

CITY PROFILE OF MOSUL, IRAQ

Multi-sector assessment of a city under siege
October 2016

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ACRONYMS & ABBREVIATIONS

ACTED	Agency for Technical Cooperation and Development
ADPI	ADP Engineering Consulting company
AQI	Al-Qaeda in Iraq
GIS	Geographic Information System
ICAO	International Civil Aviation Organization
IED	Improvised Explosive Device
IDP	Internally Displaced People
IOM	International Organization for Migration
ISIL	Islamic State of Iraq and the Levant, also known as ISIS, IS or Da'esh
KRI	Kurdistan Region of Iraq
MoMD	Ministry of Migration and Displacement
PADCO	Planning and Development Collaborative International
PDS	Public Distribution System
SCET	Services, Conseil, Expertises et Territoires (French consulting company)
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-Habitat	United Nations Human Settlements Programme
UNHCR	United Nations High Commissioner for Refugees
UNOSAT	United Nations Operational Satellite Applications Programme
UN	United Nations
US	United States

PREFACES

Nineveh Governorate comes second in terms of population, after Baghdad, and enjoys the affections of Iraqis. It is the cradle of an ancient civilization spanning thousands of years. People display such religious and sectarian diversity to the point that you will find all spectrum of Iraq represented in the towns and villages of Nineveh. The city of Mosul is the most beautiful city in Iraq and is known as the “mother of two springs”. Located on the banks of the Tigris River, it is famous for its tourist and recreational places, as well as its beautiful historic and religious landmarks. If you were to move outside Mosul, you will be amazed by its archaeological sites and the remnants of centuries of old civilisations.

It is no surprise that the clutch of evil and terrorism has extended to these areas to inflict upon it numerous crimes, such as demolition, destruction, looting, killing and forced displacement. However, goodwill is destined to triumph at the end, and the sun of freedom will rise again on the land of Nineveh, thanks to the Iraqi Security Forces, as well as the passionate people from inside Mosul and throughout Iraq. This will be accomplished with the support of the International Coalition since ISIL's occupation is nothing but a destructive endeavour.

Mosul inhabitants are awaiting patiently and persistently for the launch of the liberation of their land and cities, and the ousting of ISIL affiliates among them. We are proud of our partnership with the international stabilisation programme carried out in the liberated areas by the United Nations Development Programme. This effort needs an adequate financial support that will enable us to implement stabilisation support in all liberated areas and in the city of Mosul, in particular.

We appreciate the release of this report prepared by the United Nations Human Settlements Programme (UN-Habitat) as it represents a clear starting point for setting forth the activities of restoring stability in the Nineveh Governorate, as well as its reconstruction.

Dr Mehdi Muhsin Al-Allaq
Secretary General of Council of Ministers, Government of Iraq
Head of Civil Crisis Management Cell

This important report presents a comprehensive urban profile and city-wide mapping of key sectors in Mosul, which ISIL seized in June 2014.

In a worst case, the military campaign to retake the city, the second largest in Iraq, will result in one of the world's largest and most complex humanitarian operations. Stabilization of the city after liberation will be an equally, if not greater undertaking, requiring specialized engagement in all urban sectors including water, sewage, housing, electricity, commerce, transport, security, education and health.

The United Nations agencies, funds and programmes have been and will continue to support the Government of Iraq and the Iraqi people during this difficult time. Through the coordinated efforts of the Humanitarian Country Team, food, water, temporary housing, health, specialised protection support, education, water and sanitation are being provided to millions of displaced persons, targeting their needs, before and after they return to their damaged towns and cities. The UN, through UNDP, is the leading partner during stabilization, helping to restart services and the local economy in newly liberated areas in Salah al Din, Anbar, Diyala and Ninewa Governorates.

The UN has promised the Government and Iraqi people that we will be doing everything possible to support the people of Mosul and to help stabilize and rebuild this beautiful city after liberation. UN-Habitat's outstanding study will be our essential guide, helping us to identify priorities and track progress.

Ms Lise Grande
Deputy Special Representative of the Secretary-General
Resident / Humanitarian Coordinator for Iraq
Resident Representative UNDP Iraq

The amount of destruction that the city of Mosul has witnessed since its fall in 2014 is daunting. Satellite images taken in August 2016 show that more than 135 locations in the city have been destroyed, some totally obliterated. This situation is likely to deteriorate in the aftermath of the military operations to retake the city. Already unstable before ISIL's takeover, the city has entered a crisis state: its economy has almost collapsed, basic services and facilities are under massive strain, living conditions have deteriorated severely, many properties were confiscated, an entirely new governance system was introduced and cultural heritage sites and monuments systematically destroyed.

UN-Habitat, the lead agency in the urban sector, has collaborated with a group of local researchers from Mosul to produce a multi-sectoral spatial analysis of the city comparing the situation before and after ISIL's takeover. The report provides an overview of the impact of the crisis on human/urban lives in Mosul and the functionality of its services that aims to assist concerned government decision-makers, as well as international organisations, to plan their stabilisation and recovery interventions after the retaking of the city from ISIL.

UN-Habitat has referred to the Urban Resilience Tool Framework to formulate its research and has utilised the latest high-resolution satellite imagery as a base for its analysis and the monitoring of spatial changes under ISIL. The maps here reproduced have been drafted on the basis of GIS technology and offer an evidence-based, multi-sector response planning framework, in line with the New Urban Agenda. Following this edition, UN-Habitat intends to set up an open data portal which will offer live up-to-date GIS mapping data whereby users can extract maps, tables, graphs and narrative reports.

I seize this opportunity to express our sincere thanks and appreciation to the researchers, team members and partners from the city of Mosul, as well as all government counterparts who generously contributed to produce this report.

Dr Erfan Ali
Head of UN-Habitat Iraq

KEY FINDING, CHALLENGES AND RECOMMENDATIONS

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Key Findings

Years of insecurity and ethnic and religious conflict have reshaped Mosul's demographics, and vastly affected the functionality of its local administration, public institutions and economic establishments. In the decade that followed the fall of the previous regime, armed groups dominated the city and deprived it of a large part of its revenue. Rampant corruption exacerbated the problem and contributed to the take-over of the city's resources. The fall of the city to ISIL dramatically worsened the situation; its economy almost completely collapsed, its infrastructure and services declined, its public institutions were devastated, and its history and cultural heritage tragically effaced. The city's minority groups, and many others, were forcefully moved and displaced, and their abandoned properties were confiscated by ISIL. Most of those who remained in the city live in abject conditions, with limited access to basic needs and services, including food and water.

This report has analysed the impact of the past years of crisis and the ongoing conflict on the city of Mosul, its population and functionality of the city. It gives a comprehensive picture of the state of the city by looking at twelve aspects of the crisis: demographics, economy, living conditions, urban governance, housing and land for housing, violations and informal settlements, real property, roads and transportation, infrastructure and public utilities, built environment and cultural heritage, health, and education. In what follows, the key findings of each of these aspects of the crisis will be outlined.

Demographics

- Mosul city has experienced large-scale displacement, especially of its minority groups long before the current wave of displacements inflicted by ISIL.
- While accurate statistical data on the city's ethno-religious composition is lacking, it is assumed that the

city has always comprised of a majority Arab Sunni population (around 80 per cent), followed by Kurds, Christians, Turkomans, Shabak, and Yazidis. After ISIL gained control many of the city's remaining religious and ethnic minorities fled.

- Despite the mass exodus inflicted by ISIL, it is assumed that the city's population has not changed substantially from pre-ISIL figures, because of the parallel inflow of rural migrants and IDPs from other parts of Nineveh, Salaheddin and Anbar Governorates, Syrian refugees, and ISIL fighters and their families.
- Most of the incoming IDPs and rural migrants to Mosul city between 2003 and 2014 settled in some of the city's poorest and least serviced neighbourhoods. According to local residents of Mosul, some of the newcomers were radicalised and joined Al-Qaeda and later supported ISIL in taking over the city in June 2014.

Economy

- Mosul was a prominent commercial centre and its main export products were oil, and agricultural, industrial and mineral products.
- Al-Qaeda and allied groups gained control over the city's administration and economy years before ISIL came into power.
- After taking control of the city in June 2014, ISIL fighters looted the city's central bank, crushed enterprises and forcefully collected money from business owners and farmers to finance their campaigns. The city's economy almost entirely collapsed as a result. Many businesses closed down, and unemployment levels and poverty rates increased.
- Oil fields, refineries, gas factories and fuel stations fell under control of ISIL and ISIL subsequently monopolised oil sales within their territory.
- ISIL took control of agricultural production and equipment loaned by the government to local farmers and from minorities who fled. They also forced farmers to sell their products at lower rates. The combination of dwindling financial returns and a volatile security situation led many farmers to stop working in the fields.

Living conditions

- Although Nineveh is among the governorates with highest poverty rates, Mosul city was a prominent commercial centre.
- Since ISIL took control of the city, and crushed the local economy, unemployment levels and poverty rates have increased significantly. The situation was further aggravated by the following factors:
 - In July 2015 the Iraqi Government was not able to continue transferring the salaries of government employees living in ISIL-occupied territories;
 - The city's poor families stopped receiving rations from the Public Distribution System they used to rely on for survival;
 - Hefty fees, penalties and taxes exacerbated the vulnerability of most city residents;
 - Prices of basic commodities inflated dramatically, especially after the Peshmerga closed the highways used to transport weapons and ammunition to ISIL fighters in September 2015.
- It is likely that many of those who arrived into Mosul in 2006 from its rural hinterlands and adjacent districts are among the city's most vulnerable groups, making them easy preys for ISIL recruitment.



Destruction of shrines in Hamdaniyah area, March 2015. © Nineveh TV



Nabi Yunis mosque, pre-2014. © UN-Habitat / Iraq Urban Observatory



Nabi Yunis mosque few days after its destruction 2014.
© UN-Habitat / Iraq Urban Observatory

Urban governance

- ISIL eradicated the city's existing socio-cultural order and governance system and created entirely new ones. "The City Constitution", a 16-article document that ISIL published in June 2014 outlines the principles governing ISIL territories, which severely affected all aspects of social life and city administration and planning.
- ISIL seeks to subjugate civilians under its control and dominate every aspect of their lives through terror, indoctrination, and the provision of services to those

who obey. ISIL started to practice different forms of social control on city residents, including through controlling their dress and appearance, restricting their movement and subjugating them through taxes.

- ISIL drastically changed the institutional and operational structures of public administrations.
 - A foreigner was appointed as the Head of city, the highest rank of local governance known as "al-Wali". His duties are similar to that of a Governor.
 - ISIL appointed "Emirs" to oversee the operations of the city's hospitals, schools, factories etc.
 - ISIL changed the mandate of some of the city's local directorates and forced its so-called 'sharia' principles on the way they operate.
- Under ISIL, the service delivery role of Mosul Municipality has been significantly reduced, as the group imposed substantially high taxes and fees on basic services, but failed in the provision of these services and in controlling the prices of basic goods, including food items.

Housing and land for housing

- Mosul city suffers from a chronic housing shortage. The deficit in housing units in Nineveh is estimated to reach 172,000 units in mid-2016, with a 53,000 units' deficit in Mosul alone due to: 1) the scarcity of tracts of land for new housing projects; 2) the failure to update the city's 1973 master plan and create formal urban expansion zones for housing development.
- Only three housing complexes were built in Al-Yarmuk, Al-Arabi, and Al-Karama in the 1980s. The Al-Hadbaa project near Tal al-Ruman is the only recent public residential project (although only partially completed), which was later confiscated by ISIL.
- Access to new housing became only possible through the private sector. The demands of the poor segments of society for housing were mainly met in the old city of Mosul, where its existing buildings became cramped with families living in shared accommodation.
- Prior to 2013, politics played an important role in controlling land management.
- The scarcity of vacant land in the city for housing

development is mainly caused by Decree 117 of 2000, which granted state-owned non-agricultural land to members of the Iraqi military and police, consuming almost all available residential public land within the city.

- Because of the depletion of available public land within Iraqi city centres, agricultural land became the only viable option to access housing for many people.
- This led to government employees to establish housing cooperatives which were allowed to buy agricultural land at a very favourable price, and resell it – once parcelled and serviced – to people, often at inflated prices. Purchasing land through the Cooperative was legally cumbersome. Housing Cooperatives were tainted by accusations of corruption and favouritism towards particular ethnic groups.

Violations and informal settlements

- After 2003, most of Mosul's urban growth took place illegally on publicly-owned land and on agricultural land outside the limits of the city's 1973 master plan, due to: (i) Population growth and increased poverty; (ii) Increased demand resulting in sky-rocketing property values; (iii) Failure of the Iraqi Government to fulfil its social welfare role; (iv) Delays in updating Mosul's 1973 Master Plan; (v) Misguided urban policy post-2003; (vi) People's belief that the government will not eliminate violations but rather regularise them.
- Between 2003 and 2013, 32,000 cases of violations were recorded within Mosul district. Roughly half of these cases concern informal units while the other half are in informal land subdivisions where very little has been built yet of which 16,000 cases involving informal housing units and 16,000 cases involving informal subdivisions that have not been built.
- After 2003, informal settlements became a housing solution and a lucrative business, causing additional pressure on public utility networks and services. Before the fall of Mosul there were no national policies in place to regularise informal settlements.
- Many violations by housing cooperatives have been documented, either because they breached their official mandate, which requires them to sell serviced residential

units as opposed to undeveloped land, or because projects were outside of the limits set forth by the 1973 master plan.

- Some informal settlements became failed security zones (self-governed zones) and incubators for extremism.

Real property

- Discriminatory land policies against the city's minority groups continued after 2003. Those who returned after 2003 and settled on the left bank were prevented from buying and registering property in their names.
- It is likely that ISIL members had access to property records before they took control of the city, which explains how shortly after the fall of Mosul, the group launched an attack on the properties of minorities forcing their owners to flee. Most of the minorities' properties have been usurped by ISIL's Sharia' court.
- ISIL also confiscated the revenues and real estate properties of Mosul municipality and Mosul's Sunni endowment and of the Real-Estate Department of Ministry of Finance.
- Usurped property was recorded in a purposefully created "Property Diwan" and attempted to sell or rent them at attractive rates. Expensive properties were usurped by – or gifted to – high-rank ISIL commanders and foreign fighters and their families.
- Proceeds from the sale of confiscated houses are a very important source of income to finance the group's activities.
- While it remains unclear how many people bought property from ISIL in Mosul, there are indications that both local residents as well as land speculators attracted by the low selling price have bought property.
- On 22 July 2014, the Ministry of Justice issued a decree annulling all property ownership transfers in ISIL-occupied territories after 10 June. Still many property claims and disputes are anticipated after ISIL's fall.
- In cases where the rightful owners will not return, it is likely that "property mafias" will emerge and forge the identities of absentee landlords.

- Another complicating factor is the possibility that ISIL destroyed the city's original property registers, as they have done elsewhere.

Roads and transportation

- Mosul city has seven main entrances and is well connected with its surrounding districts, cities and neighbouring countries.
- Major airport renovations were undertaken to meet international standards and reopen it as an International Airport in 2007. A new International Airport was planned 35 km to the west of Mosul, but the feasibility study was halted in 2014. Satellite imagery shows that the airport has been destroyed.
- All entrances and main roads leading to Mosul are now under the control of ISIL. The five bridges were accessible and in good condition until mid-October 2016 – with the exception of Al-Hurriya bridge which had already been hit by air raids in January. ISIL reportedly fitted the bridges with explosives, and might destroy them in case of a ground military attack.

Infrastructure and public utilities

Electricity

- After ISIL's occupation of the city, all electricity generating stations within Mosul stopped functioning due to the lack of gas and fuel. The Mosul dam station is the only one that is still operational, albeit not at its full capacity. It serves the electricity needs of Mosul's neighbourhoods for a few hours a day, on rotation.
- In late 2015, the electric grid was completely shut down by the Government of Iraq due to reported cracks in the Mosul dam. Repairs were undertaken and electricity was restored in January 2016.
- Private generators are controlled by ISIL and their efficiency restricted by the city's fuel limitations.

Water

- Mosul, and especially its right bank, has always suffered from water scarcity. In 2013, the city built new pumping stations to serve the city's water network, deploying modern techniques to pump water from the

Tigris River, filter and sterilise it.

- Pumping stations and the water network were functional until March 2015, but due to the lack of any serious maintenance by ISIL water is now unfit for drinking.
- To cope with the situation, residents purchase water for domestic use from local water vendors who collect it from the Tigris River or rely on artesian wells.

Wastewater

- Mosul city does not have a proper sewage network. The city has suffered serious wastewater leakage and contamination of the soil and water sources caused by the widespread use of soak pits.
- Grey water runs down open rainwater gullies and relies on the city's topography to drain it to existing streams. Grey water and sewerage from the Old City is directly discharged in the Tigris River. In the rainy season, several areas of the city are flooded.

Solid waste

- Mosul used to have a fully functioning solid waste collection and dumping system prior to 2014. The Municipality gathered solid waste from the city's different neighbourhoods in large containers then transferred it via municipal trucks to one of the two officially-approved landfill sites outside the city.
- Solid waste collection and disposal did not stop after ISIL occupied the city, but was significantly reduced to a minimum rate due to the lack of fuel and because of security risks.

Communications

- Prior to ISIL, the city had full mobile phone coverage and 78% of the city had access to the land-line telephone network. ISIL forced all mobile phone companies to shut down and dismantled all the towers and electrical generators of the mobile telephone network of the city.
- ISIL did not halt the service of internet providers but imposed high taxes on their businesses. As of August 2016, access to the internet is limited to internet cafés and is under strict control.

Built environment and cultural heritage

Destruction of built environment

- The armed clashes that preceded the fall of Mosul did not result in severe damage of the built fabric, most of the physical destruction occurred after August 2014. As of August 2016, more than 135 locations in the city have been destroyed, out of which 86 governmental and 49 residential locations. Factories and infrastructure were seriously affected by both air-strikes and ISIL's sabotage operations. In August 2016, around 50-75 per cent of the city's governmental buildings are destroyed.
- The battle to retake Mosul from ISIL is likely to inflict further damage upon the city's urban fabric. Most alarming is the presence of hazardous areas around the city, which destruction could trigger a major environmental disaster affecting the health and lives of thousands of people.

Destruction of heritage

- ISIL has conducted a systematic campaign of destruction of Mosul's cultural heritage sites and monuments in an attempt to obliterate the city's history. It has destroyed the ancient city of Nineveh, including the Palace of Sennacherib and all its monuments. It has also bulldozed the famous gates of the city and the entire 12 km-long city wall.
- Thousands of rare books and manuscripts from libraries, and artefacts from museums have been stolen, confiscated or destroyed.
- 37 important Islamic landmark sites were ravaged by ISIL and many religious buildings and heritage centres of minority groups within Mosul city and its environs were destroyed, including all shrines of Yazidis in Bashiqa and Bahzany region.
- Several archaeological sites in Tal Afar (the most prominent of which is the Citadel) were looted and devastated.

Health

- Nineveh Governorate was once known for its good healthcare services and most facilities were concentrated in Mosul city. A substantial number of health facilities

were rehabilitated between 2008-2014.

- Hospitals have not been destroyed by air strikes and continue to receive patients, but health services have been severely affected by the ISIL occupation due to several factors:

- Many medical staff members have fled
- Priority access to surgeries is given to non-civilians
- Medical fees for services and operations have increased significantly
- Segregation which is affecting maternal health
- Poor sanitation in hospitals
- The absence of obstetric and natal care

- Although many pharmacies are still open, their stock is limited. Medicine, when available, is largely unaffordable.

Education

- When ISIL seized Mosul, it closed all schools, then reopened them after changing the curriculum in accordance with its own ideology. ISIL also imposed tuition fees while education in public schools used to be free of charge. During the two years of ISIL's control, the school enrolment of children born between 2008 and 2009 has been very limited.
- Prior to ISIL, Mosul had three universities and two technical institutions. After ISIL occupied the city, all higher education institutions were shut down. In July 2014, ISIL reopened the medical departments and schools of engineering and education of Mosul University, but closed down most of the other colleges (mainly law, arts, politics, philosophy, archaeology, and tourism).
- ISIL imposed gender segregation in classroom and prevented girls from studying certain subjects, such as engineering and sciences.



Publication of new educational materials. © Al Anbar TV (ISIL Propaganda)

Challenges and Recommendations

The battle to reclaim Mosul from ISIL is likely to render the situation even more unstable. No one can predict the amount of damage that will occur during the battle. What is certain however is that the future of the city depends on its ability to recover, and thrive again, once it is freed from ISIL's grip.

Immediate humanitarian relief would be an absolute priority; nonetheless there would also be a need for a parallel multifaceted development approach to restore local governance and the rule of law, build peace and social cohesion, promote human development and well-being, revive the economy, reconstruct infrastructure and the destroyed urban fabric, and reinstate people's sense of identity and belonging.

Immediate emergency responses need to prioritise human safety, provision of basic services and survival needs (water, food, sanitation, shelter, and health care), logistical support, and recovery from the socio-economic impacts of the crisis.

Short-term city recovery and development interventions need to focus on assessing the damage and reconstructing the physical fabric. They should bolster livelihoods; respond to people's needs for housing, infrastructure and basic services; and support vulnerable households and individuals in restoring their lives.

Medium to long-term city recovery and development interventions need to focus on developing tools and frameworks that would empower public institutions to lead the city through its recovery and reconstruction phase, as well as on strategic projects and programmes that have long term impacts on the city and its people.

It would be extremely important for all international organisations, foreign aid and development agencies, and government institutions and local organisations to develop a clear and well-coordinated plan of action that avoids duplication to rebuild the city.

Effective leadership is essential in this regard. This is a role that the United Nations may undertake together with the Iraqi government. Humanitarian aid and development assistance funds can also be channelled through UN agencies, international organisations and local NGO partners.

While the specific concerns and priorities of each organisation and governmental institution may differ, there is an overriding need for a people-centred approach to the recovery and rebuilding of the city. With the overarching objective of stabilisation and peace-building in mind, it would be particularly important for all concerned actors to plan for the post-ISIL phase through the triple lens of human development and well-being, gender equality, and social reintegration of youth.



Religious teaching in a mosque © Al Shafaq News



People inspecting the destroyed Mosque of the Prophet Jirjis (Saint George), located to the north of the city. © Associated Press



Map 1



Mosul city © UN-Habitat satellite imagery



INTRODUCTION

1. INTRODUCTION

Like the rest of Iraq, Mosul city and its surrounding areas have witnessed a growing wave of extremism and sectarian and ethnic violence following the collapse of the former regime in 2003. The escalation of fighting, particularly between 2006 and 2008, has sparked a mass exodus of thousands of people from their home towns towards safer areas and destinations. Mosul city itself has acted as both a receiving city of internally displaced persons (IDPs) and as an rejecting one. Enormous numbers of Muslim Sunnis, of both Turkoman and Arab origin, fled their towns and villages south and west of Mosul and sought safety in the city, among a predominantly Arab Muslim Sunni population. Conversely, a great number of Mosul's ethnic and religious minorities (Christians, Kurds, Shabak, Turkoman Shiaa and Yazidis) fled to other areas, in some cases under direct threat of violence.

Contrary to many journalistic reports that portray the fall of Mosul city to Islamic State of Iraq and the Levant (ISIL, also known as ISIS, IS and Da'esh) on 10 June 2014 to have been shockingly rapid, local inhabitants of the city agree that Mosul began to disintegrate long before that date. ISIL, they argue, did not invade Mosul in June 2014; in fact they were already there. Indeed, the lineage of the self-proclaimed Islamic State is traced to al-Qaeda in Iraq (AQI), which was formed in the aftermath of the United States -led invasion of Iraq in 2003 through the alliance of Jama'at al-Tawhid w'al-Jihad (of the Jordanian militant Abu Musab al-Zarqawi) and al-Qaeda militant organisation (founded by Osama Bin Laden). Al-Zarqawi's successor renamed AQI as the 'Islamic State of Iraq', which later on became known as the 'Islamic State of Iraq and the Levant' (ISIL) or the 'Islamic State of Iraq and the al-Sham' (ISIS).

The group made its first public appearance in Mosul city on 10 November 2004 when it took over the streets and occupied more than 30 police stations. It is believed that from 2006 to 2008 additional extremists and dormant cells, many of whom originate from Mosul's adjacent districts,



View of the Tigris river from the Bashtiba Castle © Sputnik News

entered the city with incoming IDPs and united with al-Qaeda there. Others, including foreigners, infiltrated the city a few years later with the protesters who took its squares and streets in 2012 and 2013. Known as Mosul's "shadow government", these armed groups gained power and control over the city's public institutions, administrative system, economic establishments, and businesses. They imposed royalties of all sorts on projects and services taking place within the city. Those who did not abide were disciplined or punished. ISIL cannot be separated from these armed groups, even if its name emerged much later.

This report builds on the understanding that Mosul city was in a state of crisis some ten years before it was officially occupied by ISIL. With this in mind, it aims at presenting a comprehensive and visually illustrated overview of the impact of the city's protracted crisis on its functionality and human life. More specifically, the report focuses on a number of key thematic areas pertaining to the city's urban situation. These are: demographics, economy, living conditions, urban governance, housing and land for housing, informal settlements, property, infrastructure, public services and utilities, environment and heritage, health, and education.

The production of this report mainly relied on information obtained from people who have first hand knowledge of Mosul's urban sector and the overall situation of the city before and after it was taken over by ISIL. In addition to separate meetings with a number of informed people, the report draws on the discussions and findings of three workshops conducted by the UN-Habitat team in the summer of 2016 (two in Erbil and one in Dohuk). Workshop participants included heads of local and regional directorates, public sector officials and employees, and academics from Mosul University, and NGOs. The final draft of the report was shared with key informants and their comments were incorporated into this version.

It is anticipated that this report will provide a basis for local discussions on actions to be taken following the retaking of the city from ISIL. For this purpose, it highlights in its last chapter key urban challenges that need to be considered in the process of developing a viable recovery plan for the city, along with key required interventions for immediate, medium, and long-term action.



CONTEXT



A view of the Old Bridge of Mosul (also known as the First Bridge), prior to 2014. © Niqash

2. URBAN CONTEXT

Historical Significance

The city of Mosul is one of Iraq's oldest cities. Established in the year 1080 B.C. as a small settlement on the right bank (west side) of the Tigris River, opposite to the ancient city of Nineveh on the left bank (east side). Mosul later succeeded old Nineveh (which became part of Mosul's expanding geographic territory) in importance and reached its peak under the Umayyad rule in the 8th century A.D. when it became one of the principal cities of Mesopotamia. Due to its strategic location, it prospered during the Abbasid era as an important trading centre across the trade routes connecting India, Persia and the Mediterranean – a status that went into decline only after the opening of the Suez Canal in 1869. The city however regained its significance with the discovery of oil in the area in the late 1920s. Since then, it has been a nexus for transporting oil to both Turkey and Syria.

Geographic Setting

The contemporary city of Mosul is one of Iraq's principal cities (Map 1). It is the capital of the northern Iraqi

Governorate of Nineveh and Iraq's second largest city after Baghdad. Mosul District is the most populated of Nineveh's nine districts. In addition to Mosul city, it comprises of six sub-districts (*nawahi*): Mahlabiya, Hammam Alaleel, Shora, Qayara, Ba'shiqa, and Hamidat (Map 2).

Mosul city itself is divided into eight administrative sectors (قطاعات) that act as sub-municipalities (Map 6). This division was officially enacted in 2013 to cope with urban growth and reduce administrative bureaucracies. However, the city is largely perceived to consist of two parts, a right bank and a left bank, separated by the Tigris River. The city's 251 neighbourhoods (*mahalas*) are spread along both sides of the river with five main connecting bridges (Map 7). The right bank has 91 neighbourhoods, while the left bank, which expanded notably after the fall of the former regime in 2003, has 160 neighbourhoods. Generally speaking, the left bank enjoys better security and services and has newer buildings than the right bank.

Occupation by ISIL

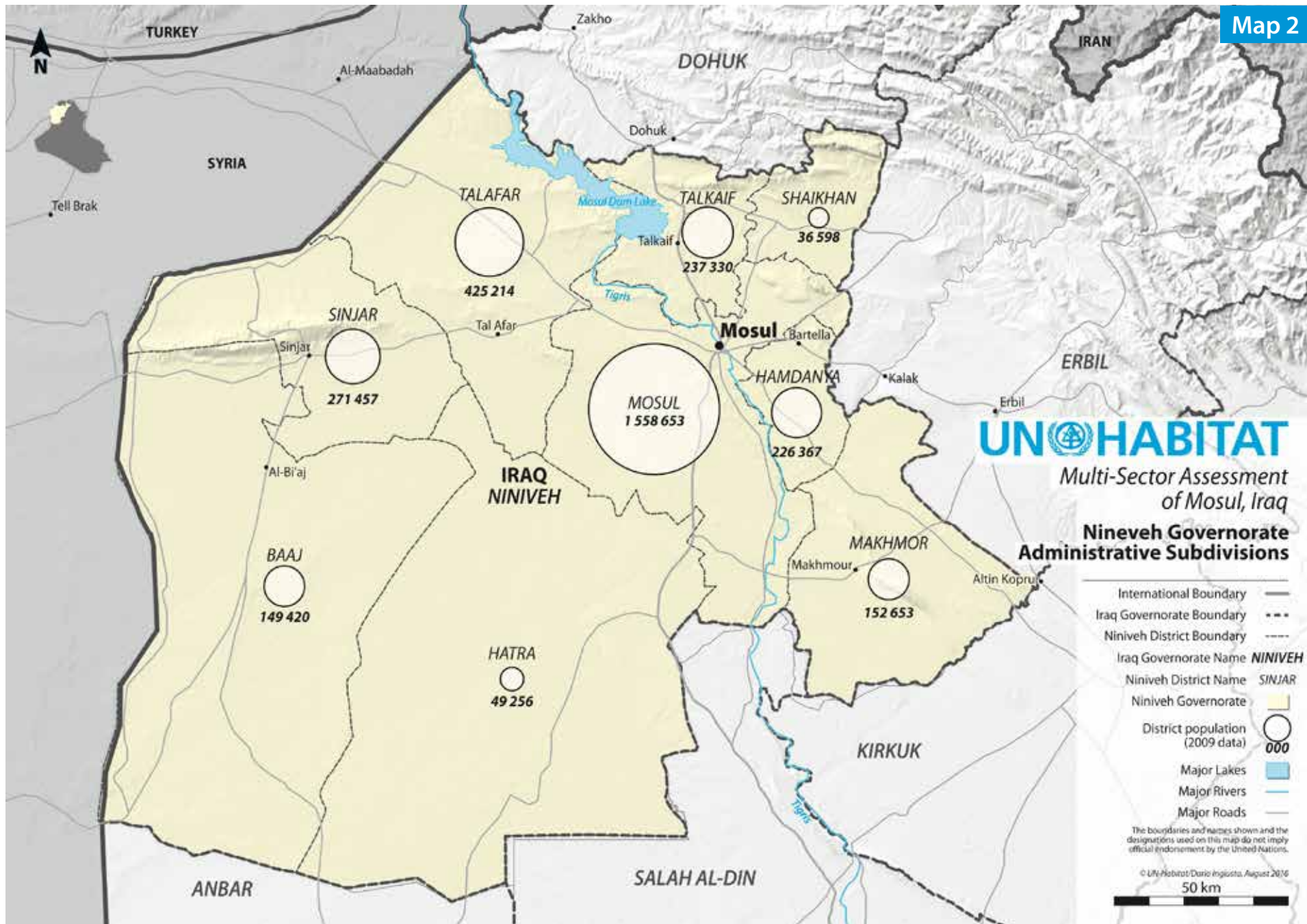
Since the collapse of the former regime, Mosul city and its surrounding areas witnessed growing waves of violence

and extremism and, eventually, fell under the control of the ISIL on 10 June 2014. Since then, ISIL employed a systematic strategy to oust religious and ethnic minorities from the city. ISIL militants were also able to capture and consolidate their grip over other parts of Nineveh (Mosul District, Al-Hamdaniyya District, Al-Hadar District, Al-Baaj District, Tal Kaif District, and Sinjar District) in addition to parts of Anbar and Salaheddin Governorates (Map 4).

