a continuous black-out for telephone lines as well as for internet connections. At that time, we started sending out email messages broadly to all our friends in Tigray, hoping that such “messages in a bottle” would be picked up by some (e.g. through satellite telephones) and could be distributed somehow. This also was the time at which PM Abiy Ahmed promised to conquer the town of Mekelle and the Tigray Region “at any cost” - which was later reworded in terms of conducting a “final offensive”¹¹.

From the end of November onwards, we managed to have some rare contacts through people finding telephone signals on mountain tops near the borders of Tigray. Since December, telephone communication has slowly become possible with Mekelle and a few other major towns in Tigray (with intermittences). Still today, 30 April 2021, many of our interviews can only take place when people come to Mekelle or other major towns to take news from their relatives, or for cash withdrawals from the bank, which is only possible at a limited number of locations (Map 20).

Since the gradual re-emergence of telephone connections in Tigray (the mobile internet is still blocked), we managed to get into contact with our network again and started to conduct interviews. This atlas is largely founded on those telephone calls, for which we estimate to have included over 2000 telephone interviews.

These telephone interviews^{12,13} can be grouped in the following categories:

- Data collection
- > 300 semi-structured interviews¹⁴
- > 100 in-depth interviews¹⁵
- > 100 generalist interviews¹⁶ with office holders at regional, national and international levels.

For the semi-structured and in-depth interviews, we only have corresponded with people who we knew before the war started and whom we trusted both in professional and personal life. All interviewees accepted only to give information on the condition of strict anonymity.

At the start of our interviews in early January, people were afraid to speak, and used very indirect terminology. Nowadays, most people talk openly on the situation and the numerous killings and other war crimes. One of the main reasons for this evolution is that there are now hundreds of thousands of telephone calls narrating the plight to relatives. This makes that our correspondents assume that when they transmit information, it will not be singled out by security services. Another important reason is that the accumulation of negative war impacts has made people to abandon their traditional precautions when communicating plight – which traditionally cannot be done over the phone.

Yet, still, much has not been narrated and is interiorized. Co-author Emnet, who is native from Adigrat had not been informed about a number of destructions in the town, until he discovered the most recent Google Earth



image (Fig. 2.1). This satellite-based evidence subsequently helped to get new information from friends and family members.



Fig. 2.1. Google Earth view of Adigrat before (left) and after occupation by Eritrean troops (right). Shadows indicate that both satellite images were realised approximately at the same time of the day, around 11 AM.

On the December 19 image we observe many compounds with damaged structures, evidence of fire, bright “spickle” around buildings indicating looting, absence of vehicles along the streets. Though we telephoned with many people in Adigrat, none of them mentioned the damage that can be observed on this imagery.

The point here is that our interviews have allowed a sampling of the humanitarian crisis, but that large parts of the full picture still have to emerge.

has been confirmed (for the worse) once media have had access to some parts of Tigray. And yet, by early March these accessible parts were still small, with most media operating from Mekelle¹⁸ and reporting on Eastern and Central Tigray.

Important to note also is that the magnitude of the humanitarian crisis that we contribute to unearthing through our interviews and situation reports¹⁷

2.2. Secondary data

In addition to the numerous interviews, different secondary data sources have been consulted for this atlas. These data sources mainly include the nearly weekly updated situation reports from UN OCHA (Office for the Coordination of Humanitarian Aid)¹⁹, official communications by the GoE,

2.3. Mapping

Thematic maps were prepared based on various data sources, ranging from interviews with key informants to reports by humanitarian organizations, official communications from governmental institutions, news articles, and online data sources such as MapEthiopia²⁰ or the Humanitarian Data Exchange²¹.

The thematic maps are organised by categories:

- Background information
- Information on the humanitarian situation
- Information on the war and civilian victims

Interim Government (also often referred to as the 'Transitional Government') or governmental institutions such as the Ethiopian Ministry of Peace (MoP).

All maps initially were prepared in ArcMap 10.4 as 'static maps', presented in this document. The GIS data layers used to prepare these maps have also been imported into a simple but configurable ArcGIS Online Web Application. This allows users to interact with the data layers, to zoom, to share and export maps according to user preferences. In order to avoid misinterpretation and miscommunication, the online maps always have to be consulted together with the explanatory notes and metadata provided in this document.

Link to the Web Application: <https://arcg.is/vmbWHO>.

3. Background information

3.1. Administrative division

Tigray has been first mapped in chart, a rough map dated from the 15th C. CE²²⁻²⁴ (not represented here). In that chart, district names as Shire, Tembien, Enderta, Seraye, or Agame are placed in a circle around the capital Aksum. That town was the capital of a kingdom that lasted for about the first millennium CE in what are now the highlands of Tigray and Eritrea, and remained up to now a major centre of the Orthodox Church.



Fig. 3.1. Tigray and its neighbours as mapped by French cartographer Rigobert Bonne²⁵ in 1771.

While Tigray was well established by the end of the 18th C. (Fig. 3.1), a treaty between Abyssinian emperor Menelik and the Italian colonisers

divided it in two parts, that subsist until today: Eritrea to the north and Tigray as part of the Ethiopian Empire in the south.

The Abyssinian emperors Menelik and Haileselassie later divided the country into provinces, replacing territories that were formerly semi-autonomously governed²⁶. As colonial powers did elsewhere, Haileselassie cut into these existing territories and used this territorial reorganisation as a way to reward his allies. The new provinces were constructed along the strength of local powers (zones of influence of major towns), regardless of ethnic composition, as documented also on maps dating back to imperial times. For instance, the Shoa province comprised Amhara, Oromo and Afar population. The then Tigray comprised the major part of the Danakil depression, inhabited by Afar people.

This administrative division lasted for less than a century, until 1991 when the EPRDF came to power. At that time, a federalist structure was introduced, with the stated intention of avoiding the collapse of the Ethiopian state by recognising the right to self-determination of the 'nations, nationalities and peoples' of Ethiopia. National Regional States (hereafter called Regions) were established to reflect this, although even the most ethnically homogeneous Regions had at least ethnic minorities. Tigray became the home of the largely dominant Tigray people as well as Irob, Kunama and Raya Oromo on the margins. Hence, the Tigrinya-speaking parts of the Gondar and Wollo provinces, results of the emperors' partitioning, were regrouped with Tigray, just like the Afar-speaking areas of Tigray and Wollo formed the Afar region.

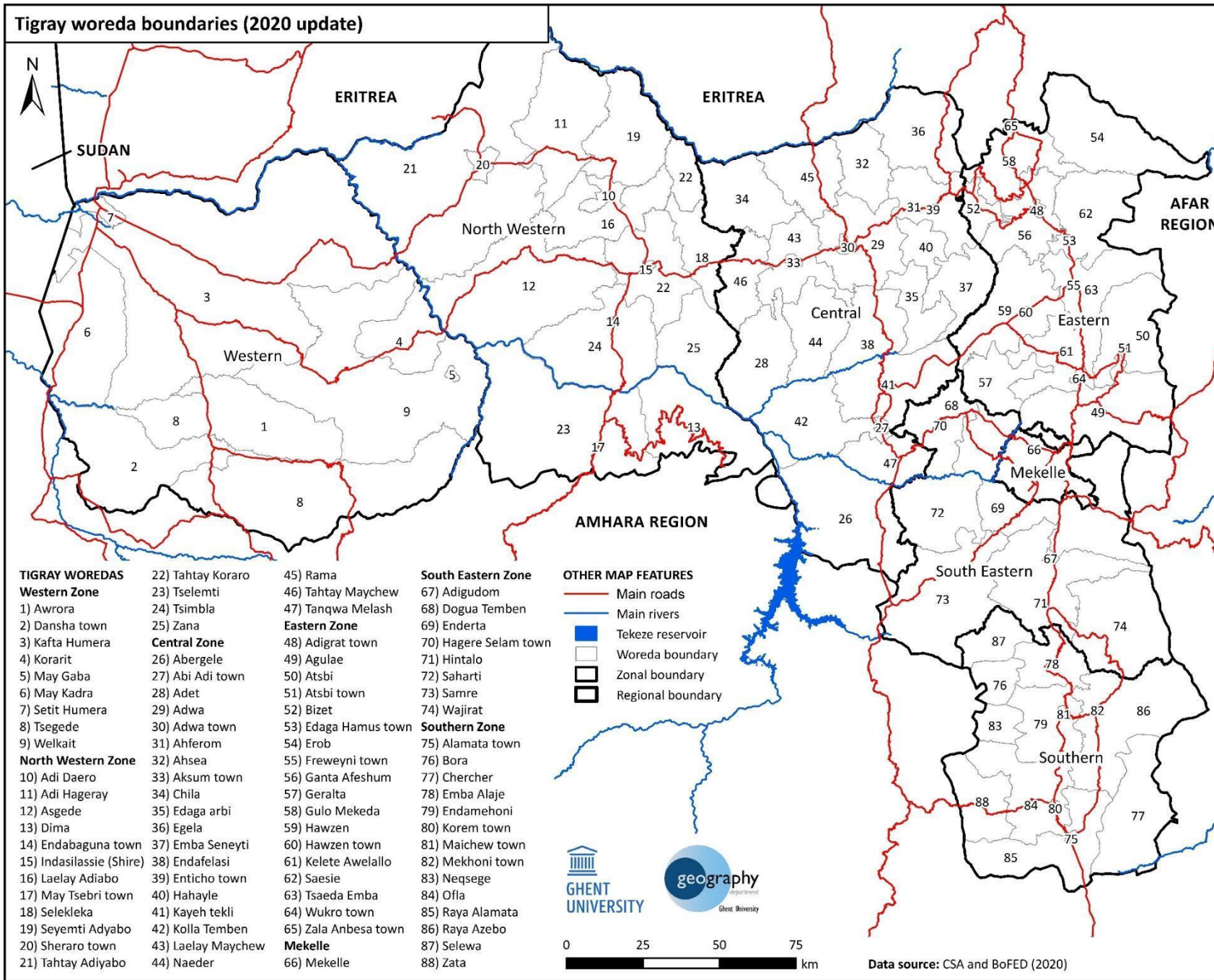
In the early 1990s an administrative division of Tigray was established, comprising about 60 woredas. Soon it became clear that there were insufficient resources to fully equip 60 woreda towns with all services deemed to be hosted by such administrative centres: branches of main ministries, bank, urban services, etc.

In the late 1990s, Tigray's woredas were regrouped into 35 larger woredas. These have been operational for about 20 years. The detail of these pre-2020 woredas is quite well rendered on Wikipedia²⁷.

Between 2018 and 2020, as part of a reform aimed to deepen and strengthen decentralisation, woredas were reorganised. As smaller towns

had been growing, they were now providing a range of services (markets, even banks), so that people were travelling to the closest such towns for these services, but continued to have to travel to the formal woreda centre, often in a different direction, for most government administrative services.

A huge consultation, involving numerous village meetings, was organised in this period, and we witnessed heated debates, particularly in the more remote areas. Based on these consultations, Tigray was re-organised into 88 woredas in January 2020, basically along the lines of the 1991 woredas to which 21 independent urban administrations were added (Map 3).



Map 3
Administrative boundaries at woreda (district) level, as implemented in January 2020.

Data source:
CSA & BoFED (2020)

3.2. Topography and constraints of topographic roughness

The Tigray highlands have been uplifted by some 2500 metres in ca. 25 million years, since the Miocene²⁸. This has led to the creation of a steep escarpment on the eastern side of the region, towards the Rift Valley. As the edge of the Rift Valley is not one single fault, but a bundle of faults, so that locally level terrain is found along the escarpment, the so-called grabens²⁹.

The plateau itself, generally drops towards the west. Yet, as uplift has been rapid (in geological terms), deep valleys and gorges have incised (Fig. 3.2), the most notable of which are occupied by Tekeze, Weri'i and Giba rivers²⁸, with spectacular roads winding across them³⁰.



Fig. 3.2 Tselemti topography (No. 23), with incision of a “young” gorge

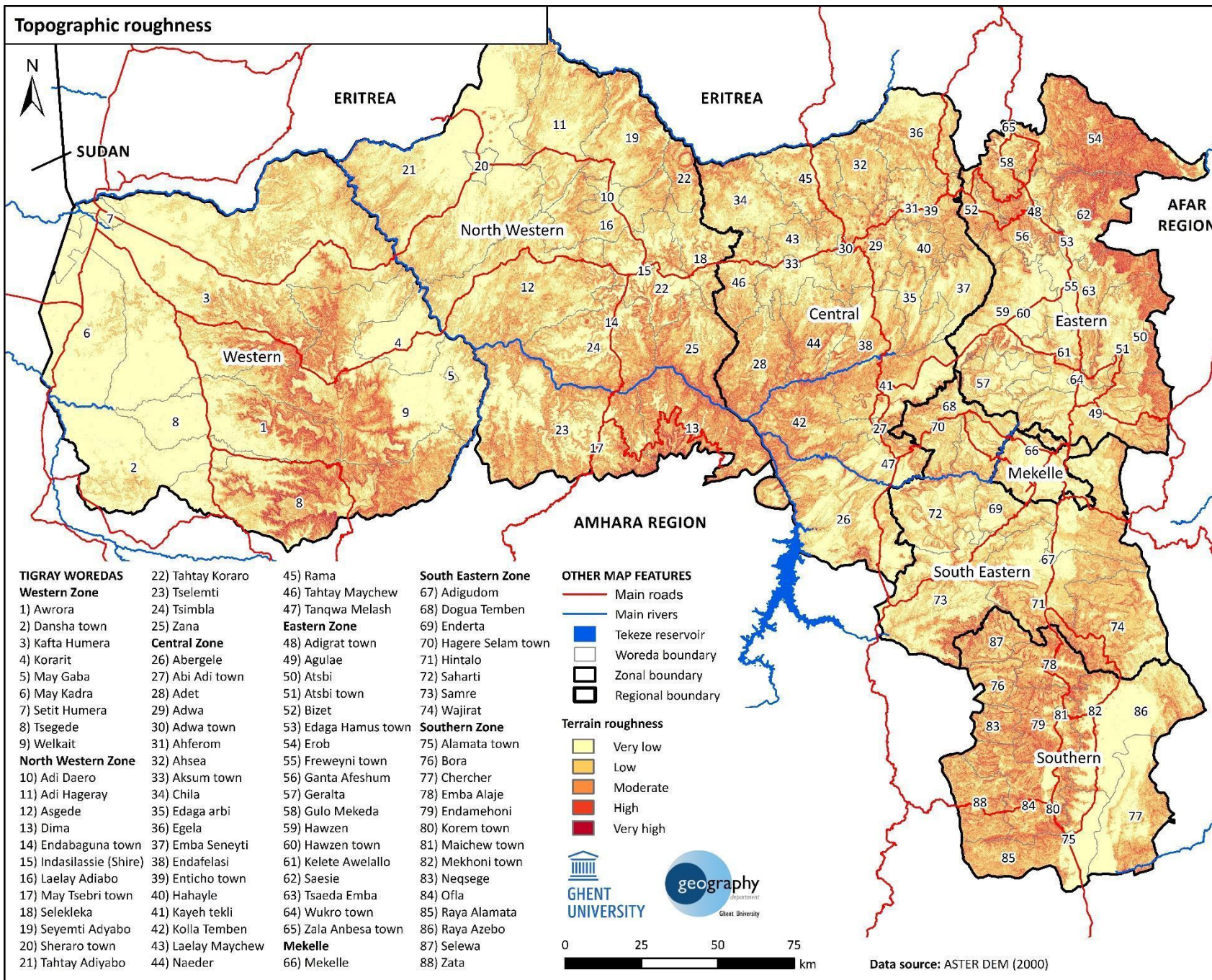


Fig. 3.3 Footpath to overcome the steep cliffs between Abiy Addi (No. 27) and Dogu'a Tembien (No. 68)

The geological formations of Tigray³¹ consist of alternating hard and soft subhorizontal layers, which contribute to the formation of a stepped morphology structure^{32,33}.

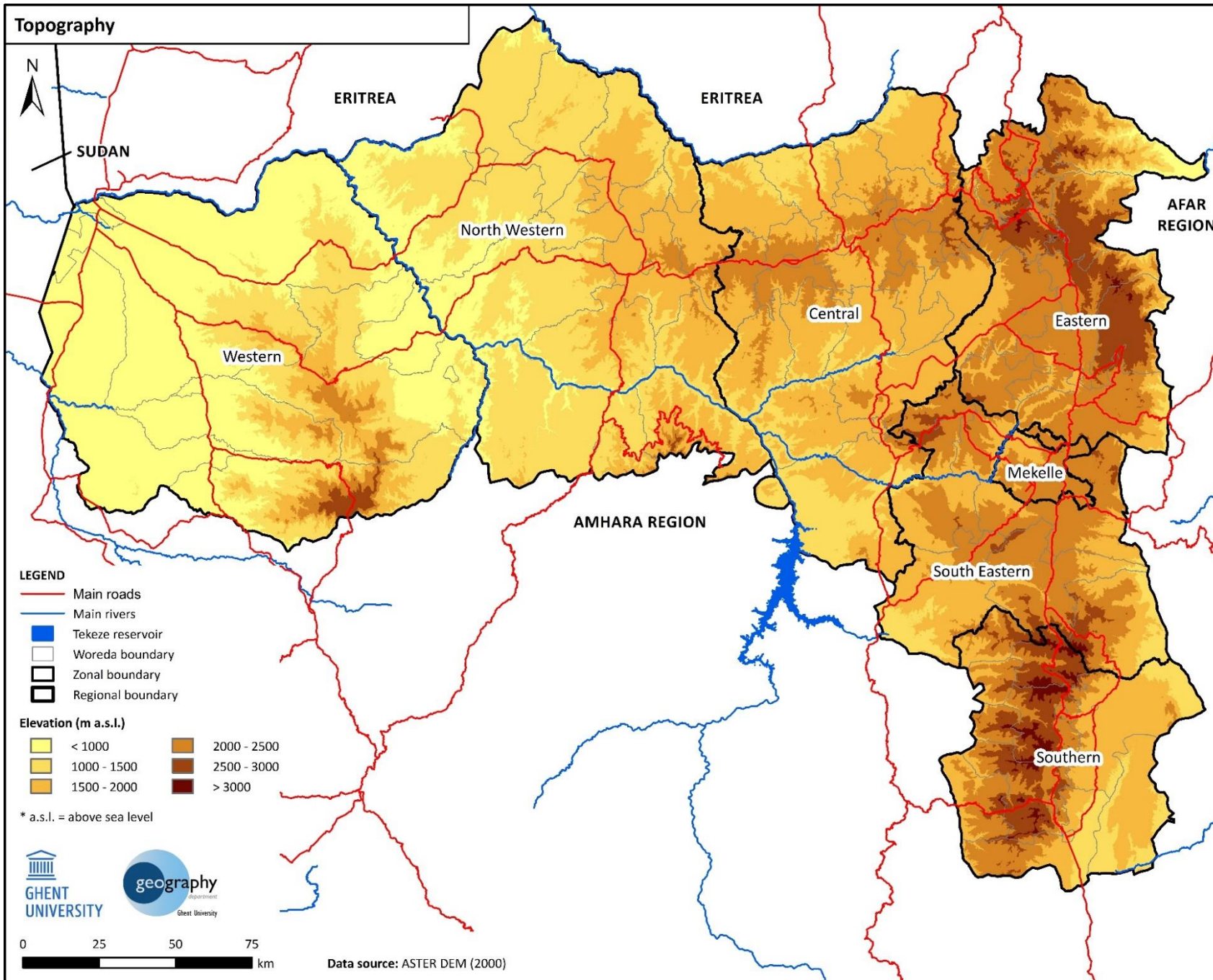
The Mesozoic sedimentary layers³⁴ are subhorizontal and present alternating hard (Fig. 3.3) and soft layers. The basalt flows^{35,36} that are on top of it, are also subhorizontal and interbedded with soft silicified lake deposits. Furthermore, intervening sills of Mekelle dolerite also form hard, subhorizontal layers³⁷. The relief thus consists of an alternation of flats and escarpments, reflecting the unequal resistance of the rocks subjected to weathering³⁸. Occurrence of ancient planation surfaces further contributed to the creation of a stepped landscape³⁹. The edges of the scarps are nearly horizontal, underlining the tabular structure.

This results in generally rugged landscapes, that are overall difficult of access. In historical times, most displacements were on foot, leading to the establishment of a dense network of long-distance trails^{24,40}. During the Italian control of the region, the first modern roads were established⁴¹; this network that remained the basic road infrastructure until the mid 1990s, when a start was made to establish a modern network of mostly asphalted roads, that clearly avoids the areas with high relief. In addition, since around 2005, huge community efforts were done to establish rural roads, aiming at reaching all tabiyas⁴². These rural access roads however easily suffer from gully erosion⁴³, and need maintenance for securing access. In the rural tabiyas, the main means of communication is still on foot, with help of donkeys for carrying loads⁴⁴.



Map 4
Topographic Roughness Index, indicating contrasts in elevation.

Data source:
ASTER DEM (2000)



Map 5
Topography (absolute elevation above sea level).

Data source:
Aster DEM (2000)

3.3. Precipitation

Overall, annual rainfall in Tigray shows a clear south-north gradient, with decreased annual rainfall as one moves away from the equator.⁴⁵

Topographical factors, especially elevation and general orientation of the valley and slope gradient over longer distances, determine the spatial distribution of annual rain, which varies between 400 and 1800 mm per year. Precipitation is highest nearby cliffs and other eminent slopes, perpendicular to the main valleys which are preferred flow paths for the air masses (Fig. 3.4). Due to the occurrence of large drop sizes rains can be very intense (Fig. 3.5).⁴⁶



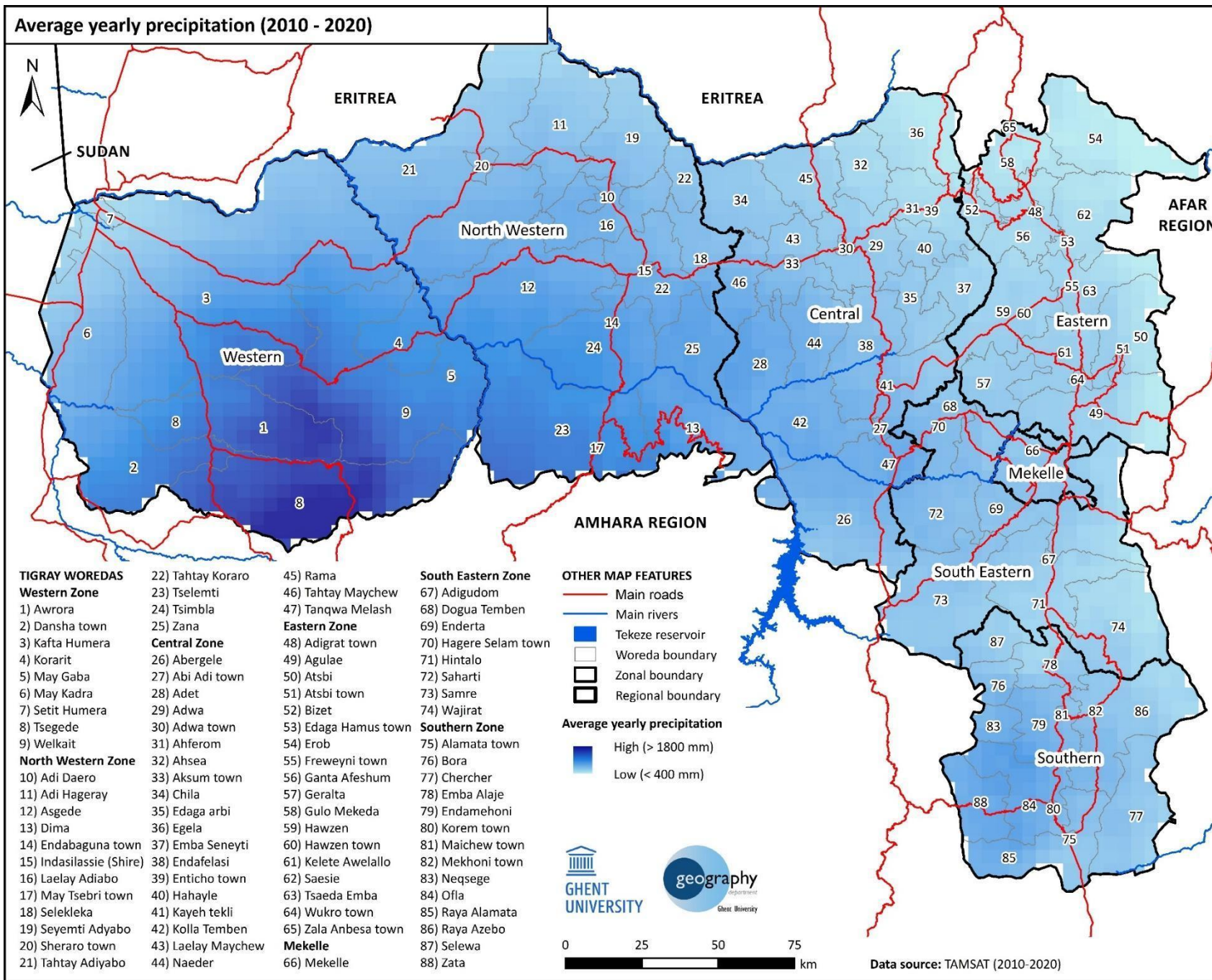
Fig. 3.4 Heavy rains over the Giba valley, west of Mekelle, as seen from far...

Locally, there can be strong contrasts in annual rainfall, in relation to intervening mountain ranges that create rain shadows.⁴⁷



Fig. 3.5 ...and from nearby.

The very high rainfalls in the southern part of Western Tigray are remarkable and would be in the first place attributed to orographic rains related to the Simien mountains. We are not aware of any study detailing this particularly humid area with rains up to 1800 mm per year.



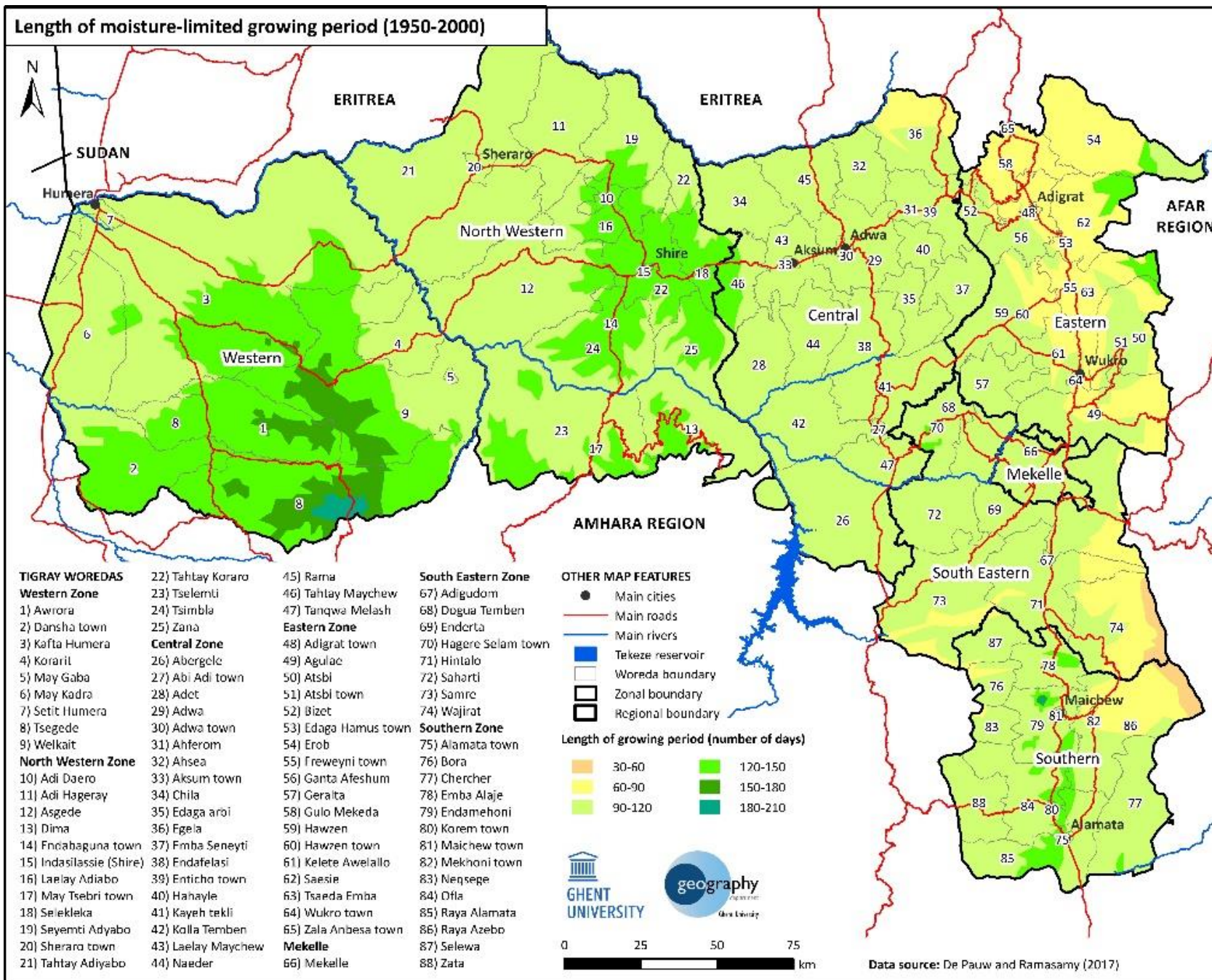
Map 6
Average annual precipitation derived from TAMSAT satellite rainfall estimates

Data source:
TAMSAT (2010-2020)

3.4. Average length of growing period

The growing period is the period of the year in which annual crops and other herbaceous plants grow successfully^{48,49}. The length of the growth period is mainly determined by moisture availability, but also type of crop and absence of temperature limitations. Some crops are early maturing and some are not. The vast majority of Tigray has a growing period of 90 – 120 days (Map 7), stretched over the months of June to September⁵⁰. In northwestern and western Tigray, the growing period is longer, and maize

and sorghum are frequently cultivated. Some areas in the northeast of Tigray and along the eastern Rift Valley escarpment have a growing period of less than 90 days, which is less than the minimum required number of days for most crops to grow. The overall short length of the growing period leads to a great chance of crop failure with the smallest variation in moisture availability, which is among the reasons Tigray is often at risk of crop failure⁵¹.



Map 7
Average length of the moisture-limited growing period.

Data source:
De Pauw & Ramasamy (2017)

3.5. Population density

Tigray's population density strongly follows the "classic" distribution in the country, as presented already by Mesfin Woldemariam in 1972⁵². High population densities are found in the highlands, in relation to several factors including more suitable climate (moister and less evaporation), lower incidence of diseases, and often fertile soils on volcanic materials.

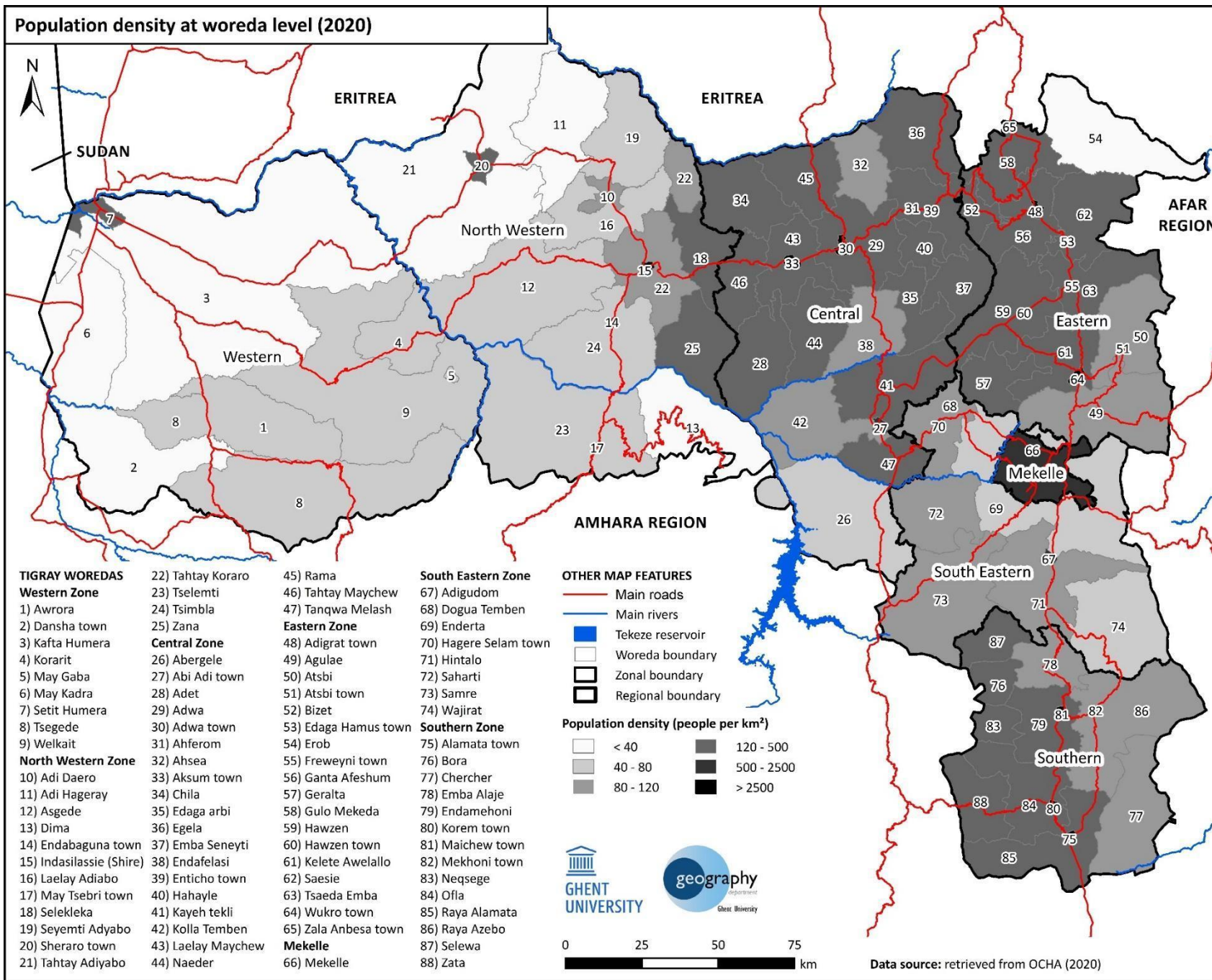
Rains can be intense everywhere, but in the highlands people typically have settled in places where intense rains are better seasonally distributed^{53,54}. Typically, where rains are more seasonal (i.e. where rainfall intensity is more concentrated) the population density is lower. This is the case, for instance, for Abergelle (No. 26 on the map); the rainfall distribution here is highly seasonal, and rains fall annually in two dozen of very intense events⁴⁶.

High population densities in urban areas are expected, as well as the relatively high densities in the Raya graben (around 1400 m a.s.l.; woredas No. 77, 85 and 86), where irrigation agriculture has been strongly developed over the last decades^{55,56}. The expansion of irrigation along the lower Tekeze river⁵⁷ did not lead to higher population densities that would be visible at the scale of woredas.

The low population density of Inderta (a large woreda surrounding Mekelle on all four directions, No. 69 on the map) is counter-intuitive. However, this is partly an artefact due to the fact that Indirta also includes areas on the Rift Valley escarpment, with low population density (most of Indirta's eastern sector). Another potential reason is the dry limestone environment, a characteristic of Indirta; the 2020 woreda borders have remarkably been adjusted to the limestone area.



Fig. 3.6 Areas with contrasting population densities: from very low population densities in the lowlands, to medium densities in the highlands and very high population densities in urban centres.



Map 8
Population density at woreda level, as calculated from population projections.

Data source:
OCHA (2020)

3.6. Land cover and natural vegetation density

The larger part of Tigray is constituted of rugged highland terrain occupied by a dominant land cover of cropland, followed by vegetated areas (bush-, shrub-, grassland and forests)⁵⁸.

Most inhabitants depend on agriculture for their subsistence, despite the difficult conditions for cultivating. Crop growth varies mainly according to altitude and soil type. The main crops grown in the dogu'a highlands are *Hordeum vulgare* L. (barley), *Triticum sativum* L. (wheat), *Eragrostis tef* L. (tef) and pulses, while *Zea mays* L. (maize), and *Sorghum bicolor* L. (sorghum) are widely grown in the kolla lowlands. In the transition zones, it is also common to see the lowland and highland crops growing next to each other⁵⁹.

Tigray has dominantly an age-old⁶⁰ grain-based oxen plough cropping system, which is practiced by a large number of farmers throughout the region.⁶¹ Livestock play a key role for land preparation, agricultural input and output transportation, and providing farmyard manure for maintaining the soil fertility mainly in the homesteads. And obviously they can be sold when there is need for cash⁶². Shortage of grazing land has led to a livestock feed crisis. Many areas are extensively cultivated, even on steep slopes and valley sides, going beyond agronomic limits. However, the situation has improved nowadays when compared to 1970s, when crop farming extension had resulted in high land degradation as few soil and water conservation measures were taken⁶³.

Open woodland of small shrub and tree species has regenerated during the past decades in exclosures⁶⁴, and semi-natural forest vegetation remains largely restricted to small, isolated patches holding different afro-montane

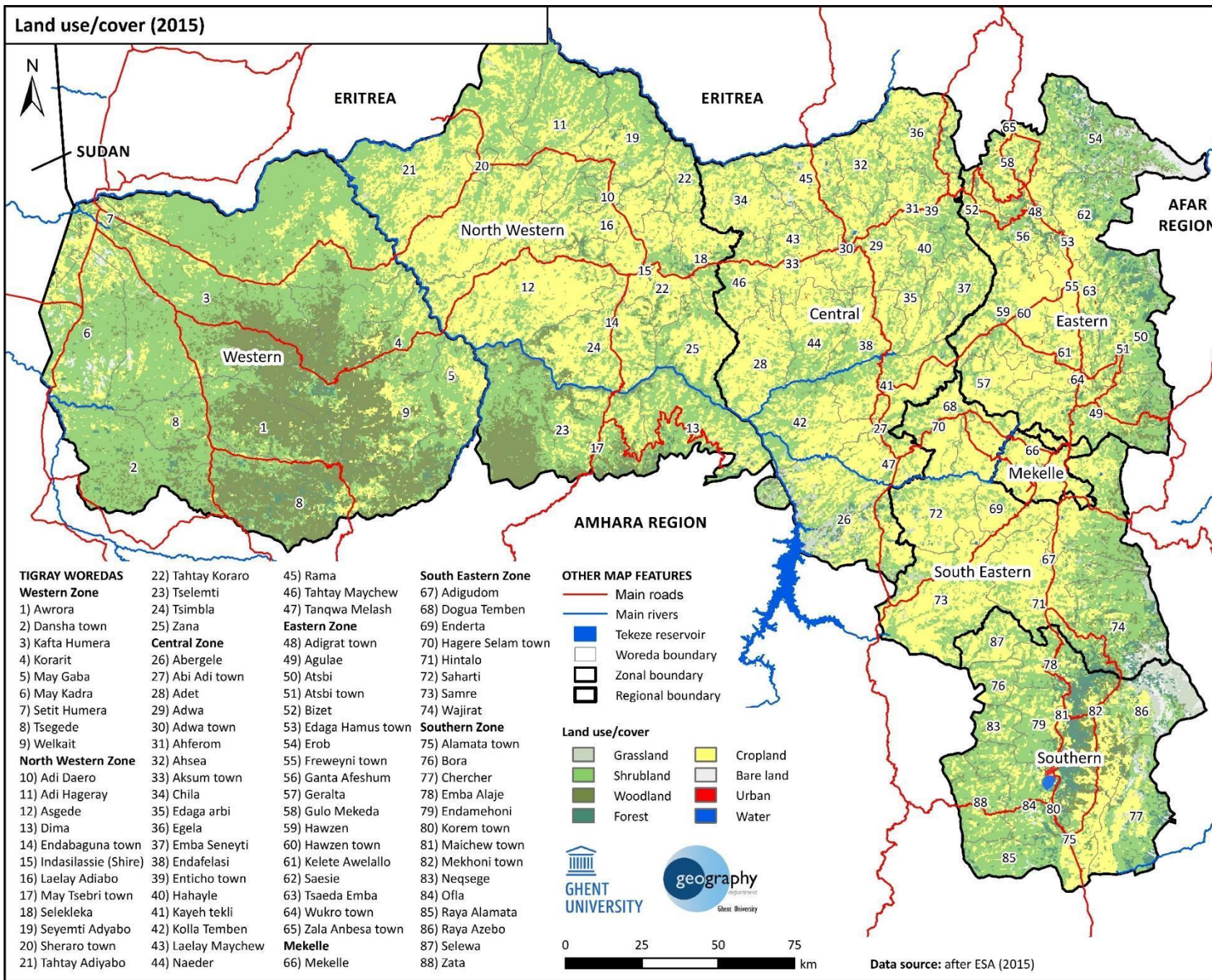
forest types⁶⁵. Afroalpine vegetation occurs on the highest peaks in the Tsibet and Mugulat massifs⁶⁶ (Nos. 56 and 78 on the map).

Unlike the openfields of the Tigray plateau, woody vegetation still is a dominant feature along the eastern escarpment towards the Rift Valley, probably due to the marginal character and less favourable crop farming conditions⁶⁷. Along the escarpment, a clear environmental gradient with respect to humidity and temperature exists. Due to humans using the land, however, the vegetation shifted from true moist coniferous montane (climax) forests to semi-natural dry montane forests dominated by *Juniperus procera* and *Olea europea spp. africana* above 2200 metres such as in the Hugumburda (No. 50) and Des'a forests⁶⁸⁻⁷⁰ (No. 80).

Western Tigray is less populated and still comprises large woodland savannah and forested areas. On the level but dissected Quaternary alluvial fan of the Tekeze River²⁸, large-scale commercial farming of sesame has been developed over the last decades⁷¹, crossing over into the Amhara Region and Sudan as well, and prompting large-scale seasonal labour migration as well as some spontaneous resettlement.

Especially since the 1990s, hard work has been undertaken to conserve soil and water throughout the Tigray region. This is testimony of the resilience of the Tigray people and land, and it visibly boosted groundwater availability, hence also vegetation, and agriculture⁷².

Irrigation agriculture is practised at local scale in many places, such as in the Raya graben⁷³, along the Tekeze river⁵⁷, downstream from numerous small reservoirs⁷⁴, and at any place where natural springs are present⁷⁵ – the discharge of which has often improved over the years as a result of the soil and water conservation activities⁷⁶.



Map 9
Land use/cover classification, as generalized from the ESA land cover classification.

Data source:
ESA (2015)

4. Information on the war and civilian victims

4.1. Territorial control by different parties involved in the conflict

After eight months of warfare and the unilateral declaration of ceasefire, the Tigray Region is still under 'territorial control' by different parties involved in the conflict. The situation is dynamic as fighting continues (see Map 2 for conflict incidents); the map represents the approximate situation on the ground as of the beginning of July 2021.

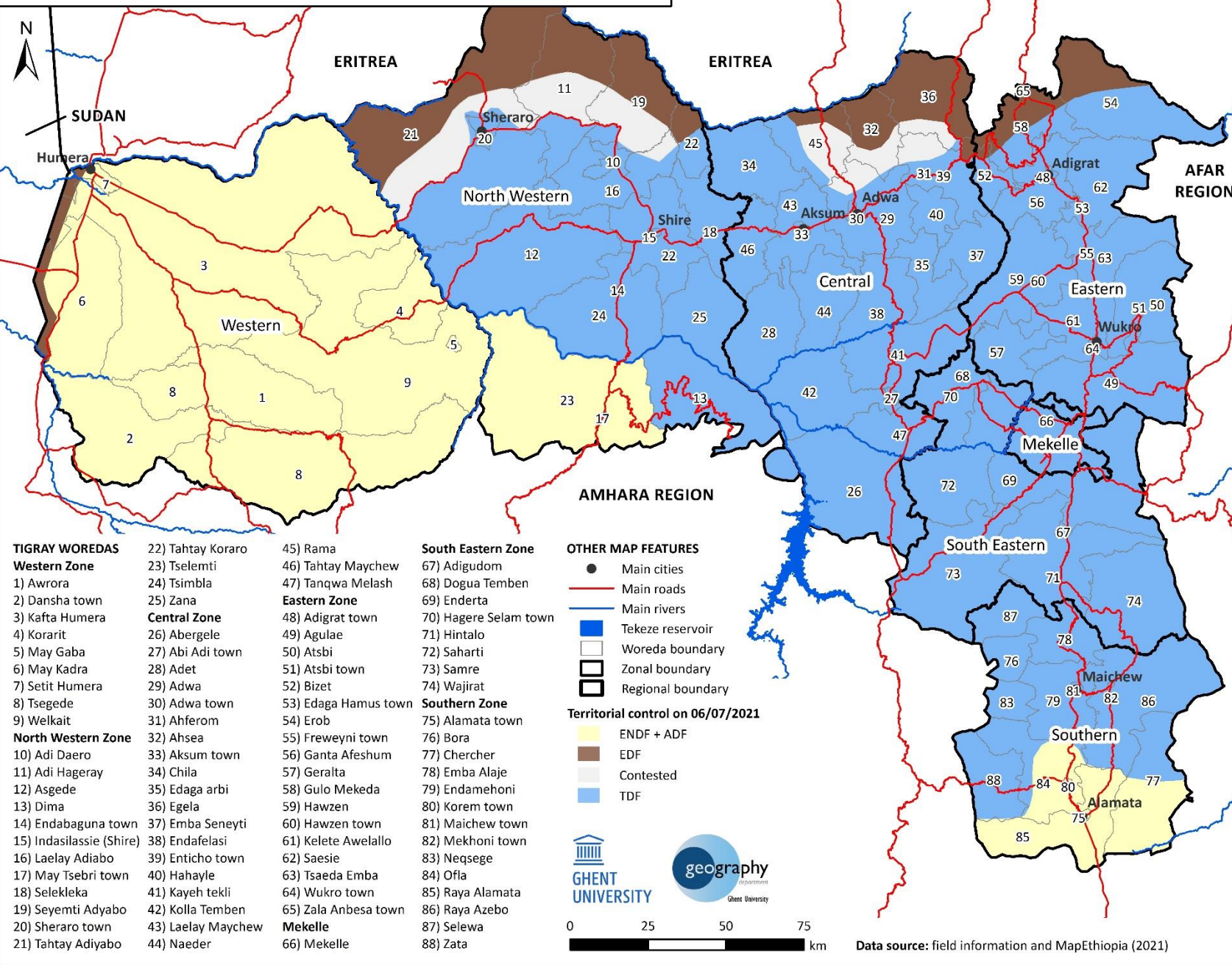
For this overview, we have extracted geographical information from the dynamic maps on territorial control by MapEthiopia⁷⁷ (status on 5 July 2021) and have combined this with information obtained from key informants and media reports.

The main difference between our map and the situation presented by MapEthiopia is that next to the presence of ENDF, 'ADF' and TDF, we also include the presence of the Eritrean army. Whereas MapEthiopia frequently mentions the involvement of Eritreans in Tigray, they do not map the area controlled by them.