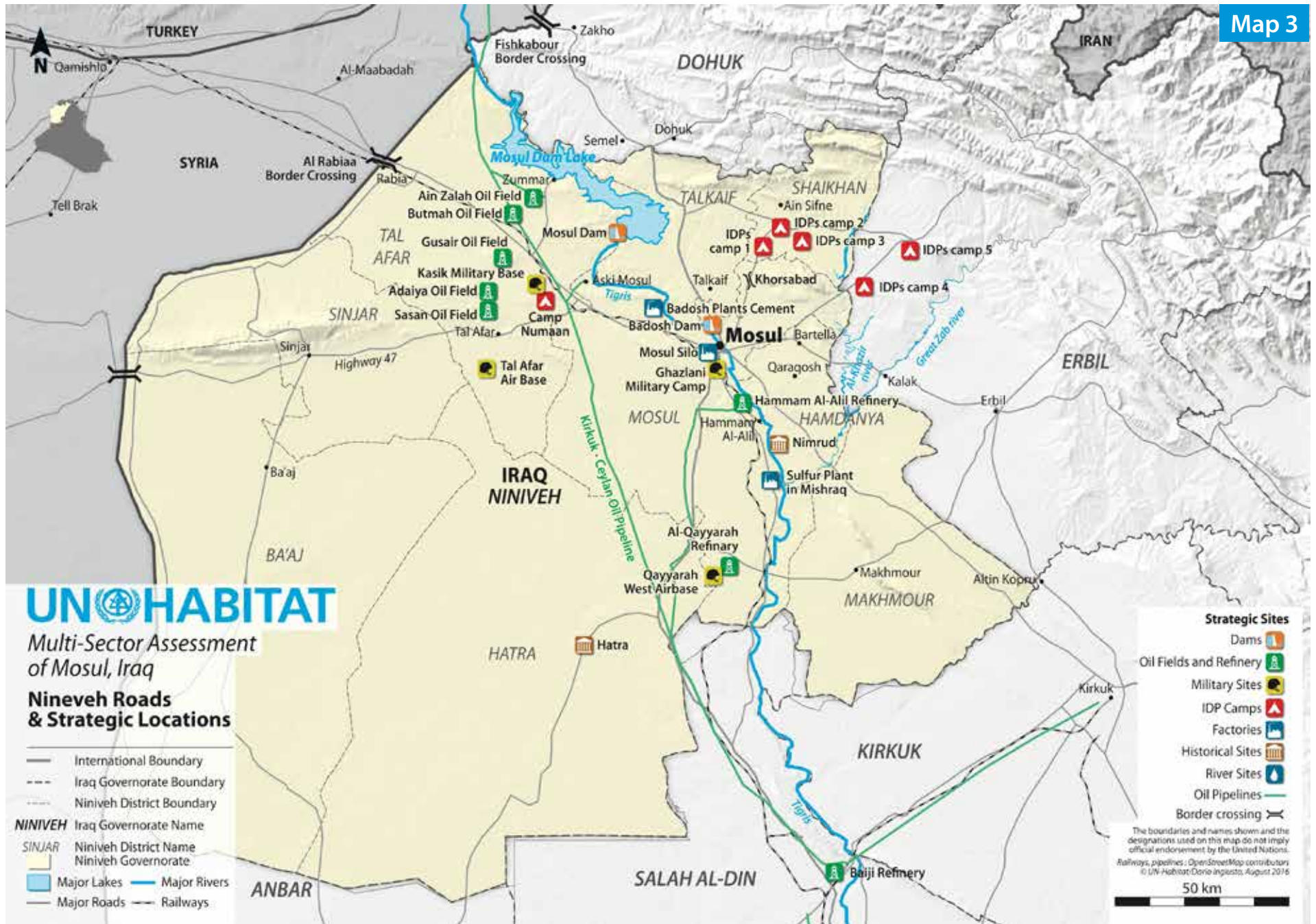
The Iraqi forces, backed by a U.S.-led coalition force, retook Tikrit (Salaheddin Governorate) on 31 March 2015, Biji (Salaheddin Governorate) on 20 October 2015, Sinjar (Nineveh Governorate) on 13 November 2015, Ramadi (Anbar Governorate) on 28 December 2015, and most recently, Fallujah (Anbar Governorate) on 26 June 2016. Other smaller cities and towns were also recaptured along the way (e.g. Karmah and Haditha).

It is reported that ISIL leaders have recently moved to the right bank of Mosul city from where they would be able to flee once the military and security forces leading Mosul's battle enter the city. As a tactic to isolate the left bank, they would be able to block or destroy its five bridges.

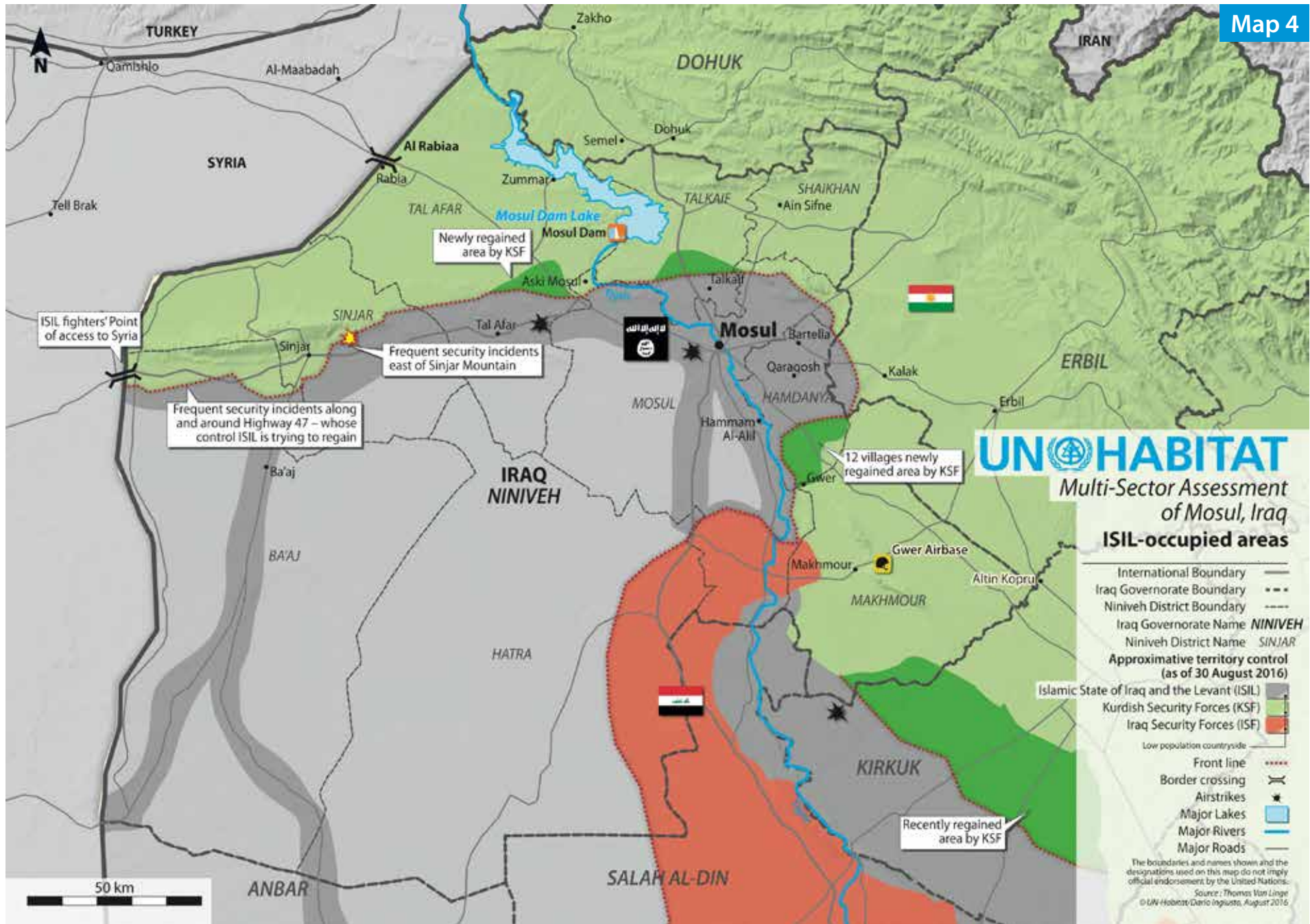
Map 2



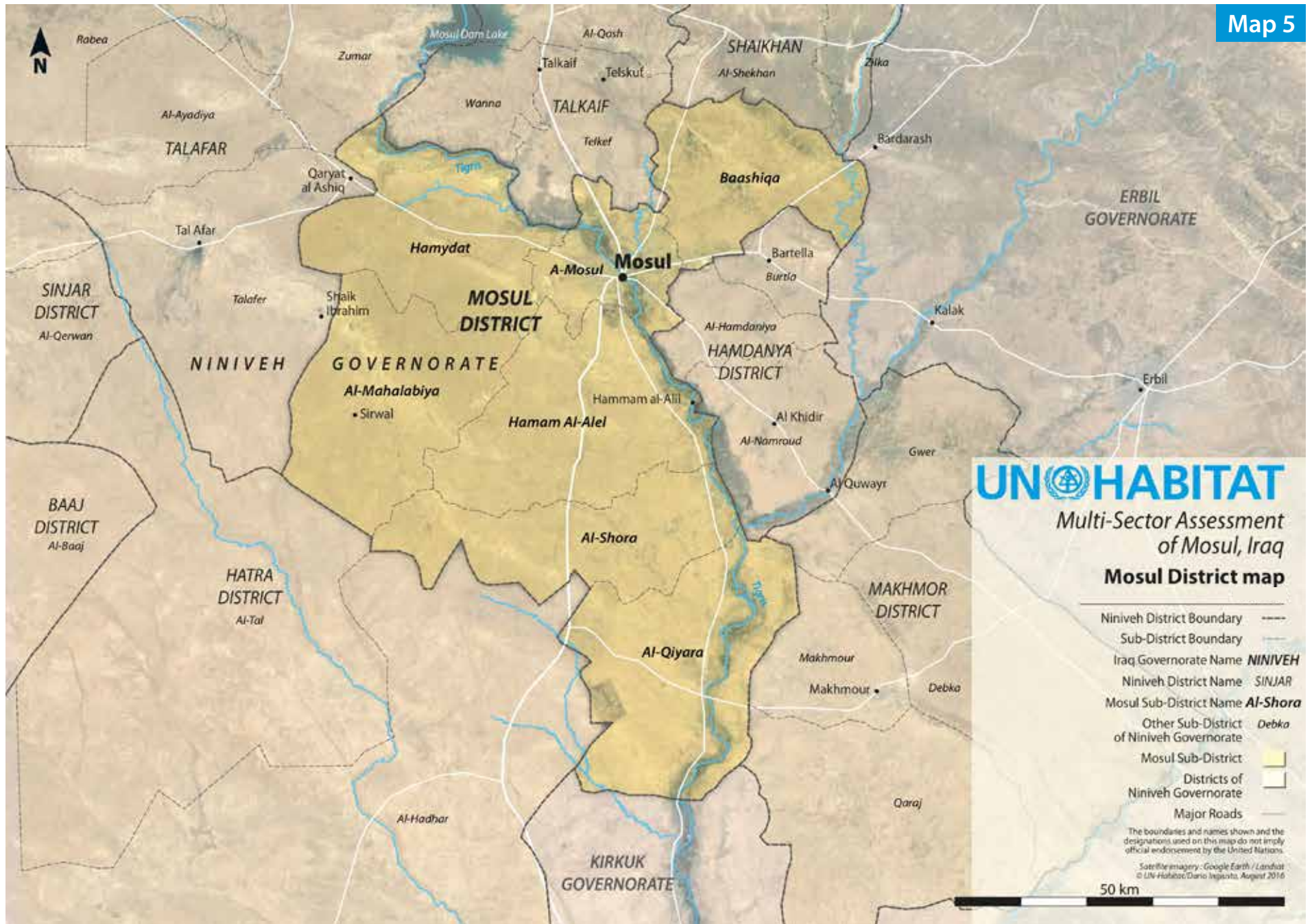
Map 3

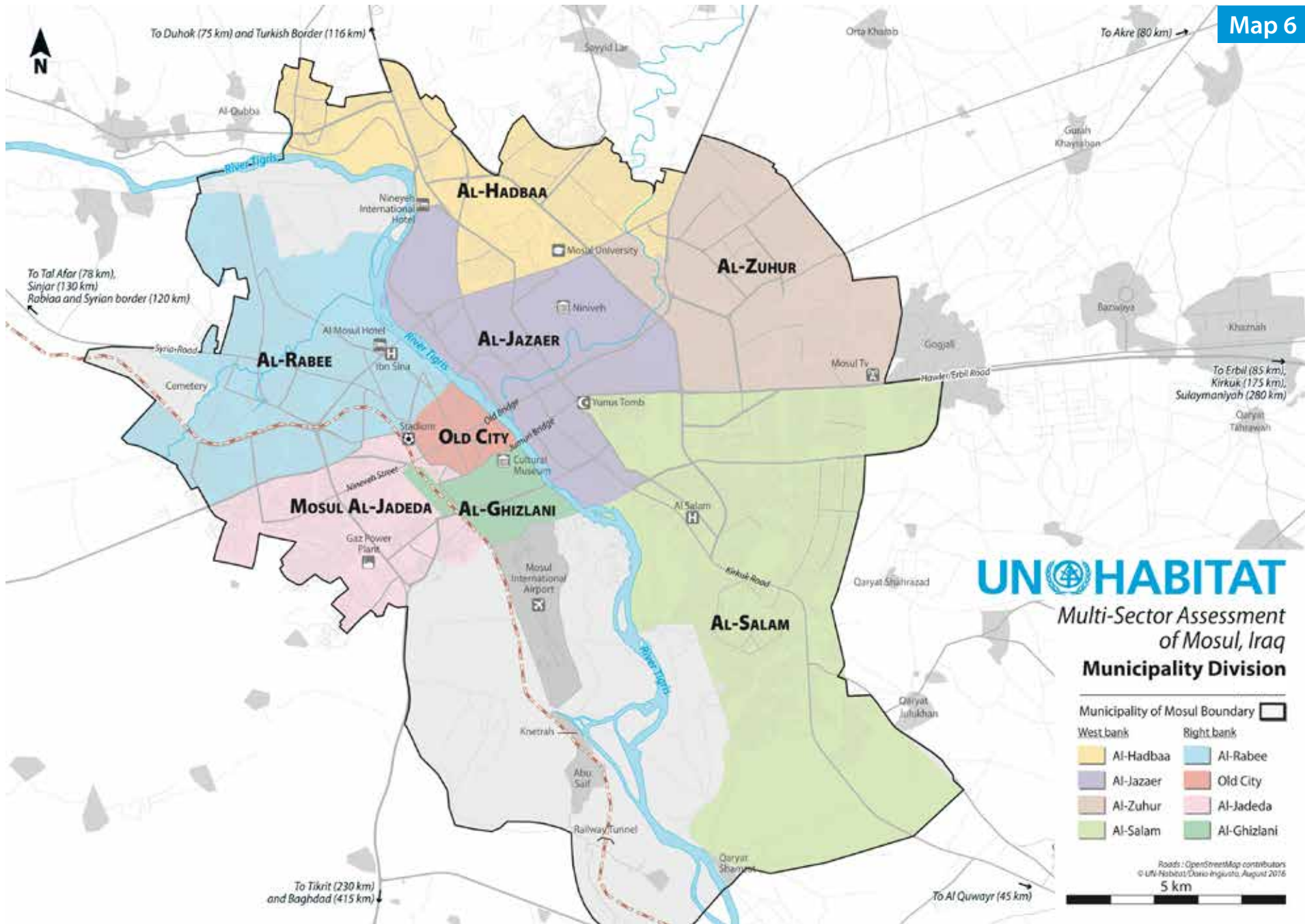


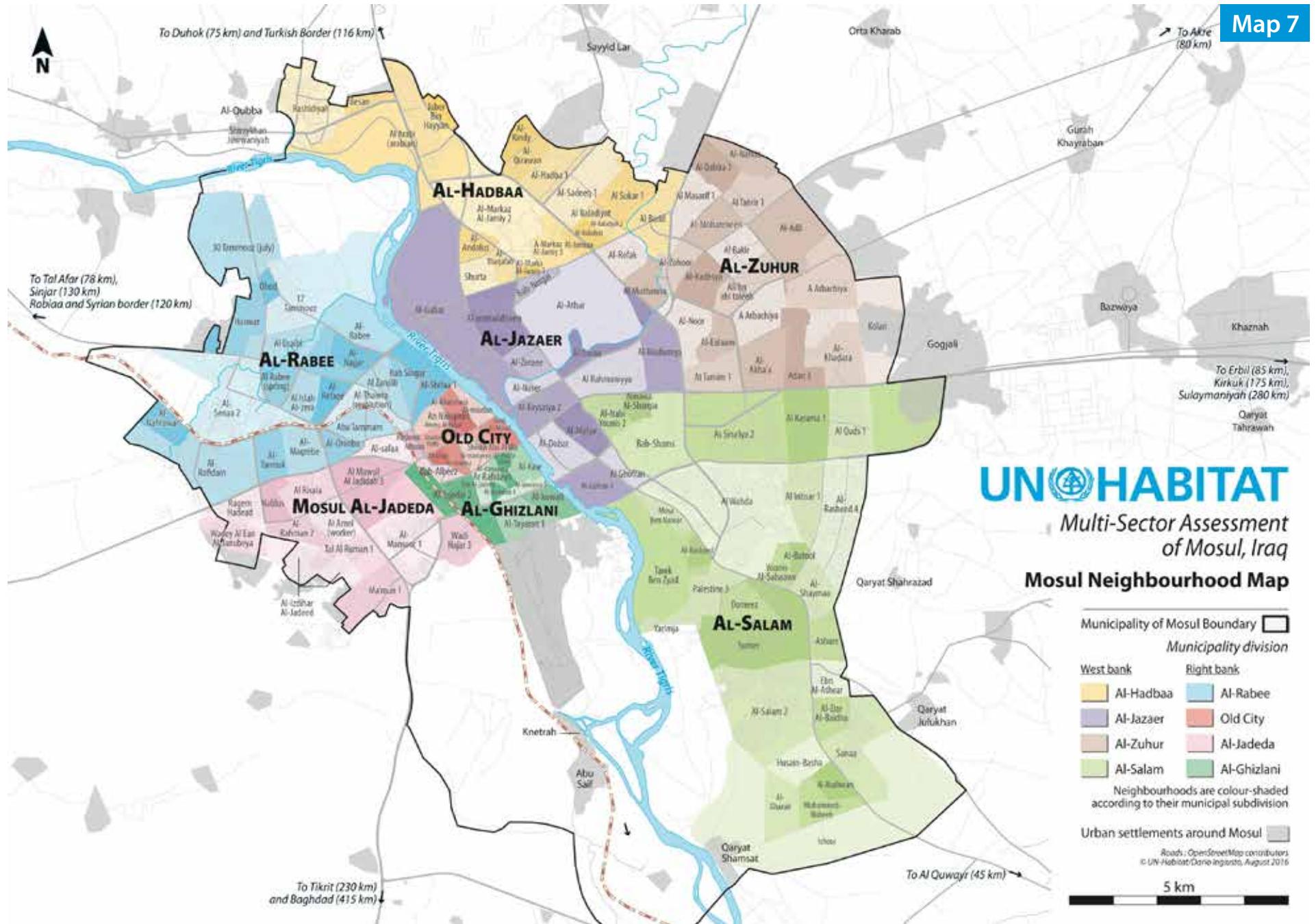
Map 4



Map 5







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DEMOGRAPHICS

3. DEMOGRAPHICS

Population Size and Composition

Mosul city is renowned for its cultural, social, religious, and ethnic diversity. Historically, it had a mixed population of Arabs (mostly Muslim Sunnis); Kurds (mostly Sunnis); Turkoman (both Sunnis and Shi'ites); Shabak (Shi'ites); Assyrians, Arman, Chaldean (Christians); and Yazidis. Demographic information, however, is a sensitive matter in Iraq in view of the country's sectarian and ethnic conflict. Reliable data on population size as well as ethno-religious composition is difficult to obtain. The last official countrywide census was conducted in 1997. In later years, the Public Distribution System (PDS) Ration Card has been, despite its inaccuracy, the main source of demographic data (Box 3.1).

The large-scale population movements (Map 8) that the city witnessed under the former regime, and particularly the decade that followed its fall, render the process of obtaining accurate census data very challenging (Box 3.2). According to the Statistics Department of Nineveh Governorate, the city comprised of 1,137,000 inhabitants in 2009. The number increased to 1,377,000 in 2014 (before ISIL took control of the city).¹ Until the early 1990s around two-thirds of the city's population lived on the right bank. After the Iraq-Kuwait war, however, the urban areas on the left bank gradually grew and attracted more residents; it then significantly expanded after 2003 whereby its population size became comparable to that of the right bank (Map 9).

Accurate statistical data on the city's ethno-religious composition is also lacking. But it is generally believed that the city has always comprised of a majority Arab Sunni population (around 80 per cent of the population if not more), followed by Kurds, Christians, Turkomans, Shabak, and Yazidis.

¹ These figures do not include Mosul's hinterlands. They only pertain to the city itself (i.e. the centre of the district).

City Population after ISIL's Occupation

Mosul city witnessed a new wave of mass exodus after ISIL gained control on 10 June 2014. The escalating violence had mainly targeted the city's remaining religious and ethnic minorities (e.g. Christians, Kurds, Turkomans, Shabaks, and Yazidis) who fled as a result. In addition, many of those affiliated with the Iraqi Government and its security services (mostly Arab Sunnis), and others deemed disloyal to ISIL, were forced to leave. The population of predominantly Christian and Yazidi areas around Mosul (Al-Hamdaniyya, Bartilla, Tal Kaif, and Bashika) also fled after ISIL capture. Only towns inhabited by Arab Sunnis (e.g. Hammam Al-Alil, Al-Shorah, Al-Namrud, Al-Mahallabiyya) remained more or less inhabited by their original population.

According to a report by IOM (2015), registered IDPs from Mosul city amount to approximately 200,000 individuals. A report by ACTED and UNOSAT (2015), however, argues that this estimate is too low and cannot be considered an accurate indication of the number of people who fled the city. The latter report estimates that the number of those who fled the city in the first weeks that followed its fall is approximately 500,000 individuals. The majority of displaced families moved to Dohuk or Erbil Governorates in the Kurdistan Region of Iraq, while richer families flew to Turkey. After September 2014, however, ISIL imposed strict control over people's movement out of the city, hence access to the Kurdistan Region of Iraq and adjacent areas became restricted.

The current number of Mosul's residents is uncertain. Some residents argue that it is much less than what it was before ISIL; however others assume that it has remained more or less the same due to parallel migratory flows towards the city by three groups: 1) Rural migrants and IDPs from other parts of Nineveh (mainly from Tal Afar and Tal Abta²) and Salaheddin and Anbar Governorates

² It is believed that Tal Abta's desertification has caused the abandonment of almost 50 villages. The exodus towards Mosul continued after the city was taken over by ISIL.

(mainly from Al-Shirkat, Baiji, Fallujah, Ramadi districts), 2) Syrian families who fled growing violence in their cities or villages in Syria, and 3) ISIL fighters and their families.

Spatial Distribution of the Population

Although overall Mosul city was historically mixed in its ethnic and religious composition, some neighbourhoods had larger concentrations of certain groups (Map 12). The city's Christian population mostly inhabited the right bank, the older and poorer part where the city's historic churches and Christian religious buildings are concentrated. Most of the other minorities (namely Shabaks and Kurds) lived on the left bank. The Shabak mainly resided in the neighbourhoods of Kokjla, Al-Sadada, and Baoizh but also in Al-Wihda and Prophet Jonah, while the Kurds lived in Jaza'ir and Al-Nour neighbourhoods.

Most of the incoming IDPs and rural migrants to Mosul city between 2003 and 2014 (prior to June 10) settled in some of the city's poorest and least serviced neighbourhoods. Rural migrants originating from the southern villages and subsectors (Hammam Al-Alil, Al-Shora, Al-Qayara, Tal Abta) settled in the southwestern part of Mosul (in Al-Mamoun, Al-Rafidain, Tal Al-Rumman, Al-Risala, Wadi Al-Ein, Al-Yarmouk neighbourhoods). And those from Tal Afar settled on the right bank (in Al-Harmat, Al-Nahrawan, Al-Eslah Al-Zeraee and 17 Tamouz neighbourhoods).



Busy market scene street in Mosul city centre, after 2014. © Nineveh TV

Box 3.1: Public Distribution System (PDS) Ration Card

The PDS Ration Card was introduced by the Iraqi Ministry of Commerce in 1991. Intended as a safety net that would help Iraqis to endure the international embargo imposed on the country after the Iraq-Kuwait war, PDS Ration Cards are available to all Iraqi families regardless of their income level. They provide their holders with monthly access to basic food items such as flour, rice, sugar, cooking oil and baby milk. The cards were not abolished after sanctions were lifted in 2003, and continue to be distributed through the government in the recipient family's town of residence. Although displaced Iraqis can request to transfer their ration cards to their new locations, not all people transfer their cards. Others fail to cross the names of their deceased from the records register, and/or take time to add the names of their newborn.



Al-Adala street in Mosul city centre; showing the new market built under ISIL. ©Nineveh TV

Box 3.2: Earlier Displacements of Minorities

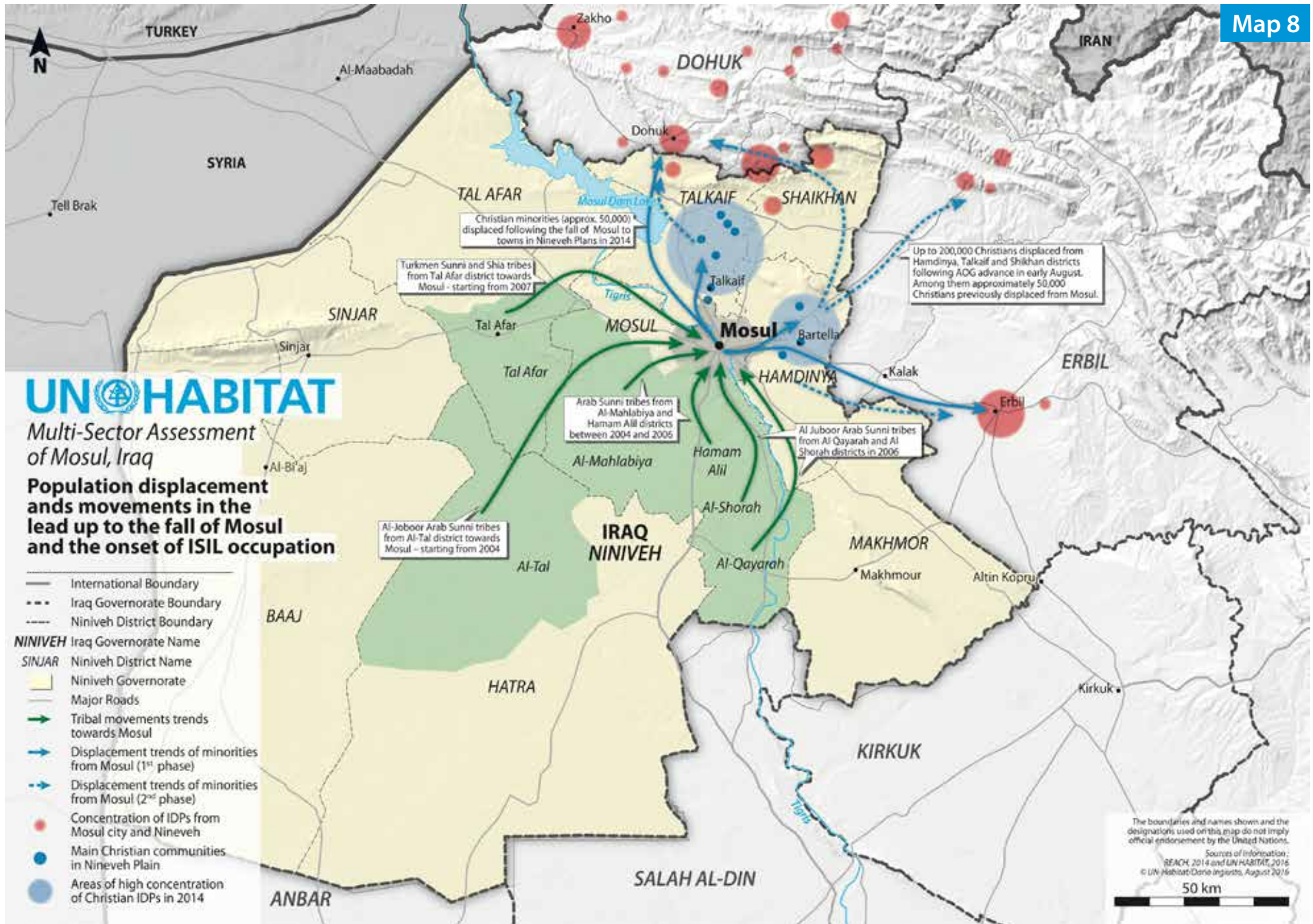
Like in other parts of Iraq, Nineveh Governorate experienced large-scale displacements of its minority groups long before the current wave of displacements inflicted by ISIL. Specifically between 1975 (following the Algiers Agreement between Iraq and Iran, which led to the end of the Kurdish rebellion) and 1991 (after the end of the Iraq-Kuwait war and the withdrawal of Iraqi forces from the Kurdish Governorates), the former regime's "Arabisation" policies manipulated the governorates' demographics (particularly in Sinjar district, the Nineveh Plain, and areas close to KRI). Significant numbers of Kurdish, Turkoman and Yazidi Iraqis were forcibly displaced from their home towns and replaced by Arab communities from Iraq's central and southern areas. Mosul city itself was not affected by the "Arabisation" policies since its population was largely Arab. After 1991, however, many of its Kurdish families decided to move to Iraq's northern governorates (Erbil, Sulaymaniah and Duhuk) that gained de facto autonomy after the end of the Iraq-Kuwait war. Only a few families returned following the fall of the former regime in 2003. Those families, and others, have been displaced once again by the country's escalating