As compared to the previous territorial control map that we published at the end of April (still to be consulted in the [Web Application](#)), we observe the following evolutions:

- The TDF has recaptured and reclaimed a lot of territory (in blue), after launching a major offensive in the second half of June ('Operation Alula'). It is again in control of major towns such as the regional capital Mekelle, Shire, Axum, Adigrat, Adwa... and of the rural areas in between. It also controls major access roads and the Tekeze Hydropower Dam.
- The ENDF has largely retreated its troops and remains present only in Southern, Western and to a smaller extent North Western Tigray, alongside the Amhara militia, who have informally annexed Western Tigray (in light yellow).
- The area under control by the EDF (in dark brown) has strongly declined and is now restricted to areas along the Ethiopian-Eritrean border. In addition to this, there is a heavy presence of Eritrean soldiers along the Ethio-Sudanese border in Tigray, which would prevent a humanitarian corridor from establishing.
- Several large buffer zones remain (in grey), where the ENDF and its allies nor the TDF are permanently present, but where skirmishes and battles between opposing parties occur.

Territorial control on 06/07/2021 (best estimate)



- | | | | |
|---------------------------|---------------------|----------------------|---------------------------|
| TIGRAY WOREDAS | 22) Tahtay Koraro | 45) Rama | South Eastern Zone |
| Western Zone | 23) Tselemti | 46) Tahtay Maychew | 67) Adigudom |
| 1) Awrora | 24) Tsimbla | 47) Tanqwa Melash | 68) Dogua Temben |
| 2) Dansha town | 25) Zana | Eastern Zone | 69) Enderta |
| 3) Kafta Humera | Central Zone | 48) Adigrat town | 70) Hagera Selam town |
| 4) Korarit | 26) Abergele | 49) Agulae | 71) Hintalo |
| 5) May Gaba | 27) Abi Adi town | 50) Atsbi | 72) Saharti |
| 6) May Kadra | 28) Adet | 51) Atsbi town | 73) Samre |
| 7) Setit Humera | 29) Adwa | 52) Bizet | 74) Wajirat |
| 8) Tsegede | 30) Adwa town | 53) Edaga Hamus town | Southern Zone |
| 9) Welkait | 31) Ahferom | 54) Erob | 75) Alamata town |
| North Western Zone | 32) Ahsea | 55) Freweyni town | 76) Bora |
| 10) Adi Daero | 33) Aksum town | 56) Ganta Afeshum | 77) Chercher |
| 11) Adi Hageray | 34) Chila | 57) Geralta | 78) Emba Alaje |
| 12) Asgede | 35) Edaga arbi | 58) Gulo Mekeda | 79) Endamehoni |
| 13) Dima | 36) Egela | 59) Hawzen | 80) Korem town |
| 14) Endabaguna town | 37) Emba Seneyti | 60) Hawzen town | 81) Maichew town |
| 15) Indasilassie (Shire) | 38) Endafelasi | 61) Kelete Awelallo | 82) Mekhoni town |
| 16) Laelay Adiabo | 39) Enticho town | 62) Saesie | 83) Neqsege |
| 17) May Tsebri town | 40) Hahayle | 63) Tsaeda Emba | 84) Ofra |
| 18) Selekleka | 41) Kayeh tekli | 64) Wukro town | 85) Raya Alamata |
| 19) Seyemti Adyabo | 42) Kolla Temben | 65) Zala Anbesa town | 86) Raya Azebo |
| 20) Sheraro town | 43) Laelay Maychew | Mekelle | 87) Selewa |
| 21) Tahtay Adiyabo | 44) Naeder | 66) Mekelle | 88) Zata |

- OTHER MAP FEATURES**
- Main cities
 - Main roads
 - Main rivers
 - Tekeze reservoir
 - Woreda boundary
 - Zonal boundary
 - Regional boundary
- Territorial control on 06/07/2021**
- ENDF + ADF
 - EDF
 - Contested
 - TDF
- GHENT UNIVERSITY
geography department
Ghent University
- 0 25 50 75 km

Data source: field information and MapEthiopia (2021)

Map 10
Approximate territorial control on 6 July 2021.

Data source:
MapEthiopia (2021) in combination with information from key informants

4.2. Fully documented casualties

“Related to civilian damage, maximum caution was taken. In just 3 weeks of fighting, in any district, in Humera, Adi Goshu, ... Aksum, ..., Edaga Hamus, The defence forces never killed a single civilian in a single town. No soldier from any country could display better competence.”⁷⁸ Those were the words of Ethiopian Prime Minister Abiy Ahmed in his victory speech for the federal parliament on 30 November 2021. He stressed: “Not a single civilian was killed”. The victory was counterfeit and, unfortunately, so was the statement on no civilian casualties. Amid the ongoing fighting, the number of killed soldiers is rising fast, and so is the number of civilians casualties in the war.

Names of civilians who lost their lives as a result of warfare slowly surface. The communication blackout and lockdown of the region make it very hard to get verified information, so the actual number of deaths is likely much higher than the sample that we have collected so far (also see section 4.3).

Through Tim Vanden Bempt ([@tvbempt](https://twitter.com/tvbempt)), we have collected a list of verified identities of civilian victims in the Tigray war. This list⁷⁹ is populated from a mix of sources, ranging from social media posts, media reports, advocacy groups listings (for instance Irob Advocacy⁸⁰) and direct reports (as posted for instance on www.tghat.com⁸¹). The social media posts are mostly from family members and friends who mourn the death of their loved ones, which they learnt about by telephone. For each victim, through our network, we have tried to contact one relative or friend to learn more about the circumstances in which the victim died. For this verification, some families also have provided a photo of the deceased person.

It is noted, however, that there are many families who, for various reasons, do not report the loss of relatives on social media, which limits our sample

of fully documented casualties. Additionally, there may be casualties in very remote areas and/or victims may not be locals of the area (e.g. Eritrean refugees or internally displaced people), which makes it difficult to fully document these deaths. Several reported casualties and massacres (see section 4.3 and ANNEX A – Chronological overview of the 245 reported massacres in the Tigray War (November 2020 – June 2021)) hence may not be well represented in our fully documented casualties list. Examples are the Hitsats (west of Shire) and Debre Abbay (SSW of Shire) massacres.

Given this limitation, we represent the spatial distribution of civilian casualties in the form of a heatmap (instead of in absolute numbers), in which the varying colours visualize the intensity or magnitude and geographical distribution of casualties.

While no numbers exist for the total amount of civilian casualties, well-documented cases of **2805 deaths** (by 5 July) indicate that: 8% of the dead are women, and **92% are men** (Fig. 4.1). This is in line with an often stated intention to “eradicate Tigray fighters, as well as the future generation of fighters”. Among the men, a small number of victims are priests and deacons, traditionally people with authority in the community.

Casualties are dominantly (31%) victims of massacres, killing sprees, point-blank executions, in house searches, rounding up of civilians, or after arrest (including journalist Dawit Kebede) (classified under ‘Execution’ in Fig. 4.1). Though impressive in video footage, only 3% of the known victims was killed during shelling and airstrikes. Among these victims are 38 of the 64 people who died in the Ethiopian airstrike on the Togoga market (Central Zone) on 22 June⁸². People who died of hunger or due to the total collapse of the healthcare system are generally not reported, and make up less than

1% of the fully documented victims. However, the number of people who died of hunger is expected to be in the thousands already by early July, as 353,000 people were reported to experience famine conditions in early June⁸³, a number that was updated to 400,000 in early July⁸⁴. As 2 out of 10,000 of these people are expected to die of hunger every day, approximately 71 to 80 people die every day due to man-made famine conditions in the region⁸⁵. In addition to this, 66% of the fully documented victims was killed by violence that has not been further detailed - most of the victims can be allocated to massacres or executions, although some of them also may have died in crossfire. In case of the latter, the perpetrator is indicated as 'not provided'. For female victims, deaths caused by sexual violence also may not be well represented in the list. As of June 2021, the cases of sexual violence that have been reported, were all women.

Perpetrators of the killings comprised Amhara militia (4%), Eritrean soldiers (47%), Ethiopian soldiers (22%) and an additional 18% that can be attributed either to Ethiopian or Eritrean soldiers, as they jointly carried out the killings. In 9% of the cases, the affiliation of the perpetrator is unknown. Our data set may be slightly biased due to the selection of key informants whom we work with. So far, the fully documented casualties list does for instance not comprise victims that can be attributed to the TDF or allied forces. In contrast, these victims may be part of the 'reported casualties' list (section 4.3), which is often without known perpetrator for each reported casualty due to the limited data availability. However, the number of victims that can be attributed to the TDF or allied forces is expected to be low. In case names of such victims become available, TDF will be included as perpetrator.

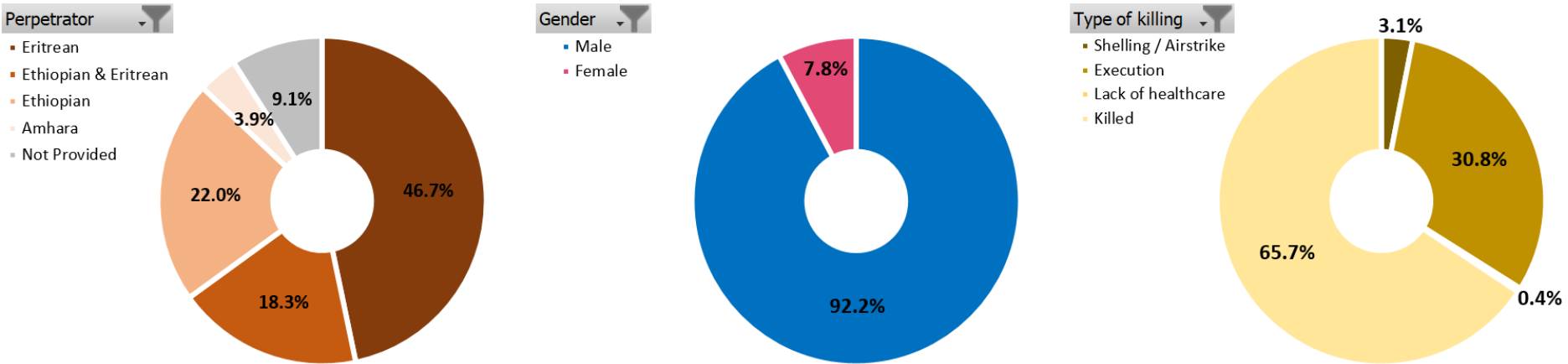


Fig. 4.1 Graphic representation of fully documented civilian casualties

Among the victims, nearly all age groups are represented (Fig. 4.2), although there are deviations from the population pyramid. In our sample, fortunately, only 9% of the victims was under the age of 20 years, whereas this age group comprises approximately 50% of the Ethiopian population. Children are not frequently targeted, whereas many youngsters may have fled to safer areas in fear of reprisals (and their whereabouts are unknown) or may have joined the TDF fighters and hence cannot be considered civilian victims in case they die. The most frequently targeted age group is the group between 20 and 29 years old (23%), followed by the group between 30 and 39 years old (20%).

In addition to the 2805 fully documented civilian casualties, at least **12 humanitarian aid workers** also have been killed in the Tigray conflict. Among the twelve victims are three employees of Médecins Sans

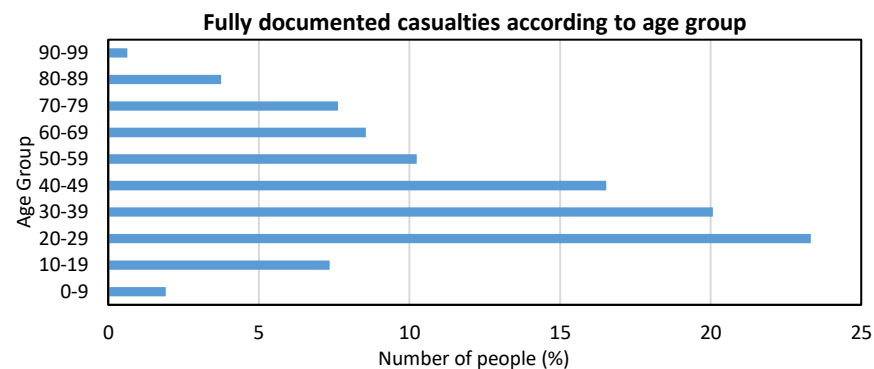
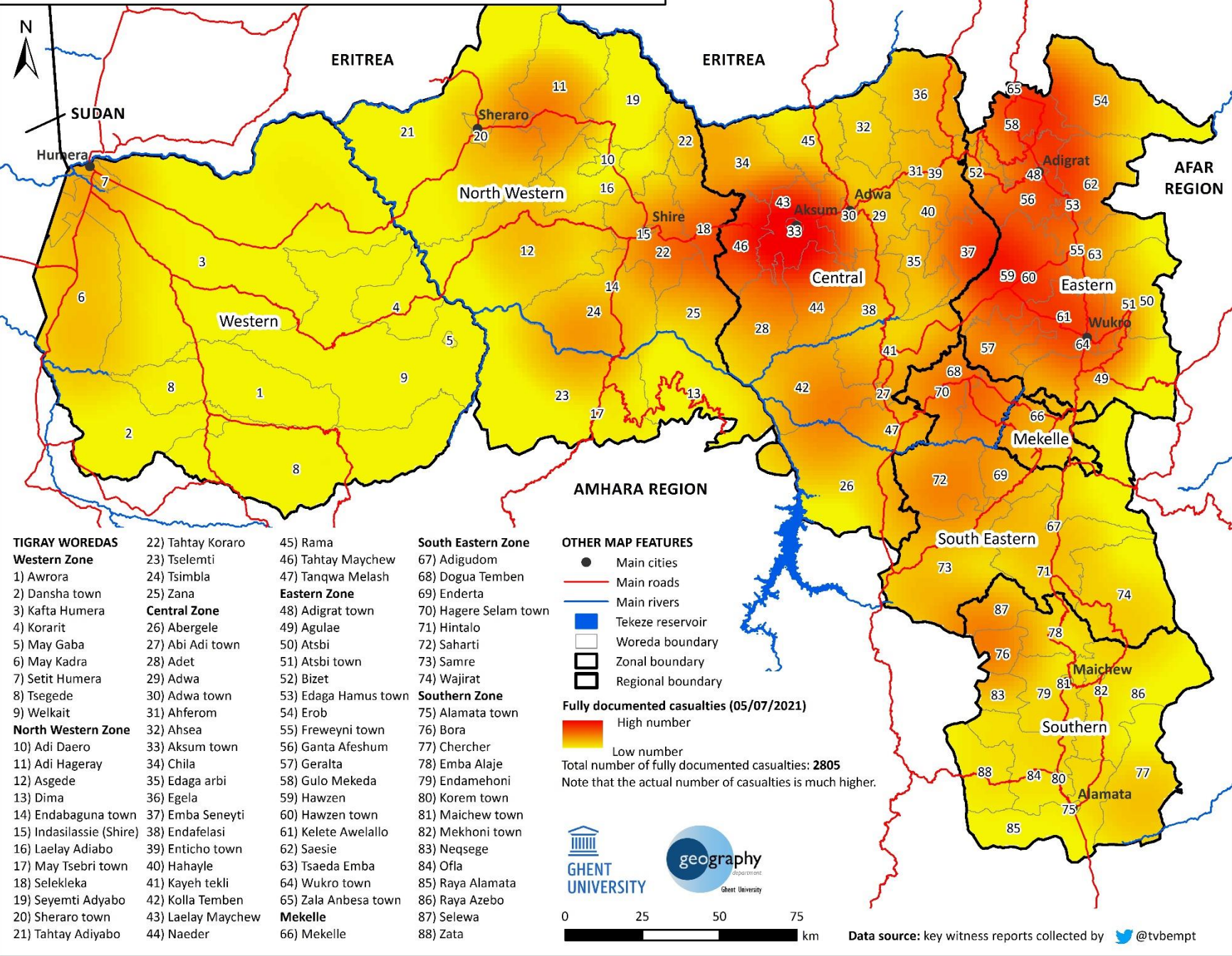


Fig. 4.2 Age distribution of the fully documented casualties

Frontières (MSF), who were killed in late June, a few days before the unilateral declaration of ceasefire⁸⁶, highlighting the difficult and dangerous working conditions for humanitarians.

Fully documented civilian casualties in Tigray war (05/07/2021)



Map 11
Heatmap of the fully documented civilian casualties in the Tigray War on 5 July 2021.

Data source:
Verified social media posts, media reports, advocacy groups listings and direct reports

4.3. Reported casualties and massacres

In addition to the map on ‘fully documented civilian casualties’, a map on ‘reported civilian casualties’ has been prepared as well. In this map, a total of **9642 civilian victims** is presented, as derived from 3028 (social) media reports, reports of different NGOs and humanitarian actors and press releases. As lack of media access and a still ongoing communication blockage in many parts of the region make reporting very difficult, the number of verifiable sources is minimal (the 3028 reports have been filtered down to 607 ‘events’) and the number of casualties is most likely an extreme underrepresentation.

The main difference with the previous heatmap is that the names of the victims and the exact circumstances in which the civilians were killed, are mostly unknown yet or are not fully documented. The perpetrators also have not been reported for many of these cases.

Based on the established database, a list of **245 massacres** was compiled (**ANNEX A**). For this purpose, a ‘massacre’ has been defined as ‘a conflict

incident in which at least 5 civilians were killed on the same day at the same location’ – a definition that comes from historical studies of massacres, including those committed during the Armenian genocide^{87,88}. The documented massacres of the Tigray war are represented on the inset map of Map 12. Note that 245 massacres are reported, but that we present only 240 massacres on the map due to lacking geographical details (with unknown tabiya) for five massacres.

An important remark is also that this map, as well as the previous map, do not include deaths by starvation or lack of medical care. At this stage, this is still a totally under-documented aspect of the war.

In **ANNEX B**, as well as in Fig. 4.3, information on the timing of the reported killings can be found. As information often only becomes available some weeks or even months after the occurrence of a conflict incident, the presented number of casualties is not final and will be updated retroactively.

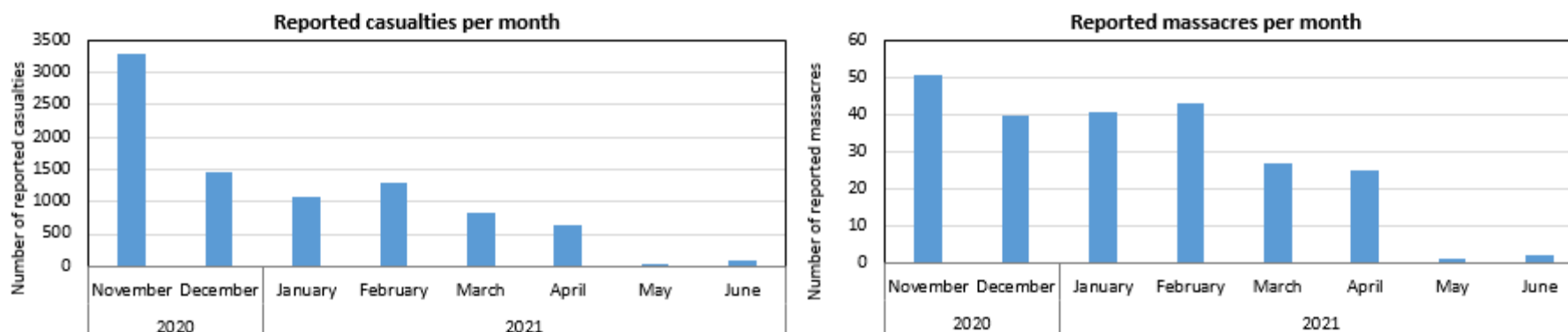
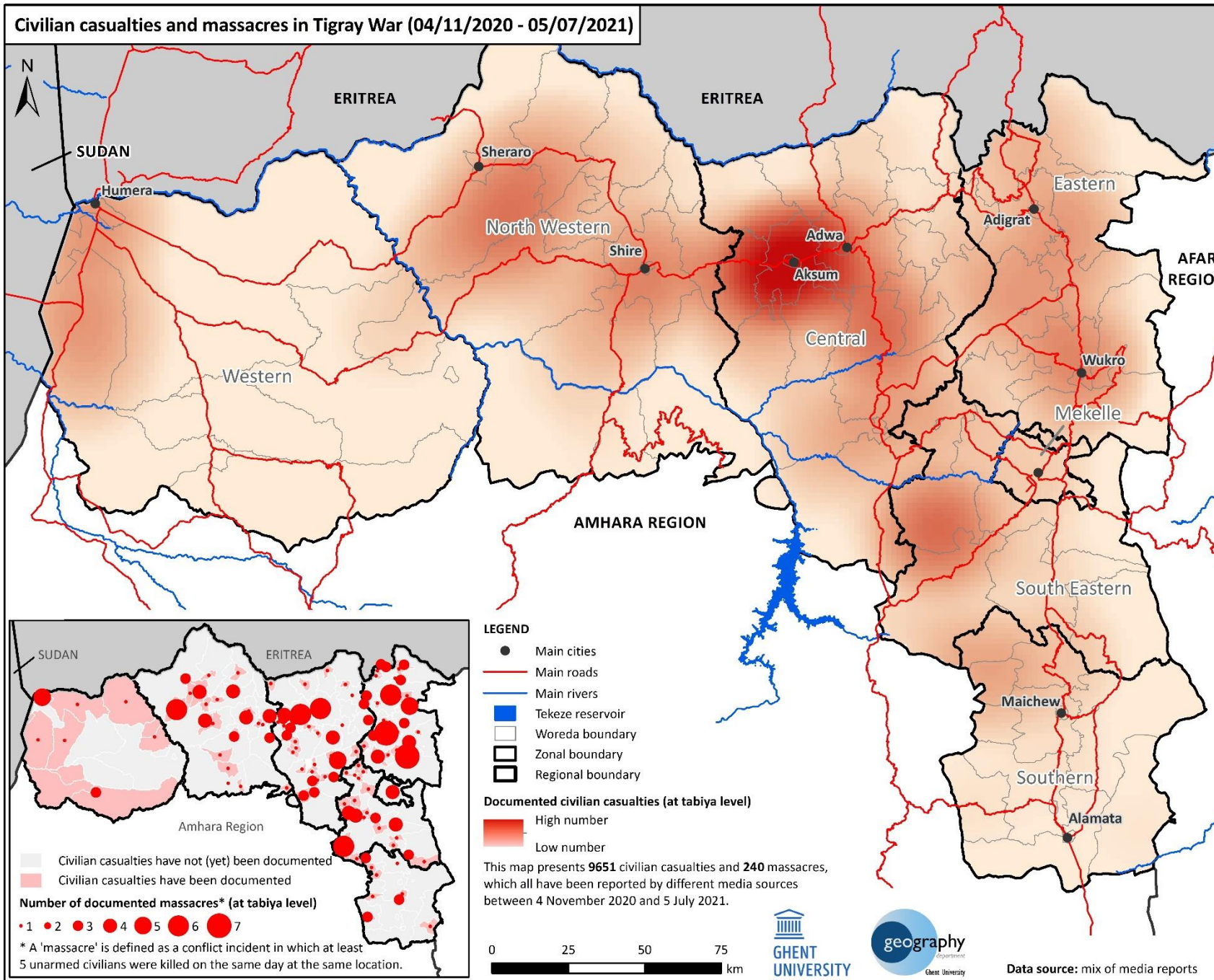


Fig. 4.3 Number of reported casualties (left) and massacres (right) between November 2020 and May 2021



Map 12
Heatmap of civilian casualties in the Tigray War up to 5 July 2021, as well as occurrence of massacres.

Data source:
Social media posts, media reports, advocacy groups listings and direct reports

5. Humanitarian situation, access and needs

5.1. Restricted humanitarian access

Though the outer borders of Tigray remain closed, the humanitarian access **within** Tigray has strongly improved as aid convoys and medical teams can now reach out to the larger part of Tigray⁸⁹.