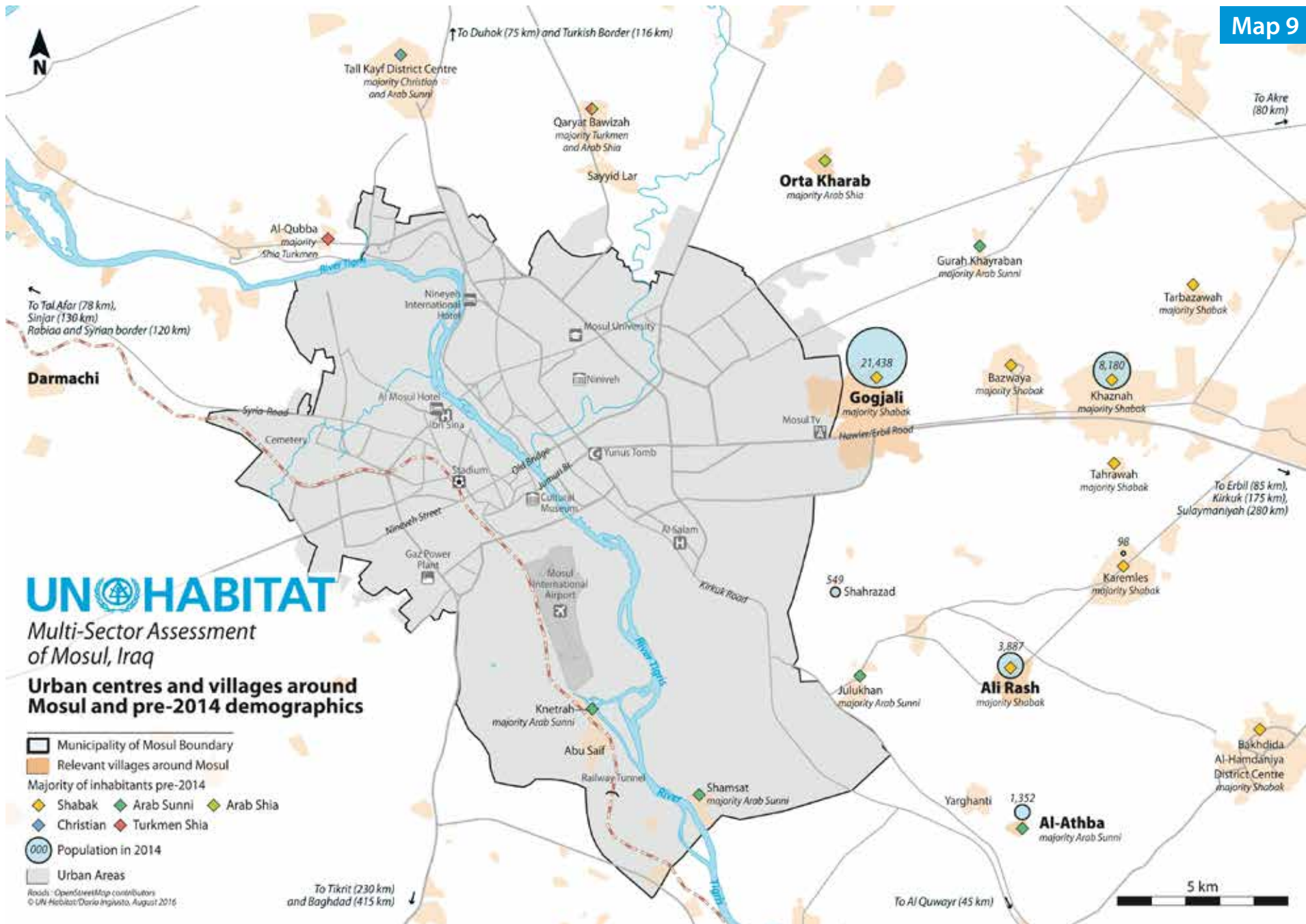
sectarian violence, mainly in 2006 and 2008. The number of Christians has also steadily declined. Almost half of the city's Christian population fled to Baghdad and other Iraqi cities and villages during the 1960s after a series of assassinations that targeted them. Their steady emigration continued through the 1970s and 1980s, whereby the country's worsening economic situation, caused by the international embargo imposed on Iraq (1990-2003), was a main reason behind their exodus in the 1990s. Some moved abroad, mainly to the US and Australia because of the assistance they received from these countries. Others resettled in areas adjacent to Mosul (Al-Hamdaniyya, Al-Koush and Tal Kaif). The emigration of Christians from the city became more significant after the fall of the former regime in 2003. With Iraq's further decline into ethnic and sectarian violence, particularly in 2008, Christians and their churches became targets for the city's armed militias. This forced many families to flee. According to Human Rights Watch, 2,270 Christian families left the city in October 2008 after militants asked them to leave (through loudspeakers in mosques). Most of them fled towards the Nineveh Plain and the Kurdistan Region of Iraq.

The Shabak displacement from Mosul city started in 2006, mainly towards the Nineveh Plain; whereas the accelerated emigration of Yazidis began in the summer of 2007, after 24 Yazidi workers were killed in the city. Yet, the city's population did not decline despite the continuous outward migratory flows of its minority groups. According to the Directorate of Statistics of Nineveh, the number of people who moved to the city in the decade that followed the fall of the former regime (particularly after 2006) is higher than the number of people who left. Newcomers were mostly from the southern sub-districts of Mosul (Al-Qayarah, Al-Shorah, Hammam Alil, Al-Mahallabiyya) and from the adjacent sub-districts of Tal Abta and Tal Afar (Map 11). They fled the sectarian fighting and violence in their towns and villages and settled in Mosul because of its relative security and better services.

According to local residents, some of the newcomers to the city from surrounding regions were radicalised and subsequently joined Al-Qaeda and participated in the on-going sectarian violence. Some assumed a leadership role in the fighting and supported ISIL in taking over the city in June 2014.

Map 8



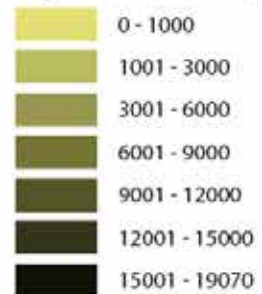


2009: 1,137,000 inhabitants
2014: 1,377,000 inhabitants

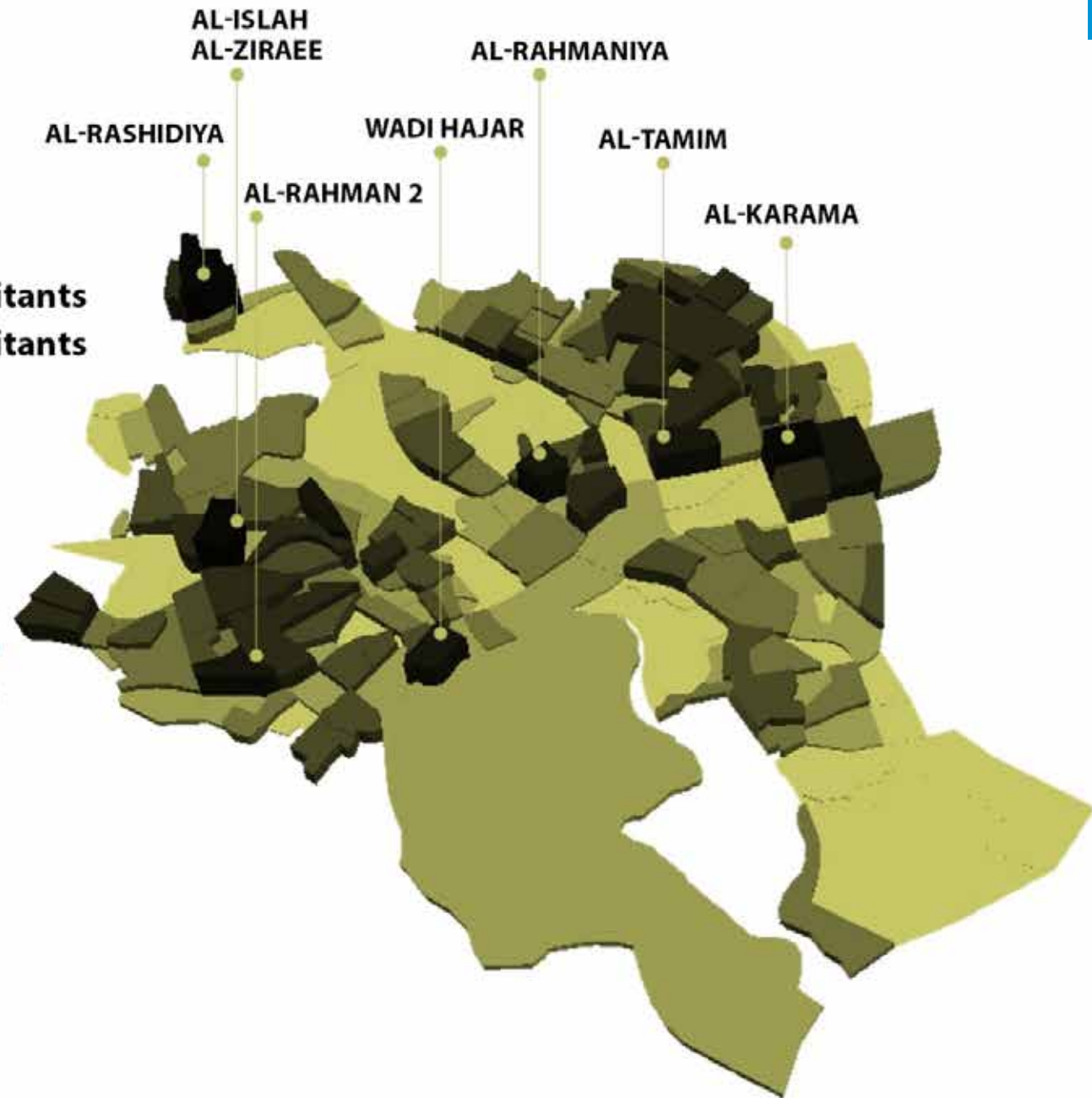
UN HABITAT
FOR A BETTER URBAN FUTURE

Multi-Sector Assessment
of Mosul, Iraq

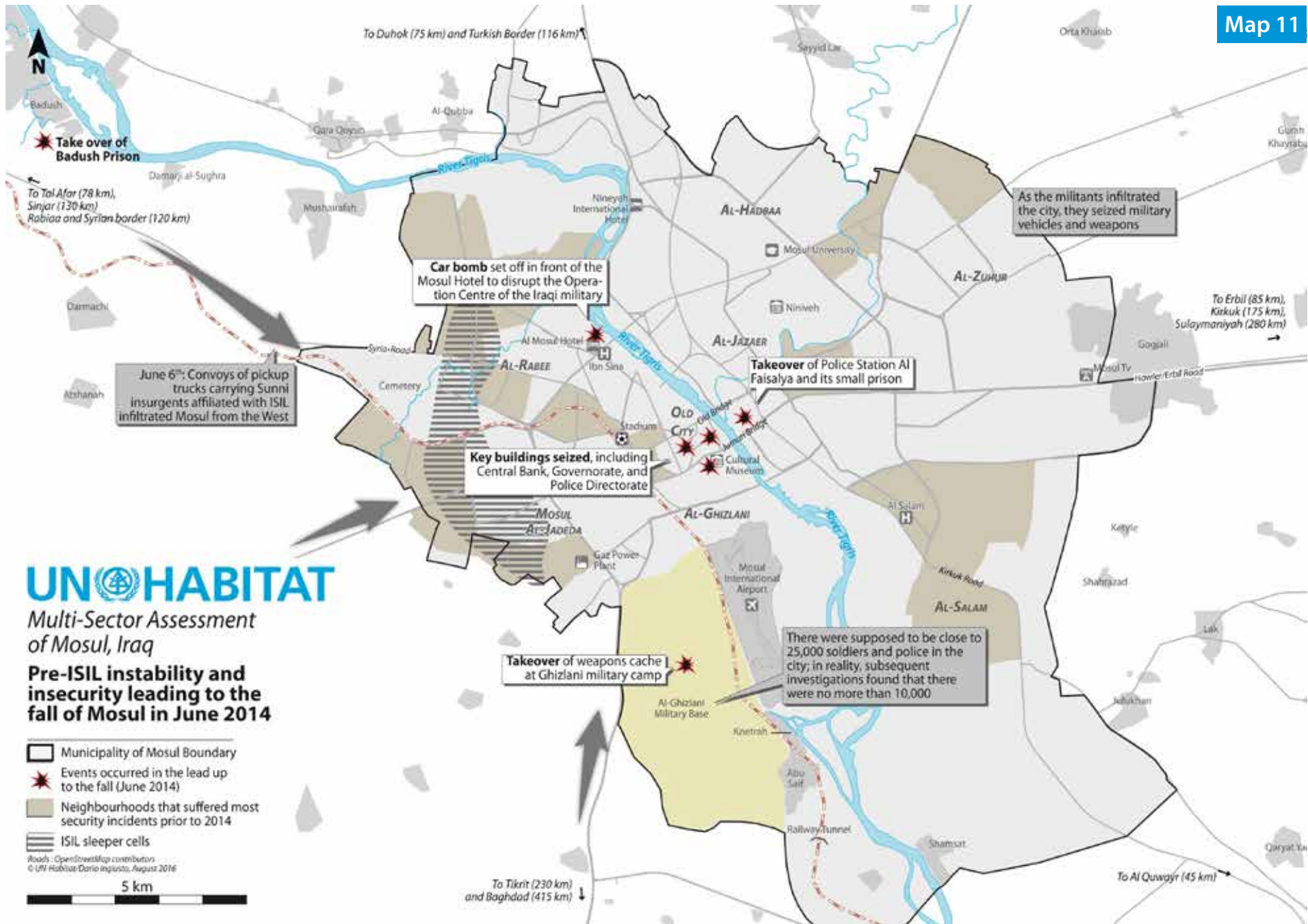
Population Density



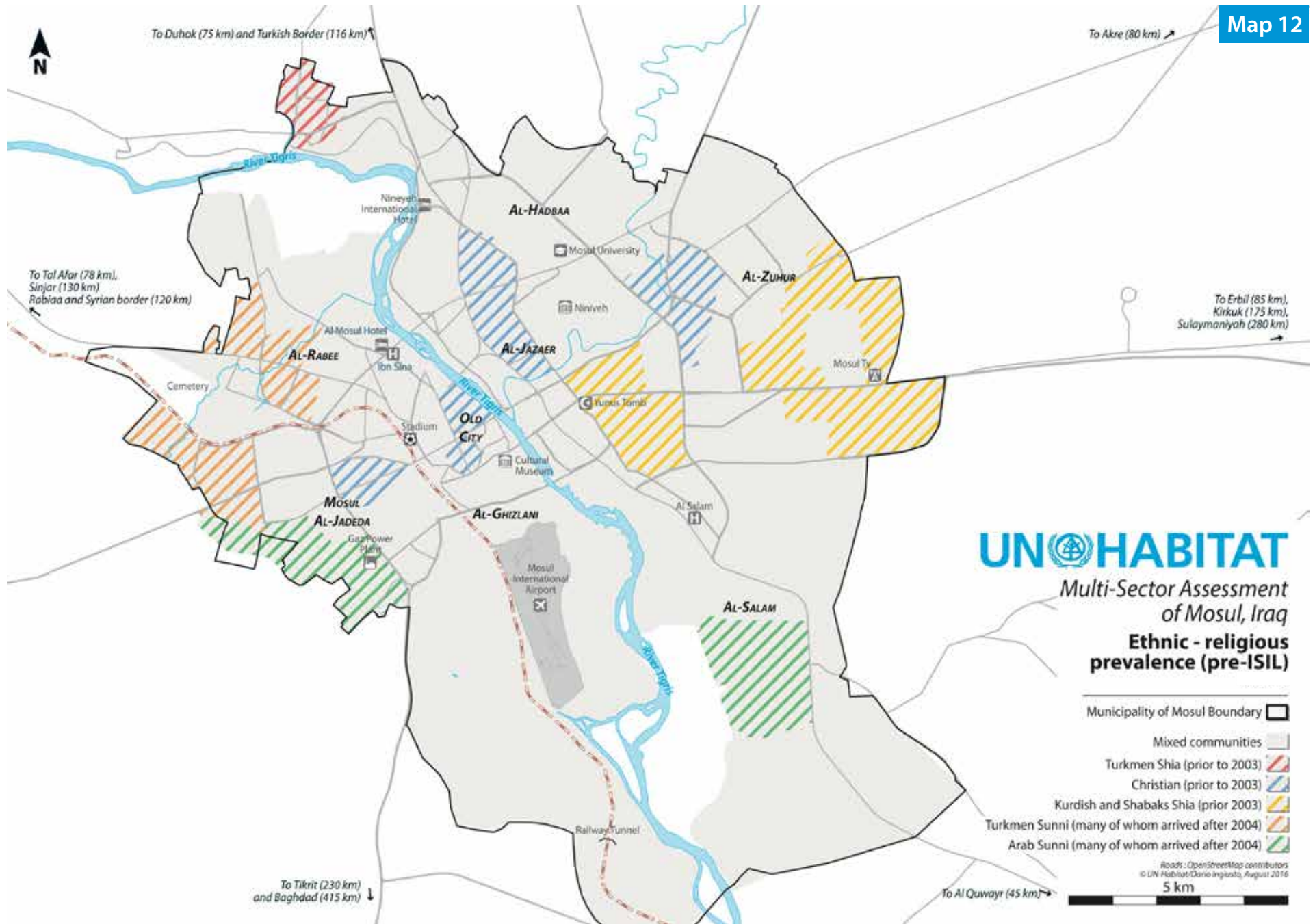
Source: Central Statistics Organisation (COSIT)
© UN-Habitat, August 2016



Map 11



Map 12





ECONOMY

4. ECONOMY

Main Drivers of the Local Economy

By virtue of its strategic location, Mosul became a prominent commercial centre and a trading hub throughout different periods in its history. In more recent times, it acted as an export market for oil, agricultural, mineral and industrial products. Oil has been a main contributor to local economic growth since the 1920s. In addition, the city's industrial sector, particularly cement, textile, clothing, sugar and food processing industries thrived in the 1970s and 1980s. Factories for processing wool and tanning leather also flourished within the city due to its animal wealth. Mosul district is also known for its pharmaceutical industries and its sulphur mining and processing in the south (UN-Habitat 2007).

As mentioned earlier in this report, Al-Qaeda and affiliated groups had already *de facto* control over the city's administration and economy years before ISIL came into power. After taking control of the city in June 2014, ISIL fighters looted the city's Central Bank (seizing nearly USD 425 million in cash in addition to a quantity of gold bullion) and continued to exploit enterprises and forcefully collect fees from business owners and farmers to finance their organisation. As a result, the city's economy gradually collapsed. Many private establishments and small businesses closed down, and government-funded projects stopped. Industries, laboratories, cafés, restaurants, clothing stores and other commercial enterprises also closed down in view of the declining purchasing power of city residents.

Examples of projects that were halted after occupation include the specialist German hospital (400 beds), the residential city Ain Al-Iraq, the Al-Muthanna three-level intersection between Al-Muthanna and Al-Zuhor neighbourhoods (one third of which was completed before the occupation of the city), and a number of five stars hotels and resorts (e.g. Rixos Hotel and Mosul Forests Project). ISIL destroyed large parts of some of these projects (e.g. the German hospital which was more than

half built, and Ain Al-Iraq project which was in its early stages of construction) and sold their steel, construction materials, salvageable debris inside and outside Iraq.

According to some local residents, Syrian entrepreneurs dominate Mosul's trade sector today and operate many of the fast food stores that opened in the city after June 2014.

Factories and Industries

There are several governmental factories in Mosul region (Map 13). Inside the city, the largest ones are: pharmaceutical industry, medical equipment, sugar, yogurt, clothes and cotton textiles (2), pre-cast concrete elements, wood and furniture, and flour (2). Outside the city, the largest factories are: cement (6), brick and mosaic construction materials, pharmaceutical industries and medical equipment, electricity transformers, plus a number of smaller ones. The city also has a large number of private factories, these include: food stuff (349), leather products (19), furniture (33), drinks and juices (2), metal furniture and aluminium products (20), in addition to several others (Ministry of Planning 2013).

After 10 June 2014, all factories fell under ISIL's control. Most soon closed down either due to the lack of raw material and power cuts (e.g. the sugar plant, dairy products factories and pharmaceutical industries), or due to the security situation and shortages in cash and personnel. ISIL dismantled the equipment of approximately 70 to 80 per cent of the city's factories (e.g. plastic, aluminium, and ice cream factories), and transported and sold it in neighbouring countries, mainly Turkey and Syria.

Today all cement factories have been shut down including Hammam Al-Alil, which is essential to the functionality of the Mosul Dam functional (Box 4.1). ISIL stole the thermal fuses and other materials used in the cement industry labs and smuggled them out of the country. The city's governmental textile factories, which started to produce traditional clothing in 2014, remained open until mid-2015 when they were bombed. Private factories that are

still open are obliged to pay royalties to ISIL to stay in business (see Chapter 6).

ISIL also raided **Al-Mishraq Sulphur State Company** of the Iraqi Ministry of Industry and Minerals and stole its rigs to transport them to Syria. Mosul's pharmaceutical industries did not fare better. ISIL also stole all the equipment of the Nineveh pharmaceutical plant of the Iraqi Ministry of Industry and Minerals. ISIL also seized the prescription drugs in the warehouse to sell them. The main building of the pharmaceutical plant factory was affected by air strikes on the city in April 2016 (see Chapter 12).

Oil and Petroleum Products

With the occupation of Mosul district and other parts of Nineveh, oil fields, refineries, gas factories and fuel stations fell under the control of ISIL. Subsequently, they monopolised oil sales within their territories and have been making substantial profits from selling to oil smugglers, below market value.

After the Iraqi army and coalition forces blocked the highways that ISIL used for transporting fuel, particularly the highway connecting Mosul with the oil refineries in Baiji and Al-Qayara, car fuel, kerosene, gasoline, and gas became very expensive and scarce in the city. As a result, ISIL started to bring these products across the Syrian border, and sell them in the city. Prices vary depending on quality, security and availability.

Agriculture and Agricultural Products

Nineveh Governorate was once known as the "breadbasket" of Iraq. According to the Ministry of Agriculture, it yielded 40-45 per cent of Iraq's annual wheat and barley production (Box 4.2). Approximately 30 per cent of all agriculture equipment available in Iraq is located in Nineveh. Agriculture has historically been the main contributor to the economy of Mosul. There are several grain silos in Mosul district, two of which are inside the city. In addition, Mosul city has a number of flour factories (private and government-owned) which are located within the city's industrial areas but cater

to the needs of Nineveh Governorate. Vegetables and fruits are also cultivated in the area for local and national consumption.

After the fall of Mosul, ISIL assumed control over agricultural production, flour factories and bakeries. It confiscated the wheat and barley in the city's silos and transferred it to Syria. ISIL also confiscated all agricultural equipment loaned by the government to local farmers and from minorities who fled. They also forced farmers to sell them their products at lower rates. As an example, before June 2014, the official selling price of wheat set by the Ministry of Trade was IQD 850,000 per tonne. Under ISIL, however, the local market price of wheat fell to IQD 250,000 per tonne - at the expense of wheat farmers.

The combination of dwindling financial returns and a volatile security situation led many farmers to stop working in the fields, and to flee their villages in search of livelihood opportunities elsewhere. However, the agricultural sector did not entirely collapsed. Reliant on rain rather than irrigation, grains continue to be produced in the area. Despite the good precipitation in 2015, the fear of military operations and the increase of fuel prices have diminished agricultural production.

The suspension of the large governmental irrigation projects after the fall of Mosul, combined with the lack of access to quality fertilizer, have contributed to the decline of irrigation-reliant types of crops (e.g. vegetables and fruits) cultivated in the farmlands northwest of Mosul city (especially in Al-Qubba, Al-Rashidiya, and Hawi Al-Kanisa).



Al-Jazira irrigation project © UN-Habitat / Iraqi Urban Observatory

Box 4.1: The Cement Industry

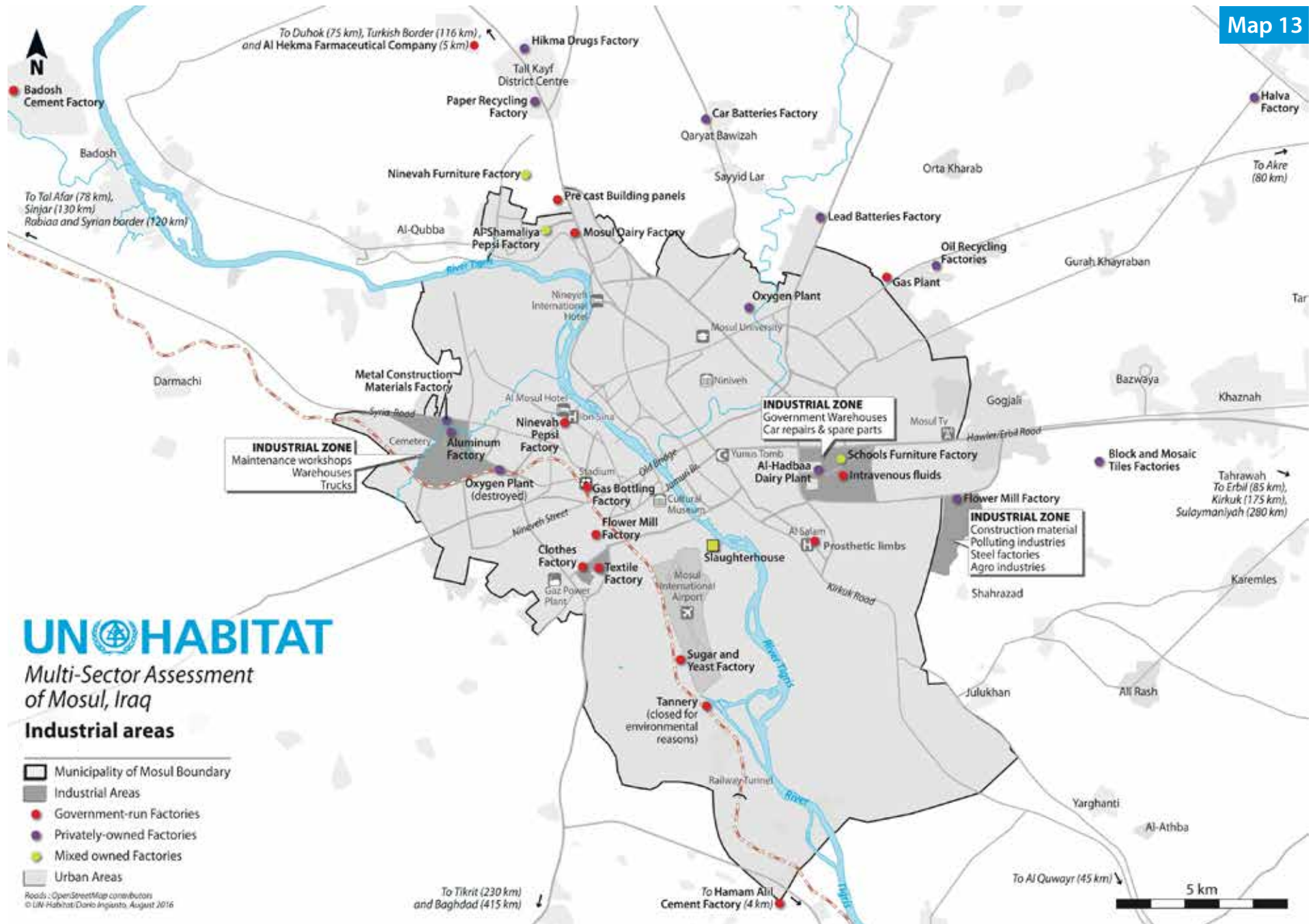
The cement industry is one of the major sectors of local economy. There are five cement factories in Mosul district (Badoush 1, Badoush, Badoush Al-Tawsea'yah, Hammam Al-Alil 1, Hammam Al-Alil 2), and one in Sinjar (Sinjar Cement Plant) owned by the Northern Cement Company with its headquarters in Mosul city. According to the Ministry of Industry, these factories used to produce more than a million tonnes of high quality cement per year at a lower cost than the rest of Iraq. In addition to local consumption, Mosul's high quality cement used to be exported to other countries. In the 1980s, Iraq exported from Mosul more than 300,000 tonnes of cement per year. The peak was the period between 1987 and 1990 when it exported more than 1,100,000 tonnes to Turkey, the Arab Gulf, Yemen and Singapore. The finest cement from the Hammam Al-Alil plant is used in the injection of the foundations of the Mosul Dam, because of its resistance to salinity.

Box 4.2: Nineveh's Agricultural Land

Nineveh's arable land constitutes around 46 per cent of the total arable land in Iraq. According to the Ministry of Trade, the governorate produced close to 1.1 million tonnes of wheat out of the total 4 million tonnes produced in 2013 at a country scale, and around 487,000 tonnes of barley out of the total of one million tonnes produced at a country scale. Wheat and barley are mostly produced in Baaj and Hadar. Historically, 90 per cent of Nineveh's agricultural land was irrigated through rainwater. In the 1990s the central government initiated three large irrigation projects using water from Mosul Dam:

1. The **Northern Al-Jazeera Irrigation Project**: located 100 km north-west of Mosul (in Rabi'a sub-district) and serving 58,700 ha. The project was functional until 9 June 2014.
2. The **Eastern Al-Jazeera Irrigation Project**: located 30 km northeast of Mosul and serving 85,000 ha. It was in its first stages of construction when ISIL took control of Mosul.
3. The **Southern Al-Jazeera Irrigation Project**: located 40 km southwest of Mosul city and serving 187,500 ha. It has not been implemented.

Map 13



A large, stylized number '5' in a dark orange color, positioned on the left side of the page. The number is composed of a vertical bar on the left, a horizontal bar at the top, and a curved bottom section. The text 'LIVING CONDITIONS' is written in white, bold, uppercase letters across the middle of the number.

LIVING CONDITIONS



Mosul Market © photos published through ISIL websites

5. LIVING CONDITIONS

While Nineveh is among the governorates with highest poverty rates,² Mosul has always been a prominent commercial centre. Recent data on poverty in Nineveh Governorate is unavailable; however the Iraqi Ministry of Planning asserts that poverty rates in governorates seized by ISIL have significantly increased as a result of escalating unemployment levels.

Despite lack of sufficient statistical data, there is palpable evidence that the living conditions of those who stayed in Mosul city have dramatically declined after July 2015, when governmental salaries were cut to deprive ISIL of the financial resources it deducted from staff salaries. This reduced the cash flow available in the city and led to a cutback in people's purchasing power. Those IDPs who settled in the city between 2006 and 2008 and who were receiving governmental salaries and/or humanitarian assistance from Ministry of Migration and Displacement

(through Qi-Cards, the Iraqi debit card) also stopped receiving money transfers. Only those who fled ISIL-occupied territories are still able to collect their salaries through official banks located in Kirkuk, Baghdad, and the Kurdistan Region of Iraq.