From November 2020 to June 2021, accessibility was largely impeded. For instance, the UN OCHA Tigray region humanitarian update of 30 March 2021 stated:⁹⁰ “Almost five months on since the start of the conflict in Tigray, the humanitarian situation on the ground is extremely dire and far from improving, despite very significant efforts from the UN and its partners to scale up assistance. The ongoing hostilities, with clashes and ambushes reported in most parts of the region, not only impact safety and wellbeing of millions of civilians but also constrain humanitarian actors’ ability to operate and support people affected. In parts of Southern and South Eastern Tigray, for example, access has been curtailed for over a month and the road from Alamata to Mekelle remains closed, blocking humanitarian operations in the area [...]

Overall, with the deteriorating situation and continued disruption of basic services, the UN and humanitarian partners are in a race against time to respond to the rapidly rising needs. More funding is urgently needed to make sure aid organizations can assist every single person impacted by the conflict [...]

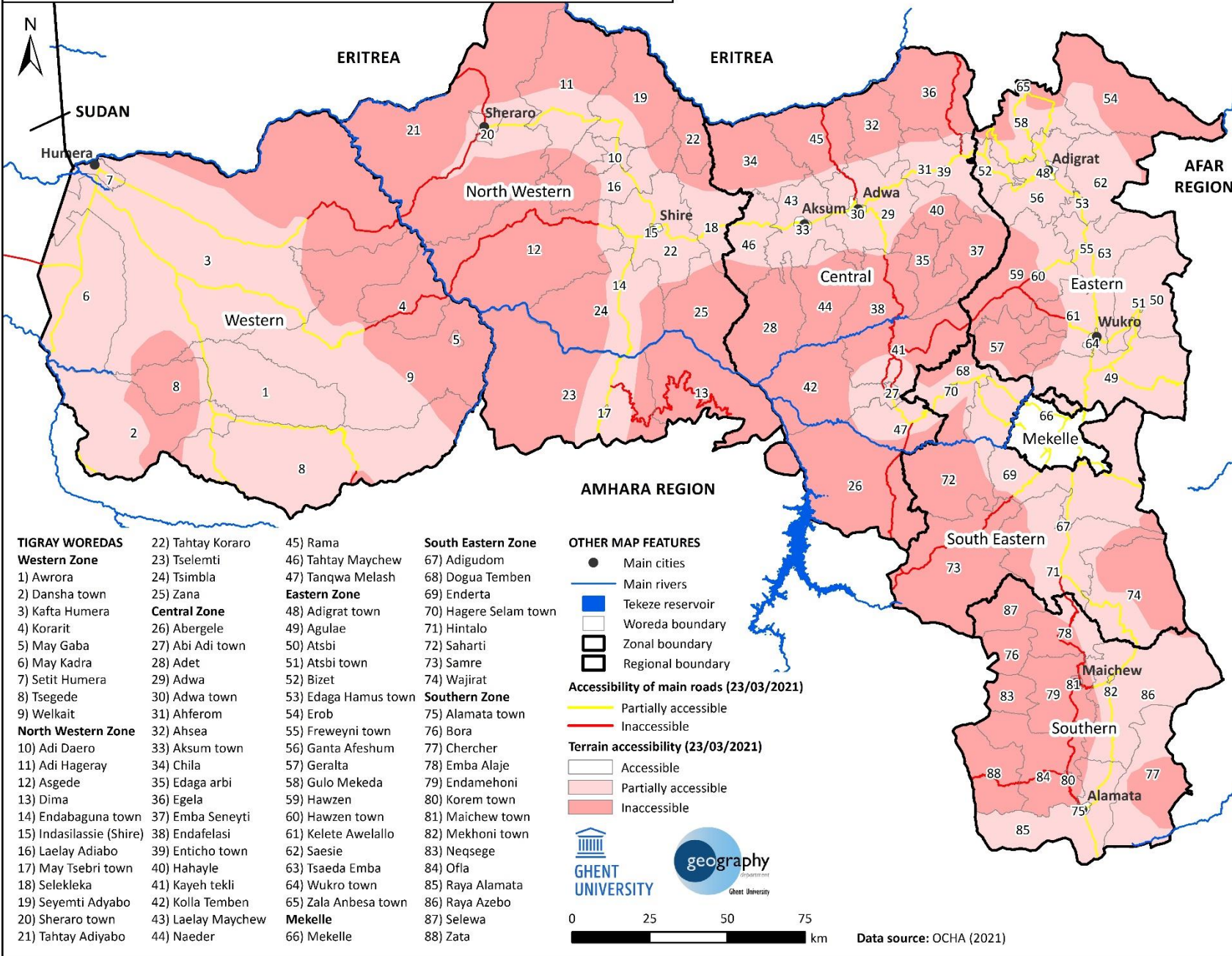
Despite challenges, aid workers are scaling up the response and have assisted over 1 million people with complete food baskets. Nearly 140,000 newly displaced people received emergency shelter and vital relief items and more than 630,000 people received clean water. The response is, however, still inadequate to reach all estimated 4.5 million people who need life-saving assistance.”

Other partners also have been able to operate along the main road from Alamata to Shire and are working to scale up their response in Adigrat, Aksum, Adwa and Shire, which are currently accessible locations. While very few partners, such as Action Against Hunger and World Vision International, have been able to access small towns off the main road, including Abiy Adi, Hagere Selam and Samre, access to rural areas remains an acute challenge.”⁹¹

As many people have moved out of towns to rural areas for safety reasons (see Section 5.3 on Internally Displaced People), it remains very challenging to reach most people who are in urgent need of humanitarian aid (food aid as well as medical supplies and health care services).

Note that the areas and roads mapped as ‘partially accessible’ may be inaccessible during certain periods. For example, as of the end of April 2021, the road between Adigrat and Adwa remains inaccessible.

Humanitarian access in Tigray according to OCHA (23/03/2021)



- | | | | |
|---------------------------|---------------------|----------------------|---------------------------|
| TIGRAY WOREDAS | 22) Tahtay Koraro | 45) Rama | South Eastern Zone |
| Western Zone | 23) Tselemti | 46) Tahtay Maychew | 67) Adigudom |
| 1) Awrora | 24) Tsimbla | 47) Tanqwa Melash | 68) Dogua Temben |
| 2) Dansha town | 25) Zana | Eastern Zone | 69) Enderta |
| 3) Kafta Humera | Central Zone | 48) Adigrat town | 70) Hagera Selam town |
| 4) Korarit | 26) Abergele | 49) Agulae | 71) Hintalo |
| 5) May Gaba | 27) Abi Adi town | 50) Atsbi | 72) Saharti |
| 6) May Kadra | 28) Adet | 51) Atsbi town | 73) Samre |
| 7) Setit Humera | 29) Adwa | 52) Bizet | 74) Wajirat |
| 8) Tsegede | 30) Adwa town | 53) Edaga Hamus town | Southern Zone |
| 9) Welkait | 31) Ahferom | 54) Erob | 75) Alamata town |
| North Western Zone | 32) Ahsea | 55) Freweyni town | 76) Bora |
| 10) Adi Daero | 33) Aksum town | 56) Ganta Afeshum | 77) Chercher |
| 11) Adi Hageray | 34) Chila | 57) Geralta | 78) Emba Alaje |
| 12) Asgede | 35) Edaga arbi | 58) Gulo Mekeda | 79) Endamehoni |
| 13) Dima | 36) Egela | 59) Hawzen | 80) Korem town |
| 14) Endabaguna town | 37) Emba Seneyti | 60) Hawzen town | 81) Maichew town |
| 15) Indasilassie (Shire) | 38) Endafelasi | 61) Kelete Awelallo | 82) Mekhoni town |
| 16) Laelay Adiabo | 39) Enticho town | 62) Saesie | 83) Neqsege |
| 17) May Tseabri town | 40) Hahayle | 63) Tsaeda Emba | 84) Ofla |
| 18) Selekleka | 41) Kayeh tekli | 64) Wukro town | 85) Raya Alamata |
| 19) Seyemti Adyabo | 42) Kolla Temben | 65) Zala Anbesa town | 86) Raya Azebo |
| 20) Sheraro town | 43) Laelay Maychew | Mekelle | 87) Selewa |
| 21) Tahtay Adiyabo | 44) Naeder | 66) Mekelle | 88) Zata |

Map 13
Restricted humanitarian access due to the ongoing conflict (23/03/2021).

Data source:
OCHA (2021c)

5.2. Humanitarian needs

At the end of February 2021, 4.5 million Tigrayans were reported to be in urgent need of humanitarian assistance (Map 14)⁹²; a figure that was updated to 5.2 million people around mid-May⁹³. The latter corresponds to more than 85% of the total population of Tigray.

On 27 May, the UN humanitarian chief Mark Lowcock warned that the humanitarian situation in Tigray is worsening and that “there is a serious **risk of famine** if assistance is not scaled up in the next two months”⁹⁴. In addition to this clear message, Lowcock also stated that “it is clear that people living in the Tigray region are now facing significantly heightening food insecurity as a result of conflict, and that conflict parties are restricting access to food”.

Indeed, in order to reach all people in need, full and safe access to all parts of the region is of utmost importance. Considering the terrain accessibility (Map 13), the pre-war population figures at woreda level and the number of internally displaced people (see section 5.3 and Map 15), we estimate that in early June 2021, only **32%** of the Tigrayan population is living in areas that are fully **accessible** to humanitarian organisations (i.e. the towns of Shire, Aksum, Adwa, Adigrat, Wukro, Mekelle and Alamata). Of this 32%, nearly half of the people originates from other areas, and hence are fully dependent on aid. This also leaves 68% of the population in partially accessible and hard-to-reach areas.

Given the high level of food insecurity in the region⁹⁵, the ubiquitous looting and destruction of public and private properties⁹⁶, a widespread aid

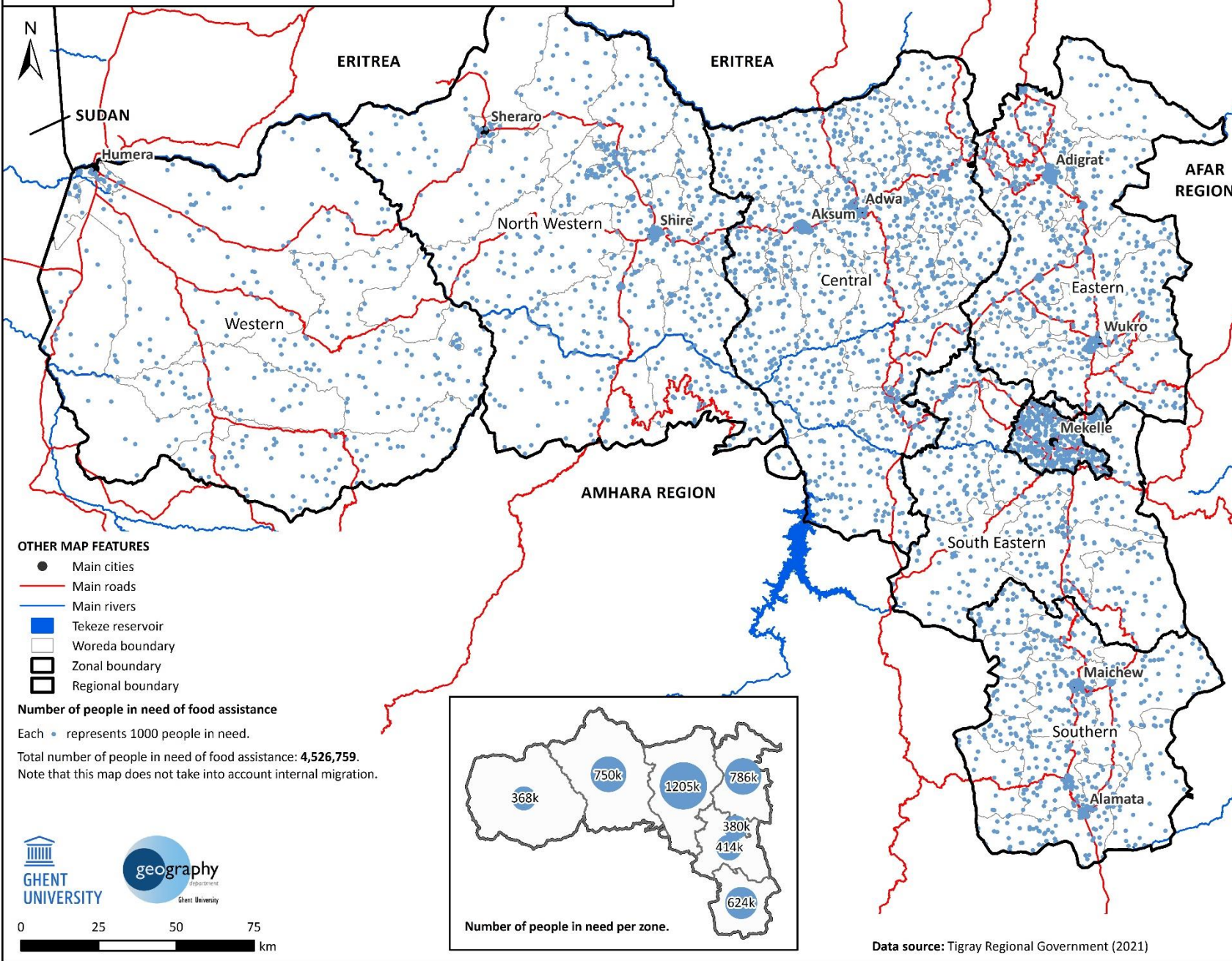
approach (“blanket approach”) is necessary in the first place; after which fine-tuning can be done based on background information provided here, and detailed assessments made in the field.

Our own earlier observations on food aid in Tigray⁹⁷, however, show that it is crucial that aid is distributed in one or two locations in each tabiya; which is challenging as there are more than 700 tabiyas in the region. Under pre-war conditions, when the Regional Government and the Relief Society of Tigray were mainly managing food distributions, it was not allowed to load food onto motorised vehicles in order to decrease the risk of selling the supplied goods to merchants, either by the beneficiaries or the officers responsible for distribution. Rural people hence typically came with their donkeys to the distribution centres, after which they carried the aid to their homesteads.

A big additional problem for food distribution in the region, is that in most places grinding mills do not work due to lack of electricity (Map 19) or fuel⁹⁸. Some of the humanitarian organisations (e.g. Tesfay) therefore have decided to distribute flour rather than grain⁹⁹.

In addition to food, many people also are in urgent need of non-food items. The specific needs for children¹⁰⁰, water, sanitation and medical aid are not (yet) mapped, however, and neither are the immense needs for curing the victims of rape and other gender-based violence¹⁰¹.

Estimated number of people in need of food assistance (February 2021)



Map 14
 Number of people in need of food assistance (28/02/2021). Note that this map does not take into account internal migration due to the Tigray war (!) – see Map 16 for this information.

Data source:
 Tigray Regional Government (2021)

Data source: Tigray Regional Government (2021)

5.3. Internally Displaced People and refugees

After more than eight months of warfare, hundreds of thousands of Tigrayans have been internally displaced (Maps 15 and 16 – presenting nearly 1,900,000 internally displaced people) and tens of thousands of Tigrayans have fled to neighbouring Sudan by crossing the Tekeze River (see data layer in the [Web Application](#) – presenting > 60,000 refugees). As of June 2021, the main reasons for the ongoing migration flows are safety issues – with active hostilities in nearly all zones (Map 2)¹⁰², the random killing of civilians and frequently occurring massacres (Map 12), the destruction and looting of civilian infrastructure and ethnic cleansing in Western Tigray¹⁰³, where nearly all Ethnic Tigrayans have been chased from their homes.

As many displaced people are currently living with relatives in larger towns that are considered safer, or are hiding in rural areas (e.g. mountainous areas, caves or bushes - Fig. 5.1), it is difficult to know the actual number of Tigrayan IDPs. However, at the end of May 2021, an estimated total of 1.9 million people had been displaced since the onset of the conflict, which is nearly one out of three people. In comparison, the number of IDPs in the whole of Ethiopia was estimated at 1.8 million people for the year 2020¹⁰⁴.

As of the end of May 2021, the location of nearly 1,900,000 internally displaced people is known¹⁰⁵, of which 81% is living in the towns of Shire, Sheraro, Mekelle, Adwa and Aksum (ranked in decreasing order). The remaining 19% of IDPs is living in Adigrat, Adi Daero, Endabaguna, Abi Adi, Selekleka, and several other towns (e.g. Koneba, Aba'ala, Dalol) in the neighbouring Afar and Amhara regions (Map 15). Additionally, more than 60,000 people are living in refugee camps in Sudan (e.g. in Hamdayet, Um Raquba and Tunaydbah).



Figure 5.1: Tigrayan family hiding from warfare in a forest

Whereas the Tigrayan refugees in Sudan arrive in formally established - though overcrowded - refugee camps with fairly well-developed facilities, internally displaced people often reside in very difficult living conditions. In Shire, Sheraro, Mekelle, Adwa and Aksum, 27% of the IDPs is living outside without shelter, 6% is living in self-constructed shelters, 39% is living in (non-partitioned) communal buildings (e.g. school buildings – Fig 5.3) and 27% is living in permanent shelters (Fig. 5.2). In Shire, where more than 600,000 IDPs are located¹⁰⁶, an estimated 38% of the displaced people is living outside without shelter. With the start of the rainy season, the living conditions of these people are expected to get worse and the risk of disease outbreaks will increase¹⁰⁷.

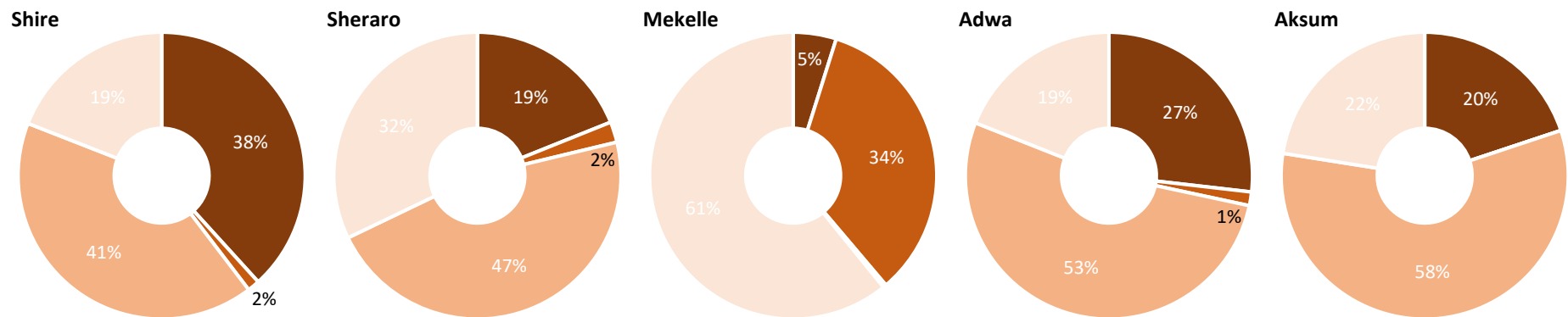


Figure 5.2: Living conditions of internally displaced people in the five towns that host most of them, according to confidential sources: ■ living outside without shelter, ■ living in self-constructed shelters, ■ living in (non-partitioned) communal buildings, ■ living in permanent shelters



Fig 5.3: A makeshift camp in a derelict building of the Shire Campus of Aksum University (23 February 2021 ©Associated Press¹⁰⁸)

In addition to this, as humanitarian access is still limited due to safety issues (see Map 13), many of the displaced people do not have secure access to food, clean water and sanitation. Due to the below-standard living conditions, many people also require urgent medical assistance (Fig 5.4).

At multiple IDP sites, people are prone to diseases such as malaria, diarrhea, pneumonia..., pregnant women are in need of medical follow-up, and many people require urgent psychological assistance after experiencing traumatic incidents. After the retreat of ENDF and allies from larger parts of Tigray on 28 June, 2021¹⁰⁹, “short range” IDPs have started returning home but great challenges await (e.g. the reconstruction of houses, the restart of economic activities...).

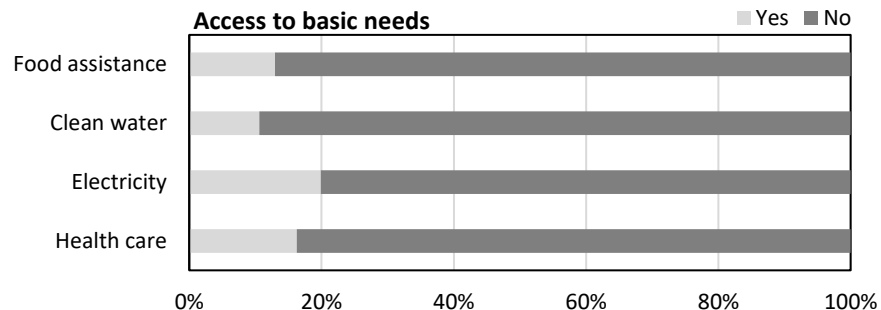


Fig 5.4: Access to basic needs of the IDPs living in Shire, Sheraro, Mekelle, Adwa and Aksum at the end of May (according to confidential sources)

Besides the dire living conditions, internally displaced people have for months also not been (fully) safe at the displacement sites. For instance, Eritrean and Ethiopian soldiers forcibly detained more than 500 young men and women from different camps in Shire in May 2021. Several men were beaten and their mobile phones and money were confiscated¹¹⁰.

A large number of internally displaced people originates from Western Tigray (Maps 15 and 16). In the Western Zone, ethnic Tigrayans were reported to be evacuated by busses to the town of Shire¹¹¹, from where many people travelled further east, as Shire is already overcrowded with displaced people (the town has an estimated population of 95,000 people¹¹² and is hosting > 600,000 IDPs)¹¹³. At the same time, the Amhara Regional Government is planning to relocate displaced ethnic Amhara from the Metekel Zone to Western Tigray¹¹⁴ and is handing out new identity cards to people who (wish to) identify as Amhara (in order to continue living at the same place), while eliminating all traces of the Tigray Region^{115,116}. Land in Western Tigray is currently (May 2021) being transferred to investors by the Amhara Region's Bureau of Land Administration and Use¹¹⁷, denoting the informal annexation of Western Tigray by the Amhara Region.

In Setit Humera, more than 75% of the original population has been displaced. The same is true for the Kafta Humera woreda, with stated population decreases from 16,000 to less than 2000 in tabiya Rawyan and from 4000 to less than 1000 in tabiya Ruwassa (see this [map](#) for their specific locations). In Rawyan, the new Amhara administration is planning to bring in Amhara people who were living in Sudan or elsewhere in Ethiopia. In all other woredas in the Western Zone, which are mostly still under control by the ENDF and Amhara forces (Map 10), out-migration has occurred as well. In May Kadra, where ethnic Amhara as well as ethnic

Tigrayan civilians have been targeted in violent attacks in early November^{118,119}, over 75% of the original population has left the area. In Tsegede (-89%), Dansha (-80%) and Welkait (-25%), a considerable number of civilians also has left. In "Division", a resettlement place located at the boundary of the Dansha and Tsegede woredas (13.57° N 36.78° E), all 9000 households have fled. The site is empty and is now being guarded by Amhara militiamen. Also here, the new Amhara administration is planning to relocate ethnic Amhara, although the ongoing conflict so far has prevented them from doing so.

In Western Tigray, the internal displacement has occurred more widely in the lowlands than in the highlands (see Map 5 for the topography), mainly due to the presence of highly productive soils ("Vertisols") in the lowland areas. In the highland areas, Tigrinya-speakers continue to speak Tigrinya and publicly identify as Wolqayt/Amhara.

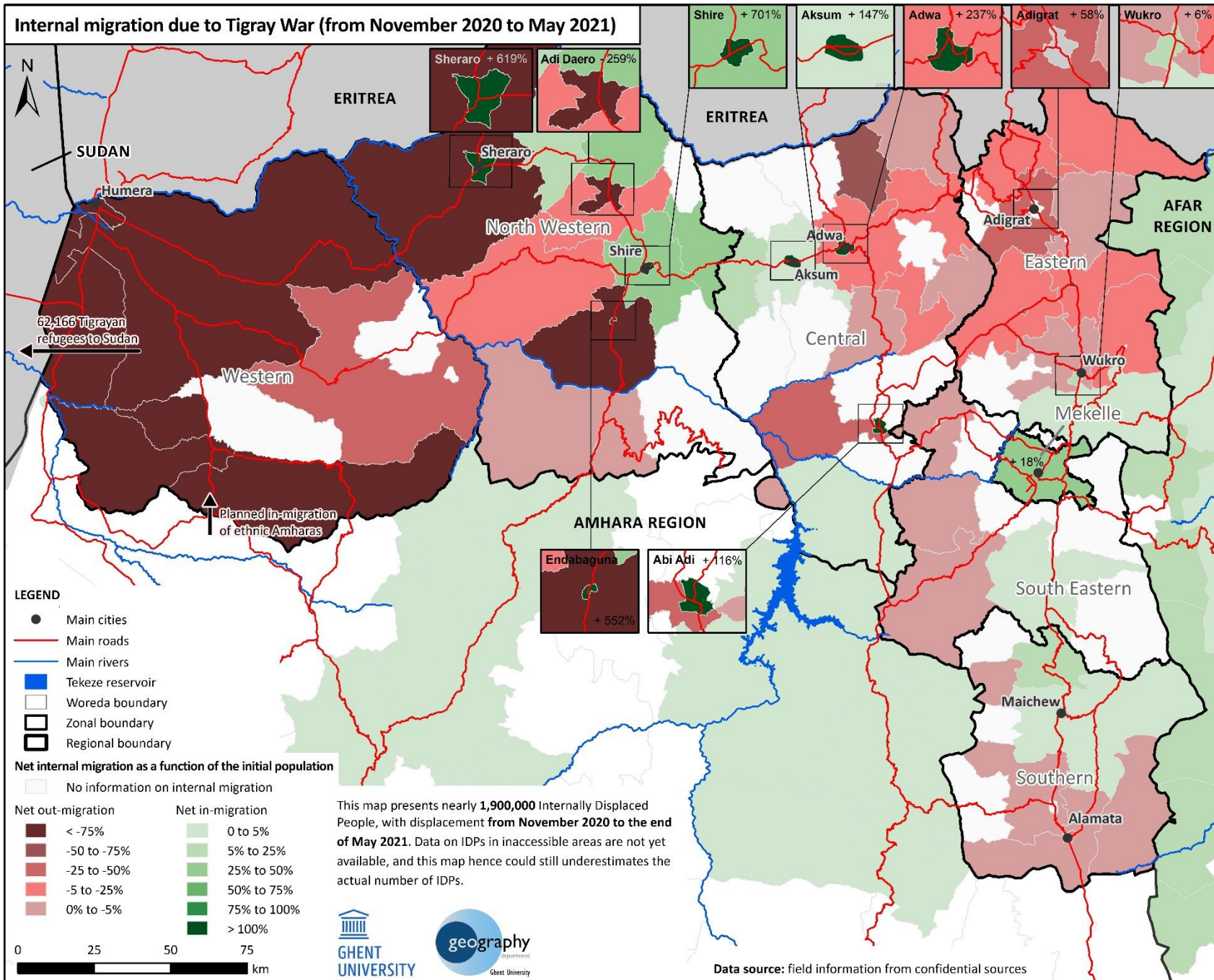
Next to the woredas in Western Tigray, several other areas in Tigray have experienced (net) out-migration, as the number of in-migrating people is lower than the number of out-migrating people – although in most cases it consists of out-migration only. This out-migration is notably the case in Adi Daero (up to -100%), Tahtay Adiyabo (up to -100%), Tsimbla (-79%) and Asgedo (-20%) in the North Western Zone; in Ahsea (-55%), Kola Tembien (-32%), Edaga Arbi (-24%) and Ahferom (-12%) in the Central Zone; and in Ganta Afeshum (-30%), Hawzen town (-30%), Gulo Mekeda (-20%), Zala Anbessa (-19%) and Atsbi (-11%) in the Eastern Zone; and in Alamata town (-15%) in the Southern Zone.

In woredas where both in- and out-migration is occurring, one trend is always at least ten times larger than the opposite trend, except for Adi Daero, Raya Alamata, Chercher, Enderta, Raya Azebo, Adigudom, Tahtay Koraro, Wukro town, Seyemti Adyabo, Agulae and Sheraro town. In Raya

Alamata, Chercher, Enderta and Raya Azebo, the in-migration nearly equals the out-migration, resulting in a net migration of nearly zero. For Adi Daero, where thousands of people have arrived as well as have left, net out-migration was observed (up to -100%). For Adigudom, Tahtay Koraro, Wukro town, Seyemti Adyabo, Agulae and Sheraro town, net in-migration was observed, resulting in strong population increases in Sheraro town (+619%), Tahtay Koraro (+25.8%) and Seyemti Adyabo (+25.7%).

The reported contrasting migration patterns may be related to the specific timing of the occurrence of conflict incidents (Map 2).

However, our data set has its limits, as it does not contain information on in- and out-migration in several hard-to-reach areas (Map 16). A data gap that especially exists in the Central Zone.



Map 16

Internal migration due to the Tigray War as a function of the initial population at woreda level.

Data source:

Field information from confidential sources

5.4. Humanitarian response

The OCHA situation report of 27 May summarizes the humanitarian situation seven months into the conflict: “while humanitarian partners are gradually scaling up the response, the humanitarian needs continue to be grave, urgent and exceeding the current capacities due to a combination of insecurity, access constraints, and lack of funding”¹²⁰.

In addition to access constraints, continued disruptions to communication services and electricity (section 5.6), as well as the lack of emergency communications equipment, further undermine efforts of humanitarian actors to expand operations into areas outside the major cities and towns¹²¹, where 68% of the people continue to live in partially accessible and hard-to-reach areas (section 5.2).

Since the beginning of the conflict, the government and different humanitarian organizations (i.e. WFP, REST, WV, CARE, FH) have actively engaged in food distributions in different parts of the region. Early June 2021, the United Nations World Food Programme, which is leading the emergency nutrition response across Tigray, reported to have provided emergency food assistance to 1.05 million people in the North Western and Southern Zones since the beginning of March¹²². In addition, the Relief Society of Tigray (REST) mentioned¹²³ reaching 1.1 million people with food aid (in cooperation with USAID) in the first three weeks of March 2021. CARE (Cooperative for Assistance and Relief Everywhere), on the other hand, communicated to have reached 76,000 people in need by mid-April¹²⁴. Besides this, information on the number of people that have been reached with food assistance remains scarce, although it is clear that many people still have not yet been reached¹²⁵.

In sharp contrast to the many challenges mentioned by humanitarian organizations, already by mid-February, the Ethiopian government said to have distributed aid in 32 woredas, while mixing up old and new woreda names, using *Amharanized* and duplicate woreda names¹²⁶. Around the same time, it mentioned that 1.8 million people in need had been reached via the NDRMC and Joint Emergency Operation (JEOP) programme¹²⁷. By mid-March, the Ethiopian government also stated to cover 70% of all humanitarian assistance in the Tigray Region, and mentioned to have reached 4.2 up to 4.5 million citizens with relief supply¹²⁸. At the beginning of May, it stated that claims of extreme hunger¹²⁹ are falsified¹³⁰.

For this atlas, we obtained tables holding detailed information on allocated, dispatched and distributed food aid in the Tigray Region, and presenting the results of the first round of food distributions, which started in early March¹³¹. So far, in addition to approximately 10 to 15% of the IDPs, an estimated **2.2 million people** would have been reached with food aid, distributed by REST (38%), WFP (37%), World Vision (WV; 12%), Food for the Hungry (FV; 8%) and CARE (5%) **in 50 out of the 88 woredas** (Map 17). With this challenging but important effort, nearly half of the people in need assumedly have been reached with aid, although there are large discrepancies between zones and woredas (Map 18). As food aid per person typically consists of 15 kg of grains, 1.5 kg of pulses (mainly split peas) and 450 ml of cooking oil (see section 5.5 for some reflections from the field), a total of **37.5k tons of food** have been distributed throughout the region; a figure that deviates from the 49.9k tons of food reportedly dispatched (Map 19).

This leaves 12.4k tons or 25% of the dispatched aid, unaccounted for during the (formal) aid distributions. Although this deviation may be explained by poor administration, it may also indicate the widespread looting of aid, which was already referred to by Ms Etenesh Nigusie (head of communication affairs for the Tigray Interim Administration) in February¹³² and was re-confirmed by government documents at the end of April¹³³. As mentioned by OCHA at the end of February, but is still very accurate today, “it is unclear how much aid is reaching the intended beneficiaries”¹³⁴.

From Maps 17, 18 and 19, it is striking that no aid has been distributed in the areas under control by the Amhara militia (i.e. in Western Tigray, North Western Tigray south of the Tekeze River and parts of Southern Tigray), where the Ethiopian government is responsible for the food distributions. Hence, the question can be raised whether this is a data problem or whether no food aid has actually been distributed to these areas (despite the 12k tons of allocated aid). A possible explanation for the latter could be that (i) most ethnic Tigrayans have left Western Tigray (Map 16) and that (ii) life has approximately turned back to normal in the parts of North Western and Southern Tigray under control by the Amhara militia. In several other woredas in North Western, Central and South Eastern Tigray also no aid has been distributed, which could be due to active fighting and hence security issues more recently (Map 2).

As over 2 million people still have not yet been reached with food aid, major food gaps remain. People who have not been reached during the first round

of food distributions are located in the Central (31%), Western (15%), Mekelle (15%), Eastern (13%), Southern (10%), South Eastern (9%) and North Western (7%) zones of Tigray. In addition to this, it is unclear how many people have been reached more than once.

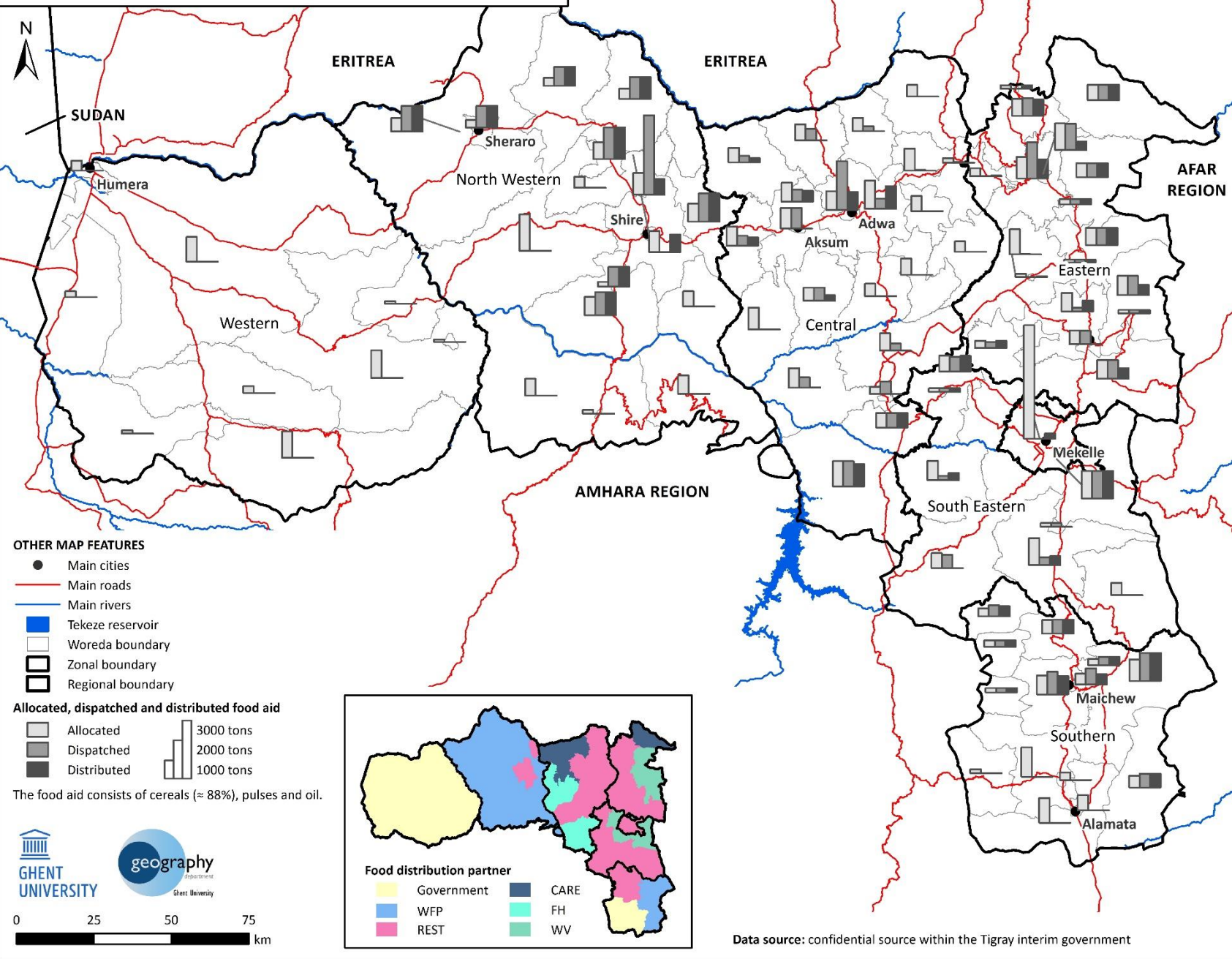
On top of these pending gaps, and as was already touched upon before, in many woredas, there is a clear discrepancy between the amount of dispatched aid and the aid that supposedly has been distributed to the people in need. Next to looting, another possible explanation for this could be that aid is (informally) distributed at unintended locations, for example when lorry drivers are hindered by roadblocks along the way and decide to deliver the aid anywhere else. This also could explain the areas where the distributed aid exceeds the (formally) dispatched aid. As mentioned before, 12.4k tons of food are unaccounted for, which is the balance of the 15.4k tons of food that were dispatched but not distributed (Map 19 – areas in red) and the 3.0k tons of food that were additionally distributed across the region (Map 19 – areas in green).

An important remark here also is that we do not have any information on the amount of food that possibly may have been looted from the local distribution centres and hence wrongly has been labelled as ‘distributed’.

It is unclear what may be the cause for the situation in Mekelle, where the the dispatched and distributed aid are well below the allocated aid.

For further nuancing the data presented here, please also read section 5.5.

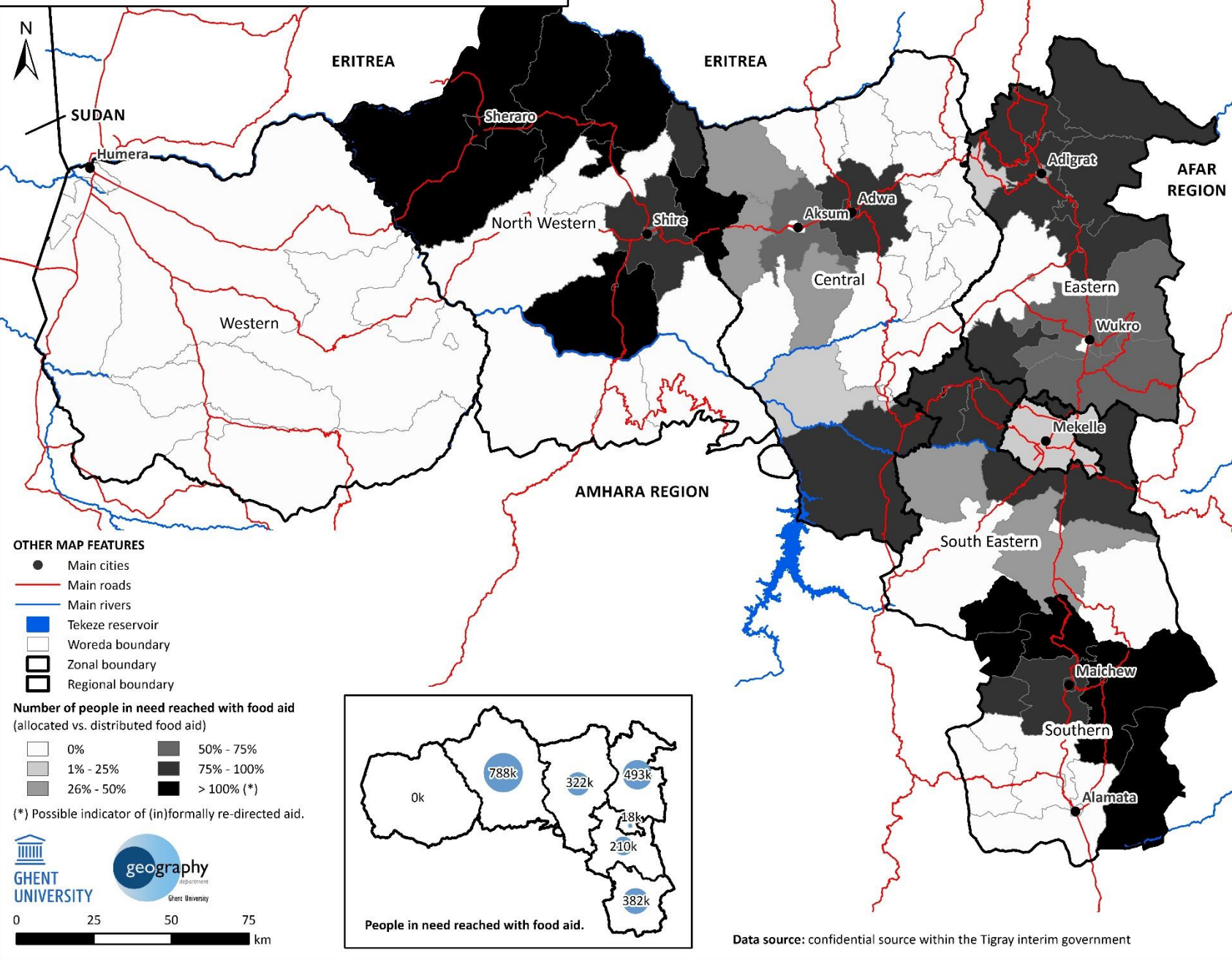
Allocated, dispatched and distributed food aid (31/05/2021)



Map 17
 Allocated, dispatched and distributed food aid at woreda level (31/05/2021). Note that aid distributed to IDPs is not included in this map.
 With:
 - WFP = World Food Programme
 - REST = Relief Society of Tigray
 - CARE = Cooperative for Assistance and Relief Everywhere
 - FH = Food for the Hungry
 - WV = World Vision
Data source:
 Confidential source within the Tigray interim government

Data source: confidential source within the Tigray interim government

Number of people in need reached with food aid (31/05/2021)

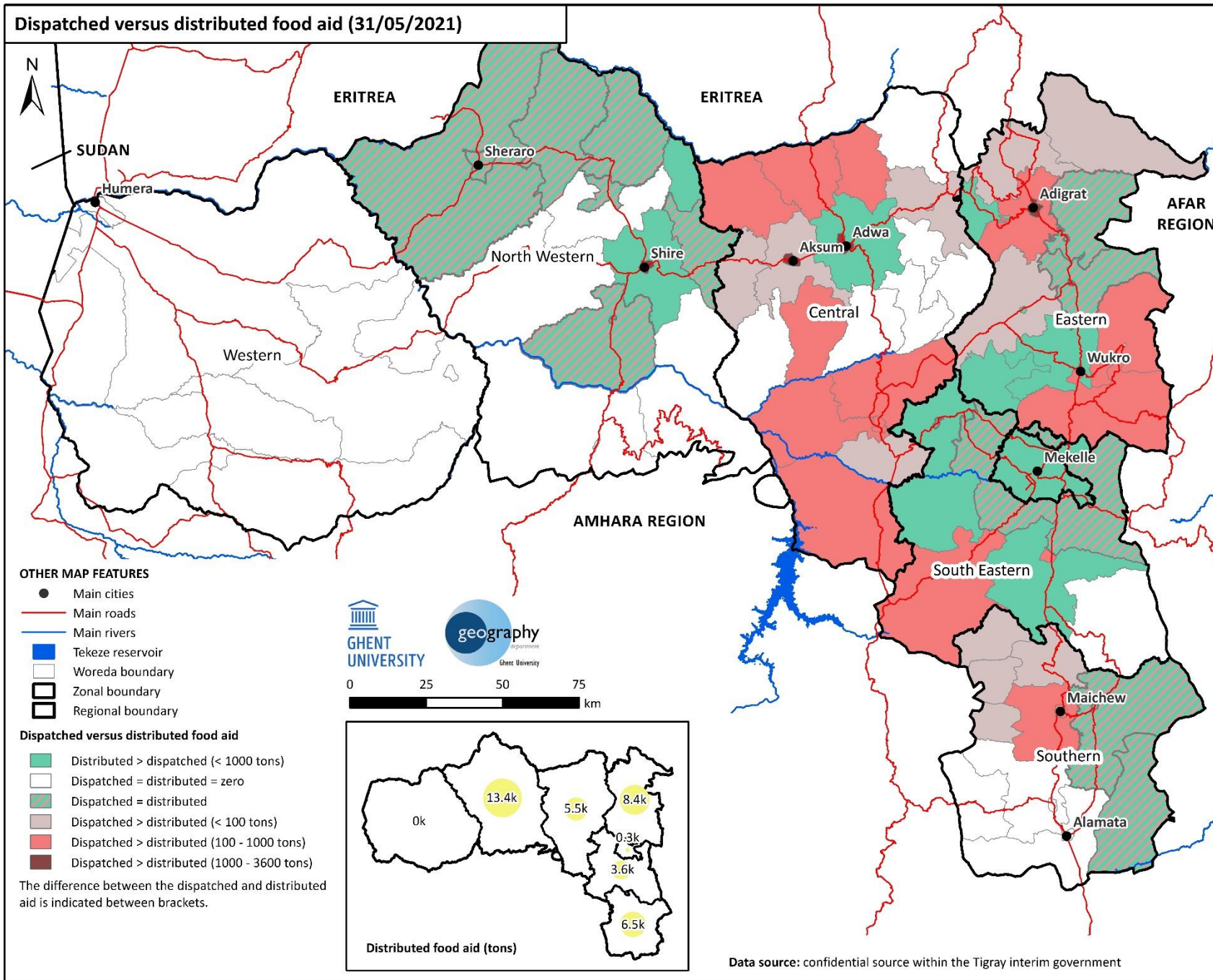


Map 18
Number of people in need reached with food aid (31/05/2021).

Data source:
Confidential source within the Tigray interim government

Data source: confidential source within the Tigray interim government

Dispatched versus distributed food aid (31/05/2021)



Map 19
Dispatched versus distributed food aid (31/05/2021).

Data source:
Confidential source within the Tigray interim government

5.5. Ground evidence related to humanitarian aid distribution (status November 2020-June 2021)

5.5.1. Context

In absence of reliable quantitative and spatially distributed information on aid effectively delivered to the people in need, we can only present qualitative observations, derived from interviews. To fully understand the context, it should be mentioned also that on 8 February, the Ethiopian

5.5.2. Functioning of aid distribution

On our request, during the month of February, a senior Tigrayan activist contacted people on the ground and provided this report on the functioning of aid distribution (which is still largely relevant in early June):

“One of the big problems is the absence of structures to reach out the needy. The Relief Society of Tigray (REST) was the main organised institution for this, but REST is now having a lot of problems:

- Its’ management is interim and the board members have been replaced; Amhara people are now dominating the board.
- REST’s 33 warehouses in various woredas (with capacities of 700 - 1000 tons) have been destroyed.
- 11 offices have been looted.
- 70 trucks and vehicles have been looted.
- Other Tigray-based NGOs have been forced to defame REST.