The living conditions of the city's poor families who used to rely on the Public Distribution System rations for survival (Box 3.1), deteriorated dramatically after they stopped receiving these rations. With escalating costs of basic goods and services (in particular education, healthcare, gas, food and drinking water), daily life became increasingly difficult, putting people's livelihoods and dignity at stake. For example, the price of cooking gas increased by more than five-fold after ISIL took control of the city. Fuel, kerosene and cooking gas prices also rose (see table below). People's spending became mostly limited to food as they cannot afford much else. Many families exhausted their stores of lentils, chickpeas, rice, beans, ghee, oil and other food stuffs. Prices of medicines,

particularly those for heart and blood diseases, also tripled. Even education under ISIL became a commodity that students need to pay for, when it was free in the past.

Unemployment levels have increased and most remaining jobs are poorly paid. Although public sector employees stopped receiving their salaries as of July 2015, they were forced to continue to work under coercion by ISIL militants. In parallel, thousands of employees and daily labourers lost their jobs due to the closing down of many small and medium enterprises. In particular, due to ISIL strict rules, many self-employed people in prohibited sectors (such as female hairdressers and beauty parlours), found themselves jobless. In addition, hefty fees, penalties and taxes have exacerbated the vulnerability of residents (see Chapter 6). With many people in dire need of a source of income to survive, begging and petty crime have reportedly increased.




The loss of control over Highway 47 connecting Mosul with Al-Raqqa in Syria, following the retake of Sinjar in September 2015, made access to basic goods including food from Syria, Turkey and other Iraqi cities difficult. The prices of imported commodities fluctuate depending on access. Goods banned by ISIL (e.g. tobacco) are smuggled and sold in the city at very high prices – double or triple their normal market price.

Without steady jobs or income, some families had no choice but to consume their savings to meet their daily subsistence needs. Others sold household items and/or borrowed money from relatives. Some families started to raise livestock (chickens, ducks, and sheep) and cut down their spending on food.

It is likely that many of those who arrived into Mosul in 2006 from its rural hinterlands and adjacent districts (Tal Abta and Tal Afar) were among the city's most vulnerable groups. Given their precarious living conditions and inability to find work, many young disenfranchised peasants (both from Sunni Turkoman origin and from Sunni Arab tribal origin) became easy preys of ISIL recruiters.



Shoe market after 2014 © Nineveh TV

OIL PRODUCTS		NORMAL PRICES	PRICES DURING ISIL CONTROL
	Fuel for cars	IQD 450 / per litre	IQD 750 – 2,250 / per litre
	Kerosene	IQD 250 / per litre	IQD 450 / per litre
	Cooking gas	IQD 6,000 / per bottle	IQD 30,000 - 50,000 / per bottle



A large, stylized number '6' in a dark blue color, positioned on the left side of the page. The number is composed of a thick, curved line that forms the top and right side, and a circular loop at the bottom. The text 'URBAN GOVERNANCE' is written in white, bold, uppercase letters across the middle of the number's loop.

URBAN GOVERNANCE

6. URBAN GOVERNANCE

Rule of Terror

Once known for its rich history, cultural diversity, educated and liberal citizens, Mosul has transformed dramatically over the last two years. ISIL eradicated the existing socio-cultural order and governance system to create entirely new ones. The 'City Constitution', a 16-article document published on 13 June 2014, outlines the principles governing ISIL territories (Box 6.1). This new order severely affected all aspects of social life and city administration and planning.

The Independent International Commission of Inquiry on the Syrian Arab Republic (2014) observes that ISIL "seeks to subjugate civilians under its control and dominate every aspect of their lives through terror, indoctrination, and the provision of services to those who obey". Upon invading Mosul, ISIL released more than 7,000 prisoners from the city's three prisons, including the fighters detained in the Badush jail, the country's second largest. In doing so, it succeeded in creating chaos in the city. Tens of thousands of people fled, including several leaders from the Iraqi army, military police, and security forces. Media records show how some disposed of their uniforms and weapons and escaped in civilians clothes.

ISIL's promise of peace and order, after a decade of suppression, systematic violence and insecurity, may have appealed to some citizens of Mosul, who perceived the security forces as increasingly prejudiced towards the local Arab Sunni population, yet their brutality soon escalated. Violent crimes and suppression targeted minorities, non-Sunni communities, all those affiliated with the Iraqi Government and any transgressor of their new punitive rules.

ISIL regularly made public lists that revealed the names of those that had been executed. The most infamous is the "List 2070" that ISIL publicly displayed in early August 2015 on the walls of Mosul's forensic medical centre. The

list announced the names of 2,070 victims stating that their bodies will not returned to their families.

In addition to attempting to physically obliterate Mosul's rich history and cultural heritage, ISIL has systematically wiped out the city's cultural and intellectual life. Since its fighters entered the city, ISIL heavily censored and quashed the media and the press. It started with the execution of 13 journalists and the kidnapping of 48 others along with their media assistants as a message to all others. Journalists and media workers fled, newspaper press houses closed down and Mosul's radio and TV stations. Resident's satellite receivers were regularly confiscated in an effort to curtail access to outside media. Propaganda was used also as a tool to control social activities and behaviour.

In accordance with the directives of its 'City Constitution', ISIL closed down the city's theatres and fine arts exhibition halls and converted them to spaces for other activities. Artists, poets, writers and painters fled. ISIL also forced the city's most famous cafés and entertainment venues to close, and banned smoking as well as card, board and pool table games. Even the most basic pleasures like music and art were prohibited and became banned subjects to teach in schools.

In addition to forcing people to pray in mosques and open spaces, ISIL started to apply different forms of social and religious control over residents, for example through:

- **Dress and appearance:** In line with its 'City Constitution', ISIL imposed a dress or 'appearance code' on both men and women. Women are forced to wear multi-layered black attire when in public places. Men are forced to grow their beards. ISIL also imposed gender segregation within schools and controlled gender mixing in public spaces and institutions, including in health centres and hospitals. Penalties and brutal punishments are imposed on those who do not comply by these regulations. Even children and adolescents have not been exempted from ISIL's assaults.



Strict appearance code enforced on women © Reuters

Box 6.1: The City Constitution

The 2014 City Constitution is a 16-clause document that celebrates the birth of the Islamic State and outlines its basic rules of conduct:

Art-1 congratulates ISIL followers and supporters on the liberation of prisoners.

Art-2 talks about reviving the glories of the Islamic Caliphate and fighting injustice inflicted upon its citizens.

Art-3 charts how ISIL will deal with its citizens (treat them according to their deeds).

Art-4 promises ISIL's followers and supporters justice under the Islamic State rule.

Art-5 declares that all public money in banks belongs to the new Islamic State, which will spend it on its needs.

Art-6 states that the mosques are the most important institutes in the Islamic State and they should be respected and used for praying.

Art-7 instructs citizens to follow the orders of ISIL's religious scholars and obey them.

Art-8 warns citizens never to deal with or contact the central government and its representatives.

Art-9 orders policemen and soldiers to leave their jobs permanently otherwise they will be punished.

Art-10 forbids citizens to carry any kind of weapons.

Art-11 states that all people in the Islamic State should work and live together.

Art-12 pledges that when ISIL members complete their liberation battle and free the rest of Iraq, they will rule the country with justice.

Art-13 declares that all tombs and shrines will be destroyed and erased.

Art-14 advises women to follow Islamic rules and wear Islamic clothing.

Art-15 preaches that everyone should rejoice and enjoy life in the Islamic State.

Art-16 sets forth that people lived under different secular regimes for many years, but that this will change under ISIL's rule.

- **Restrictions on people's movement:** To ensure that its territories are not abandoned, ISIL actively prevented city residents from travelling outside the city except in emergency circumstances, and for a maximum period of two to three months. Reportedly, ISIL imposed on those who requested temporary permission to leave the city a substantial cash guarantee, conditional upon their return (ranging between USD 5,000 and 10,000). Those who did not have the money were forced to hand over their property documents instead. The properties of those who escaped were confiscated by ISIL (see Chapter 9). It is alleged that some ISIL members themselves are involved in remunerative people smuggling, at USD 5,000 or more per person, depending on their status.

- **Taxation:** In keeping with the practice that Al-Qaeda and affiliated groups initiated, ISIL exercises social control through the taxes it imposed on products and services (Box 6.3). This includes basic municipal services, health and education, electricity and water supply, in addition to a monthly *zakat* payment (see Box 6.3). ISIL also introduced new levies, such as a street-cleaning fee of IQD 2,000 per household. According to some local residents, the taxes the people are paying under ISIL are much higher than those imposed in the past. Previously, taxes on certain goods and services were often not fully enforced – given the government's

Municipal service receipt imposed by ISIL © Eye of Mosul

lenient policy of *Al-Samah Al-Dharibi* (tax exemption). It appears that ISIL has been much stricter in the collection of taxes since it is very keen on increasing its sources of revenue. For example, shortly after it took control of Mosul, ISIL ordered all owners of rented properties to cut their rents by half, but requested the devolution of an additional 10 per cent from tenants to their coffers.

Local Administration

Before taking over Mosul, members of its shadow government (Al-Qaeda and affiliated groups) took over the city's military grounds, police stations and a large part of its administrative system (Map 15). It forced administrative staff to cooperate or to resign from work, and promoted those who showed allegiance to Al-Qaeda and allied groups. ISIL did not deviate from this power game. The only difference is that it is no longer the shadow government but the local government itself.

After it took control of the city, ISIL drastically reformed the institutional and operational structures of public administrations. The Nineveh governor, as the elected civil official who represented the prime minister in the governorate, and acted as the link between the different line ministries and their directorates, headed the executive branch of the local administration at governorate level. He carried out the day-to-day activities of the city administration through its different directorates. Concurrently, the Provincial Council acted as the legislative branch of the local government and held the responsibility for monitoring the performance of the executive branch (see organizational chart below). Once ISIL members and their foreign consultants took over the leadership of the directorates, including Mosul municipality, they applied dramatic changes to the way they operate and imposed the new rules on the public sector engineers and technical staff who stayed in their posts – whether out of fear, opportunism or lack of choice.

A foreigner loyal to ISIL was appointed as the head of the city's administration, which is the highest rank of local governance. Known as *al-Wali*, the duties of this

individual are very similar to a governor. ISIL appointed *Emirs* to oversee the operations of the city's hospitals, schools and factories. In keeping with Islamic names, ISIL popularized the old name *Diwan*, which was used during the Umayyad and Abbasid rule, instead of the name *Muduriat* (directorate).

ISIL also changed the mandate of some of the city's local directorates and forced its their own interpretation of "shari'a principles" on the way they operate. For example, ISIL reshaped the General Directorate of Police and Traffic Police to become the 'Islamic Police Diwan'. In addition, it reduced the role of the directorate of properties to levying taxes and collecting fees from leaseholders of municipal owned real estate (markets, shops, housing, parking), cancelled the Directorate of Urban Planning, and introduced a number of new councils (the *Diwans*). These are namely: *diwan al-raka'iz* (responsible for natural resources, minerals, oil and gas), *diwan al-qada'* (responsible for judiciary matters in accordance with the rule of ISIL-appointed judges and not the Iraqi penal code), *diwan al-hisba* (responsible for enforcing Islamic morality in public and punishing violators in accordance with the instructions of the Islamic State), and *diwan al-khadamat* (responsible for public services and city cleaning).

Public Facilities and Services

To claim that it cares for civilians in territories under its control, ISIL's media machine circulates pictures of clean streets and ISIL-run centres, for instance a home for the elderly and a cancer treatment clinic. According to many, the reality is far from the glossy images that ISIL is propagating. Under ISIL, the service delivery role of the Municipality was significantly reduced. The group succeeded in imposing substantially higher fees on basic services, such as medical treatment, water supply, electricity supply, and solid waste collection, but it failed to sustain these services or control the prices of basic goods, including food items.

This does not imply that ISIL did not invest in public facilities and services. To increase its sources of revenue,

ISIL's *Diwan al-Khadamat* (services directorate) engaged in municipal land rental and licensing. It constructed new covered markets stalls in several locations within the city centre, either on vacant municipal land intended for future projects or on the sites of buildings and monuments it razed to the ground. ISIL promoted these initiatives as part of its efforts to provide commercial spaces in the city and provide job opportunities for the youth. ISIL also claims that health and hygiene agents periodically inspect these markets to ensure the cleanliness of vegetables and fruits. These markets include: Bab Al-Toub market, Souq Al-Madina, Al-Mu'ash Market, Nafura Square Market, Al-Firdous Square market and the Grand Al-Yarmouk Market. ISIL has also opened two female-only shopping centres: one in the city centre at Bab Al-Toub and the other near Nabi Yunis. As of 2016, ISIL rented out market spaces of 6 m² to street sellers for IQD 50,000 per month and imposed a fee of IQD 1,800,000 on commercial licences.

Some of these spaces were also devoted to other public uses, for instance , the site of Al-Nabi Yunis Mosque was turned into a garden and playground, and the site of Al-Nabi Sheath Mosque and Al-Shams Gate became a parking lot.

ISIL boasts in its propaganda releases that its *Diwan al-Khadamat* "has spent approximately IQD 120 billion from God's wealth at the service of the Muslims inside the city, or around USD 100 million during a year of operation" on (Al-Tamimi 2015). Expenditures have included:

- Repairing and renovating approximately 300 km of the city's streets, bridges and roads;
- Removing approximately 600,000 tonnes of solid waste and 1,300 tonnes of debris from the city;
- Adding 150 road traffic dividers;
- Reopening the Al-Waritheen hotel;
- Compensating those whose homes were damaged when "the Crusader-Arab alliance" (as ISIL calls the coalition forces and Iraqi Government) bombed the city – claiming that it will pay around USD 65,000, on average, per house in Al-Rifai neighbourhood;

- Renovating and rebuilding damaged houses in Aden neighbourhoods (during the first months of military operations);
- Removing the podium of Celebrations Square (between the University and Al-Sukar neighbourhood) in order to construct a park and contemporary shops.

Box 6.2: New number plates

The Mosul Traffic Department started to issue locally-produced vehicle number plates registered under "Nineveh State". Many vehicle owners resisted this imposition by concealing their cars and using public transport instead. It appears that in October 2016 the issuance was interrupted.



ISIL police station © Ankawa website



Diwan Al-hisba group walking around Mosul market © Isdrat Blogpost Website

Box 6.3: Royalties and Taxations

In the post-2003 era, specifically after 2006, Mosul's factories, economic establishments (e.g. shops, restaurants, real estate offices), and professional practices (e.g. pharmacies, doctors and lawyers) were forced to pay cash royalties or in-kind services to the city's armed militias (the so-called 'shadow government') in exchange for protection. Those who refused to pay or cooperate were targeted and harmed.

For instance, pharmacists paid USD 100, while doctors and laboratories paid USD 200. Al-Qaeda and affiliated groups also blackmailed the local government and private sector investors and imposed on them a royalty of 10 per cent of the amount of any project contract they signed – in pure Mafia style. Widespread corruption within public administrations and security forces provided them with the necessary power to expand their activities up to the theft and smuggling even of oil products from Baiji refinery. It is thought that until recently the group's revenue was in the range of USD 5 million per month.

ISIL introduced new methods of generating money, such as the sales of antiquities, oil smuggling and imposition of registration fees in public schools. Also worth mentioning is the *istihqaq al-zakat* tax that ISIL imposed on all those living under its rule. According to the Islamic Shari'a law, *al-zakat* is a yearly alms that pious Muslims give away to families in need – usually amounting to 2.5 per cent of their unspent or remaining revenues. ISIL turned *al-zakat* into an compulsory monthly tax of 2.5 per cent of the profits made by those living under its control – mainly shop and restaurant owners, real estate agents, landlords, and the rich.

The amount of the tax due is estimated and collected from residents by ISIL's *Al-Zakat Diwan* (Council). According to some local residents, ISIL initially distributed a small portion of *al-zakat* payments that it had collected to the city's needy families, but stopped this practice in the second half of 2015.



Destruction of cigarettes © Al Arabia

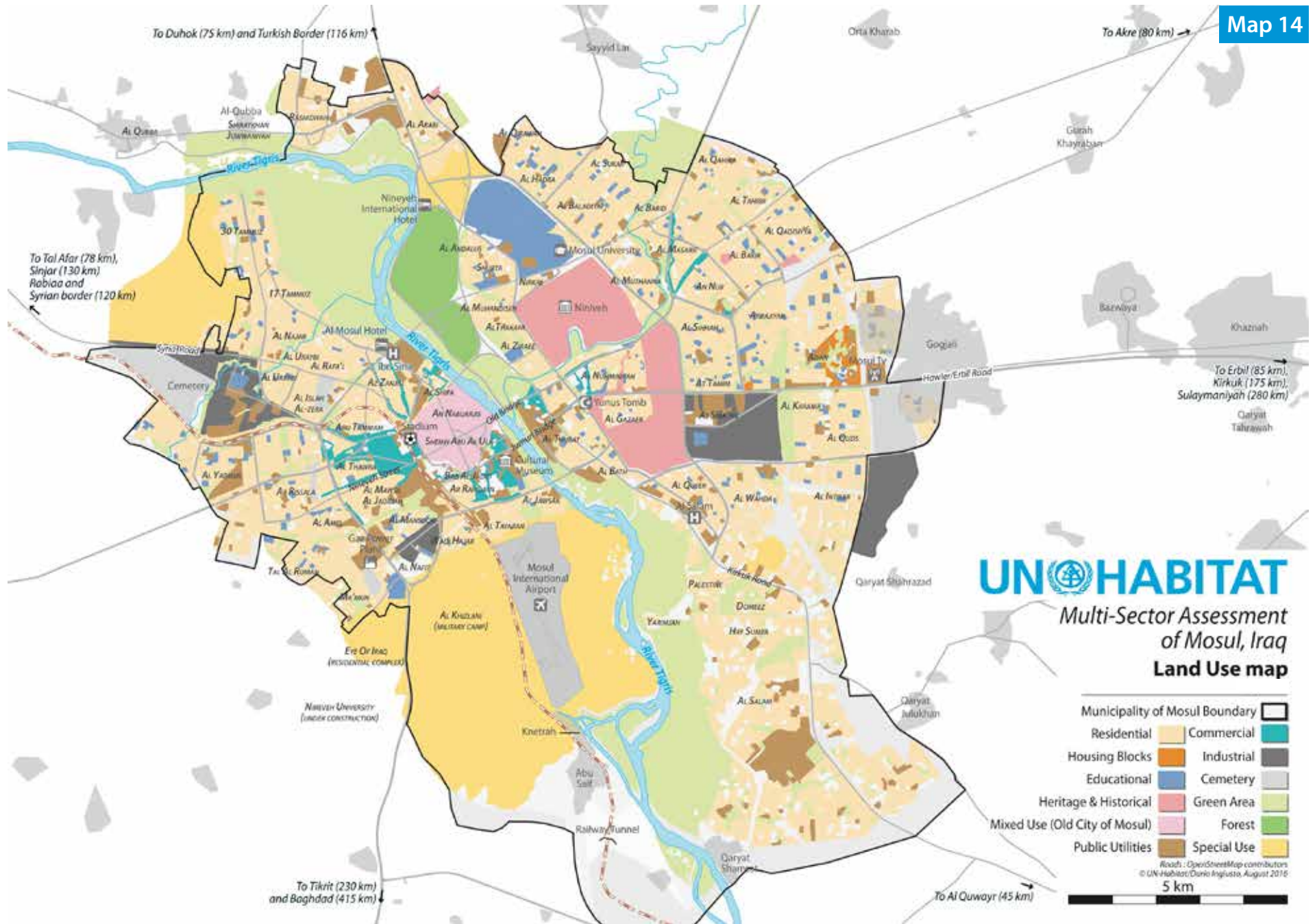


Classroom in one of the orphanages managed by ISIL © Nineveh TV



Corniche over the Tigris river © Nineveh Media Centre (run by ISIL)

Map 14



GOVERNORATE STRUCTURE

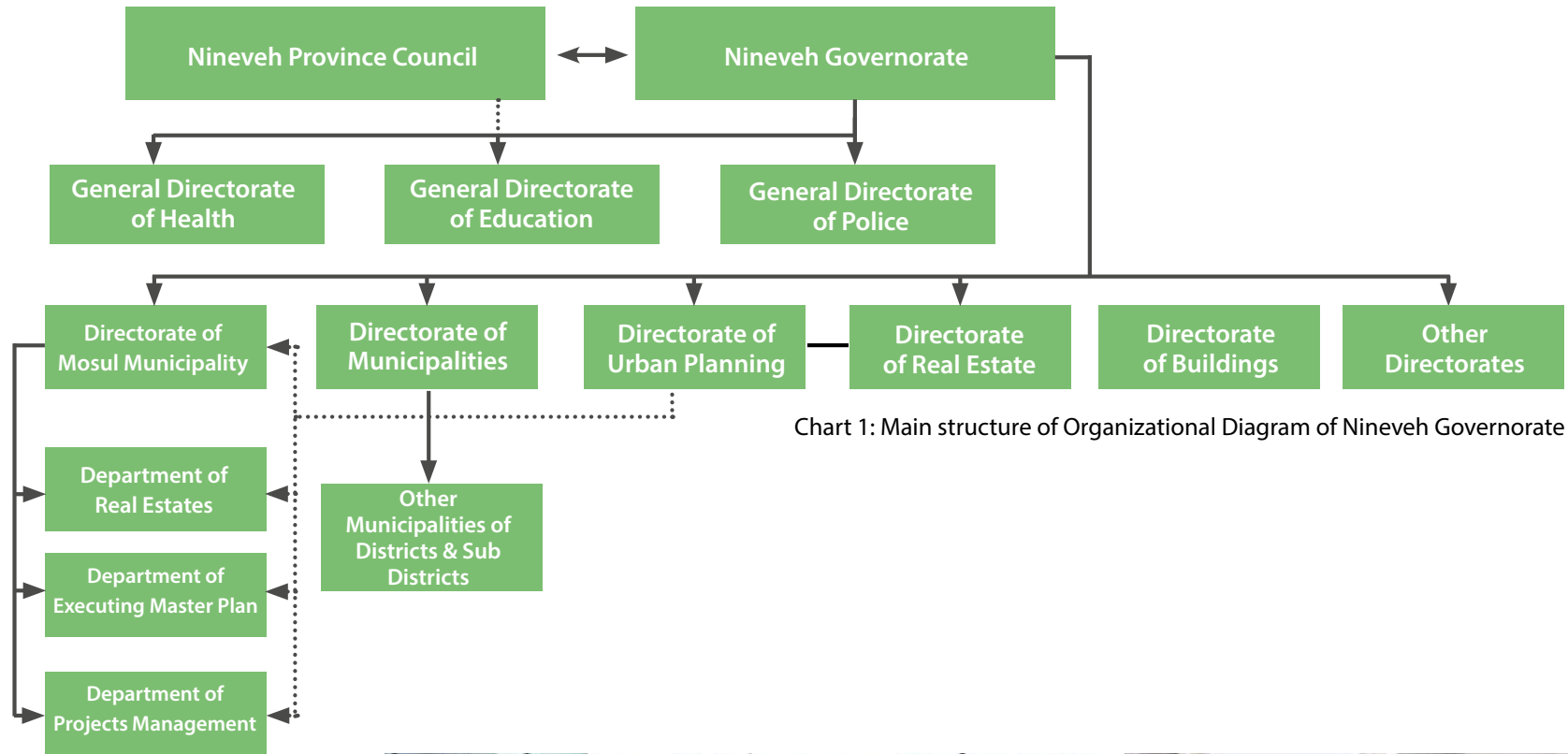


Chart 1: Main structure of Organizational Diagram of Nineveh Governorate

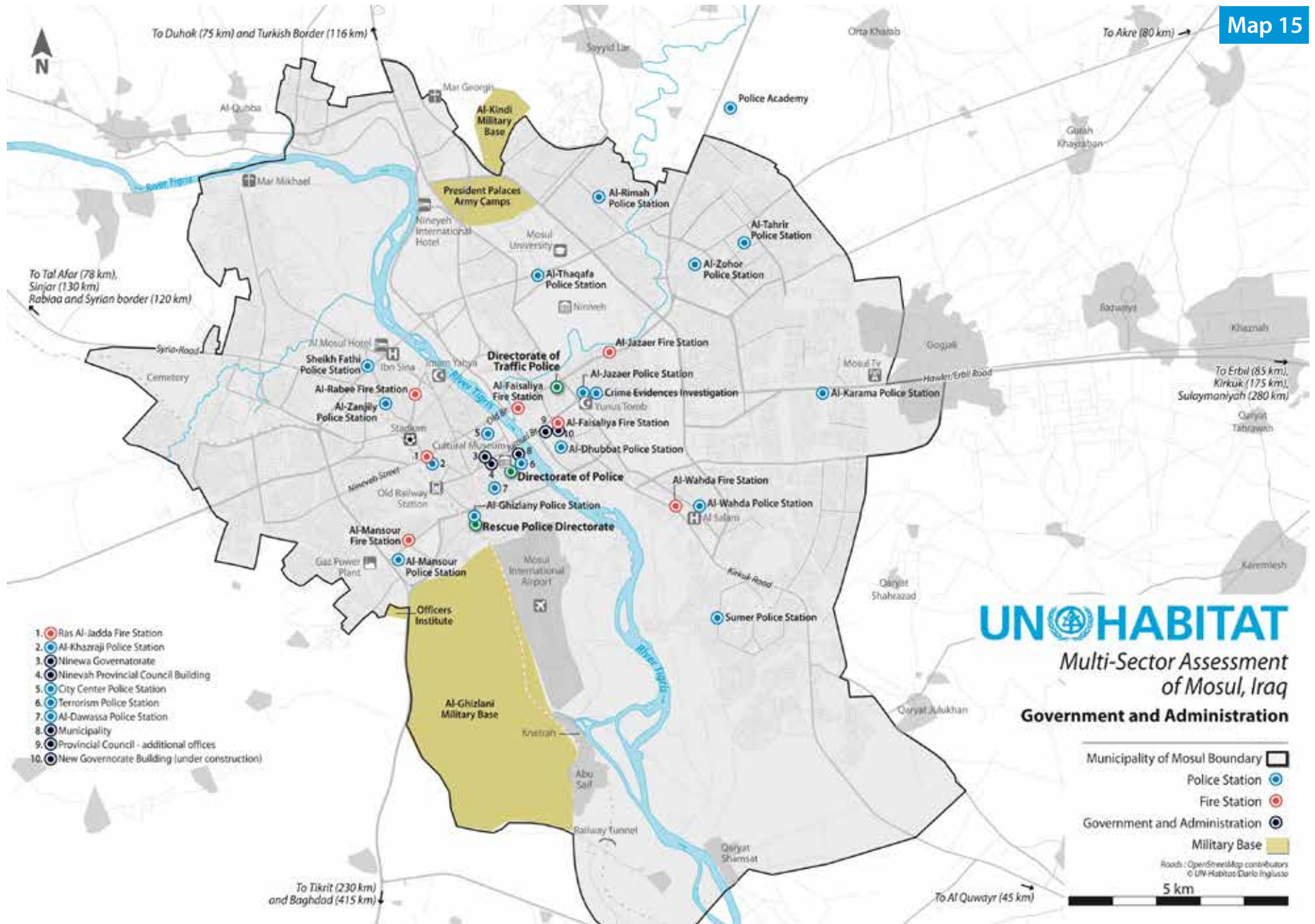


Mosul Urban Planning Directorate, prior to 2014. Courtesy of a municipal employee



Mosul Urban Planning Directorate, after destruction. Courtesy of an employee of the Fire Department

Map 15





HOUSING & LAND

7. HOUSING AND LAND

The Iraqi Government Approach to Housing

Mosul city suffers from a chronic housing shortage, caused – but not only – by the limitations of the government-led two-pronged system of housing provision and land for housing delivery, which has failed to meet its ambitious targets. Although the Iraqi constitution recognizes the right of all Iraqis to adequate housing and a decent life (Article 30), the government has been unable to fulfil its promise. Access to affordable housing has been seen as biased and often used “as an instrument in controlling who lived where” (PADCO 2006). Some communities benefited more than others from the government’s allocations of housing or land for housing. Politics, corruption and favouritism have played an important role in defining the beneficiaries. The allocation of land in favourable and well-serviced locations has been perceived as favouring in too many cases those in senior or influential positions, or figures that the State wanted to reward for their services. Government-built housing has failed to meet the housing needs of the large segments of the population. It is estimated that it only fulfilled 15 per cent of the country’s housing needs (PADCO 2006).

The situation did not improve much after the fall of the regime. According to the estimates of the Ministry of Construction and Housing, the deficiency in housing units in Nineveh Governorate reached 153,000 units in mid-2014, with a 46,000-unit deficit in Mosul city alone. These numbers increased by mid-2016 to reach 172,000 units at governorate level and 53,000 housing units at city level. In Mosul, the housing shortage is closely interlinked to the availability of land, namely: 1) the scarcity of large tracts of land that can be allocated for new public housing projects, and 2) the failure to update the city’s 1973 master plan and create formal urban subdivisions for new housing development (see Chapter 8) (Map 16).

Overview of Mosul City ©UN-Habitat - Iraqi Urban Observatory



Public housing provision falls under the responsibility of the Ministry of Construction and Housing. The number of housing projects that the ministry actually implemented in Mosul city has been very limited – comprising only of three housing complexes: **Al-Yarmuk**, **Al-Arabi**, and **Al-Karama** built in the 1980s (1982-1986). A fourth complex was planned in **Al-Hadba** during the same period but was not implemented until recently (Box 7.1 and Map 16).

Following the Iraq-Kuwait war and the subsequent economic embargo, the Iraqi Government directed most of its attention and resources towards the provision of food and catering for people's basic needs. It did not further invest in public housing. Access to new housing units became only possible through the private sector. In Mosul, the demands of the poor segments of society for housing were mainly met in the old city, where families living in shared accommodation experienced severe overcrowding.

After the fall of the previous regime, only one public residential project was constructed in the city; namely Al-Hadbaa residential project, mentioned above. Due to administrative impediments and financial issues, the completion of the project was significantly delayed. In addition, the lack of suitable land within the city has prevented the ministry from carrying out further public housing investments despite the allocated resources.

An effort to address the housing needs of vulnerable groups, as part of a country-scale poverty eradication project, was implemented by UNHCR and the Ministry of Migration and Displacement (MoMD) in collaboration with Mosul's local government. The project comprised of the construction and distribution of 2,000 residential units for IDPs and squatters living below the poverty line near Tal Al-Rumman neighbourhood, on the city's right bank. According to the Directorate of Urban Planning of Nineveh Governorate, only 550 units were completed before ISIL took control of the city. Regrettably, after moving in, the recipients of these units had to leave due to lack of services and incomplete infrastructure works.

Government Allotted Land for Housing

As mentioned previously, Mosul city suffers from scarcity of buildable plots that can be allocated for housing. One of the root cause of this scarcity is **Decree 117 of 2000**, which allocated state-owned non-agricultural parcels and those belonging to the Ministry of Finance in Baghdad and other municipalities, to members of the Iraqi military and police. Because individual land allocations are normally carried out on the basis of a soldier/officers' place of origin (Decree 120 of 1982), the implementation of Decree 117 of 2000 in Mosul practically exhausted all available residential plots within the city – since the majority of Iraqi officers and soldiers were in fact from Mosul (more than 35,000). To cater for this large number, the Directorate of Urban Planning of Nineveh Governorate was obliged to also allocate additional residential plots in the city's future expansion areas, at the expense of other land uses envisioned by the city's 1973 master plan.