“Having all these problems, REST’s hands are tied. But, USAID and CRF want to deliver aid through REST, aiming at reaching 1.3 million people. So, they are trying their best. But, lacking internet connections made them incapable to communicate with their foreign partners.”

government officially dissolved the boards of the two largest local NGOs in Tigray¹³⁵, which are largely trusted by the people in the region. The Tigray Development Association (TDA) and the Relief Society of Tigray (REST) are formally be governed by 'a caretaker administrative board’.

“They continue trying to directly deliver aid to the needy, after the consultation of elders and others. There are logistics problems and people at the interim administration or the military are not willing to help. As there is no stable local administration in the woredas as well, it is hard to deliver aid. USAID is now forcing the federal government for going themselves down the level of tabiyas (sub-districts), as well as woredas far from the main roads to deliver aid.”

“If REST is having a hard time in reaching out to the public with its existing structures, it is almost impossible for others.”

“The others, like WFP, are trying to use the interim administration and the elders assigned by them, but the military is intervening in the process, making it impossible to deliver aid. Military vehicles have been requisitioned for aid delivery. The military is taking much of the aid and together with the interim administration people, they sell it to flour factories, rather than bringing it to the needy.”

“The military have a clear intention, sometimes speak it out loudly, to starve the public to punish them and then to make the TDF surrender.”

5.5.3. Witness from within a local NGO

To triangulate the before testimonies, we have also contacted a local NGO¹, which provided us the following information:

“With our NGO, we have shifted back from development activities to humanitarian assistance, because Ethiopia is attacking us so badly. Food aid is only provided to towns and villages along the main roads, not to the rural areas. We are responsible for transporting food aid in bulk, but we do not distribute it directly to the beneficiaries. The names of beneficiaries and quantities are decided by others. We have no control, no decision. If somebody wants to be a member of the PP, they give him quintals² and

5.5.4. Testimonies from people on the side of receiving aid

In addition to reports from development actors, we also collected testimonies from the people who should be beneficiaries of aid (during the month of February). For this, we again contacted people from different woredas in Tigray, and conducted several interviews over the phone (see table on next page – where we have included the corresponding included the categories of the observed differences between dispatched and distributed aid – Map 19).

¹ Name of the organisation known by the authors, but not mentioned in order to protect the witness

quintals of grain. The poor get nothing. Those who manage to collect a lot of food aid sell it on the black market later on.”

Our witness continues:




“We went to bring food aid to a town in a woreda³ that is fully controlled by the Eritrean army (EDF on Map 10). The Eritrean soldiers took all the food aid that we brought. I was so sad. On that occasion, I discussed with some farmers. They told me that the Eritreans took everything. They took all medicines from the hospital and have sent it to their country. Over there, the people are suffering and may die from the smallest thing.”




We do not claim that our interviews are fully representative for the entire woreda (or zone), but again the different testimonies confirm that aid is not fully reaching the people who need it, often due to limited access in rural areas, and because aid is transferred to others (e.g. by looting).

Disillusioned senior officers pertaining to the interim government and to REST again mentioned early June that looting and diversion of aid lorries were ongoing.

² The quintal is the commonly used measurement unit for grains and small pulses in Ethiopia. 1 Qt = 100 kg.

³ Name of the woreda is known by the authors

Zone	Woreda No.	Location	Map 19	Testimonies
NW	10	Adi Daero		“Residents were denied food aid after the town’s inhabitants refused to appoint PP officials as administrators. The residents demanded the evacuation of Eritrean soldiers instead.”
	15	Shire town: residents		<p>“The initial wheat aid distribution was in December. Distribution was handled by the Ethiopian government, and the aid did not get to all of Shire’s residents. Furthermore, those that were given 7 kg of wheat were required to sign for 15 kg. If they refused to sign for 15 kg, they were denied the 7 kg. It is important to emphasize that there was no electricity and hence, there was no way of grinding the grain. During this period, three young men who were displaced and were taking shelter outside the warehouse, were killed after they were accused of stealing wheat, which was impossible as these youngsters did not have a place to stay and did not have the means to prepare the wheat.”</p> <p>“In the second week of February, USAID-labelled aid trucks have begun to arrive and people have been given 1 liter of cooking oil and 3 kg of split peas, and around 15 kg wheat per person. There is gross shortage of food in Shire! People have to sell all they have at low prices to be able to buy food; people are literally starving to death.”</p>
	15	Shire town: IDPs	N/A	<p>“The wheat aid given to the displaced people was 15 kg per person. The staff handed out wheat until 6 PM, until their workday was done. The next day, as people lined up early in the morning, they were told that the wheat was stolen as an excuse not to give more wheat. However, there is ample evidence that all the remaining wheat was transported to Eritrea by the Eritrean soldiers.”</p> <p>“In January, 30 kg wheat per person was distributed, but only to the IDPs and not to the residents of the town. The IDPs were told that the 30 kg wheat was to last for the next two months and that they should not expect any more aid in these next two months.”</p>
C	26	Yechila		“They only distributed 15 kg of grain per person, but there was no oil nor beans. All other places in Abergele woreda did not get any aid.”

	29	Adwa		“Last time, they made us sign for having received 15 kg while they only gave 7 kg”.
	33	Aksum		“I heard there has been food aid of 15 kg of grain per family, and only once. Neither I, nor my relatives have received aid. I am not so sure about how many families received that 15 kg of food aid. How many days would that last? Who takes the rest? The Eritreans?”
E	48	Adigrat		“They registered us four times saying that they will give aid but none was given. We think that the people who register us are taking the grain for themselves and resell it.”
	54	Erob		A witness from Erob woreda mentioned to Associated Press that Ethiopian authorities are withholding food aid from families suspected of links to Tigray fighters: “If you don’t bring your father, your brothers, you do not get the aid, you will starve”. ¹³⁶
M	66	Mekelle		“Some people who I know received food aid and they only got 8 kg of wheat and expired corn flour, the so-called <i>fafa</i> .”
SE	70	Hagere Selam		“Mostly transport to and from Mekelle is possible. The road is closed from time to time when battles occur in nearby areas. Here, food aid distribution has started, 25 kg of grain per person. But it has been interrupted; I do not know the reason. The aid was brought by the Relief Society of Tigray. It was distributed by the appointed district administrator, under supervision of the army. The new administrator is not dedicated at all, he is afraid of the situation. People do not like him because he works with the soldiers.”
S	78	Addishuhu		“They distributed 15 kg of grain per person, only once, there were no oil or beans.”
Other: rural areas away from the main road			N/A	In general, there is no information from rural dwellers as there is no telephone network. Several urban people told us: “food aid only comes to towns and large villages along the main roads, in minimal amounts. They do not bring it to the rural areas, and they do not call the people from the rural areas to collect it in town.” The Mekelle business community stated: “There is no humanitarian access outside Mekelle, and civilians are being killed....” ¹³⁷

5.6. Essential public and private services

Several essential public and private services have not been (fully) operational since the outbreak of the conflict in November 2020. These services include but are not limited to banking and telecommunication services, including internet access. Based on interviews with key informants (n = 38) in various woredas, we have documented and mapped the accessibility to these essential services, and provide an overview of the situation at the end of March 2021, which was still valid at the time the Ethiopian troops and allies withdrew from larger parts of Tigray on 28 June 2021. In this section, first we describe the situation until 28 June (5.6.1 to 5.6.3) and then discuss the situation after 28 June (5.6.4), which largely resembles the full blackout at the beginning of the war.

5.6.1. Banking services (until 28 June)

Since the outbreak of the conflict, lack of access to banking services has been a major challenge for civilians in the Tigray Region. This, of course, has a great impact on daily life practices in rural areas as well as in urban centres as people experience difficulties to purchase food and other essential products (e.g. medicines) - wherever and whenever goods are available; weekly markets also have been interrupted and many shops have been looted or destroyed in the first months of the conflict. Interrupted banking services is one of the measures taken by the Government of Ethiopia, aiming to hit the TPLF and its allies, but having a lot of 'collateral' impact on civilians. Since the start of the conflict, banking services have been restored in (1) areas under control by Amhara forces (e.g. Korem, Alamata and Waja in Southern Tigray), (2) Mekelle and (3) other urban

For our interviews on essential services, we had difficulties to verify and collect information on most woredas located west and southwest of the Tekeze River. The main reason for this is that many Tigrayans (including most of our key informants) have fled this area due to the informal annexation by the neighbouring Amhara Region and ongoing atrocities against civilians. This information gap is indicated on the maps and is mentioned in the paragraphs below. In some of these cases, we derived our information from media reports, and instead, we present a 'reported' but unconfirmed situation.

centres (e.g. Shire, Aksum, Adigrat, Edaga Hamus, Addishiho, Maichew and Mekhoni) – but still are restricted and unreliable in several major towns. At the end of March 2021, and continuing up to June 2021, for many Tigrayans, the regional capital Mekelle was the place to be for cash withdrawals, which forced people to travel from far and also made people to semi-permanently stay in Mekelle until the situation improves in other areas and banks become fully operational again. Among the civilian victims executed by soldiers⁴ along the road from Mekelle to Adigrat in March were people who came to Mekelle for cash withdrawals.

In several areas, banks deliberately have been looted and destroyed by Ethiopian and Eritrean soldiers, in line with the destruction of other public

⁴ <https://msf.or.ke/en/magazine/msf-driver-assaulted-staff-witness-men-dragged-buses-and-killed-tigray>

and private properties throughout Tigray. In addition to this, it is important to note that in many areas only the Commercial Bank of Ethiopia (CBE) has re-opened, even though many people had transferred their money to the Lion International Bank and Wegagen Bank in light of the increasing

political tensions during the years preceding the onset of the conflict. As salaries of civil servants are nearly exclusively paid via their bank accounts, many people have difficulties to access money.

Area	Towns with banking services	Information on banking services
Areas under control by the Amhara forces (informally annexed by the Amhara Region)	<ul style="list-style-type: none"> Western Zone: Humera, Dansha, Ketama Nigus, Adi Ramets, Mai Cadra, Adebay, May Gaba Northwestern Zone: May Tsebri 	Banking services are operational in Humera, and mainly include services from the CBE and Abay Bank, but also comprise of private banks in urban centres. The Wegagen and Lion International Banks were the main targets of looting and destruction in the Western Zone. For all other towns in this area, the operability remains unconfirmed (we received conflicting information on these areas).
	<ul style="list-style-type: none"> Southern Zone: Maichew, Mekhoni, Addishiho, Korem, Alamata, Waja 	Banking services (mainly CBE) are operational in Maichew, Mekhoni, Korem, Alamata and Waja. The services in Maichew and Mekhoni (located north of Korem, Alamata and Waja) were restored more recently (early March 2021) than those in Korem, Alamata and Waja, and are still not fully operational. In Maichew and Mekhoni, customers queue in front of banks for long hours and sometimes are told that the money is finished or that the server is down. Until the re-opening of the banks in Maichew and Mekhoni, people used to travelled either to Alamata or Mekelle. In Maichew and Mekhoni, the most popular banks (i.e. Wegagen Bank, Lion International Bank and Dashen Bank) remain closed. Similar to other areas, cash withdrawals and bank transfers are subject to restrictions (upper limit of 50,000 ETB per day). Even if such is the rule, bank officers are obliged to set their own upper limits (mostly 5000 ETB) in an attempt to distribute the limited amount of money among the long queueing customers.
Mekelle	Mekelle	Banking services are operational since late December, and mainly include services from the CBE and few private banks. At the end of March 2021, Mekelle still serves as the only reliable place where staff salaries are paid (via bank transfers) and cash withdrawals are mostly possible. Similar to other areas, cash withdrawals and bank transfers are subject to restrictions (upper limit of 50,000 ETB per day). In practice, bank officers limit the withdrawals to 5000 ETB.

Other areas	<ul style="list-style-type: none"> Northwestern Zone: Shire Central Zone: Aksum Eastern Zone: Wukro, Adigrat, Edaga hamus Southern Zone: Addishiho 	Banking services recently (early March 2021) were restored, although they are only partially operational . In every town, only one branch of the CBE has been re-opened. Similar to Maichew and Mekhoni, customers queue for hours to days and are frequently told that the cash money is finished and sometimes that the server is down. The number of customers is much higher than the banking services can support. Many people still travel to Mekelle to withdraw cash. The most popular banks (i.e. Wegagen Bank, Lion International Bank and Dashen Bank) remain closed also here. Similar to other areas, cash withdrawals and bank transfers are subject to restrictions (upper limit of 50,000 ETB per day). In practice, bank officers limit the withdrawals to 5000 ETB.
	<ul style="list-style-type: none"> Northwestern Zone: Sheraro, Adi Daero, Selekleka, Endabaguna Central Zone: Rama, Adwa, Semema, Zana, Wukro (Marai), Edaga Arbi, Enticho, Maikinetal, Nebelet, Workamba, Abiy Adi, Yechilay Eastern Zone: Bizet, Zala Anbessa, Fatsi, Dewhan, Senkata, Hawzen, Atsbi, Agulae South Eastern Zone: Kwiha, Hagere Selam, Adigudom, Samre, Hiwane Southern Zone: Chercher 	Banking services are not operational . People are travelling to the nearest town with operational banking services, on the condition that the town is considered to be safe.
Dedebit Microfinance		Dedebit Microfinance was the most accessible financial institution in Tigray and has approximately 400,000 customers. Dedebit Microfinance especially is accessible to farmers and people in rural areas, as it also has service branches in each 'niús-woreda' (i.e. the administrative level between tabiyas and woredas), where there are no other banks or financial institutions. With the advancement of invading forces, the Dedebit Microfinance offices were frequently looted and destroyed. Neither its head office in Mekelle nor its branch service centres throughout Tigray are functional at the end of March 2021.

5.6.2. Telephone services (until 28 June)

Telephone networks, managed and operated by the state-owned Ethio telecom, have been blocked at the beginning of the conflict in November 2020. This has severely limited the amount of information on the conflict that has reached the international community up to the end of June 2021. This also has strongly impeded the organization and upscaling of the humanitarian response throughout the region, and obviously, this also has impacted the distribution of information between family members and friends within as well as outside the Tigray Region.

In territories under control by the Amhara forces (Western Zone and parts of the North Western and Southern Zones), telephone services have been restored some weeks after the occupation by the invading forces. However, it is also noted that there are areas where telephone communication is frequently interrupted, when coinciding with conflict incidents.

In Mekelle, the telephone network (for mobile phones as well as for landlines) has been restored by Mid-December, after approximately 40 days of intense conflicts. This re-opening of the telephone network - which coincided with the restoration of electricity supply in Mekelle - has been widely used by the Government of Ethiopia to strengthen the narrative that the situation had gone back to normal in Tigray. Since the re-opening of the

5.6.3. Internet services (until 28 June)

Along with the telephone network, the internet has been blocked at the beginning of the conflict. At the end of March 2021, and continuing until the end of June, internet access only has been restored in most parts of Western Tigray, in May Tsebri (North Western Tigray) and in Alamata (Southern Tigray). The vast majority of the Tigray Region remains without internet access.

telephone network in Mekelle, services frequently have been interrupted for periods lasting from several hours to multiple days.

Weeks after the re-opening of networks in Maichew and Adigrat, telephone services to Aksum were restored in early February. By the end of February and early March, telephone services also have been restored to other major towns along the main roads. As a result, rural areas in the vicinity of these main roads also have started to receive telephone network. In some of these areas, the network is only available near the highest mountain peaks, whereas the rest remains fully out of access.

However, the communication blackout continued for up to eight months throughout the vast majority of Central Tigray, and large parts of North Western, Eastern and South Eastern Tigray. In these areas, rare access to the telephone network can be obtained near mountain peaks, 'hijacking' the network from neighbouring areas, including the Amhara and Afar Regions or neighbouring countries Sudan and Eritrea.

Note that governmental and non-governmental organizations have had access to telephone communication via satellite connections throughout the conflict.

This has strongly hampered research and development activities, personal and institutional communications, and small- and medium-sized enterprises, which increasingly have relied on internet services...

Some governmental and non-governmental organizations have been granted access to cable internet in several parts of the region. It is expected

that these are the networks used to distribute the recently increasingly appearing videos on ongoing atrocities against civilians.

5.6.4. Banking, telephone and Internet services (from 28 June onwards)

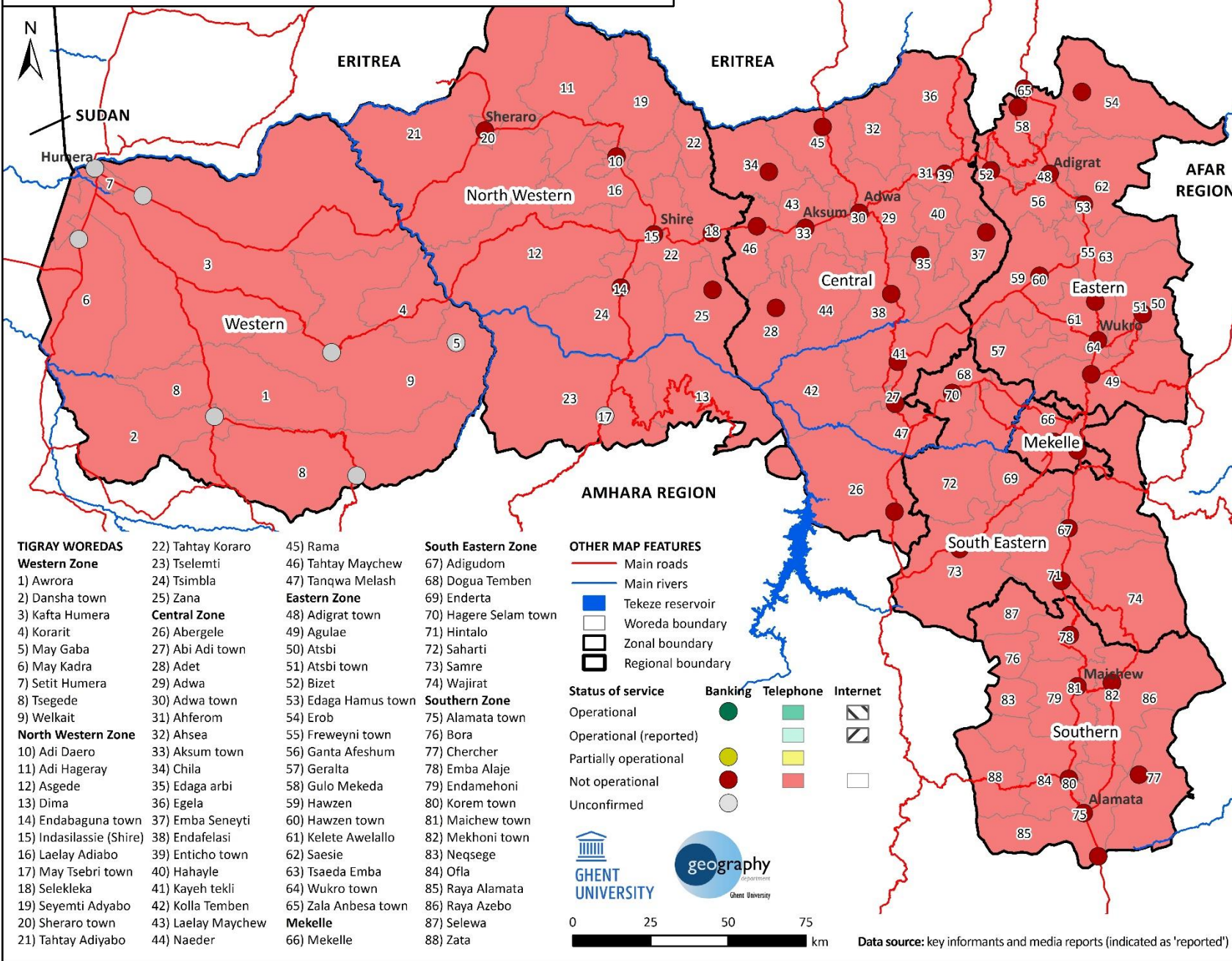
Over the second half of June, the war entered a new phase. The Tigray Government regained control over most areas, roads and towns of the Region. On 28 June 2021, a unilateral ceasefire was declared by the Ethiopian Government. Unfortunately, as of that date, all banks were closed and all communication lines were blocked again (Map 20), returning to the situation at the beginning of the conflict in November 2020. In addition, VSAT equipment of multiple (I)NGOs in Mekelle and other towns was dismantled by the Ethiopian National Defence Forces while withdrawing¹³⁸, and large amounts of money were taken from the banks by

It may be useful to remind that internet services, as well as telephone networks, frequently also were not operational in remote rural areas of Tigray prior to the start of the war.

the withdrawing army, so that people cannot access cash and salaries cannot be paid to government employees.

Simultaneously with the disruption of communication lines, the electricity supply was interrupted as well, even though it is necessary for urban water supply and many other services. Since 5 July, power has been partly restored in Mekelle and other towns, most probably via electricity produced at the Tekeze hydropower dam. Due to near-absence of power generation during the war, the reservoir of the Tekeze dam is nearly full, though we are only at the beginning of the rainy season.

Operationability of banking and telecommunication services (06/07/2021)



Map 20

Operationability of banking services and telecommunication services (06/07/2021).

Data source:

Key informants in different woredas in Tigray and media reports

6. Discussion

6.1. Official statements vs possible reality of humanitarian assistance coverage (until June 2021)

In summary, from section 5 it seems likely that much of the aid that according to official statements, was distributed to “those in need”, in reality did not reach its destination. This has been illustrated by a conceptual diagram on Twitter (Fig. 6.1).

In the diagram, the proportion of aid that actually went off to distribution to Tigrayans who needed it, is represented by the lowest but one arrow, taking into account that a large share of what is distributed to households in Tigray is again looted from the homestead by Eritrean soldiers. Note that this diagram is not based on records or data, but on ‘guesstimates’. The evidence we provide in section 5 suggests that these guesstimates are not completely implausible.

6.2. Food aid as a weapon in the Tigray war

Woredas near the Eritrean border are represented as “Food assistance only”. Our witness who was in charge of aid distribution in those places says: “it is taken by the Eritrean army”. Another witness, from Irob woreda (extreme northeast of Tigray) mentioned to Associated Press that Ethiopian authorities withholding food aid from families suspected of links to Tigray fighters: “If you don’t bring your father, your brothers, you don’t get the aid, you’ll starve”¹⁴¹. In many of the above testimonies the use of food aid as a weapon against the Tigray resistance is like a red thread.

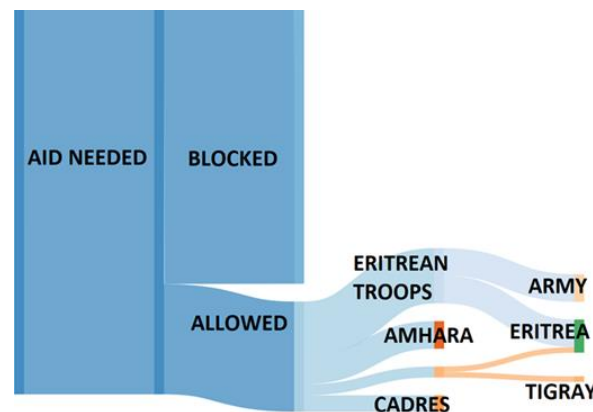


Fig. 6.1. Conceptual diagram of humanitarian aid to Tigray, after @FitwiDesta on Twitter¹⁴⁰.

Starting 10 February, aid has been interrupted to the Hawzen and Tembien areas and lorries had to return back to Mekelle by order of the ENDF. According to a witness in Mekelle, the army has been doing this following the heavy losses on the war fronts in the first half of February 2021 (TDF’s “Operation Seyoum Mesfin”)¹⁴².

6.3. Current and projected food security outcomes (February – September 2021)

Based on Ethiopia-wide maps produced by the Famine Early Warning Systems Network (**FEWS NET**), we have included maps on the current (May-June 2021) and projected (May-June and July-September) food security outcomes in Tigray. As the projected outcomes are the same for both periods in many parts of Tigray, we have merged both maps and discuss them together under ‘projected outcomes’ between May and September 2021. Map 21 adopts the widely accepted Integrated Phase Classification (**IPC**), which describes the severity of food emergencies using a five-phase scale¹⁴³. Details on each phase are captured in Fig. 6.2.