Large-scale housing development has also been problematic. Due to the legal impediments and bureaucratic division of responsibilities between the Ministry of Municipalities and Public Works – which since 1994 is the entity in charge of urban planning in Iraqi municipalities (except Baghdad) – and Iraqi municipalities, Mosul's local authorities have not been able to raise sufficient revenue to implement infrastructure connections in all its expansion zones. This failure is manifest in a number of planned peripheral residential subdivisions which lack basic services and urban infrastructure. A case in point is the case of **Hayy Al-Salam** (located in the south-eastern part of the city - see Map 16), where the government distributed most of the plots but recipients are unable and unwilling to move there because the area remains totally under-serviced.

No plots were distributed in Mosul city, or other cities in Iraq for that matter, between 2001 and 2003. After 2003, state-owned land allocations targeted only specific groups, such as families of martyrs, doctors, municipal employees, and other civil servants who matured over five years in service. Hence, the number of households

awaiting residential plots quickly surpassed the number of those who were granted land.

In recognition of urban land scarcity across Iraq, the Al-Maliki government decided in its 7th session held on 26 February 2013 (**Decree 300 of 2013**) to issue a moratorium on the release of state-owned land located in city centres across the country (with some exceptions) – pending the update of city master plans. In parallel, the government encouraged vertical construction and approved the allocation of land owned by Iraqi ministries for multi-storey residential projects to be distributed among their employees.

In its 26th session held on 18 June 2013, the Al-Maliki government decided to subdivide state-owned land in Baghdad and the governorates into plots of 150 m² and distribute it among the poor. Land distribution took place in some cities (Baghdad and the Southern Governorates) however only a selected few benefited from the process. Others only obtained ownership certificates of plots in remote or unidentified locations, since the government then decided to postpone the actual plot distribution until after the elections. No land or land certificates were distributed to the poor in Mosul. The only ownership certificates that were distributed in Mosul were in Tal Al-Rumman in 2013, as part of the UNHCR and MoMD poverty eradication project mentioned above.

Cooperative Housing

After the implementation of Law 117 and the depletion of available government-owned land within Iraqi city centres, building upon agricultural land became the only viable option to access housing for many households, including public sector employees. As in many other Iraqi cities, in Mosul, civil servants began to establish housing cooperatives (subject to the provisions of the **Cooperatives Law No. 15 of 1992**) and buy agricultural land on the peripheries of the city, under the assumption that the city's new master plan would convert its land use to a residential (see Chapter 8).

As of today there are more than twenty housing cooperatives in Mosul, the oldest of which is Al-Hadbaa, established in 1980. Most of the other cooperatives were established around 2008, when land within the city centre became very expensive. Among the most prominent housing cooperatives in Mosul are: the Cooperative of University Employees, the Cooperatives of the Technical Institute, Al-Hadbaa Cooperatives for Teachers, the Cooperative of Economists, the Cooperative of the Cement Company employees, and the Cooperative of the Electricity Company employees. The favourable conditions granted to the cooperatives help to explain why housing cooperatives proliferated.

Cooperatives were mostly created out of necessity, and some have been able to meet the needs of their members. Others appear to have been largely speculation-driven, for whom the development of agricultural land became a very profitable business. The founding members of the cooperatives would buy large tract of agricultural land at a very favourable price only to sell at significantly higher rates to cooperative members, following its subdivision and servicing. *Donums* are divided into parcels typically ranging between 200 and 300 m² (up to a maximum of 600 m²), with 40 per cent of the plot set aside for infrastructure and services. Based on anecdotal evidence, in early 2014 the selling price of 200 m² parcels of land was in the range of USD 5,000 – depending on plot location. Parcels of 600 m² could reach USD 50,000. Although much lower than private-sector market prices of formal plots sold within the city centre, the cost of cooperative housing was much higher than that of government-distributed land. Although theoretically allocated for free, recipients of government land (usually chosen by lottery) need to pay a nominal price ranging between USD 1,000 and 2,000 for better located and larger plots, in addition to bearing land registration fees close to USD 800.

Because of the cumbersome legal procedures associated with purchasing agricultural land and regularising it through the housing cooperatives, many public sector employees feel that they were disadvantaged compared

to those who obtained titled land directly through the government. A more specific problem emerged among those who bought land in disputed territories, for instance the employees of the electricity company who bought in the Al-Shallalat area. Although cooperative members paid for the land, the KRI authorities denied them ownership titles on the basis of **Article 140 of the 2005 Iraqi Constitution**, which essentially attempts to address the land dispute between the central authorities and the semi-autonomous region of Kurdistan but was never implemented.

Private Investments in the Housing Sector

Following the fall of the previous regime, the country's economic policy changed significantly. As elaborated in the Iraq **Investment Law** (No. 13 of 2006), the new approach focused on attracting investments to the country, along with the required technical and scientific expertise, particularly through the implementation of large-scale housing projects whereby developers were granted a range of privileges (including free land) and tax exemptions.

Following the efforts to activate the governorate's investment sector, in October 2010 Nineveh's Provincial Council finally approved the construction of the Ain Al-Iraq residential compound in the southwest part of Mosul city, the first and most important investment project to date in Nineveh (Box 7.2).

Housing After 10 June 2014

Following ISIL's takeover of Mosul, investments in the housing sector and all ongoing projects were halted. As many people abandoned the city, the vacant housing units were taken over by IDPs and ISIL fighters' families and followers. It is believed that ISIL attempted to invest in new for-profit housing in the northern section of the Al-Ghazalni camp, near the airport, and came up with a design proposal for its development as a residential area with services and complementary activities. Reportedly, the IDPs that had initially settled there were removed and the site cleared, but the project was never implemented.

To date, although the city's existing housing stock has not suffered much physical destruction (see Chapter 12), it has certainly been affected by the protracted lack of maintenance. Under the current conditions, most of those who have stayed in the city are largely unable to invest in their properties for lack of resources and active construction sector enterprises.

Box 7.1: Ain Al-Iraq Residential Compound

Ain Al-Iraq is the largest investment project in Nineveh. It comprises of 20,000 residential units (apartments and villas) targeting middle-income households, in addition to offering a full set of services and utilities. The project covers over 4,000 acres owned in part by Mosul Municipality, the Ministry of Finance (namely the Real Estate Department), and some private landlords.

Despite its significance, the implementation of the project was challenging. The process of obtaining the required official approvals for land ownership transfer from its current owners to the project investors proved complicated and lengthy. Another obstacle was the slow pace of construction, whereby only 10-15 per cent of construction was completed by 2014, when ISIL took over the city. At that point, construction came to a standstill. ISIL soon confiscated and sold all the building materials available on site (cement, bricks and steel) outside Iraq.



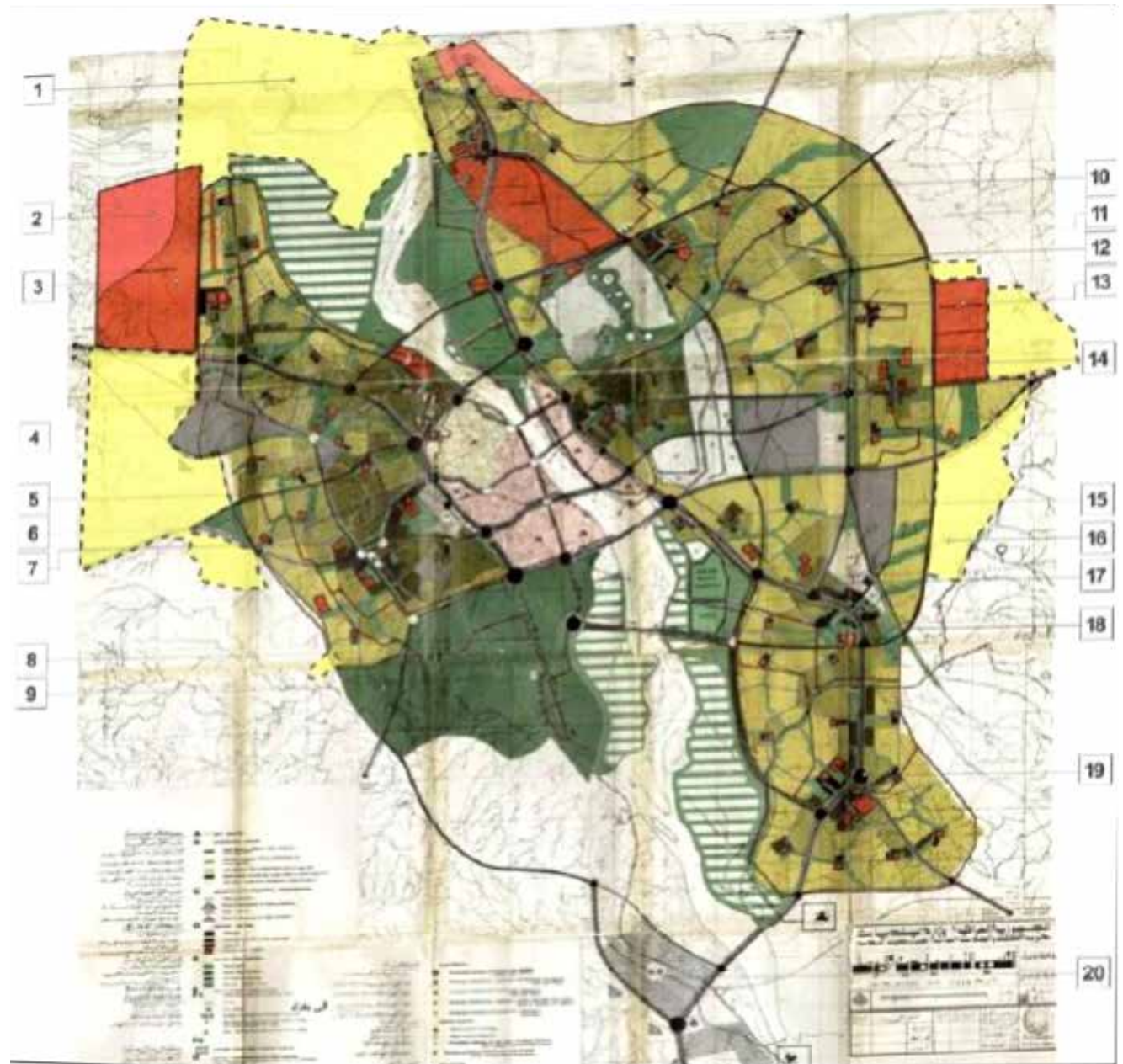
Ain Al-Iraq Project ©UN-Habitat / Iraqi Urban Observatory

Box 7.2: Al-Hadbaa Public Housing Project

In September 2013, the Iraqi Ministry of Construction and Housing inaugurated Al-Hadbaa residential complex in the Hadbaa neighbourhood, northeast of Mosul city. The project, approved in back in 2001, was suspended for more than six years due to the security situation in Mosul. Construction was only resumed in 2010 but was faced with recurrent problems due to shortage of funds.

The project is acclaimed to be the largest public residential project in Nineveh, and the first to be constructed in the governorate in the last 35 years. The project spans an area of 55 *dunums*. It comprises of 56 three-storey buildings offering a total of 550 two-bedroom and three-bedroom housing units, in addition to several amenities and services including a primary school, two secondary schools, a market, a central mosque, and a health centre. It is serviced by a power plant, a water pumping station, and a drinking water treatment plant.

The Supreme Council for Housing was responsible for the distribution of housing units. Beneficiaries were drawn by lottery; the beneficiaries included in different proportions: IDPs, families of martyr employees of the Ministries of Interior and Defence, victims of war, widows, people with disabilities and poor families. The total cost of the project was IQD 42.775 billion. Apartment prices range between IQD 60-70 million to be paid in 'soft' monthly instalments over 25-50 years. When ISIL took over the city, it confiscated most of the apartments and allocated them to its fighters and followers. The complex was severely affected by air strikes and was consequently abandoned.



Mosul Master Plan, 1973 © Mosul Urban Planning Directorate



PLANNING VIOLATIONS AND INFORMAL SETTLEMENTS

8. PLANNING VIOLATIONS AND INFORMAL SETTLEMENTS

Informal City Growth

Mosul city grew significantly after 2003. Nonetheless, most of its urban growth occurred illegally on government-owned land that falls within or just outside the city's administrative boundaries (Map 17). This mainly comprises of areas located to the west of the city (including Tal Al-Rumman, Al-Mamoun, Musherfa, Wade Al-Ein and Harmat) and the east (including Rashediya, Besan, Al-Qahira, Al-Tahrer, Arbachiya, Adan, Al-Karama and Al-Intisar), or agricultural land located on its east, northeast and north peripheral edge, outside the limits of the city's 1973 master plan.

This informal or illegal urban expansion came as a result of a combination of factors:

- Sky-rocketing property values within the city's centre due to an increasing demand on housing and the shortage of available vacant land for housing.
- Shortage of affordable land for middle/low-income households.
- The failure of the Iraqi Government to fulfil its social welfare role, as evidenced by the lack of sufficient investment in new public and affordable housing compounded by inequitable land allocations.
- The delay in updating the city's 1973 Master Plan and thus the enacting of a proper regulatory framework to guide city growth.
- The blind-eye policy of the post-2003 government towards areas developed in violation of the existing regulatory framework (i.e. **Decree 154 of 2001**) that called for the clampdown of any types of infringement on government- and municipal-owned land within the master plan limits).
- People's confidence that the government would not evict them but rather regularize them in the future.

Between 2003 and 2013, the Directorate of Planning of Nineveh Governorate recorded 32,000 cases of violations within Mosul district. Roughly, half of these cases concern informal housing units, while the other half are in informal land subdivisions where very little has been built yet. (Box 8.1).

Informal Settlements

The former regime implemented a strict prevention and suppression policy against informal settlements for security reasons. After 2003, in Mosul – as elsewhere in Iraq – informal settlements became both a housing solution and a lucrative business, due to the political pressure that prevented their destruction and the consequent inability of municipalities to implement Decree 154 of 2001.

Although government services should not, in theory, reach these areas, many informal settlements are well serviced. In fact, some informal settlements are even better-off than some formal neighbourhoods in terms of services and infrastructure. Their residents, who include both powerful and vulnerable people, managed to secure connections to water and electricity through the district council. The residents of informal areas, close to the city's formal neighbourhoods, benefited from tapping into the utilities and services meant for the neighbouring areas, causing additional pressure on existing public utility networks and services. It should be noted that the layout of some informal settlements imitates the planning and design standards of the formal neighbourhoods, in the hope that it will improve their chances of being regularised in the future. This has been the case with the neighbourhoods of Adan, Al-Karama, Al-Kahira, Al-Tahrir, Tal Al-Rumman, Al-Mamoun, Musherfa, and Harmat.

Before the fall of Mosul there were no national policies in place to regularize informal settlements.¹ The closest effort to the upgrading and regularisation of informal

¹ A National Road Map for the Regularisation and Rehabilitation of Informal Settlements and IDP Areas was endorsed by the Council of Ministers in July 2015.

settlements in Mosul city is the case of Tal Al-Rumman IDP camp, which through the efforts of the UNHCR and the Ministry of Migration and Displacement was redeveloped as a residential area (see Chapter 7).

Violations by Housing Cooperatives

The **Iraqi Land Law** (No. 117 of 1970) grants individuals and cooperatives the right to use, exploit, and dispose of *miri* land (*haq al-tassarouf*). While individuals who hold *tassarouf* right are allowed to build residential units on the land in question for themselves – in accordance with the conditions set forth by **Act 1488 of 1986** regarding suitable built-up areas – housing cooperatives, however, have to go through a series of legal steps to change the classification of the land from *miri* to private ownership (as specified in **Law 51 of 1959**). In addition, they need to request a land use change from agricultural to residential (**Decree 703 of 1973**), before being allowed to construct on it.

In addition to the above legal steps, **Decree 222 of 1977** mandates all subdivisions and land use change schemes, within the municipal boundaries of Iraqi cities, to respect the city's 1973 master plan. It also stipulates the consent of the Ministry of Municipalities and Public Works if the land in question is located outside the limits of the master plan.

According to the Directorate of Urban Planning of Nineveh Governorate, none of the housing projects and land subdivisions carried out by housing cooperatives in Mosul has the ministry's approval. This is why the Directorate of Urban Planning of Nineveh Governorate regards the city's housing cooperative projects as violations. The Directorate is seemingly resentful of housing cooperatives for two other reasons; firstly, because they breached their official mandate – which requires them to sell residential units as opposed to undeveloped land – and secondly because they did not respect the city's growth vision set forth by the 1973 master plan, in turn complicating the process of updating the master plan (Box 8.1).

The conflicting administrative mandates between the different authorities responsible for overseeing land development have further complicated the situation. Although it is not legally possible to serve unauthorized development projects that fall outside the limits of the city's 1973 master plan, most housing cooperative projects have managed to bypass the Directorate of Urban Planning and obtained the required approval to install services from higher-up authorities. This has resulted in a rather ambiguous situation whereby it is difficult to classify housing cooperative projects as contravening or not the law.

Failed Security Zones

After 2003, some of Mosul's informal settlements became known as 'failed security zones' (i.e. self-governed) and, perhaps as a result, incubators for radicalisation. Between 2006 and 2014, the leaders of Al-Qaeda – particularly those who originated from Tal Afar – notoriously settled in the neighbourhoods of 17 Tamouz, Al-Eslah Al-Zerae, and Al-Nahrawan. This does not mean that extremism did not grow in other neighbourhoods. According to some local residents, radicalism developed in some of the city's poorest areas, which are mostly located on its right bank. It is also believed that the armed groups and dormant fundamentalist cells that entered the city at the height of the ethnic and sectarian conflict, first settled on the right bank of the city, then moved to the left bank after they gained more power and wealth.



Tal-Al-Rumman area to west of the city, 2016 © UN-Habitat satellite imagery

Box 8.1: Mosul City Master Plan

The first master plan of Mosul city was developed by the French consultancy firm S.C.E.T International and the Iraqi firm Dar Al-Imara in 1972 and 1973. This plan arranged the city into different land use zones, defined the city's administrative limits, and identified future urban growth directions until 2000 and 2002. Due to the unstable political situation and the international sanctions imposed on Iraq (1990-2003), the update of the master plan was delayed despite the rapid population and informal city growth. It was only in December 2008 when the Iraqi central government, through the Ministry of Municipalities and Public Works and the General Directorate of Urban Planning, authorized and dedicated funds for the updating of the city's master plan. The Iraqi engineering consulting firm Al-Mimari along with the USA-based consulting firm C&R Rizvi were commissioned to develop a new master plan to guide city growth until 2030.

In accordance with the Iraqi Municipalities Management Law (No. 165 of 1964), the new master plan should have extended the city growth limits by 7 km from all sides, and developed design and zoning regulations for the newly added areas. In the case of Mosul, planned city growth is constrained by the informal settlements in the north and Mosul's Eastern Irrigation Project in the northeast, east, and southeast. Hence, there are fewer physical impediments for planned city expansions towards the west and southwest.

The development process of the new master plan – which comprised of five phases: data collection, data analysis, alternative design scenarios, pre-final master plan, and final master plan – faced numerous challenges. The consultants' technical weakness and unrealistic proposals, in particular, led to delays in the completion and final endorsement of the master plan. Following the recommendation of several technical committees, the ministry suspended the consultants' contract and subsequently cancelled it through a court order. In 2013, the ministry launched another call for tenders; the local consulting firm Medad along with a German consulting partner won the bid and were commissioned to complete the master plan. Once again, this second team did not

have sufficient technical capacity to complete the job on time. A key reason behind this second failure is that the ministry did not allocate a sufficient budget to complete the work. Most of the budget was spent on the first three phases of the work carried out by the first consulting team and left very little for the design phase.

Pending the new master plan's completion and approval, the old master plan of the city continues to act as a main frame of reference in guiding the city's local government through city planning and land use management. In June 2014, any aspiration to work on the new master plan was halted altogether.

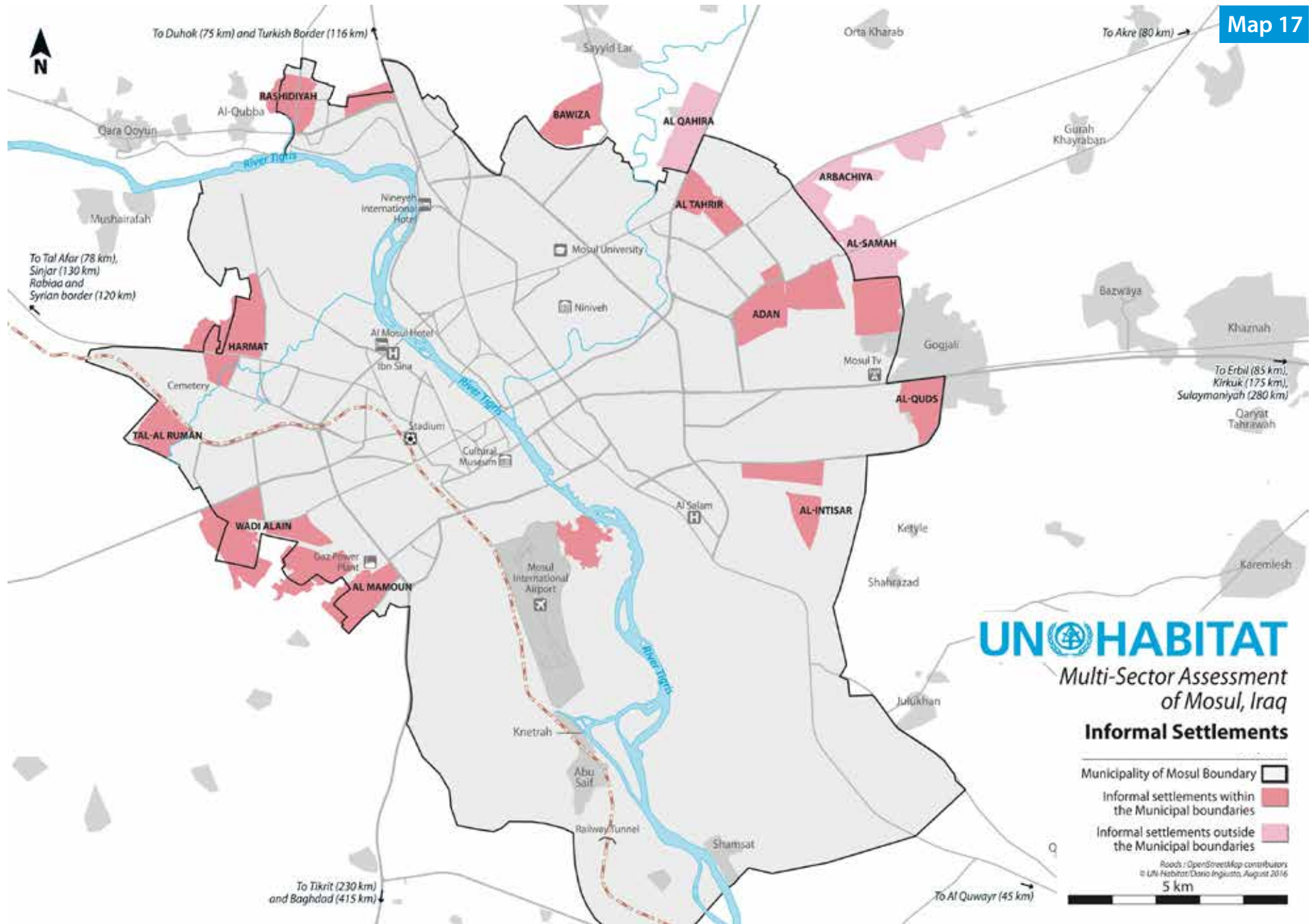
Box 8.2: Violation Types

Building and land use violations within the limits of the city's 1973 Master Plan consist of:

- *Tajawuzat* – i.e. unauthorized construction on government-owned land, which usually takes place at a settlement scale (informal settlements).
- *Mukhalfat* – i.e. construction on private land that violates the land use classification prescribed by the city's 1973 Master Plan, as well as unauthorised extensions to legal construction.

Whereas violations outside the limits of the city's 1973 master plan consist of unapproved subdivision of, and consequent construction upon, land classified as agricultural; these cases also fall under *tajawuzat*, given that all agricultural land outside cities is *miri* (i.e. government-owned) land.

Map 17





REAL PROPERTY

9. REAL PROPERTY

Discriminatory land policies enforced under the former regime against the city's minorities continued after 2003. In 2004, the local government suspended all property ownership transfers on the city's left bank, and limited the issuance of property records by the Left Bank Real Estate Department, the implementation of topographic surveys, and other assessments. This was mainly to have more control over and to limit property transactions in the direction of the disputed territories. The Left Bank Department officially stopped all of its operations and closed in 2013 after a couple of violent incidents and threats to its employees. It is believed that large-scale falsification of property records took place between 2004 and 2013, leading to the arrest of high-ranking officials.

Many local residents believe that Mosul's shadow government managed to get hold of the official property records (*Tapu*) of some minority groups, and concealed them for illicit purposes. It is most likely that some ISIL members had access to these records before they took control of the city in June 2014, which explains how the group launched soon after targeted attack on the properties of minorities forcing their owners and occupants to escape leaving everything behind.

Affected Groups and Neighbourhoods

ISIL looted and confiscated all types of private properties (houses, apartments units, agricultural land, shops and businesses) belonging to those who fled the city. Property confiscation primarily targeted the city's religious and ethnic minorities (Turkomans, Kurds, Shabaks, Christians, and Yazidis), as well as people associated with the Iraqi government and its police and security forces, and soon anyone considered unfaithful to ISIL. According to eyewitnesses, most – if not all – houses owned the minorities have been usurped by ISIL's Shari'a (legal or religious) court. ISIL marked Christians' homes with the letter "ن" or "N" (signifying *Nasrani* or *Nazarene*, which is the Arabic word for Christian), and the homes of the

city's Shia Turkomans and Shabaks with the letter "ر" or "R" (signifying the Arabic word *Rwafidh*, which means rejecters), in preparation for their confiscation.

News reports and other sources indicate that the majority of property confiscation took place in the following: the Christian neighbourhoods of Al-Arab, Shurta, Nour, Muhandiseen, Majmouah, Thaqafiyah, Faisaliah, Zohour, Dawas, Jawsaq and Dandan; the neighbourhoods of Al-Thaqafa, Al-Bakir, Al-Maidan and Al-Saa'a in the old city; and the Shia Turkoman and Shabak neighbourhoods of Atshanah, Karamah, Quds, Nour, Bab Shams, Nour and Adan. There are also many other confiscated properties scattered across the city.

Eyewitnesses from Mosul also attest that ISIL organized public auctions, and opened a new special market called the "Spoils of the Nazarenes", where all sorts of household items, furniture and electronics, and art objects looted from homes of Christians and churches in Mosul were sold.

In addition, ISIL confiscated the revenue and real estate properties of Mosul Municipality and Mosul's Sunni endowment – the largest two property owners in the city – and that of the Real Estate Department of the Ministry of Finance, among other institutions (see Box 9.1). Also the city's Sunni Muslim population has been affected by property seizure threats. Several lawyers received calls from ISIL members threatening to confiscate and sell their properties unless they stopped practicing law. This was also the case for doctors, although most were still required to report to work. In addition, the properties of those families who left the city without permission or did not return to ISIL-controlled territory were seized and re-allocated.

Confiscated Property Sale and Rental

According to some of those who fled the city, ISIL placed usurped properties in its purposefully created "Property Diwan" and proceeded to sell or rent them at attractive rates. Typically, the most luxurious properties (houses and

cars) were offered to ISIL high-ranking commanders and foreign fighters and their families (Map 18). Other houses were rented or sold to other ranks of foreign and local fighters, as well as IDPs and affiliated Syrian families who fled the fighting in their home towns and villages and found a safe haven in Mosul.

Before the occupation, the average monthly rent of an ordinary house (i.e. a detached two floor residential unit with 2-3 bedrooms and a total area of 200m²) could reach between IQD 300,000 and 500,000. Immediately after the fall, rental prices reportedly dropped to IQD 100,000-150,000. It appears though that as of October 2014, ISIL put some of its confiscated properties up for sale at less than 50 per cent of their former market value. Proceeds from these transactions were transferred to ISIL's treasury, and thus used to finance the group's activities and to remunerate its commanders and fighters. It is difficult to estimate the amount of money that ISIL made through the illegal sale and rental of confiscated property, however – according to a report by IOM – it is estimated to be "more than the money it makes from selling oil and oil derivatives on the black market there" (IOM 2015).

Anticipated Legal Complications

There is no information on the number of people who bought property from ISIL. Former residents rule out the possibility that people from Mosul might have purchased usurped property. They say that if local residents had in fact bought some of these properties, they would be just a few opportunistic land speculators tempted by the low sale prices or individuals that were offered fake title deeds. Property transactions among local residents – they argue – normally occur through consensual agreements. Indeed, some of those who fled the city affirm that ISIL's 'Property Diwan' has been issuing property ownership documents. Human rights organisations working in the area confirm finding forged property documents in the possession of IDPs from Mosul, and other cities (Minority Rights Group International 2014).

Although the Iraqi Ministry of Justice issued a formal statement on 22 July 2014 annulling all property ownership transfers that took place in the ISIL-occupied territories of Anbar, Salahaddin and Nineveh Governorates after 10 June 2014, a wave of competing property claims are anticipated after the fall of ISIL. Many of those who fled their homes do not have official property documentation in their possession. This is the case for example of Christian families, the majority of whom were unable to collect their property documentation, or even ID cards, as they had to escape the city in haste. Others were stripped of their documents and other valuable possessions on their way out of the city, at the unofficial checkpoints set up by ISIL militants in the surroundings of Mosul. Substantiating their property claims without any kind of official paperwork will be one of the returnees' first challenges upon return.

The situation may become even more complicated if the rightful owners do not make their way back. It is feared that 'property mafias' will emerge in such cases to take advantage of the situation by forging the identities of absentee landlords. Exacerbating the situation further is the possibility that ISIL had in fact destroyed the city's original property registers, held at the city's Real Estate Department. Although copies of these records are available at the Central Land Registry in Baghdad, there is little chance that such documents are up-to-date. Hence, it will be difficult to prove the legitimacy of property transactions occurred between the last update of the records held in Baghdad and 10 June 2014.

The fact that the above-mentioned statement of the Ministry of Justice is retroactive might also create legal problems, as some unscrupulous individuals may have forged a property document with a purchase date between the statement's date (22 July 2014) and its actual date of effect (10 June 2014).

Box 9.1: Government Land and Property

The two largest public sector owners of land in the city of Mosul are the Mosul Municipality and the Ministry of Awqaf and Islamic Affairs. Many of Mosul Municipality's 9,200 properties inside the city are leased. They include commercial buildings, market stalls, shops, restaurants, cafés, open spaces and parking lots. The municipality also owns property in Mosul's industrial zones and a number of fuel stations. The monthly revenue from these properties used to reach approximately IQD 3 billion (USD 2.5 million). Since all municipal properties have fallen under the control of ISIL, they have been administering this revenue – even if it presumably lower due to the reduced rental prices and the closure of some business enterprises.