Due to the combined impacts of the ongoing conflict (Fig. 6.2), desert locusts, the poor macroeconomic situation, and the Covid-19 pandemic, the **current** (May-June 2021) humanitarian food assistance needs are well above average in Tigray. Extreme low levels of economic activities, high levels of internal displacements (Map 15-16), combined with restricted humanitarian access (Map 13) and limited food stocks have resulted in a food security **Emergency** situation for **over 2 million people** in several parts of North Western, Central, Eastern and South Eastern Tigray. This situation includes large food consumption gaps at the household level, resulting in high acute malnutrition and excess mortality. Due internal migration flows, many rural households also need to share the (limited) previous harvest with relatives and guests, resulting in exhausted food stocks. Within the same areas, approximately **353,000 people** are **famine-affected** (IPC Phase 5) and hence at severe risk of starvation¹⁴⁴. **“This is the highest number of people in IPC Phase 5 since the 2011 famine in Somalia.”**¹⁴⁵

Note that 353,000 people are famine-affected but that none of Tigray’s districts is yet mapped under IPC Phase 5, as the following criteria¹⁴⁶ are not yet jointly met: (1) at least 20% of households face extreme food

shortages with limited ability to cope; (2) acute malnutrition rates exceed 30%; and (3) death rate exceeding two persons per day per 10,000 persons.

In large parts of North Western, South Eastern and Southern Tigray, as well as in Mekelle, the current food security outcome includes the “Crisis” phase (for over 3 million people), whereas the food security situation is less acute in Western Tigray, with the “Stressed” phase⁹⁵.



Fig. 6.2. After harvest, a farmer in Debre Genet had carefully stored the straw as fodder for the upcoming year in four two-metre high heaps. On 5 April 2021, the Eritrean army terrorised the village and burned down the fodder storages (© Kindeya Gebrehiwot).

There is no area in Tigray under “Minimal” food security conditions, in contrast to peace years when larger areas of Tigray were not concerned with food security issues¹⁴⁷.

In the **coming months**, some improvements in economic activity are anticipated relative to the current situation, although significant restrictions on household access to food and income are expected to persist (e.g. limited labor migration, access to credit, access to input supplies...), undermining the cultivation during the upcoming growing season. As a result, Emergency outcomes are anticipated to persist at least until September 2021 all over Central and Eastern Tigray, as well as in parts of North Western and South Eastern Tigray. This again highlights the importance of granting full and safe humanitarian access to these regions. In other areas, where economic activities are expected to increase in the

coming months and where the households’ production capacity is relatively higher, “Crisis” outcomes are expected. In none of the zones, it is expected to return to the “Minimal” or even the “Stressed” food security phase before September 2021¹⁴⁸.

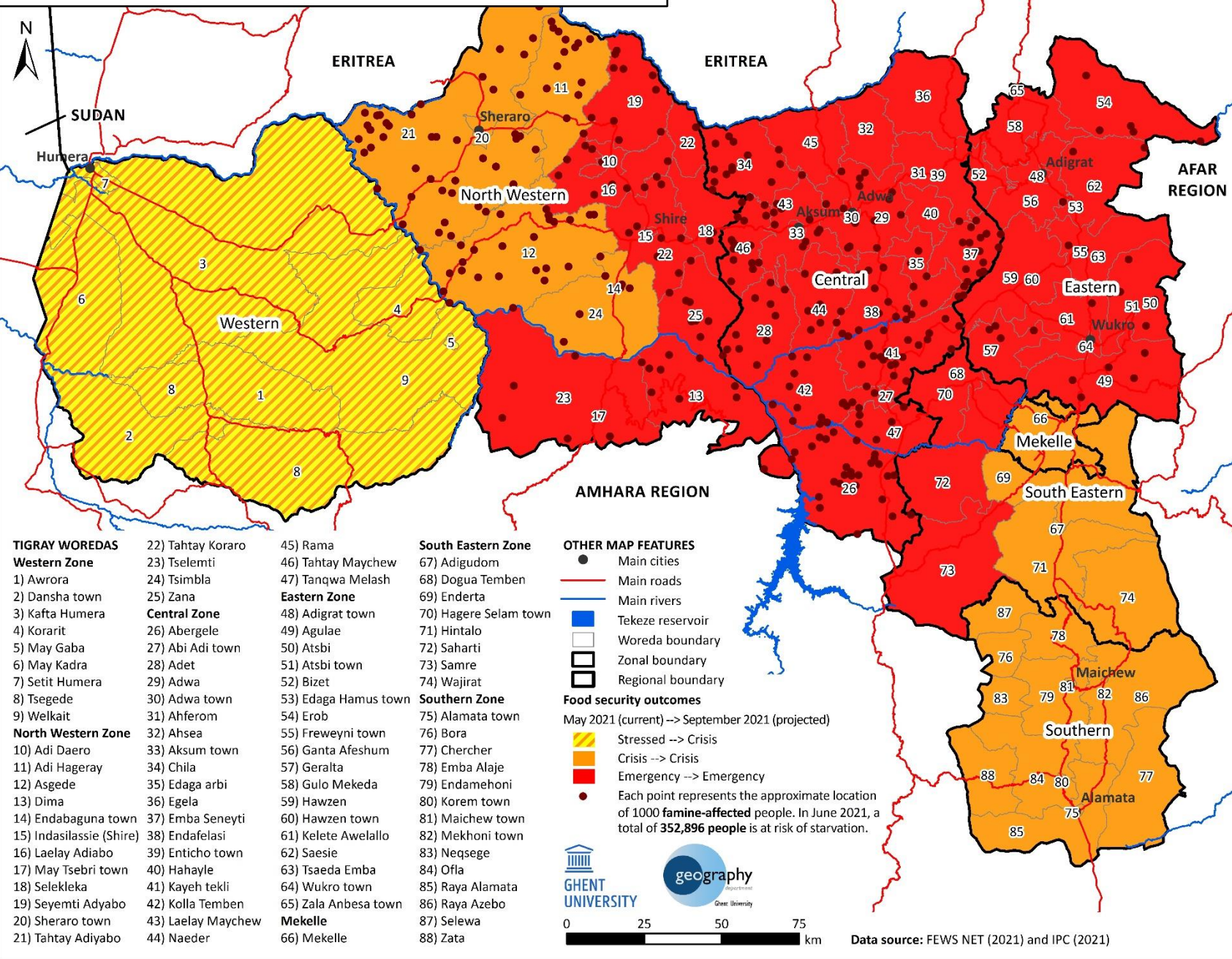
Expecting a humanitarian assistance coverage of 60% of the population, approximately 400,000 people will be at risk of famine by September. In case the conflict would further escalate, “most areas of Tigray will be at risk of famine”¹⁴⁹.

However, it should be noted that given the limited information available, it is difficult to assess the projected food security outcome. In several areas, people may also face additional costs due to the looting of essential goods and the (partial) destruction of houses.

PHASE 1 Minimal	Households are able to meet essential food and non-food needs without engaging in atypical and unsustainable strategies to access food and income.
PHASE 2 Stressed	Households have minimally adequate food consumption but are unable to afford some essential non-food expenditures without engaging in stress-coping strategies.
PHASE 3 Crisis	Households either: - Have food consumption gaps that are reflected by high or above-usual acute malnutrition; OR - Are marginally able to meet minimum food needs but only by depleting essential livelihood assets or through crisis-coping strategies.
PHASE 4 Emergency	Households either: - Have large food consumption gaps which are reflected in very high acute malnutrition and excess mortality; OR - Are able to mitigate large food consumption gaps but only by employing emergency livelihood strategies and asset liquidation.
PHASE 5 Famine	Households have an extreme lack of food and/or other basic needs even after full employment of coping strategies. Starvation, death, destitution, and extremely critical acute malnutrition levels are evident. (For Famine Classification, area needs to have extreme critical levels of acute malnutrition and mortality.)

Fig. 6.2: Overview of the different IPC food security phases

Current and projected food security outcomes (May/June - September 2021)



Map 21

Current (May-June 2021) and projected (July-September 2021) food security outcomes in Tigray.

Data source:
after FEWS NET (2021) and IPC (2021)

6.4. Outlook: the Tigray war may lead to another failed harvest in the next season

Since about 75% of the active population in Tigray is farmer¹⁵⁰ and the humanitarian needs are already very high on the eve of the upcoming growing season (i.e. 5.2 million people are in dire need of humanitarian assistance)¹⁵⁰, good farming conditions throughout the summer season are of crucial importance for the further development of the food situation in Tigray. Indeed, the harvest in November will need to feed the local communities until the following growing season in the next year. This is especially true for the many rural families that live in hard-to-reach areas, where humanitarian organisations have not yet managed to deliver food aid, and hence people particularly will depend on local yields.

In this section, we present an overview of the average start of the growing period in different parts of Tigray, we consider the rainfall conditions in spring 2021, as compared to previous years and long-term averages, and discuss the state of ploughing during war conditions. A more detailed analysis of these topics is available in a separate paper¹⁵¹.

The start and length of the growing period – the period of the year in which crops and herbaceous plants grow successfully^{48,49} – typically depend on local environmental conditions, crop type, temperature limitations and inter-annual rainfall variability, which determines the moisture availability (from rain and moisture reserve in the soil). Overall, the Tigray region has a growing period of 90 to 120 days (Map 7), starting in the month of June in most places (Map 22)⁵⁰. In the two to three months prior to the start of this growing period, the farmlands need to be well prepared⁵¹. In Tigray, fine seedbeds are typically prepared by ploughing the land two up to five times (depending on the crop type) with a non-reverting animal-drawn

plough. Once the seedbed is ready and soil moisture has been replenished, the seeds are mainly sown by broadcasting.

When spring rains induce sufficiently-wet soil moisture conditions lasting up to the main rainy season (*kremti*), a good long growing season is possible (*azmera*), and farmers will select their crop types accordingly. Particularly at lower hence warmer locations, crops with longer growing requirements will be sown, such as maize, sorghum and finger millet¹⁵².

Using the CHIRPS 2.0 satellite rainfall product¹⁵³, we have analysed the rainfall conditions between February and April 2021 and have compared these conditions with long-term averages and the conditions in previous years. From this analysis, it appears that the spring rains in 2021 – with approximately 20 mm in Western Tigray, 100 mm in Eastern Tigray and 70 mm in Southern Tigray (Map 23) – were drier than in 2020 but slightly wetter than in 2019, and overall had ‘normal’ conditions throughout the region (following the conventions of the American Meteorological Society - Map 24). Exceptions on these ‘normal’ conditions are parts of the South Eastern, Southern and Western Zones, where ‘abnormally dry’ to ‘moderately dry’ and even ‘severely dry’ conditions were observed. Even though the rains came a bit late in spring 2021 (March was drier than average), based on the observed rainfall conditions, farmers should have been able to start ploughing during the months of March, April and May.

To verify this state of ploughing under ongoing war conditions, we have analysed Sentinel-2 satellite images pertaining to the same months for fourteen rainfed and sixteen irrigated (contiguous) agricultural areas and have analysed some aerial photographs taken in the surroundings of Mekelle. In addition to this, we have conducted semi-structured interviews

with seventeen key informants who all have a longstanding experience with the agricultural sector in Tigray and have an extensive network throughout the region. The interviews helped to understand all contextual factors and correctly interpret the remote sensing images.

Our main findings are:

- Fewer rainfed croplands than normal have been ploughed in the surroundings of Mekelle in early May 2021 (based on case study using aerial photographs).
- Fewer rainfed croplands than normal have been ploughed in several areas in Western Tigray, corresponding to the extreme high levels of out-migration due to ethnic cleansing (Map 16).
- Relatively good ploughing conditions can be observed in the rest of the region: more land have been ploughed than in rain-rich 2020, but less than in the slightly drier 2019.
- Unlike medium- to large-scale irrigation plantations (e.g. along the Tekeze River and southeast of Mehoni), farmer-led irrigation schemes are operational and even slightly increased in area as compared to the two preceding years. However, there is a shift from commercial crops (e.g. vegetables) to cereals, which require less human presence on the fields and hence involve fewer risks for the farmers.

Although these results give hope that large parts of the agricultural areas will be sown timely, farmers have to operate in very difficult – sometimes even life-threatening – circumstances, and yields may be well below average. The main reasons for difficult farming conditions are:

- Ethnic cleansing in Western Tigray.

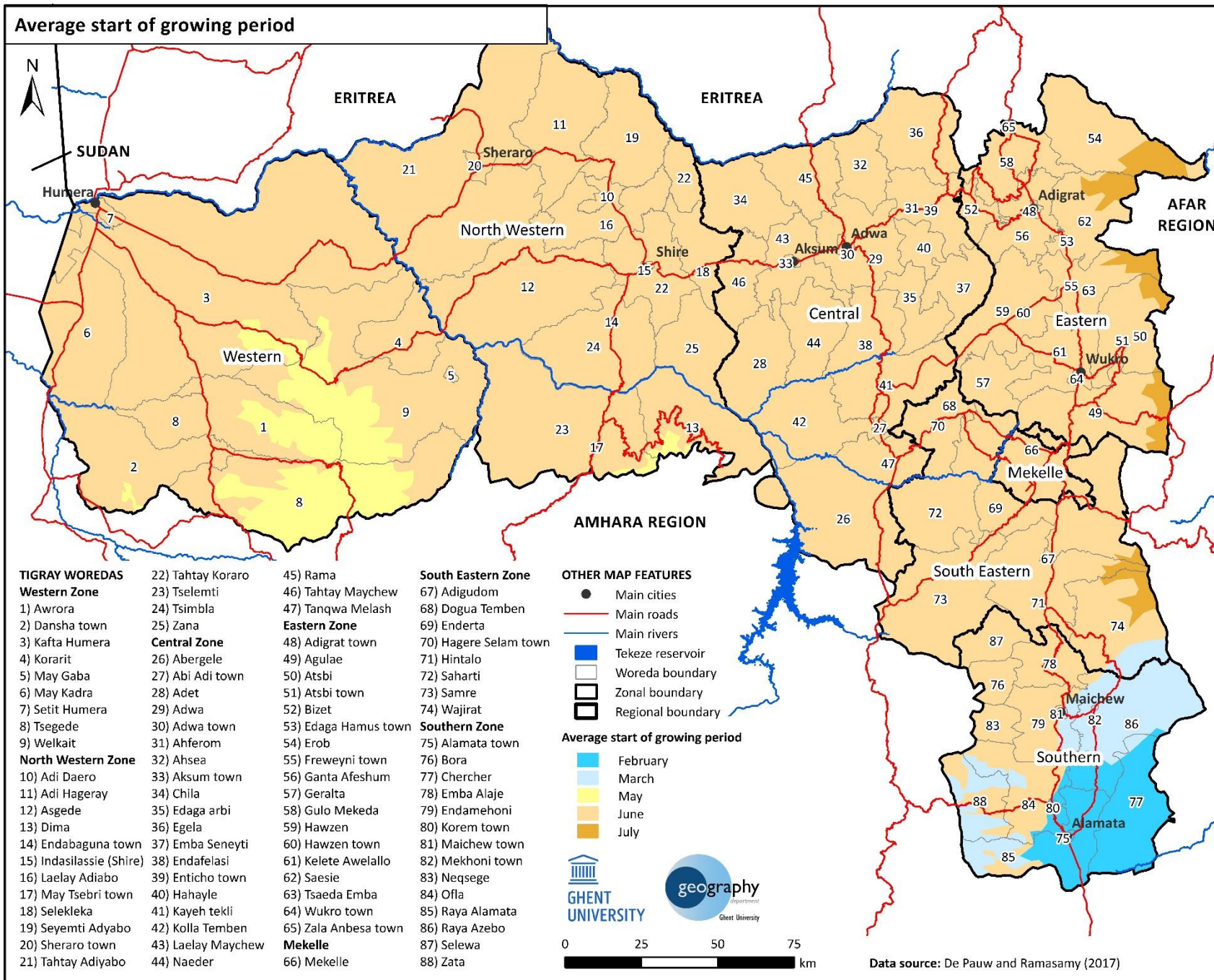
- Lack of farm inputs (e.g. fertilizer, chemicals, improved seeds...), oxen and farm tools due to widespread looting and destruction of infrastructure.
- Lack of advice from the agricultural offices.
- Eritrean soldiers forbid farm activities and threaten to kill farmers. Farmers consequently fear to be killed, which is a well founded fear as several farmers already have been killed while ploughing their lands.
- Lack of manpower as many youngsters may have joined the TDF and men particularly are being targeted by (Eritrean) soldiers.
- Religious holidays in the Easter period may have delayed ploughing.

Despite these difficult conditions, the Tigrayan farmers evaluate all risks involved with ploughing and adjust their farming strategies to minimize the risks of looting and getting killed. These adjustments include:

- Ploughing very early in the morning (as early as 3 AM), before the soldiers start roaming and marauding.
- Organizing lookouts to verify that no soldiers are approaching.
- Shifts to crops that are less labour-intensive.
- Shifts towards higher involvement of women in the land management (e.g. after ploughing, women may break down the larger soil clods or even may continue ploughing the unploughed parts of the field).

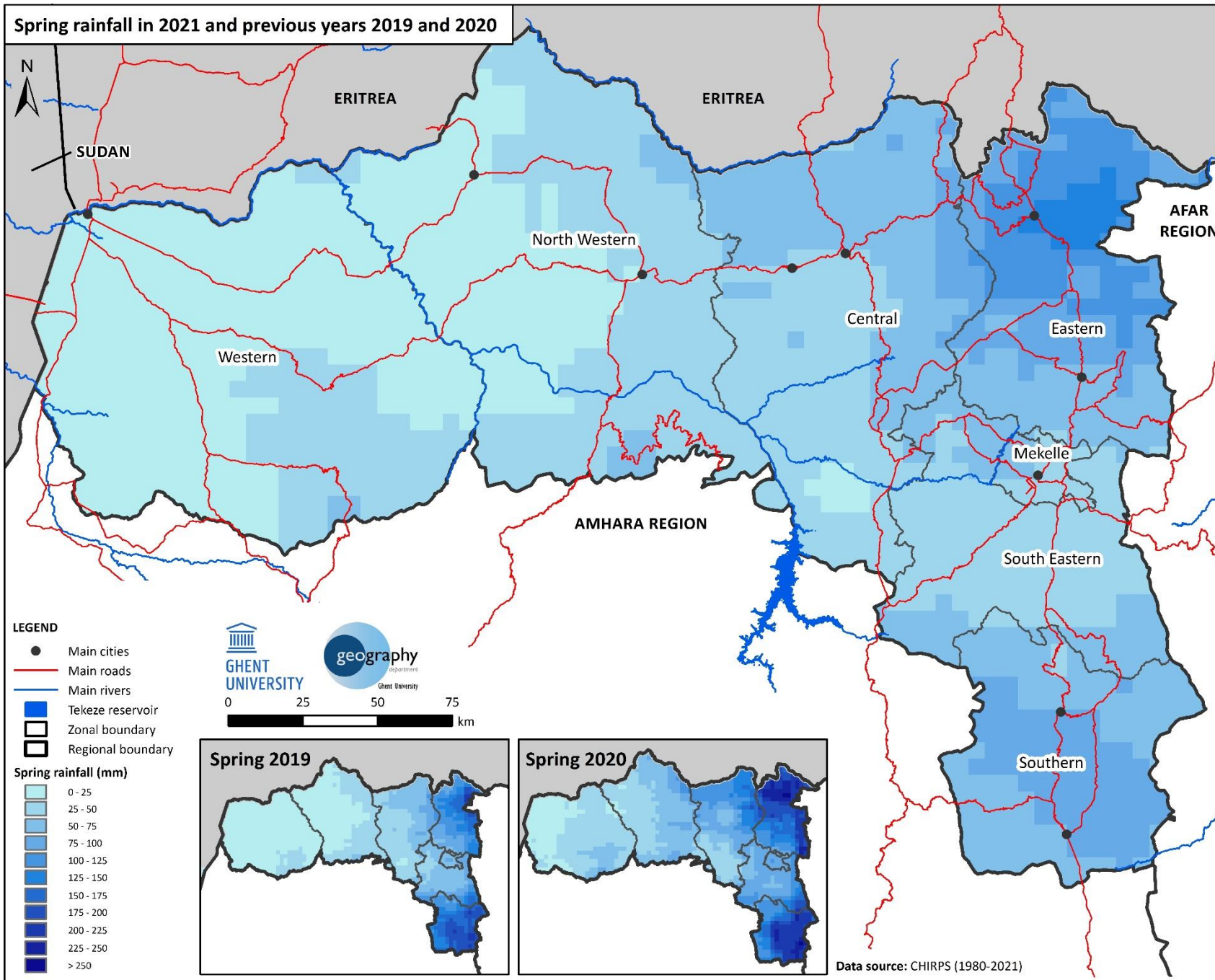
From this, it is clear that farmers maybe more than ever are on their own and have to rely on their remarkable ability of self-organisation. Taking into account the resilience of the Tigrayan farming systems, there is still hope that the next growing season will not be entirely lost.

As we will move further into the growing season, our team will use remote sensing images and try to monitor crop growth throughout the region.



Map 22
Average start of the moisture-limited growing period

Data source:
De Pauw & Ramasamy (2017)

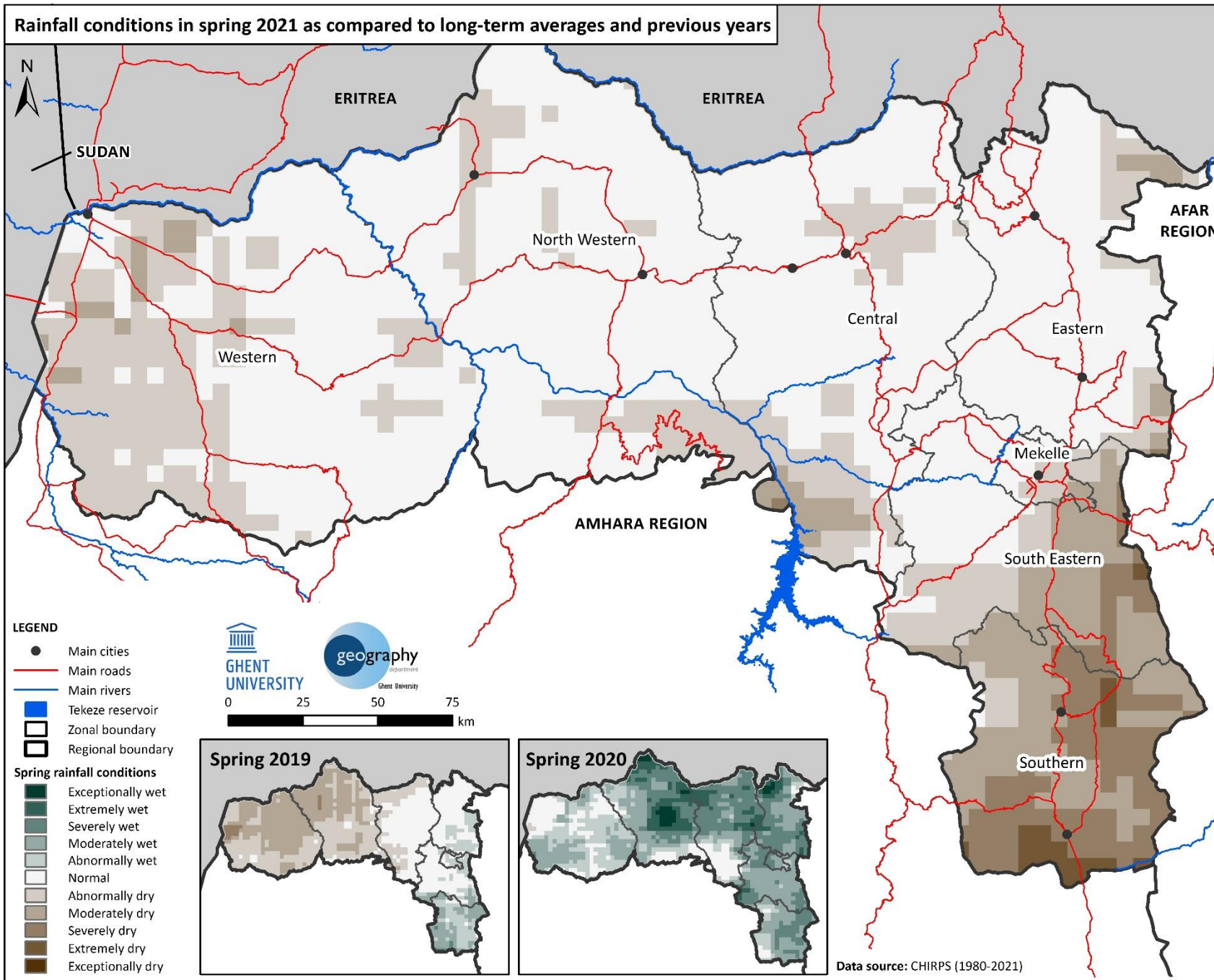


Map 23

Spring rainfall in February-April 2021 (inset maps allow a comparison to previous years).