Properties of Mosul's Sunni endowment body include hundreds of residential and commercial buildings, located in different neighbourhoods and suburban areas. Another significant landowner in the city is the Ministry of Finance (Real Estate Department), which had inherited the properties of the ministries and institutions that were abolished after the fall of the former regime, as well as the properties of the Ba'ath party.

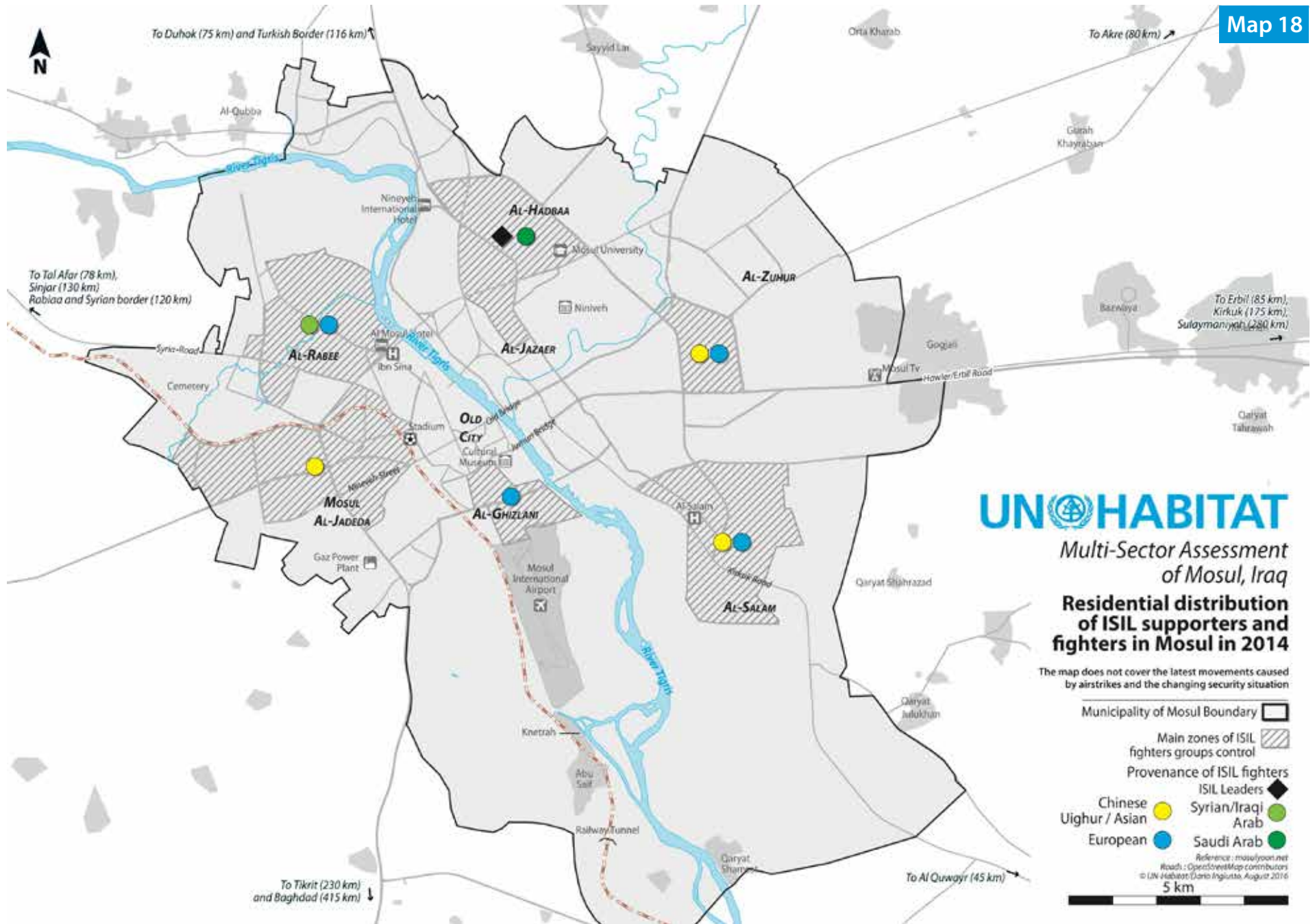


Christian homes confiscated by ISIL © Alhadath news



Al-Hadba Housing Project, north of Mosul, October 2016 © UN-Habitat / Satellite imagery

Map 18



ROADS & TRANSPORTATION



View from the Fourth Bridge of Mosul © Nineveh Media center

10. ROADS AND TRANSPORTATION

Roads

Mosul city is well connected with its surrounding districts and sub-districts as well as with Baghdad, the KRI, Syria, and Turkey. All entrances and main roads leading to the city are presently under the control of ISIL. With the exception of Highway 47, that connects the city of Mosul with the ISIL-occupied area of Al-Raqqa in Syria and part of the highway that connects Mosul city with Baghdad (as far as Hadar and Shirkat through Al-Baaj district), all main roads in and out of the city are closed. Although some key connecting roads are, in theory, still functional, residents avoid them for fear of attacks, land mines and other IEDs.

Until early September, the five bridges that connect the right and left banks of the city were reported still accessible and in good condition, with the exception of Al-Hurriya bridge, which was bombed by air raids on 21 January 2016. According to some local residents, ISIL has rigged the bridges with explosives, and would be able to destroy them in the case of a ground military operation to retake the city. (Map 19)

Ground Transportation

Prior to mid-2014, Mosul city had a wide-ranging transportation system. In addition to its extensive bus network, operated by the private sector, it had a railway that connected it with Baghdad, Syria and Turkey. Mosul station was originally built in the late 1930s. Suspended for some time, the train service was resumed in February 2010, only to be interrupted again by ISIL when they took over the city.

Airport

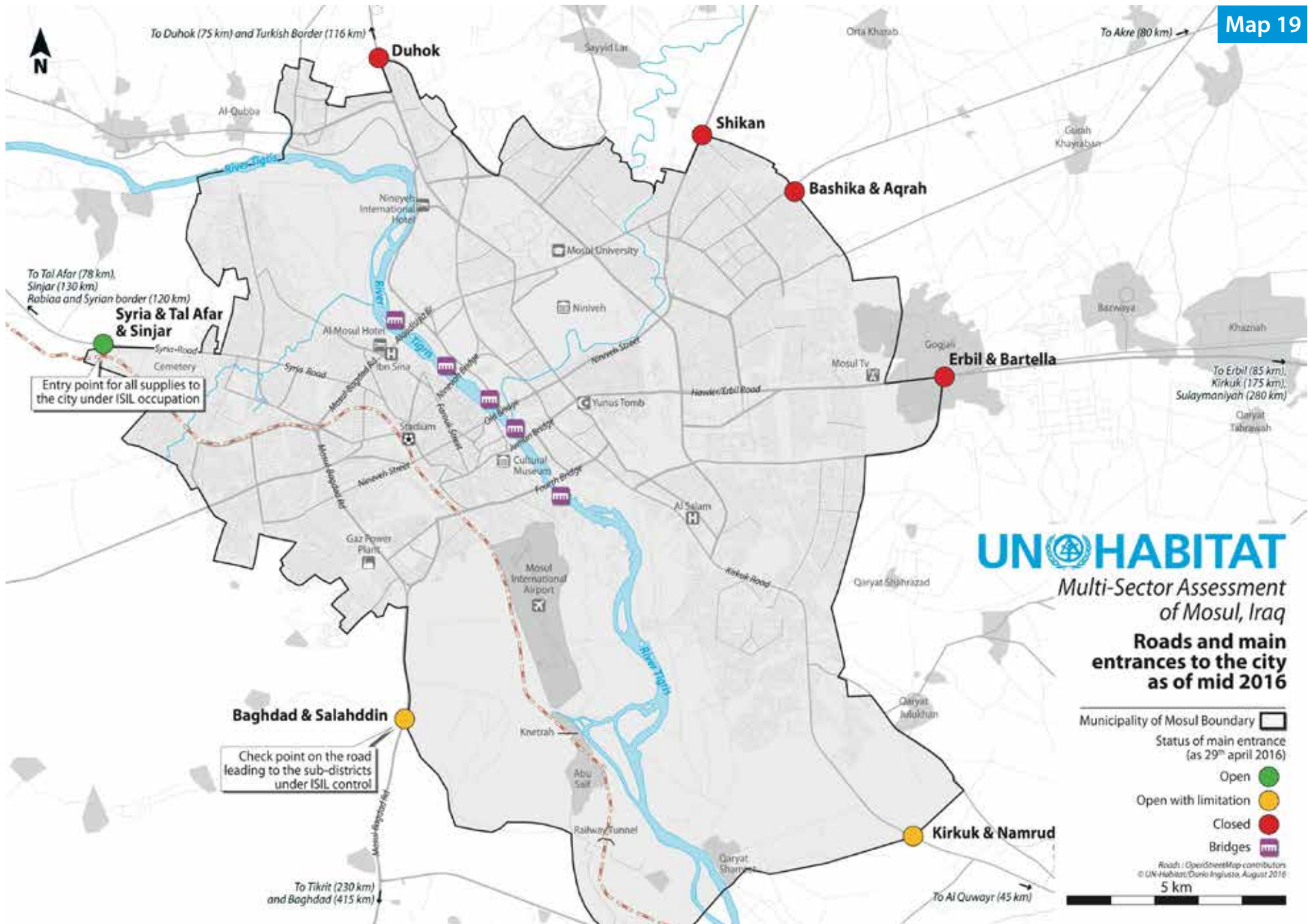
Mosul is also served by an international airport, located on its right bank. Initially operating as a military airport, in 1990 it was turned into a civil airport for domestic flights after it was fitted with a new runway and terminal. Later on, it underwent some major renovations to meet the required international standards and reopened as a civilian international airport in December 2007. On 9 June 2014, the airport was seized and shut down by the militants who destroyed its runway and the control tower, along with its equipment and air navigation devices.

Satellite imagery shows the potholed tarmac dotted with cement blocks to stop air crafts from landing.

A new international airport was proposed and approved by the International Civil Aviation Organization (ICAO) in the 1980s. Located in Al-Sahagi area, approximately 35 km to the west of Mosul city, the construction of the new airport was never started. It was only in 2013 that the Nineveh provincial government allocated the funds and signed an agreement with a French engineering consulting company (ADPI) to prepare a feasibility study. The project came to a halt when ISIL occupied the city.



View of three bridges of Mosul © UN-Habitat Satellite imagery





Aerial view of Mosul airport, July 2014 © UN-Habitat Satellite imagery

Aerial view of Mosul airport, October 2016 © UN-Habitat satellite imagery



**INFRASTRUCTURE
& PUBLIC UTILITIES**

11. INFRASTRUCTURE & PUBLIC UTILITIES

Electricity

The city relies on a few sources of electricity, the most important of which is the **Mosul Dam**, the largest dam in Iraq. Constructed in 1983 on the Tigris river some 40-50 km north-west of the city of Mosul, according to the Directorate of Electricity, its hydro-electrical power station has a total generating capacity of nearly 800 MWh. The Dam complex was captured over by ISIL on 7 August 2014, but successfully retaken by Peshmerga forces just a 11 days later, with the support of the Iraqi army and the coalition forces. The two generating power plants within Mosul are: the **Al-Mansour Gas Station**, on the right bank, with a power capacity of approximately 8MWh; and the **Al-Sharquiya Station** on the left bank, which operates on fuel brought in by tankers and has a power capacity of approximately 12 MWh (Map 20).

Upon ISIL's occupation of the city, the Al-Sharquiya station soon stopped functioning due to the lack of fuel. The Al-Mansour Gas Station halted its operations due to the lack of gas which used to come from the Baiji Oil Refinery. As of today, the Mosul Dam power station is the only source of energy that is still serving the city, albeit not at its full capacity. It provides electricity to the city's neighbourhoods for a few hours a day, according to a rotating schedule. In October 2015, the power station was shut down due to reported cracks due to the erosion of the gypsum foundation of the embankment. Its functionality was only restored in January 2016 when it was deemed safe again to increase the water flow out of the dam to operate the electric generators. In early 2016, the Iraqi government signed a contract with an Italian construction firm tasked to carry out repairs on the dam.

Today, local residents rely on the private standby generators that used to serve as a backup power supply to their neighbourhoods and are widespread throughout the city; yet, the operation of these generators is controlled

by ISIL and limited by the fuel shortages. People's limited financial means and inability to pay electricity bills, is another reason for the limited use of private generators.

Water Supply and Coverage

Four drinking water projects have been implemented in Mosul city (Map 21):

1. United Right Bank Project – established in 1980, with a total design capacity of 204,000 m³ per day. Before ISIL took control of the city, it produced 183,600 m³ per day and served some 400,000 inhabitants.



Excavation work in the Right Bank Water project before ISIL
© UN-Habitat / Iraqi Urban Observatory

2. New Left Bank Project (Al-Quba) – established in 1993, with a total design capacity of 280,000 m³ per day, but an effective operational capacity of 238,000 m³ per day. Before the fall of Mosul, it served some 850,000 inhabitants.

3. Old Left Bank Project – constituted by an old structure built in 1966 and a new expansion implemented in 1981, connected to a single network. Together they have a total design capacity of 60,000 m³ per day. Before ISIL took control, it had an operational capacity of 54,000 m³ per day, serving some 200,000 inhabitants.

4. Al-Ghizlani Project – established in 1975 with a total design capacity of 8,800 m³ per day, and an effective operational capacity of 8,360 m³ per day. Until June 2014, it served some 9,500 inhabitants.

Despite the implementation of these projects, Mosul city, especially its right bank, suffered from water scarcity. In response to this problem, the Directorate of Water of Nineveh Governorate launched a three-year project in May 2013 that deployed modern techniques to extract water from the Tigris River, filtering, sterilising, and pumping it through the city's water network. The project also introduced new pumping stations in five locations: Musherfa neighbourhood (the largest), Harmat and Hawi Al-Kaneesa neighbourhoods, Al-Danadan neighbourhood, Al-Rashidiyya neighbourhood, and in Al-Sallamiya village south east of Mosul. All were functional before ISIL took over the city.

The network was fully functional and continued to work at full capacity until March 2015, albeit without any serious maintenance. Afterwards, water was pumped into the network without sterilisation from bacteria and other pollutants, due to shortage of chlorine supply. Later that year, the water supply system was seriously affected by air raids, and although technicians attempted to fix the damage, they could only restore the system to half of its capacity.

After the central government stopped supplying the pumping stations with electricity from the generating station of Mosul Dam (October 2015), the operation of these stations became entirely dependent on available standby generators (that supply the different neighbourhoods with water according to a rotating schedule). According to some city residents, municipal water supply is today limited to a few hours per week at arbitrary times. Aside from not being potable, tapped water does not reach the high floors of housing blocks.

To cope with the situation, city residents purchase water for domestic use from local vendors who collect it from Tigris River and distributes it by tankers. Alternatively, people rely on artesian wells to draw underground water. As for drinking water, most households buy bottled water or filter tap water using basic techniques, such as boiling or straining it through fabric.

Wastewater

Until the mid-1970s, septic tanks were the common system of domestic wastewater disposal. Later, people started to rely on soak pits, which are a cheaper solution but environmentally problematic because it often led to serious wastewater leakage and contamination of the soil and water sources.

The city's seventeen existing wastewater treatment plants (eleven on the left bank and six on the right bank) are not yet connected to a city sewage network. Only an estimated two per cent of houses are served by a sewage system (Studio Galli Ingegneria 2008). Before ISIL took control of Mosul, Nineveh Sewerage Directorate was in the phase of introducing sewage treatment stations in nine different locations in the governorate: Ba'shiqa, Tal Kaif, Al-Hamdaniya, Al-Baaj, Al-Hadar, Bartilla, Dybkah, Rabi'a and Al-Qayara. Two large treatment plants were planned to serve the city of Mosul alone. Located on each bank, they were designed to serve respectively the new sewage network, with a capacity of approximately 350,000 m³ per day. The implementation of the new system was envisioned to take place in four stages, culminating in 2030 when the network would have covered the whole city. Preparatory site works for the two treatment plants began in 2011, construction works started in 2013, but stopped when ISIL took over the city. The network pipes have not been laid yet. (Map 22)

In many neighbourhoods, grey water runs down open rainwater gullies in the streets and relies on the city's topography to drain it to existing streams, such as the Al-Khousar, an affluent of the Tigris. In some areas, waste water and sewerage are directly discharged into the Tigris river. The city's existing rainwater network does not extend to all neighbourhoods. Where it does exist, rainwater pumping stations help to collect water and discharge it in the river. However, due to electricity problems, and some deficiencies in the system, some streets – particularly in low elevation areas – flood in the rainy seasons. According to local officials, this will be solved by the new sewage network which also includes has rainwater pipes, but the

implementation of the system needs time and funds to be completed.

Solid Waste

Mosul municipality used to have a fully functioning solid waste collection and disposal system prior to 2014. It gathered the solid waste from the city's neighbourhoods in large containers, then transferred it by municipal trucks to one of the two officially approved landfill sites outside the city – located respectively to the northeast and to the southwest of the city – whose use is determined by the season and the wind direction. In 2008, the city produced on average an estimated 884 tonnes of solid waste per day. This increased to 1,000 tonnes in 2010 and was anticipated to reach 1,250 tonnes in 2014 (Al-Rawi & Al-Tayyar 2012).

In late 2012, the municipality proposed the construction of two Intermediate Solid Waste Transfer Stations – one on each bank. Only the one in the Al Muthanna sector was built, but was never operational because opposed by local residents who fear that it will be used as a landfill site, and because no equipment was actually installed due to contractual problems. The municipality also planned the introduction of larger collection trucks to transfer the solid waste to the landfill sites.

Solid waste collection and disposal did not stop after ISIL occupied Mosul, but was significantly reduced due to the lack of the fuel needed to operate the collection trucks, and security problems along the way to the landfill sites. Lack of maintenance has led to the rapid deterioration of the collection trucks.

Communications

Before ISIL seized Mosul, three Iraqi mobile phone companies operated in the city: AsiaCell, Korek, and Zain. Their services covered the city and surrounding suburban areas. ISIL forced all mobile phone companies to shut down their networks in order to prevent the city's inhabitants from communicating security and military information to the outside world regarding the movements of their

fighters. Moreover, ISIL dismantled all towers and electric generators of the city's mobile telephone networks and sold them in neighbouring countries. Only those living in the highlands north and east of the city have occasional mobile network connection.

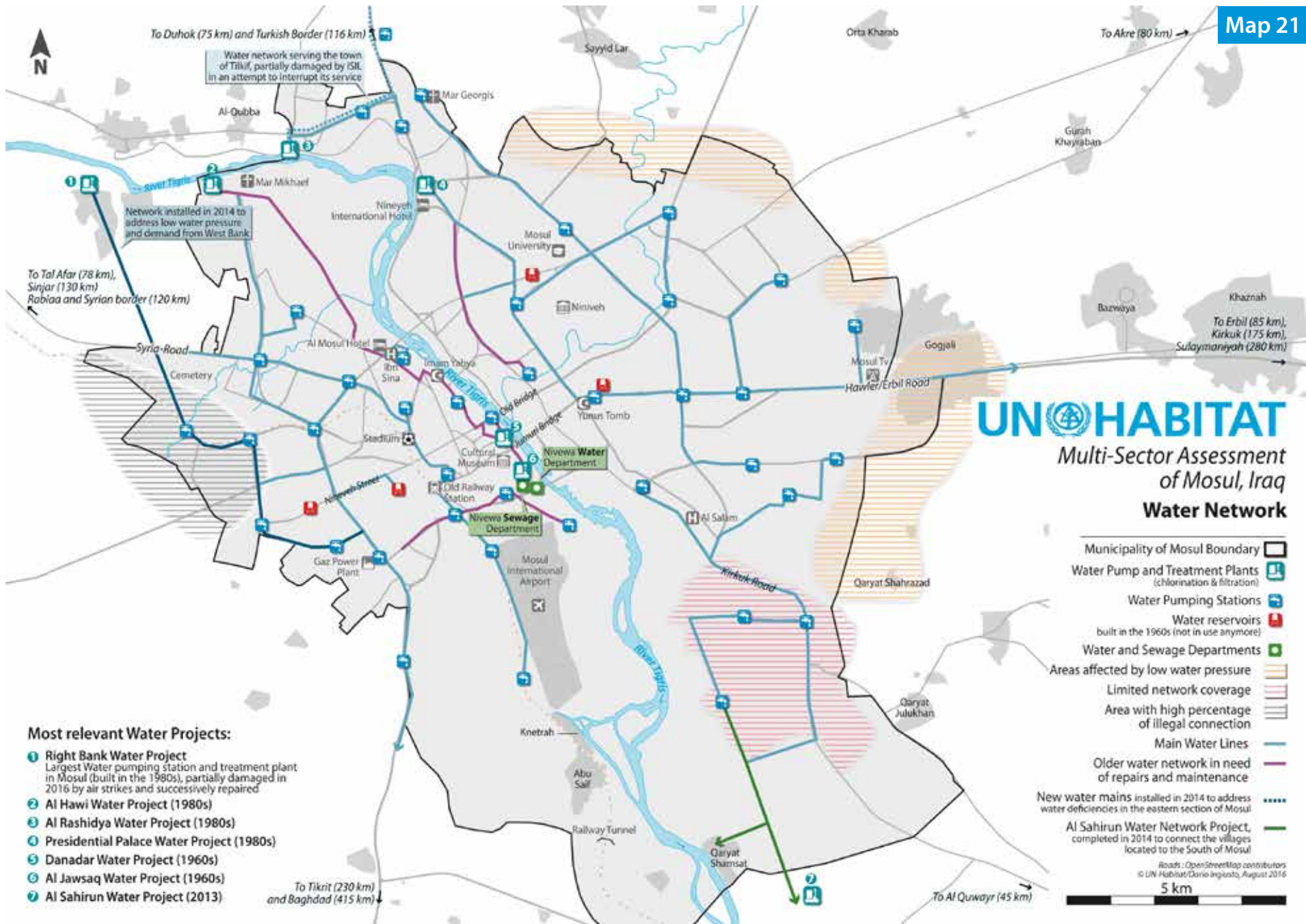
The city's was also served by a land line network – functionally restored in 2003 – that covered around 78 per cent of the city. The transformers of the city's land line network were targeted by air strikes in 2015, aimed at hampering communications among ISIL affiliates (their preference for landlines rather than mobile phones was well known).

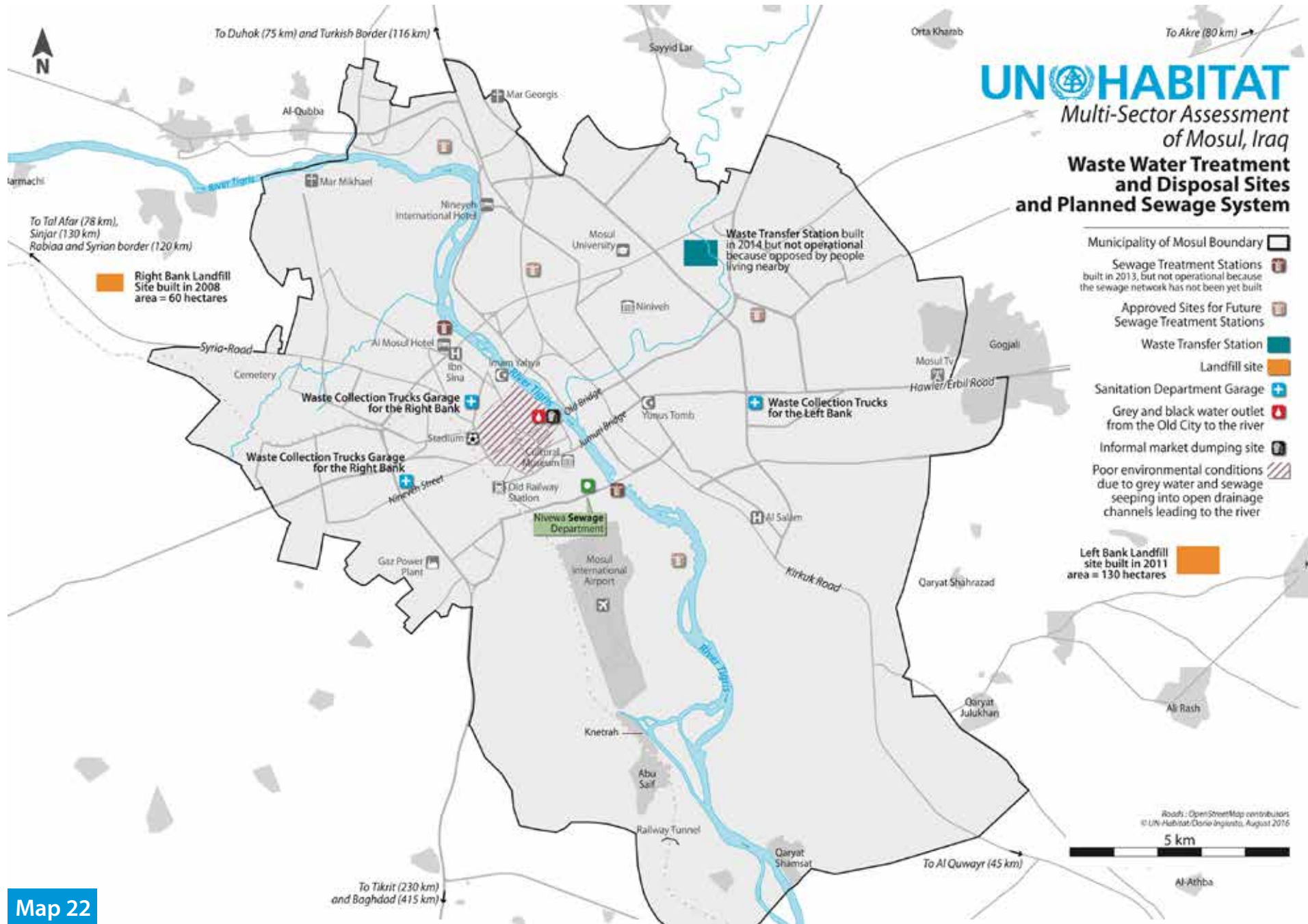
Prior to occupation, there were several internet providers in the city, which operated under the supervision of the local government. ISIL did not halt their activities, but imposed strict control over private internet use and imposed high taxes to allow the providers to stay in business. Although the connection quality has deteriorated, the internet has been the main communication tool that connected those who remained in Mosul with the external world. As of 1 August 2016 access to the internet is limited to internet cafés and is under strict observation.



Flooding of a street in Mosul, 2008 © Mosul 4 all blog

Map 21





HEALTH



Mosul General Hospital (before ISIL) © UN-Habitat / Iraqi Urban Observatory

12. HEALTH

Nineveh Governorate was once known for its good healthcare services and highly-qualified doctors. Between 2008 and 2014, a substantial number of facilities were rehabilitated and equipped with new medical instruments. New specialized hospitals were also planned in the northern and southern parts of the city, and some were still under construction when ISIL took over the city (Map 23).

According to the Ministry of Planning (2013), Mosul city has in total:

- 13 public hospitals with a 3,200-bed capacity;
- 4 specialized public hospitals (gynaecology, cancer and nuclear medicine, paediatric and maternity, and chest diseases and fevers) with a 228-bed capacity;
- 3 private hospitals with a 104-bed capacity;
- 32 public health clinics; and
- 254 private health clinics.

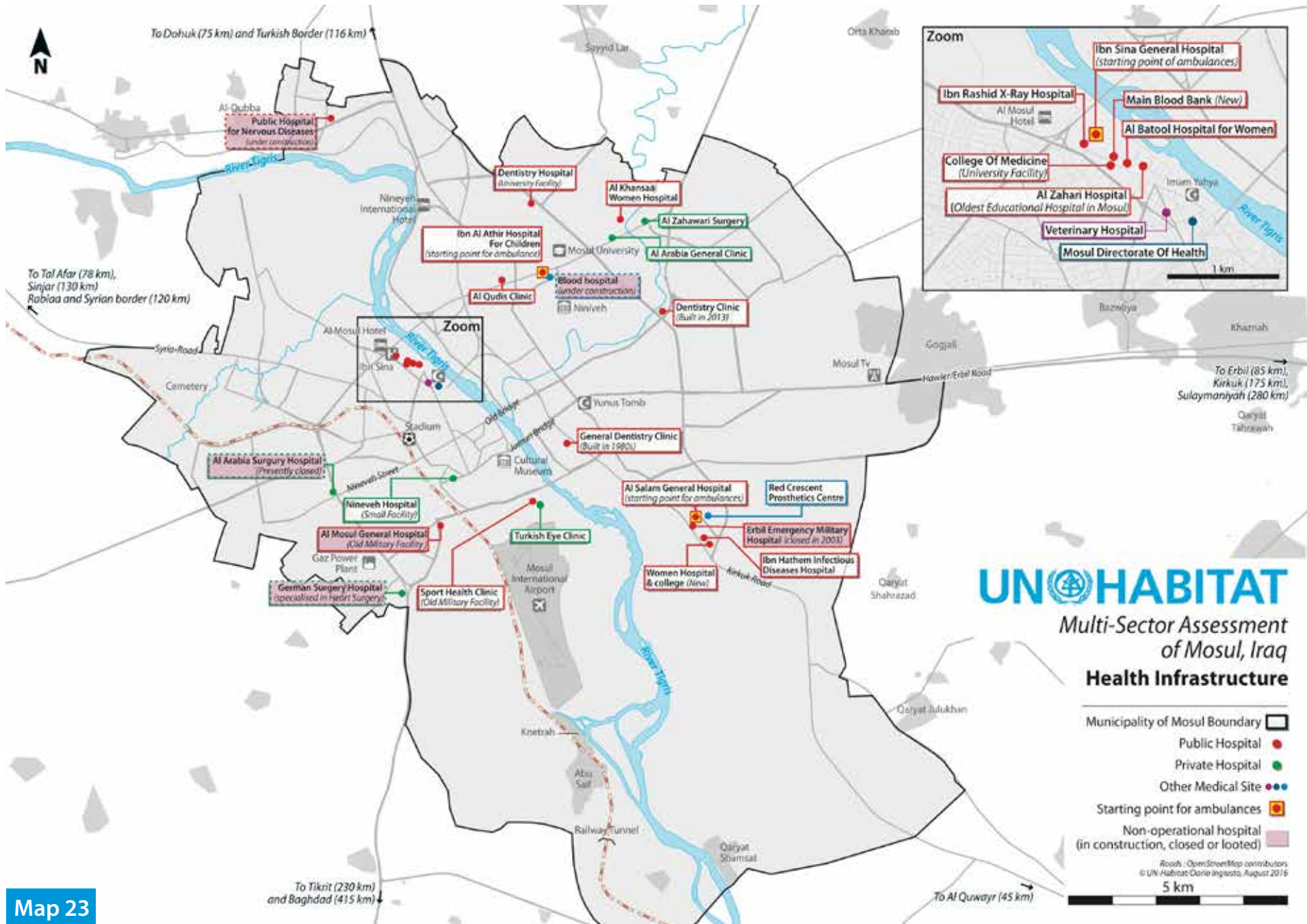
All these facilities were managed by specialist doctors and were working properly until ISIL occupied the city. At that point, although hospitals were not destroyed by air strikes and continue to receive civilian patients, health services started to deteriorate. Due to the fragile security situation, many medical staff members fled. This clearly affected the quality of healthcare and the capacity of hospitals to deal with surgical cases, and with patients in general. With regard to surgeries, priority was given to non-civilians patients. Also, the higher fees that ISIL imposed on medical services and operations (IQD 100,000 - IQD 500,000) added to the suffering of many civilians.