Data source:

CHIRPS (1981 – 2021)



Map 24

Spring rainfall conditions in February-April 2021 as compared to long-term averages and previous years (inset maps). The nomenclature of rainfall conditions follows the American Meteorological Society (AMS) conventions.

Data source:
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ANNEX A – Chronological overview of the 245 reported massacres in the Tigray War (November 2020 – June 2021)

No.	Date	Month	Location	Tabiya	Woreda	Casualties
1	2021-11-04 to 2021-11-09	November	Dansha	Yekatit	Tsegede	24
2	2021-11-04 to 2021-11-10	November	Shiglil	Baeker	Kafta Humera	7
3	2021-11-06	November	Finarwa	Nebar Hadent	Samre	6
4	2020-11-09 to 2020-11-10	November	May Kadra	May Kadra	May Kadra	600
5	2021-11-09	November	Humera	Humera	Setit Humera	46
6	2021-11-10	November	Humera	Humera	Setit Humera	8
7	2021-11-11	November	Wajirat	Tsehafti	Wajirat	9
8	2021-11-11	November	Sheraro	Sheraro	Sheraro Town	20
9	2021-11-15	November	Shire	Indasilassie Town	Indasilassie (Shire)	13
10	2021-11-19	November	Adigrat	Adigrat Town	Adigrat Town	8
11	2021-11-19	November	Wukro Maray	Wukro Maray Town	Tahtay Maychew	25
12	2020-11-12 to 2020-11-18	November	Adi Hageray	Kebabi Adi Hageray	Adi Hageray	200
13	2021-11-13	November	Marta	Marta	Gulo Mekeda	9
14	2021-11-13	November	Zalambessa	Zala Anbesa Town	Zala Anbesa Town	45
15	2021-11-14	November	Bisober	Bala Ulaga	Chercher	31
16	2021-11-15	November	Marta	Marta	Gulo Mekeda	7
17	2021-11-15	November	Zalambessa	Zala Anbesa Town	Gulo Mekeda	20
18	2021-11-16 to 2021-11-21	November	Wukro	Wukro Town	Wukro Town	11
19	2021-11-16	November	Wukro	Wukro Town	Wukro Town	14
20	2021-11-17	November	Wushti Gulti	Indasilassie Town	Indasilassie (Shire)	45
21	2021-11-17	November	Shimelba	May Kuhli	Tahtay Adiyabo	64
22	2021-11-17	November	Shire	Indasilassie Town	Shire Town	200
23	2021-11-17	November	May Temeket	May Liham	Tahtay Koraro	30
24	2021-11-18 to 2021-11-19	November	Adi kemalek	Adi Dekiamalek	Selekleka	8
25	2021-11-18 to 2021-11-19	November	Selekleka	Selekleka Town	Selekleka	15
26	2021-11-18	November	Axum	Axum Town	Aksum Town	14
27	2021-11-19	November	Addis Tesfa	Adis Tesfa	Gulo Mekeda	20
28	2021-11-19	November	Dansha	Yekatit	Dansha Town	6
29	2021-11-19	November	Axum	Axum Town	Axum Town	32
30	2021-11-19	November	Hitsats	Hitsats	Asgede	6
31	2021-11-20	November	Adwa	Adwa Town	Adwa Town	31
32	2021-11-20	November	Adigrat	Adigrat Town	Adigrat Town	9
33	2021-11-20	November	Axum	Axum Town	Axum Town	5
34	2021-11-21	November	Adigrat	Adigrat Town	Adigrat Town	5
35	2021-11-21	November	Hitsats	Hitsats	Asgede	60
36	2021-11-21	November	Edaga Hamus	Edaga Hamus	Edaga Hamus Town	30
37	2021-11-22	November	Hagerhse	Shewit Lemelem	Gulo Mekeda	13
38	2021-11-23	November	Hitsats	Hitsats	Asgede	10
39	2020-11-24 to 2020-11-27	November	May Tsebri	May Tsebri Town	May Tsebri town	20
40	2021-11-24	November	Egrikan	Negash	Kelete Awelallo	21
41	2021-11-25 to 2021-11-30	November	Semema	Gundi Kisd Awkh	Adet	50
42	2021-11-25	November	Adigrat	Adigrat Town	Adigrat Town	17
43	2021-11-25	November	Hawzen	Hawzen Town	Hawzen	8
44	2021-11-26	November	Adi Harush	May Tsebri Town	May Tsebri town	5
45	2021-11-26	November	Megab	Megab	Hawzen	16
46	2021-11-26	November	Koraro	Koraro	Hawzen	5
47	2021-11-26	November	Berakit	Debre Selam	Hawzen	7
48	Before 2020-11-27	November	Korarit	Tsebri	Korarit	98
49	2021-11-27	November	Wukro	Wukro Town	Wukro Town	20
50	2021-11-27 to 2021-11-29	November	Newi	Newi	Kola Tembien	16
51	2021-11-28	November	Adigrat	Adigrat Town	Adigrat Town	13
52	2021-11-28	November	Axum	Axum Town	Axum Town	800
53	2021-11-28	November	Wukro	Wukro Town	Wukro Town	200
54	2021-11-28	November	Mekelle	Mekelle town	Mekelle	22
55	2021-11-30	November	Dengelat	Beleso	Saessie	160
56	2021-11-28 to 2021-12-17	December	Shimelba	May Kuhli	Tahtay Adiyabo	12
57	2021-12-01 to 2021-12-14	December	Tokot	Edaga Hamus	Saesie	13
58	2021-12-01	December	Hawzen	Hawzen Town	Hawzen	5
59	2020-12-02 to 2020-12-12	December	Abreha Atsbeha	Abreha Atsbaha	Kelete Awelallo	25
60	2021-12-02	December	Gurero	Gurero	Kola Tembien	11

No.	Date	Month	Location	Tabiya	Woreda	Casualties
61	2021-12-02	December	Bizet	Bizet Town	Bizet	8
62	2021-12-02	December	Edaga Hamus	Edaga Hamus	Edaga Hamus Town	20
63	2021-12-03	December	Endabaguna	Endabaguna Town	Endabaguna Town	19
64	2021-12-04 to 2021-12-07	December	Zibandegena	Ziban Gedena	Tahtay Adiyabo	150
65	2021-12-04 to 2021-12-07	December	Zelazile	Zelazle	Asgede	150
66	2021-12-04	December	Workeamba	Workamba	Keyhe tekli	86
67	2021-12-05	December	Jijike	Jijike	Abergele	10
68	2021-12-06	December	Adigrat	Adigrat Town	Adigrat Town	5
69	2021-12-07	December	Merere	Mirere	Kola Tembien	10
70	2021-12-08	December	Simret	Simret	Abergele	7
71	2021-12-10	December	Serako	Serako	Tselemti	5
72	2021-12-12	December	Guya	Guya	Kola Temben	20
73	Before 2020-12-14	December	Adi Da'ero	Adi Daero	Adi Daero	33
74	Before 2020-12-14	December	Adi Nebried	Adi Nebri Id	Seyemti Adyabo	57
75	Before 2020-12-14	December	Beles	Beles	Tahtay Koraro	34
76	2021-12-14	December	Adi K'uylo	Selam	Degua Temben	30
77	2021-12-14	December	Amdi Woyane	Amdi Wotane	Samre	6
78	2021-12-15	December	Negash	Negash	Kelete Awelallo	81
79	Before 2020-12-16	December	Zata	Zata	Zata	5
80	2020-12-16 to 2020-12-20	December	Hagere Selam	Hagere Selam	Hagere Selam Town	23
81	2021-12-17	December	Shimelba	May Kuhli	Tahtay Adiyabo	23
82	2021-12-19	December	Hawzen	Hawzen Town	Hawzen Town	17
83	Before 2020-12-21	December	Negash	Negash	Kelete Awelallo	5
84	Before 2020-12-21	December	Workeamba	Workamba	Keyhe tekli	8
85	2021-12-21	December	Adi Abun	Adwa town	Adwa town	317
86	2021-12-23	December	Wenberet Adi-ka'Ela	Wemberta Adeke Ala	Saharti	12
87	2021-12-23	December	Hawzen	Hawzen Town	Hawzen Town	13
88	2021-12-22	December	Shimelba	May Kuhli	Tahtay Adiyabo	9
89	2021-12-26	December	Adi Da'ero	Adi Daero	Adi Daero	27
90	2021-12-27	December	Ala'isa, Degua Tembien	Ayninbirkekin	Degua Tembien	60
91	Before 2020-12-28	December	Nebelet	May Nebri	Emba Sieneti	54
92	2021-12-28	December	Mekelle	Mekelle town	Mekelle	27
93	2021-12-30	December	Gijet	Gijet	Saharti	21
94	2021-12-30	December	Wukro	Wukro Town	Wukro Town	12
95	2021-12-31	December	Midri Hamsho	Midri Hamsho	Dima	6
96	Early of January	January	Simret	Simret	Abergele	8
97	2021-01-01	January	Bihiza	Medhin	Rama	15
98	2021-01-02	January	Finarwa	Nebar Hadent	Samre	8
99	2021-01-05	January	Mai Harmaz	Debry Abay	Tsimbla	80
100	2021-01-05	January	Firedashum	Firedashum	Gulo Mekeda	10
101	2021-01-05	January	Gu'etelo	Zala Anbesa Town	Gulo Mekeda	38
102	2021-01-05	January	Ba'ati Akor	May Kuha	Gheralta	10
103	2021-01-06 to 2021-01-07	January	Awo	Daya Alitena	Erob	7
104	2021-01-06	January	Firedashum	Firedashum	Gulo Mekeda	8
105	2021-01-07	January	Alitena	Daya Alitena	Irob	14
106	2021-01-07	January	Asagarwa	Hagere Lekuma	Irob	19
107	2021-01-08	January	Shuhtabok	Hawesta	Lelay Maychew	10
108	2021-01-08	January	Edaga Berhe	Adihutsa	Adet	15
109	2021-01-08	January	Seglamen	Medegoy	Lelay Maychew	8
110	2021-01-08	January	Bora	Amedwuha	Bora	170
111	Before 2021-01-09	January	May Kado	May Kado	Hawzen	13
112	2021-01-09	January	Sheraro	Sheraro	Sheraro Town	15
113	2021-01-09	January	Kelawlo	Ziban Gedena	Tahtay Adiyabo	15
114	Before 2021-01-11	January	Adi Shuhu	Adishuhu	Emba Alaje	100
115	2021-01-11	January	Debano	Workamba	Keyhe tekli	30
116	2021-01-11	January	Endabano	Endabano	Kayeh Tekli	20
117	2021-01-13	January	Shimaye	Hadenet	Atsbi	6
118	2021-01-15	January	Tsigereda	Tsigereda	Geralta	5
119	2021-01-19	January	Adigabat	Adigabat	Chila	29
120	2021-01-21	January	Endachiwa	Edaga Arbi	Ahferom	11
121	2021-01-22	January	Adi Goshu	Kunama & Habesha Adigoshu	Kafta Humera	16
122	2021-01-22	January	Axum	Axum Town	Axum Town	10

No.	Date	Month	Location	Tabiya	Woreda	Casualties
123	Before 2021-01-23	January	Endabaguna	Endabaguna Town	Endabaguna Town	80
124	2021-01-23	January	Hawzen	Hawzen Town	Hawzen	30
125	2021-01-24	January	Edaga Arbi	Edaga Arbi	Edaga Arbi	24
126	2021-01-24	January	Adi Ftaw	Adi Ftaw	Ahsea	48
127	Before 2021-01-25	January	Adi Da'ero	Adi Daero	Adi Daero	20
128	2021-01-26	January	Adebay	Adebay	Kafta Humera	6
129	2021-01-28	January	Edaga Arbi	Edaga Arbi	Edaga Arbi	20
130	2021-01-28	January	Edaga Hamus	Edaga Hamus	Edaga Hamus Town	10
131	2021-01-28	January	Edaga Hamus	Edaga Hamus	Edaga Hamus Town	10
132	2021-01-29	January	Milakua	Dura	Laelay Maychew	9
133	2021-01-29	January	Teka	Mozutey	Hawzen	7
134	2021-01-29	January	Hareko	Hareko	Hintalo	19
135	2021-01-29	January	Simret, Hawzen	Simret	Hawzen	48
136	2021-01-31	January	Seqen	N/A	N/A	6
137	2021-01-31	January	Dabba Selama	Degol Woyane	Degua Temben	12
138	2021-01-31 to 2021-02-05	February	Nebelet	May Nebri	Emba Seneyti	43
139	2021-02-01 to 2021-02-08	February	Mahbere Dego	Mahbere Selam	Laelay Maychew	50
140	2021-02-01	February	Dembela	Workamba	Kola Temben	7
141	2021-02-01	February	Gelebeda	Santagelebeda	Keyhe tekli	8
142	2021-02-01	February	Worsege	Workamba	Keyhe tekli	9
143	2021-02-01	February	Awlo	Awluo	Naeder	17
144	2021-02-02 to 2021-02-09	February	Mulaka	Kewanit	Tahtay Maychew	8
145	2021-02-02	February	Miri'ena	Mirena	Laelay Maychew	20
146	Before 2021-02-04	February	Zata	Zata	Zata	27
147	2021-02-04 to 2021-02-05	February	N/A	Adihutsa	Adet	70
148	2021-02-04	February	Seglamen	Medegoy	Laelay Maychew	72
149	2021-02-05 to 2021-02-06	February	Adet	N/A	Adet	40
150	2021-02-08 to 2021-02-14	February	Hawzen	Hawzen Town	Hawzen	11
151	2021-02-09	February	Mekelle	Mekelle town	Mekelle	5
152	2021-02-10 to 2021-02-11	February	Freweyni	Zaz	Freweyni Town	7
153	2021-02-10	February	Adi Awso	N/A	Samre	5
154	2021-02-10	February	Begasheka	Begashek	Kola Temben	10
155	2021-02-10	February	Adi Chilo	Simret	Tanqua Abergele	75
156	2021-02-10	February	Wukro	Wukro Town	Wukro Town	18
157	2021-02-10	February	Guya	Guya	Kola Temben	25
158	2021-02-11	February	Adwa	Adwa Town	Adwa	8
159	2021-02-11	February	Axum	Axum town	Axum town	7
160	2021-02-12	February	Sekha	Sekha Kisadmomoa	Adet	30
161	2021-02-12 to 2021-02-16	February	Adi Asmi'en	Abiy Adi	Abiy Adi Town	25
162	2021-02-12	February	Adwa	Adwa Town	Adwa	5
163	2021-02-13	February	Adi Esher	Cheli Esret	Saharti	20
164	2021-02-14	February	Adwa	Adwa Town	Adwa Town	11
165	2021-02-15	February	Shire	Indasilassie Town	Shire Town	10
166	2021-02-15	February	Adi Geba	May Kinetal Town	Endafelasi	14
167	Before 2021-02-16	February	Freweyni	Freweyni	Freweyni town	7
168	2021-02-19	February	Selae Duma	Ziban Gedena	Tahtay Adiyabo	5
169	2021-02-18	February	Adi Mesno	Adi Mesno	Wajirat	6
170	2021-02-21	February	Hiwane	Hiwane	Hintalo	10
171	2021-02-22 to 2021-02-23	February	Abi Adi	Abiy Adi	Abiy Adi Town	80
172	2021-02-22	February	Mai Nebri	May Nebri	Hintalo	7
173	2021-02-22	February	Adigudem	Adigudom	Adigudom	7
174	2021-02-22	February	Gijet	Gijet	Saharti	20
175	2021-02-23	February	May Weyni	Adiss Alem May Weyni	Samre	80
176	2021-02-23	February	Cheli	Cheli Esret	Saharti	180
177	2021-02-23	February	Edaga Hamus	Edaga Hamus	Edaga Hamus Town	5
178	2021-02-23	February	Kuma Sebuha	Kuma Sebuha	Saesie	6
179	2021-02-24	February	Zibandegena	Ziban Gedena	Tahtay Adiyabo	17
180	2021-02-24 to 2021-02-27	February	May Kinetal	May Kinetal Town	Endafelasi	300
181	2021-02-25	February	Gijet	Gijet	Saharti	120
182	2021-02-27	February	Adi Geba	May Kinetal Town	Endafelasi	39
183	2021-03-01	March	Enticho	Enticho Town	Enticho Town	7
184	2021-03-01 to 2021-03-05	March	Zana	Walka	Zana	9

No.	Date	Month	Location	Tabiya	Woreda	Casualties
185	2021-03-02	March	Mugulat	Mugulat	Ganta Afeshum	9
186	2021-03-05	March	Berezeba	Hadash Hadnet	Samre	10
187	2021-03-05	March	Berezeba	Fire Woyane	Selewa	6
188	2021-03-01	March	Humera	Humera	Setit Humera	30
189	2021-03-02	March	Adi Mesno	Adi Mesno	Wajirat	8
190	2021-03-02	March	Humera	Humera	Setit Humera	80
191	2021-03-03	March	Humera	Humera	Setit Humera	140
192	2021-03-03	March	Zamr	Simret	Bizet	7
193	2021-03-03	March	Michael	Michael Abiy	Dogue Tembien	9
194	2021-03-04	March	Shibta	Simret	Bizet	7
195	2021-03-05	March	Finarwa	Nebar Hadent	Samre	5
196	2021-03-08 to 2021-03-14	March	Esret	Cheli Esret	Saharti	17
197	2021-03-08 to 2021-03-14	March	Hintsa	Hintsa Waza	Saharti	5
198	2021-03-08 to 2021-03-14	March	Mariam Meko	Mariam Meko	Saharti	5
199	2021-03-08 to 2021-03-14	March	Keshi	N/A	N/A	33
200	2021-03-08 to 2021-03-14	March	Nebar hadnet	Nebar Hadent	Samre	6
201	2021-03-08 to 2021-03-14	March	Weyn	Nebar Hadent	Samre	29
202	2021-03-09 to 2021-03-10	March	Berezeba	Fire Woyane	Selewa	60
203	2021-03-10	March	Enkikumel	Lemlem	Tsimbla	100
204	2021-03-10	March	Mai Maedo	Simret	Ofla	5
205	2021-03-14	March	Wukro	Wukro Town	Wukro Town	18
206	2021-03-14	March	Gijet	Gijet	Saharti	123
207	2021-03-16	March	Adi K'elk'el	Bete Gebez	Aheferom	6
208	2021-03-23	March	Atsrega	Atsirega	Tahtay Adiyabo	175
209	2021-03-23	March	Mai Kuhli	May Kuhli	Tahtay Adiyabo	175
210	2021-03-23	March	Teka-Tesfay	Sendada	Tsaeda Emba	16
211	2021-03-24	March	Grizana	Nebar Hadent	Samre	11
212	2021-03-29	March	Kilma	Kilma	Bora	30
213	2021-03-30 to 2021-03-31	March	Selekleka	Selekleka Town	Selekleka	31
214	2021-03-30 to 2021-04-05	April	Wukro Maray	Wukro Maray Town	Tahtay Maychew	150
215	2021-04-01 to 2021-04-03	April	Tisha	Maekel	Tahtay Maychew	100
216	2021-04-01 to 2021-04-03	April	Hambere	May Atsmi	Tahtay Maychew	22
217	2021-04-01	April	Wukro Maray	Hadush Adi	Tahtay Maychew	18
218	2021-04-01	April	Adi Berik	Adi Menabir	Tahtay Koraro	10
219	2021-04-02	April	Selekleka	Selekleka Town	Selekleka	5
220	2021-04-03 to 2021-04-04	April	Hawzen	Hawzen Town	Hawzen Town	10
221	2021-04-03	April	Hadush Adi	Hadush Adi	Tahtay Maychew	70
222	2021-04-05	April	May Kado	May Kado	Hawzen	30
223	2021-04-06	April	May Kinetal	May Kinetal Town	Endafelasi	125
224	2021-04-07	April	Wukromaray	Wukro Maray Town	Tahtay Maychew	11
225	2021-04-07	April	Tsigereda	Tsigereda	Geralta	5
226	2021-04-08	April	Abune Gebremenfeskidus	Tsigereda	Geralta	5
227	2021-04-09	April	Samre District	Amdi Wotane	Samre	7
228	2021-04-10	April	Adigudem	Adigudom	Adigudom	11
229	2021-04-11	April	Mai Haidi	Adigudom	Adigudom	11
230	2021-04-11	April	Mai Haidi	Adigudom	Adigudom	12
231	2021-04-11	April	Zana	Walka	Zana	14
232	2021-04-12	April	Hugumbrda	Higumburda	Ofla	15
233	2021-04-12	April	Adwa	Adwa Town	Adwa Town	9
234	2021-04-12	April	Chnko Majo	Meswaiti	Endamehoni	17
235	2021-04-12	April	Hugumburda	Higumburda	Ofla	9
236	2021-04-20	April	Edaga Hibret	Hibret	Asgede	20
237	2021-04-22	April	Hawzen	Gira Aras	Hawzen	12
238	2021-04-27	April	Debregenat	Debre Genet	Adet	13
239	2021-04-27	April	Jijiye, Yechila	Jijike	Abergele	20
240	2021-04-29	April	Miraku	N/A	N/A	18
241	2021-04-30	April	Megab	Megab	Hawzen	5
242	2021-05-02	May	Bamba	Bamba Maykana	Saharti	21
243	2021-05-08	May	Abune Yemata Guh	Debre Selam	Hawzen	19
244	2021-06-18	June	Selam	Goba Gube	Laelay Adiyabo	24
245	2021-02-22	June	Togoga	Debre Nazret	Enderta	54

Disclaimer

This list of massacres is not final and will be adjusted, with potential additions, rare subtractions, and increases in locational accuracy. At all time, we try to avoid double counts of massacres and casualties, although occasionally this can occur, for example due to difficult communication and reporting on exact dates and locations. New entries in the list are highlighted in yellow, and may pertain to all previous months of the conflict.

ANNEX B – Overview of the reported casualties at monthly time step (November 2020 – June 2021)

Each dot on the maps presents a reported civilian victim in the Tigray War. At the beginning of July 2021, a total number of 9642 victims has been reported, which is only the tip of the iceberg as information only gradually becomes available due to (i) the ongoing telecommunication blackout and (ii) the continued inaccessibility of some hard-to-reach areas. The presented maps hence are not final and still can be adjusted in the future, with potential additions, rare subtractions, and increases in locational accuracy. For example: victims who at first have been reported for a woreda capital, may actually pertain to an adjacent rural tabiya.