The fact that ISIL prohibited male doctors from examining female patients, and female doctors from examining male patients, has particularly affected maternal health. Exacerbating the problem is the increasingly poor sanitation in hospitals and the disposal of hazardous waste. The lack of obstetric and natal care is another serious issue especially in view of the depletion of vaccinations for infants. The availability of other medical

supplies and equipment has also decreased, as stocks were transferred outside Mosul and/or diverted for other uses by ISIL.

The closure of the highways that connect Mosul with other Iraqi cities further contributed to the decline of the city's health sector. Although many pharmacies are still open, their stocks is quite limited. Medicines, when available, are largely unaffordable. According to some city residents, the only available medicines in Mosul today are illegally imported from Syria and Turkey through ISIL followers.

In short, many city inhabitants are affected by poor healthcare, difficult access to surgery, unavailability of basic medicines and medical supplies (e.g. insulin and medicines for high blood pressure), as well as poor solid waste disposal and limited clean water for drinking.





INSET: German hospital site, November 2014 © UN-Habitat Satellite imagery

Evidence of the looting occurred in the German Hospital compound, October 2016 © UN-Habitat Satellite imagery

EDUCATION

13. EDUCATION

Schools

Mosul city has numerous public schools and educational institutions, and a number of private ones distributed all over the city (Map 24).

According to the General Directorate of Education of Nineveh Governorate, these include:

- 56 nurseries;
- 435 kindergartens;
- 362 primary schools;
- 112 intermediate schools; and
- 78 secondary schools.

When ISIL seized Mosul, it closed down all schools then reopened them after changing the curriculum in accordance with its own ideology. A number of subjects were omitted (such as national education, and modern history after World Wars I and II). The topics currently taught at schools are based on books authored and printed by ISIL. These books were first distributed to the students free of charge and they are geared towards convincing them of ISIL's principles and goals. In addition, ISIL imposed tuition fees, despite the fact that education in public schools was completely free prior to occupation. More importantly, the quality of education in primary and secondary schools significantly declined. The combination of these factors has led many parents to stop sending their children to school. During the initial period of ISIL's occupation of the city, some families had crossed the front line to the KRI so that their children would be able to sit for school exams and not miss an entire year of education.

During the two years of ISIL's control, the enrolment of children born in 2008 and 2009 in the city's schools has been very limited. This means that, after recapturing the city from ISIL, schools will have to accommodate more students at the same level. At the same time, the Ministry of Education would need to devise an intensive curriculum

that will allow children who never joined school, and out-of-school children who had to discontinue their education, to catch up with their peers.



Extract from a ISIL education textbooks © Rudaw

Higher Education

There are three universities in Mosul:

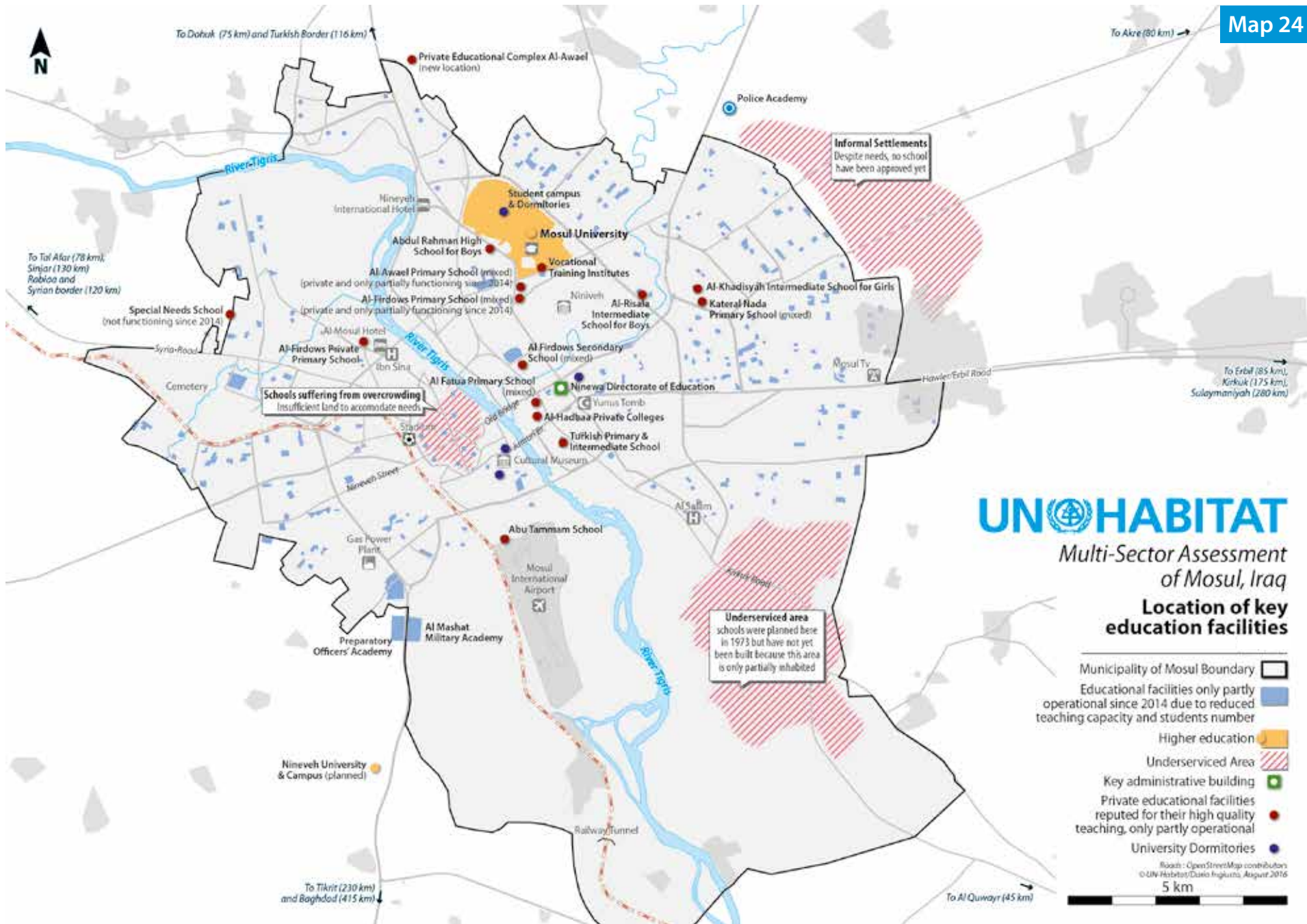
- 1. Mosul University:** a public university founded in 1967; it is the second largest and well-reputed university in Iraq after Baghdad University. The university is located on the left bank of the city (in Al-Shrta and Al-Andulus neighbourhoods) and has 23 colleges and three technical institutes. In 2014, before ISIL took control of the city, it had 42,000 registered students.
- 2. Nineveh University:** a new public university stemming from Mosul University; it was initially designed to house the Faculty of Medicine and the Faculty of Dentistry but later on other colleges were also introduced, which were removed from the main university. The main campus of the university is located in the southern part of Mosul, on the Baghdad highway near Ain Al-Iraq residential project. It was under construction when ISIL seized the city. The university was, however, operational in a temporary location during the start of the academic year 2013/2014, and had approximately 1,200 registered students (450 students in the Faculty of Medicine, and 750 students in the College of Telecommunications Engineering).
- 3. Al-Hadbaa College:** a private university located in Al-Faisaliyya neighbourhood; it had close to 3,000 students before ISIL's occupation.

In addition, there are two technical institutions: the **Technical College** of Mosul (founded in 1993) and the **Technical Institute** of Mosul.

After ISIL occupied the city, all higher education institutions shut down due to security concerns. The Iraqi Ministry of Higher Education reopened Mosul University in Kirkuk and Dohuk. A number of students enrolled in Zakho and Erbil. The total number of students officially enrolled in the Mosul University in its temporary locations for the academic year 2015/2016 was about 15,000, while the number of graduates was about 4,500.

In July 2014, ISIL reopened the medical departments (medicine, dentistry, and pharmacy) as well as the schools of engineering and education at the main campus of Mosul University, but closed down most of the other colleges (namely law, arts, politics, philosophy, archaeology and tourism). Education is carried out under ISIL's new rules and regulations. It enforced gender segregation in classrooms, and prohibited girls from studying certain subjects (e.g. engineering and science) and from practicing sports. It is difficult to determine the current number of students attending the main campus; it is, however, presumably very low given that the Iraqi Ministry of Higher Education does not recognize its degrees. Furthermore, many families are concerned about sending their sons and daughters to university under the current circumstances. Fears have increased especially after February 2016 when one of the colleges and several administration buildings were bombed. The university is currently semi-closed.

Map 24





Mosul University Campus, October 2016 © UN-Habitat satellite imagery

A large, stylized number '14' is rendered in a dark orange color, serving as a background element. The '1' is a simple vertical bar with a slightly angled top. The '4' is composed of a diagonal stroke meeting a horizontal bar, which then extends into a vertical bar on the right.

**BUILT ENVIRONMENT
& CULTURAL HERITAGE**

14. BUILT ENVIRONMENT & CULTURAL HERITAGE

Destruction of the Built Environment

The armed clashes that preceded the fall of Mosul city did not result in severe damage of the built fabric. While destruction was confined within Mosul to the neighbourhoods in which the clashes took place, such as in the neighbourhoods of 17 Tamoz, Al-Uraybi, and Al-Najjar (around the Mosul Hotel), most of the devastation occurred in the small towns and villages outside of the city. Amongst Mosul's neighbourhoods, only a few residential buildings were destroyed or burned down. The damage was mainly inflicted to public buildings, police stations and military buildings; or in other words, buildings that ISIL tried to seize. After August 2014, many neighbourhoods and buildings that were known to harbour ISIL fighters were targeted during the military operations against ISIL and therefore destroyed. Some were bombed repeatedly.



The Al-Rasheed Bank was bombed by coalition forces in mid-February 2016 © Niqash

Recent satellite images (early September 2016), depict the extent of the damage: more than 135 locations in the city were destroyed since June 2014, some completely obliterated. Out of this number, 86 locations are governmental sites, while 49 are in residential neighbourhoods. It is estimated that 50-75 per cent of the city's governmental buildings are destroyed; these include directorate buildings, university facilities, and

public utilities offices. Mosul University, which became one of ISIL's headquarters, was bombed in late 2014 - early 2015, and some of its buildings were damaged. In the residential quarters, many private houses were destroyed. ISIL rigged and detonated several houses belonging to police, army officers and residents affiliated with the Iraqi Government. In parallel, several buildings were destroyed by air strikes. Between April and May 2015, frequent air raids targeted the neighbourhoods of Al-Rifai and Adan, which were reportedly sheltering ISIL fighters (Map 25).

The city's industrial areas, factories and infrastructure, were also seriously affected by both the military operations and ISIL-led sabotage. It is estimated that by August 2016, between 60 and 75 per cent of the city's industrial and manufacturing enterprises were destroyed. In March 2015, ISIL militias damaged the runway of Mosul International Airport and booby-trapped the city's main bridges. The battle to reclaim Mosul from ISIL is likely to inflict further physical damage upon the city's urban fabric. Of concern are a number of highly sensitive sites (such as the oxygen plants, gas bottling and pharmaceutical factories, radioactive medical components, and further south, the Mishraq Sulfur Plant – see Box 12.1), whose current conditions are unknown, but whose accidental – or deliberate sabotage by ISIL – could lead to major environmental consequences and health hazards (map 26).

Destruction of Heritage

Mosul is one of Iraq's richest cities in terms of its cultural heritage. It is famous for its numerous archaeological sites, historical, cultural and religious buildings, monuments and landmarks, the most important of which are: the Ancient City of Nineveh, Nirgal Palace Gate and Kuyunijak Hill, located on the left bank; and Kara Saray Citadel ruins and Bashtabia ancient tower, and the old city of Mosul, located on the right bank. The city has some 486 Islamic monuments and historic mosques as well as 32 ancient churches and six monasteries (C&R Rizvi 2010).

After it seized the city, ISIL launched a systematic attack on the city's cultural heritage sites and monuments in an attempt to obliterate its history, past civilizations and religious plurality. The group looted any treasures that could be sold and proceeded to destroy – and in many cases obliterate with earth-moving machinery – the city's most significant archaeological sites, historical buildings and religious monuments (Maps 27 & 28). Satellite images depict the daunting scale of damage and destruction that was inflicted in the past two years.

Cultural and Archaeological Sites

ISIL stole, confiscated, and destroyed thousands of rare books and manuscripts from Mosul's **Central Library**, as well as other smaller libraries. The group's wrath against the city's culture and civilization was also directed towards museums and universities across Mosul. The Assyrian and Akkadian artefacts of the city's museums were either stolen or defaced. More recently (9 -13 April and the beginning of May 2016), ISIL proceeded to destroy the ancient remains of **Nineveh**, the most important and renowned city in the history of the Assyrian Empire (which became the capital of the Assyrian empire in 705 BC), including the **Palace of Sennacherib** and all nearby archaeological remains. ISIL also bulldozed the famous gates of the city (Mashki, Nergal, Adad and Al-Shams) and the entirety of the twelve km-long city wall.

Outside Mosul city, ISIL almost fully destroyed the Assyrian city of **Nimrud** (11th century BC) and the city of **Khorsabad** (9th century BC). and totally destroyed the ancient site of **Hadar** (2nd century BC) by using heavy equipment and dynamite. In the latter archaeological site, ISIL deliberately targeted its thirteen human-headed winged-bull/lion statues (known as 'Lamassu') that are more than 2,700 years old. Destruction also targeted the ancient remains of the UNESCO World Heritage site of **Hatra** in the south of Mosul.

The bulldozing of the ancient city of Nineveh was conducted after nearly two years of ISIL's takeover of Mosul; this most probably came in retaliation for the

bombing of the organization's headquarters and offices within the city and the targeting of its communication network. However, the systematic destruction of heritage conducted by ISIL throughout the territory under its control, has far more strategic motivations. Firstly, ISIL considers all relics that preceded Islam to be polytheist relics, and regards statues and sculptures as idols that must be abolished. Secondly, ISIL uses the destruction of antiquities as a means to display its strength and power. Thirdly, ISIL is most probably using the destruction of antiquities as a strategy to disguise its real actions, which are the stealing, smuggling, and selling of ancient relics in order to boost the organization's financial resources (as they did in Tel Nabi Yunis).

Religious Monuments and Sites

ISIL reduced many significant Islamic religious monuments and sites to rubble. UN-Habitat and the Iraqi Tourism and Antiquities Commission estimate that approximately 37 important Islamic landmarks were devastated by ISIL, partially or totally, inside the city of Mosul. Of these, seventeen locations date back to the Atabeg dynasty (from 1127 AD to 1259 AD), four to the Jalairid era, and sixteen to the Ottoman era. The mosques and Islamic religious sites that were totally destroyed or heavily damaged include:

- **Al Nabi Yunis (Jonah) Mosque**, Iraq's most important mosque, and its adjoining shrine, the shrine of Prophet Jonah, which is equally revered by Muslims and Christians.
- **Majahda Mosque** (1180 AD), the second mosque to be built in Mosul after the Umayyad Mosque, which ISIL turned into a public square.
- Numerous smaller mosques: Al-Nabi Sheath (Seth) Mosque, Al-Nabi Jirgis Mosque, Al-Khudher Mosque, Sheikh Fathi Mosque, and Imam Aoun Bin Al-Hassan Mosque (1249 AD), in addition to the mosque of Imam Al-Bahir (1240 AD).
- Several tombs and religious shrines, including the Tomb of Imam Hassan Aoun Al-Din, the Tomb of Ali Ibn Al-Athir (12th century), and the shrine of Imam Al-Mouhsin (1211 AD).

Furthermore, ISIL caused massive damage to the religious buildings and heritage centres of minority groups within Mosul city, its environs and elsewhere in the Nineveh Governorate. ISIL fighters looted, removed or destroyed the icons of the Chaldean Church of the Holy Spirit, the Assyrian Orthodox Diocese Church, Al-Tahirah Church, and around 35 other churches. ISIL turned some of the churches into workshops for the manufacturing of car bombs and IEDs (in the hope that religious buildings would not be targeted by air strikes), and transformed other churches into guest houses for its fighters, or offices for *hisba* (moral police), among other things. ISIL also vandalized and destroyed the two oldest monasteries in Mosul: **Mar Elia monastery** (582 AD), and the **Mar Mikhail monastery** (built between the 4th and 5th centuries AD) which was turned into a stable for cattle.

As for the religious buildings and sites of other minority groups, ISIL completely destroyed all 22 Yazidi shrines in the Bashiqa and Bahzany regions of the district of Mosul; more than 30 Yazidi and Shi'ite sites in the city of Sinjar (the most prominent being the shrine of **Sayeda Zeinab**, granddaughter of the Prophet Muhammad); ten Shabak shrines in the Nineveh plain; more than fifteen mosques and Shi'ite shrines and several archaeological sites (including the Citadel) in the district of Tal Afar.



Destruction of the winged bull, early 2015. © Nineveh TV

Box 12.1: Highly Sensitive and Hazardous Areas

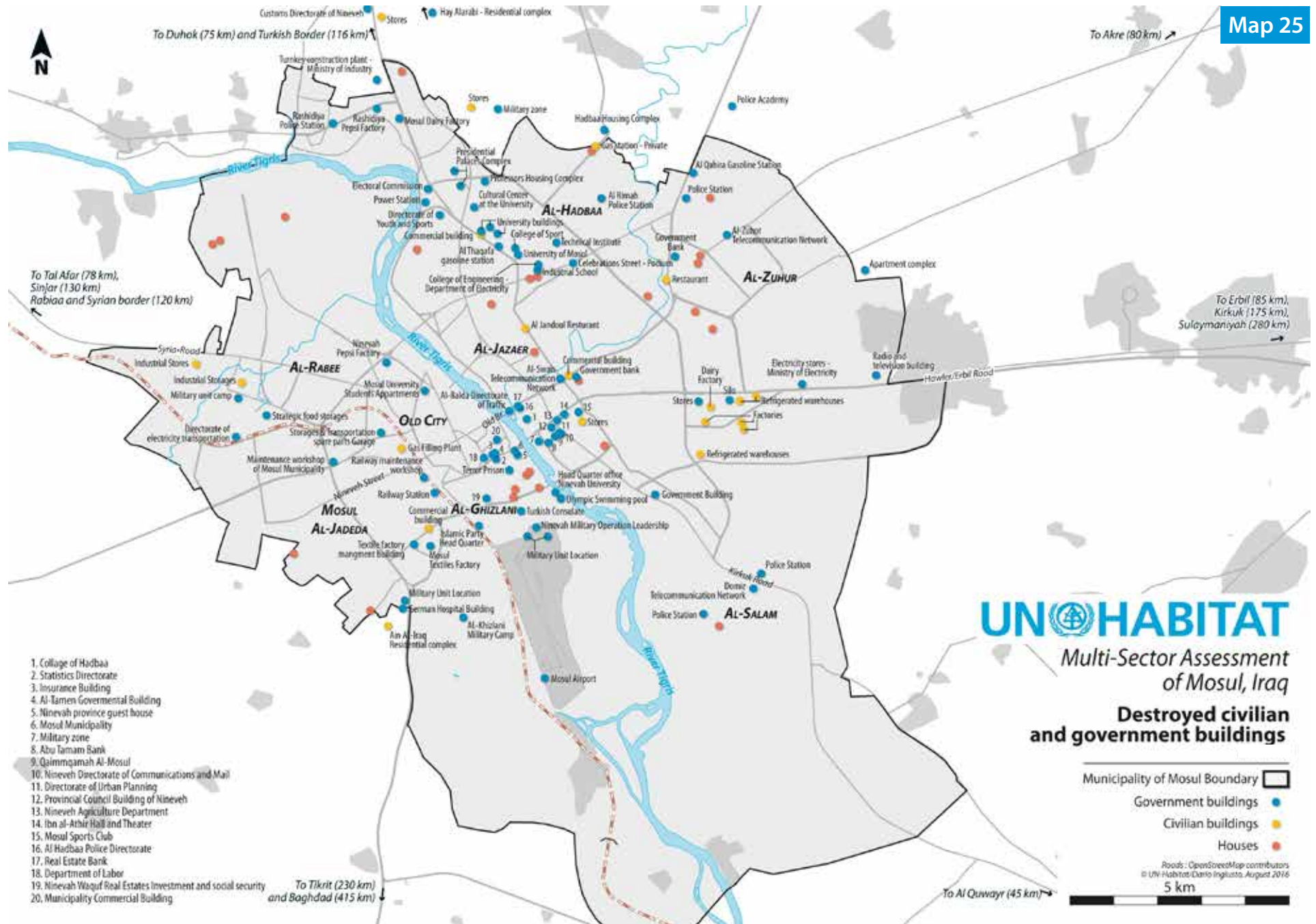
Oncology and Nuclear Medicine (X-Ray) Specialist Hospital located within Ibn Sina medical complex: The hospital does not have a proper waste management system. Its nuclear waste and remnants of radioactive materials are dumped unsafely in septic tanks. If bombed, there will surely be an environmental disaster. The nuclear and radioactive waste stocked in the septic tank might infiltrate into the soil and become a health hazard.

Mishraq Sulphur State Company: located 45 km south of Mosul city, Mishraq was struck by a major disaster. After the international sanctions on Iraq, the company's surplus production was stockpiled on-site in a rudimentary way, in the open and under the sand. In 2003, a large fire broke out and it took over a month to extinguish, as the heavy clouds of black smoke made it very difficult to identify the origin of the fire. After taking control of Mosul, ISIL turned one of the company's plants into a site for the manufacturing of explosives. In June 2016, an accident caused a large blast in the lab where explosives were produced, and dozens of ISIL members were killed. The international coalition forces have also bombarded the company twice, in 2014 and 2015, as it was harbouring ISIL members. According to technical estimates, 1.6 million tonnes of sulphur foam, 52,000 tonnes of refined Sulphur, and 97,000 tonnes of crude sulphur are stored in the company's premises. In the event of an air-strike or sabotage by ISIL in the upcoming battle to oust ISIL from Mosul, this huge stockpile of Sulphur may cause a significant environmental and health catastrophe, much worse than the disaster of 2003, especially if the expertise and equipment urgently needed to deal with such situations is not available.

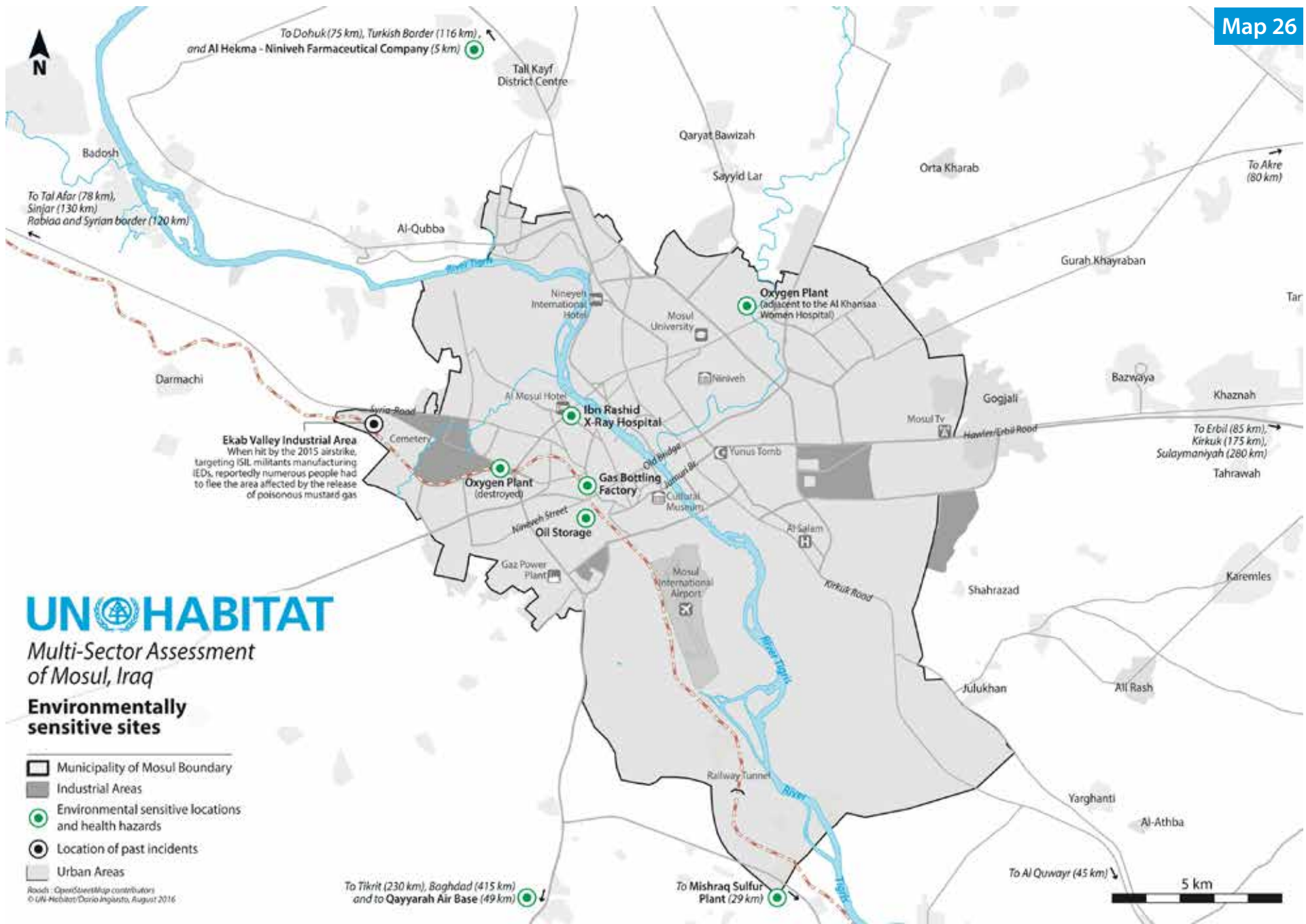
Oil and Petroleum Wells: In April 2015, ISIL mined the oil wells in Qayyarah area, 60 km south of Mosul, so that they could burn them in the event of an attack. ISIL also mined all the oil wells in Al-Najmah oil field, north of Qayyarah. Fires in these sites will create a thick intoxicating smoke and will be difficult and costly to contain and extinguish.

Nineveh and Mosul Pharmaceutical Plants: Located 15 km north of Mosul and in Tel Kaif, 8 km north of Mosul, respectively. The laboratory building was bombed in the air raids on the plant in April 2016 since ISIL was using it as one of its headquarters.

Map 25



Map 26





Nineveh's southern section of its archaeological site in October 2015.
© UN-Habitat satellite imagery



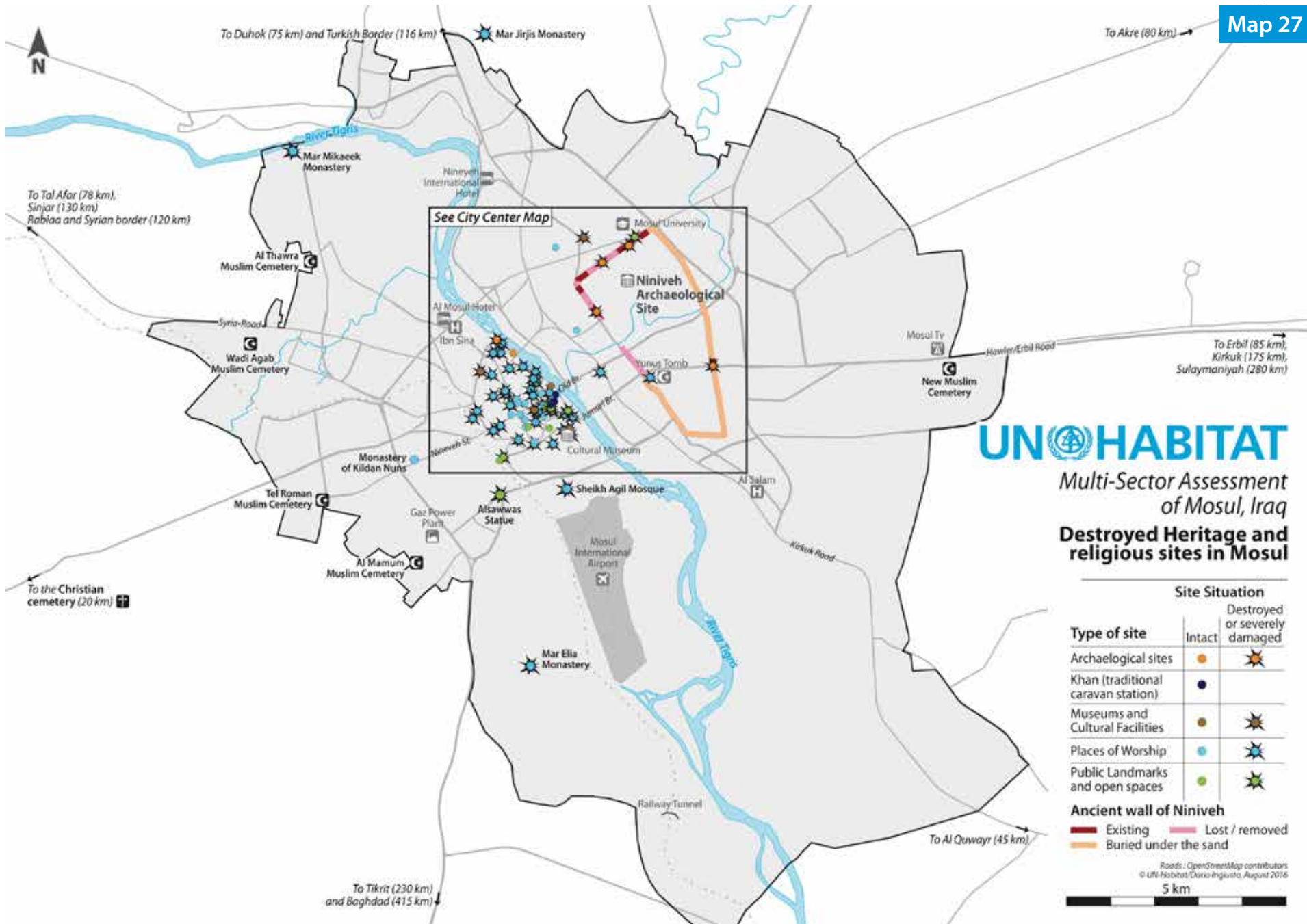
The same location as above, in February 2016, depicting large-scale earth removal works across the archaeological site. © UN-Habitat satellite imagery



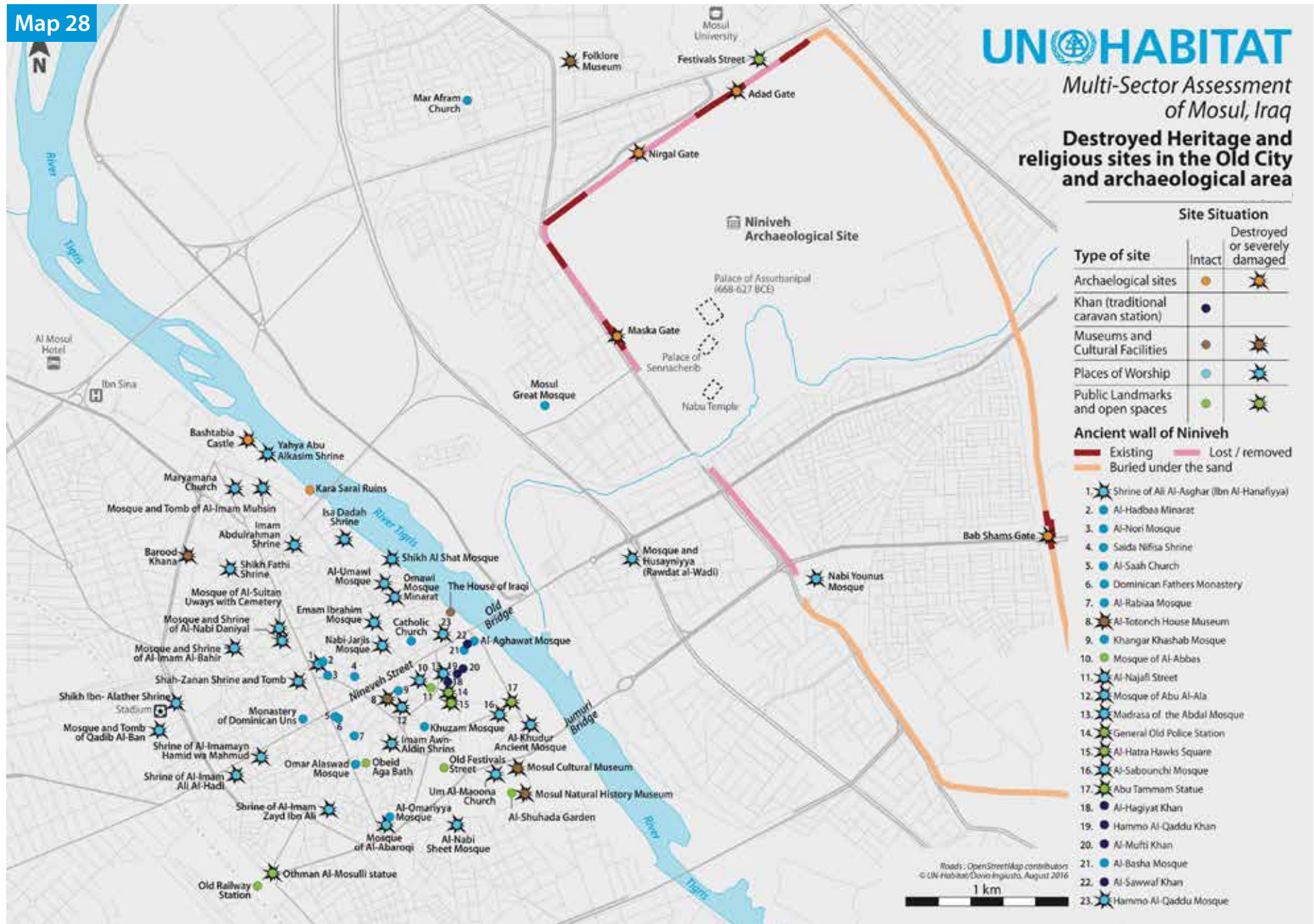
The same location as above in July 2016, depicting a recently constructed road cutting through the archaeological site. © UN-Habitat satellite imagery

The famous Minarah Al-Hadba of Mosul © panoramio.com





Map 28



A large, semi-transparent number '15' is centered in the background of the slide. The number is rendered in a bold, sans-serif font. The background is a solid teal color.

POST ISIL: LIKELY URBAN CHALLENGES, POTENTIAL INTERVENTIONS & WAY FORWARD

15. POST ISIL: LIKELY URBAN CHALLENGES, POTENTIAL INTERVENTIONS & WAY FORWARD



ISIL parade in Mosul. Source: ISIL website

A city in crisis

This report collected data from key informants from the city administration with the intention to derive recommendations indicative of the local authorities and stakeholders who were consulted. Mosul requires especially complex response planning. This report is intended for government, humanitarian and development actors to understand the impact of the crisis on urban systems and functionality for a holistic and integrated response.

Years of insecurity and ethnic and religious conflict have reshaped Mosul's demographics, and vastly affected the functionality of its local administration, public institutions and economic establishments. In the decade that followed the fall of the previous regime, armed groups dominated the city and deprived it of a large part of its revenue. Rampant corruption exacerbated the problem and contributed to the take-over of the city's resources.

The fall of the city to ISIL dramatically worsened the situation; its economy almost completely collapsed, its infrastructure and services declined, its public institutions were devastated, and its history and cultural heritage were tragically effaced. The city's minority groups, and many

others, were forcefully moved and displaced, and their abandoned properties were confiscated by ISIL. Most of those who remained in the city live in abject conditions, with limited access to basic needs and services, including food and water.

The battle to retake Mosul from ISIL is likely to render the situation even more dramatic. Political analysts believe that the outcome of the battle will determine the future of Nineveh and Iraq. They expect it to be a tough fight, and its repercussions to be even tougher. They anticipate grave acts of revenge, and the emergence of new sectarian, ethnic, tribal and familial conflicts in its aftermath. The questions of who will partake in the battle and who will govern the city after ISIL's defeat remain challenging ones, as it will have a direct impact on social cohesion. Furthermore, the profound internal strains and grievances of the city's Sunni population and their mistrust of Iraq's government in Baghdad, who they feel has trapped and abandoned them in the last few years, cannot be ignored. Observers of the situation particularly worry that the participation of the Popular Mobilization Forces in the battle might complicate the situation, as it did in Fallujah. Hence, they envisage that some Sunni civilians may choose to fight alongside ISIL in fear that the city's minorities would target and attack them.

After ISIL is expelled, the appointment of a military governor, is considered as one transitional option to prevent a new wave of sectarian violence within the city. There is also a proposition through the group discussions to entrust the United Nations with overseeing the city's recovery and reconstruction phase. Regardless of who will lead the city in the next stages, analysts seem to stress that the Iraqi/Kurdistan Regional Government's ability to handle post-ISIL emerging problems is more important than its military triumph over ISIL.

It is impossible to predict the extent of damage and desolation that will take place during the battle, and who would gain political control after ISIL's defeat. What is clear, is that the future of the city rests on its ability to

recover from its deep crisis once it is freed from ISIL's grip. The sheer scale of the different ensuing needs will surely be daunting; and the recovery process would require years and tremendous resources and efforts. Immediate humanitarian relief would be an absolute priority, yet there is also an urgent need for a parallel multi-pronged urban development approach that would restore local governance and the rule of law, build peace and social cohesion, promote human development and well-being, revive the economy, reconstruct infrastructure and the destroyed urban fabric, and perhaps most importantly reinstate people's sense of identity and belonging. Beyond political and counter-terrorism concerns, the human, social and economic aspects of the conflict need to be equally addressed and prioritized. The city's current problems and recovery needs are central to this discussion.

The findings of this report draw attention to a number of key urban challenges that cannot be overlooked in the process of formulating a comprehensive post-ISIL intervention strategy for the city. These challenges are described in the following chapter along with suggestions for immediate emergency responses, medium, and long-term interventions geared towards city reconstruction, peace-building, and stabilisation.

Key urban challenges

City reconstruction and institutional recovery

The objective of rebuilding the city and reviving its economic, social, and cultural life is a major challenge. The amount of destruction to date foretells a lengthy reconstruction process, even if resources are available. The fact that the city's physical infrastructure, public services and facilities, industrial areas, and many of its economic enterprises have been severely damaged, and/or confiscated by ISIL, puts the economic well-being of the city and its residents at stake. Concurrently, the fact that the city's cultural heritage and treasures have been looted and destroyed jeopardizes its historical identity and plurality; this makes the possibility of the return of minority groups even more difficult.



A view of Mosul Dam, one of the Iraq's largest dam © Iraqi News

While it may be impossible to rebuild the destroyed archaeological heritage, restoring the city's weakened public facilities (e.g. schools and hospitals) and infrastructure, and reviving its economic activity and city life is an achievable task, albeit not a simple one. The physical problems of Mosul city predate ISIL. Like most Iraqi cities, it suffers from poor infrastructure and public services, housing shortages, and numerous environmental issues. The inability of the post-2003 governments to meet people's daily needs is cause for concern, as it contributes to the general sense of distrust that city residents feel towards the Iraqi Government and state institutions.

This brings the question of city planning and institutional recovery to the fore. Indeed, the physical reconstruction of the city will not be possible without strong public sector institutions that lead and oversee the process, and ensuring that benefits are distributed among society members in an equitable way. Again, this is not an easy task in view of the rampant corruption and the severe adverse impacts that ISIL and other armed groups inflicted on the functionality of these institutions. As for city planning, the current state of chaos and destruction indicate that planning for immediate needs, albeit crucial,

is not enough. To make a sustainable and palpable difference in people's lives, a strategic urban vision that provides long-term direction for city reconstruction and development would be an absolute must.

Housing and property restitution

In addition to the significant number of people who were forced to leave the city in the last decade, particularly during the two years of ISIL's occupation, the United Nations anticipates that between 300,000 and one million additional people will flee during liberation battles, subject to the availability of safe exit corridors. It is understandable that many people – particularly minority groups – may choose not to return to the city in the near future, either because they have been traumatized and dread further violence, or because they have lost faith in the future of the city and have therefore established new lives elsewhere. Some may choose to return temporarily to reclaim their property and sell it. Other displaced people may, however, choose to return to their homes and lives, especially those displaced during the battle to liberate the city. Of those, many will return to find their houses destroyed, booby-trapped, or occupied by others. Unexploded ordnance and bombs may also prevent others from making a quick return to their homes.

The issue of compensating those who have lost their houses is particularly complex, due to the highly politicized nature of the conflict and the inability of the Iraqi Government to pay cash compensations to affected households. Property restitution will also be very challenging given that property frauds have most likely taken place at a large scale. The fact that some of the original title deeds in the city's Land Registry Department on the left bank have been stolen, and probably destroyed, would render the process of property restitution a rather thorny and lengthy one. The uncertainty of finding copies of court decisions in the Central Land Registry Office in Baghdad further complicates the problem. Questions related to property rights are, therefore, a valid concern. The same applies to earlier displacements, the consequences of which have not been fully resolved yet.

Further destruction in the hot spots around Mosul is likely to put additional pressure on housing within the city. IDPs living in Mosul city may not be able to return to their home-towns and new IDPs may join them as the battles to retrieve their areas from ISIL intensify. With the lack of an updated and effectual master plan for the city, it would not be surprising to see informal settlements proliferate and new encroachments on the city's agricultural hinterlands taking place.

Human development and well-being

Iraq's recent history has been a turbulent one. The authoritarian and discriminatory policies of the previous regime, Iraq's wars with neighbouring countries and the ensuing international sanctions, sectarian and ethnic conflict in the post-2003-period, and most recently two years of ISIL's occupation, have all severely impacted the lives of many people in Mosul city, and Iraq as a whole. The two years of ISIL's rule, in particular, have created an intellectual and economic paralysis, in addition to educational, health and psychological problems. Although quantitative evidence is scarce and mostly anecdotal, it is largely believed that the city's unemployment and poverty rates have increased along with levels of illnesses and diseases. Water scarcity and pollution, the lack of electricity, and inefficient municipal services, have further worsened the quality of people's lives.

It is difficult to highlight crucial problems when it comes to the matter of human development and well-being. Everything is important. Particularly distressing, however, is the situation for those who lost their livelihoods and means of support (e.g. war victims, widows, and children who suddenly found themselves heads of households). The crises that women in general have faced are no less deplorable. Under ISIL, women have been severely repressed and prohibited from any meaningful participation in social life.

Equally alarming is the situation regarding thousands of school children and university students who have lost two or three full academic years, or have been indoctrinated

by ISIL-imposed curriculum and teachings. This dire reality of thousands of youth, especially those who might find themselves jobless after the city is reclaimed, poses another major problem. Another situation worth considering is that of ex-combatants or populations who remained and were involved to a smaller degree with ISIL; without a stable life and secure income, such individuals may well be inclined to re-join fundamentalist organizations and engage in crime and violence.

Immediate emergency responses

Immediate interventions need to prioritize human safety and protection, the provision of basic services and survival needs (water, food, sanitation, shelter, healthcare), logistical support, and recovery from the socio-economic impacts of the crisis. The key requirements include:

Protection

- Provision of transitional spaces in safe and easily accessible locations where returnees and IDPs from hot spots around Mosul can receive logistical support, humanitarian assistance and information, and where temporary shelter can be placed (Map 29).
- Securing, as soon as possible, the city's strategic sites and locations (Map 30).
- Bringing in trained specialists to identify and remove unexploded ordinances and mines from the city before



Maintenance work of the old bridge of Mosul, 2016
© UN-Habitat / Iraqi Urban Observatory

allowing people to return.

- Removing rubble and hazardous solid waste from streets and vacant land close to residential areas, and demolishing buildings and structures that threaten public safety.
- Ensuring the safety of those who insist on returning to their houses even if only partially damaged.

Shelter

- Installing tents or prefabricated shelter units and ensuring that they are well-equipped to withstand the winter season.
- Supporting those who wish to return to their houses by undertaking rapid repairs to make the house liveable (either through material support or financial aid, or both).

Basic services

- Provision of mobile electric generators to operate the water pumping stations.
- Provision of mobile water treatment plants and undertaking urgent maintenance of the damaged parts of the water network.
- Provision of fuel to operate the generators and spare parts.
- Provision of food and clean drinking water.
- Health and psychological trauma support
- Provision of ambulances, mobile medical units and transport vehicles, and securing medicine and first aid.
- Setting up an emergency clinical surveillance and psychological rehabilitation programme.
- Provision of mobile power generators and UPS for health clinics and hospitals that are still operational.

Education

- Encouraging teachers to return to the area and begin teaching, making use of temporary spaces such as rented homes or tents.
- Provision of books and educational supplies.

Short-term city recovery interventions

Short-term city recovery interventions need to focus on assessing damage and reconstructing the physical fabric. They should bolster livelihoods; respond to people's needs for housing, infrastructure and basic services; and support vulnerable households and individuals in restoring their lives. The key requirements include:

Damage assessment

- Undertaking an initial assessment (via satellite imagery) of the damage inflicted on the city's urban fabric, economic enterprises, cultural heritage, and natural resources; and enacting proper mechanisms to identify, compensate and/or support affected individuals and groups.
- Protecting what remains of public facilities from theft and vandalism (rail, water filters, etc.).
- Assessing emergency repair of important buildings that survived the offensive.

Housing

- Supporting the rehabilitation and/or reconstruction of damaged houses and facilitating the release of land for new housing projects.
- Introducing fair financial aid packages to help people repair or rebuild their damaged houses.
- Enacting legal measures to secure people's tenure rights and prevent forceful housing evictions of vulnerable groups.
- Assessing the damage to property records and supporting the restoration and functionality of the Land Registry Directorate.
- Advocacy with authorities to accept alternative documentation (maps, land titles, real estate certificates) and undertaking necessary legal measures to restore people's property rights through courts.
- Embracing community-led mechanisms of identifying property rights, when other means are not possible.

Infrastructure and service delivery

- Rebuilding the city's devastated road infrastructure based on damage assessment and a priority plan.

- Supporting Mosul municipality in re-establishing an adequate and fair service delivery system (e.g. through the provision of waste collection vehicles) and in developing a plan for solid waste collection, treatment and disposal in safe landfill sites.
- Assessing and repairing the damage in the electricity network.
- Assessing and repairing the water network and ensuring that alternative sources of water production continue to exist and operate (e.g. mobile compact units and artesian wells).

Livelihoods and economy

- Provision of vocational skills training, business skills training and business start-up and/or employment support to women, ex-combatants and unemployed youth.
- Provision of incentives to the private sector to invest in rebuilding the local economy.
- Reinvigorating the city's banking and financial institutions.
- Developing livelihood recovery programmes targeting vulnerable groups who have lost their sources of income (e.g. through cash transfers or in kind support).
- Capitalizing on the process of rebuilding the city through revitalizing the city's economic activities in ways that create local jobs in the construction sector and thus a "multiplier effect".

Education

- Deploying the expertise of social and psychological centres to help change the ideas of school children raised among violence, hatred and militancy.
- Rectifying the curriculum of schools and universities and addressing the situation of students who have missed two or three years of education.
- Assessing the damage and needs of local schools, vocational training institutions, and universities; and developing a plan to restore their functionality.
- Addressing the needs of schools in good condition to enable them to take in new shifts of students and expand if possible (e.g. through providing them with

the necessary furniture and equipment).

- Launching a programme for the reconstruction/ rehabilitation of all schools and considering alternative locations for new schools if needed.
- Establishing new schools and rehabilitation centres where needed.

Health

- Undertaking a comprehensive vaccination programme targeting all children who have not been vaccinated during the past two years.
- Developing social and psychological programmes targeting female victims of gender-based violence and abuse.
- Encouraging doctors and nurses to return to the area and deploying the services of specialist teams to dispose of medical waste and toxic substances.
- Assessing the damage and needs of health centres, clinics and hospitals; and developing a plan to restore their functionality.
- Launching a programme for the reconstruction/ rehabilitation of public hospitals and health centres where needed.

Institutional capacity building

- Rebuilding the capacity of all public sector directorates and departments at the organizational, technical, and human levels.
- Offering training courses for the rehabilitation of employees who have been out of work for two years.
- Provision of necessary equipment and devices.

Crisis management and reconciliation

- Creating a specialized crises management consultative board to support the local government. This could take the form of a conflict-resolution local council of the city's elderly and trustworthy people, supported by UN agencies.
- Establishing neighbourhood committees of selected notables led by Mukhtars to undertake a central role in reconciliation and to convey the needs of services in the neighbourhood.

- Initiating a reconciliation programme among city inhabitants and establishing a real social dialogue between conflicting sides at the community level and under the oversight of a local body.
- Activating the role of the media (e.g. the local TV channel "Sama Al-Mosul"), the Sunni endowment, community organizations, the Ministry of Education, and schoolteachers in de-radicalisation and peace-building.
- Building the capacity of the local police and entrusting it with city security.
- Demilitarizing and reintegrating ex-combatants.
- Establishing a functioning judiciary body to enforce the rule of law, and ensuring a sufficient number of assigned judges from outside Mosul.

Medium to long-term city recovery and development interventions

Medium to long-term city recovery and development interventions need to focus on developing tools and frameworks that would empower public institutions to lead the city through its recovery and reconstruction phase, as well as on strategic projects and programmes that have long-term impacts on the city and its people. The key requirements include:

Urban governance

- Resume the efforts to design a new master plan for the city that considers past and current urban transformations and sets forth a new vision for the future of the city.
- Implementing necessary institutional, legal, economic reforms, as well as urban governance reforms, particularly those that prevent future abuse and promote social justice, human rights, and sustainable and equitable development.

Strategic projects

- Investing in reclaiming the cultural richness and diversity of the city through the protection and restoration of what is left of the city's rich archaeological and cultural heritage.

- Launching major investments in infrastructure (e.g. sewage networks and treatment plants).
- Facilitating the establishment of economic development projects that promote and revive the city's economy.

Peace-building and violence prevention

- Long-term commitment to the protection and resettlement of displaced minorities and to the restitution of their property rights.
- Violence prevention through addressing and responding to socio-economic inequalities and catering for the needs of vulnerable groups.
- Promotion of economic practices that help in eradicating poverty and creating jobs in order to reduce likelihood to return to radicalisation.
- Implementing a citywide infrastructure and service delivery programme in order to reduce the gap and bridge the divide between different groups and neighbourhoods.
- Fostering participatory planning principles (community and neighbourhood approaches) and tools to engage local communities in the design and management of their areas by way of empowering them and reducing potential tensions and conflicts.
- Ensuring the presence of an effective and functioning judiciary sector as well as community-based mechanisms of dispute resolution.

Cross-cutting Issues

Human development and well-being

Establishing security in Mosul city, and other areas retaken from ISIL, necessitates adopting a stronger people-centric position. It is understandable that a large portion of public funding would be spent on strengthening the Iraqi army and police forces, however much more is needed. Investments in comprehensive military security measures at state and city levels need to occur hand in hand with building societal security.

There should not be a dilemma of choice here. Access to adequate housing, clean water and proper sanitation, adequate infrastructure and public utilities, education

and health services, among other urgent everyday human needs, are also priority areas of intervention. Unless people's suffering and needs are recognized and addressed, the overarching goal of establishing peace and the rule of law would be difficult to attain.

Gender equality

It is not only the physical fabric of Mosul city that needs rebuilding, but also social capital and societal relations. The conflict has saddled many households, particularly those who have lost family members, with mistrust and apprehension. As social experts argue, rebuilding social capital in such cases must begin with the family, and acknowledge and strengthen the existence of female-headed households that have emerged during the conflict. Post-conflict programmes that focus on healing psychological trauma are an absolute necessity; yet, again, they are not enough on their own.

A gender-sensitive approach that promotes gender equality is essential to rebuilding of and peace-building in the city. Setting up and advancing female-centred programmes and activities that respond to gender disparities in education, resources, power and rights (e.g. right to full and effective participation in political and economic life; right to ownership of land, housing and other assets; right to fair and un-discriminatory employment; and right to a descent life free from violence) would be essential in this regard. Just as imperative is the empowerment of women and enabling them to take an active role in political life and decision-making.

Youth reintegration

Addressing youth (typically defined as people between the ages of 15 and 24) is another crucial objective in the post-ISIL phase. The overall objectives in the case of Mosul are disarmament and reintegration; and neither one is an easy challenge. Especially difficult is the reintegration of young ex-combatants in civilian life. Rights-based approaches to youth reintegration will be essential, however it will only be effective if complemented by economic and socio-political approaches. Hence, investing in youth capacity

building and vocational training programmes needs to be prioritized.

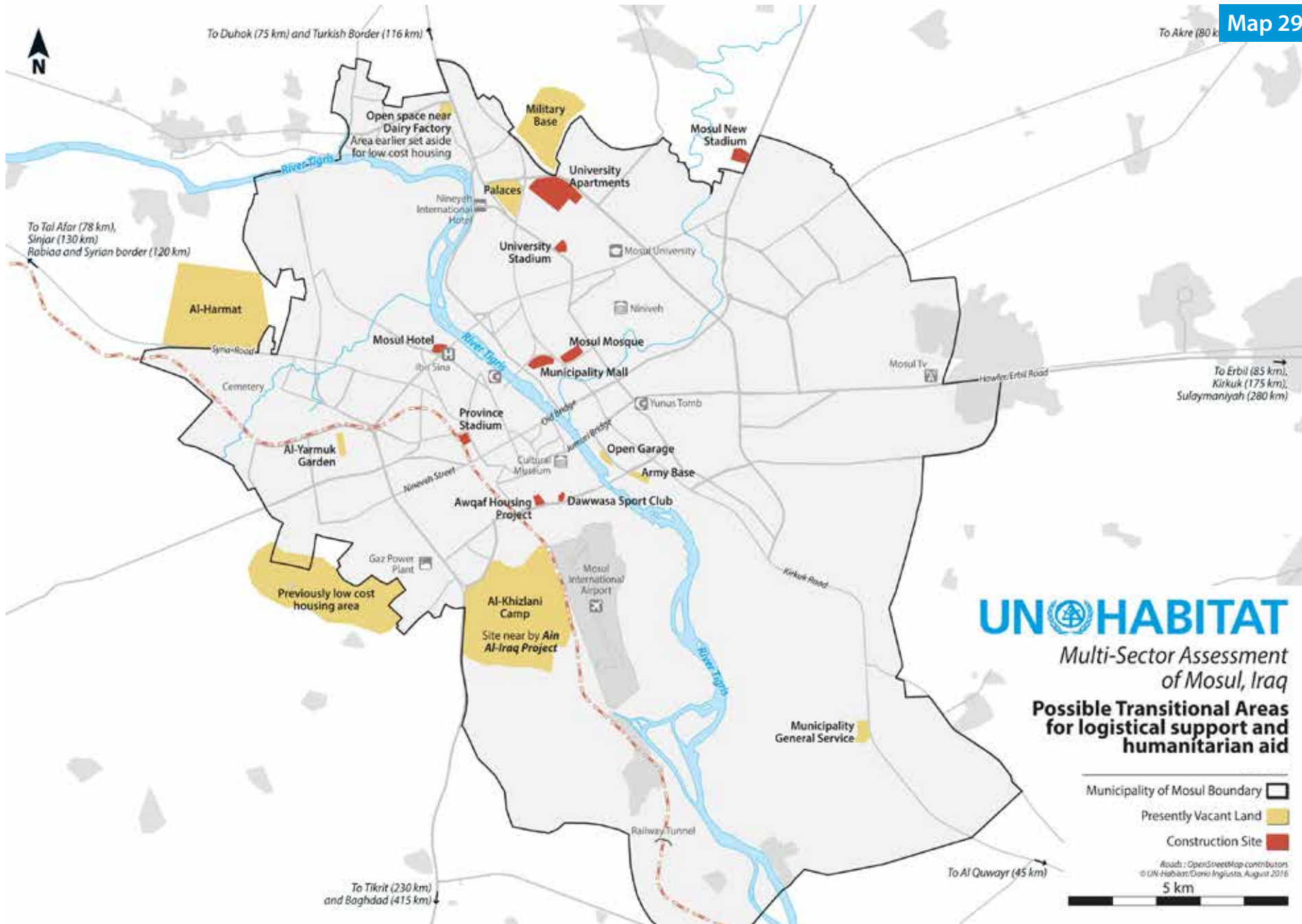
Furthermore, it would be vital to establish programmes that empower youth civil society groups and push them to work alongside local councils in designing and implementing community service projects and programmes. Initiatives that focus on restoring and protecting the city's rich cultural heritage, or what is left of it, cannot be underestimated in this regard. As well as providing the much needed job opportunities, such programmes have the potential to engage the city's youth population, and city residents at large, in a constructive dialogue about their common past and shared values – a cornerstone for peace-building and reconciliation.

Recommendations and future direction

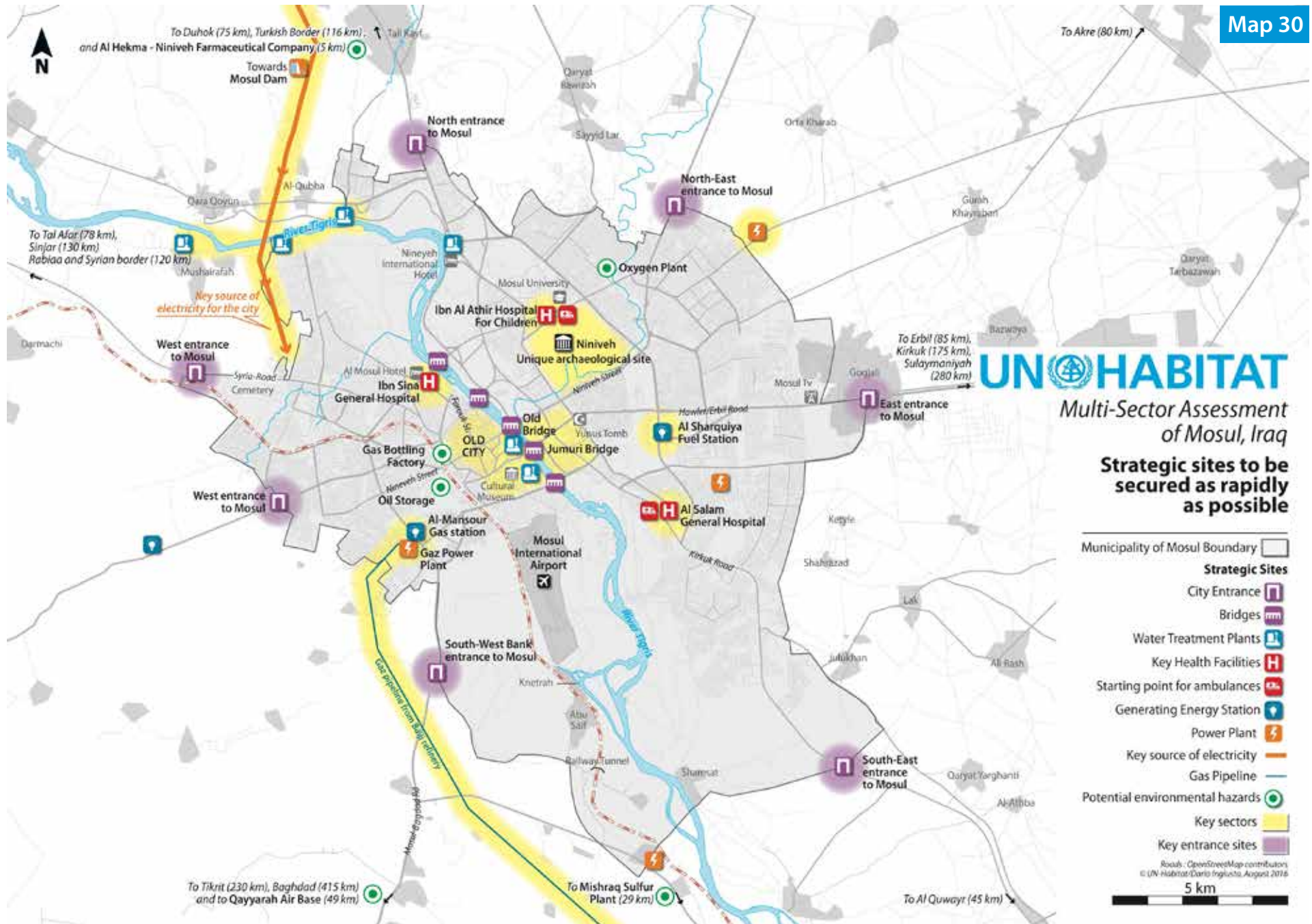
The greatest challenge in the next phase would be ensuring the effectiveness and efficiency of the government's response. Humanitarian aid and development assistance should support the government. To this end, it would be extremely important for all international and local organizations, foreign aid and development agencies, and governmental institutions to develop a clear and well-coordinated plan of action that avoids duplication and random conflicting activities. Effective leadership is essential in this regard. This is a role that the United Nations may undertake together with the government. Humanitarian aid and development assistance funds can also be channelled through UN agencies, international organisations and local NGO partners.

While the specific concerns and priorities of each organization and governmental institution may differ, there is an overriding need for a people-centred approach to the recovery and rebuilding of the city. With the overarching objective of stabilisation and peace-building in mind, it would be particularly important for all concerned actors to plan for the post-ISIL phase through the triple-lens of human development and well-being, gender equality, and social reintegration of youth. ■

Map 29



Map 30



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