DISASTER MANAGEMENT SECTOR PLAN

Mkhambathini Local Municipality

2022/2023

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MUNICIPAL DISASTER MANAGEMENT SECTOR PLAN

1. MUNICIPAL LEGISLATIVE MANDATE (DM & FIRE SERVICES)

The Disaster Management Act, 2002 (Act no 57 of 2002) makes provision for an intergrated and coordinated policy for disaster management that focuses on the preventing or reducing the risks of disasters, emergency preparedness, rapid and effective response to disasters and post disaster recovery and rehabilitation.

The Fire Brigade Service Act is the primary piece of legislation regulating fire services and seeks to provide for the establishment, maintenance, employment, coordination and standardisation of the fire brigade act. Further, it provides for the establishment and maintenance of a service by a local authority in accordance with the prescribed requirements.

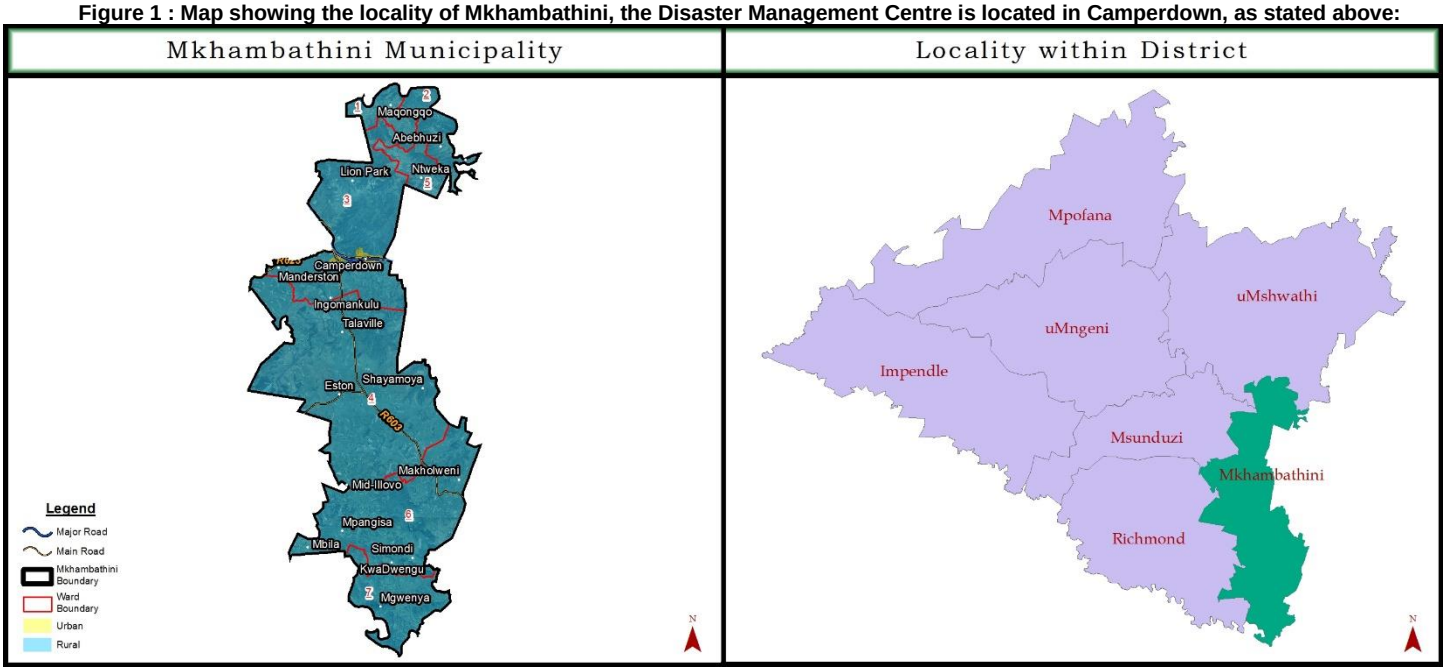
2. STATUS OF MUNICIPAL INSTITUTIONAL CAPACITY

2.1. Status of Municipal Disaster Management Centre

In terms of section 43 of the Disaster Management Act (Act No 57 of 2002). A "Municipal disaster management centre" means a centre established in the administration of a Municipality. The Mkhambathini Disaster Management Centre was established in 2013 as guided by the said legislation.

The Centre operates from an office in Camperdown, it is equipped with an office, storeroom, all-terrain vehicle and a qualified Disaster Risk Management personnel. The Centre is fully functional, however, there are plans of constructing a fully fledged Disaster Management Centre in the near future.

Figure 1 : Map showing the locality of Mkhambathini, the Disaster Management Centre is located in Camperdown, as stated above:



2.2. Status of Fire & Rescue Services

Mkhambathini Local Municipality shares Municipal executive and legislative authority in its area with the uMgungundlovu District Municipality within whose area it falls under as guided by section 155(1) of the Constitution.

In light of the above, the uMgungundlovu District Municipality offers the fire service to the Mkhambathini Local Municipality and five other Local Municipalities within its area of jurisdiction.
The fire station that services Mkhambathini area of jurisdiction is located at Ashburton and is operational on a 24 hour basis with 16 Fire Fighters, a Watch Commander, Station Officer and a Pump Operator per 12 hour shift. Additionally, there are also Volunteers.

2.3. Status of Municipal Disaster Management Policy Framework

The Mkhambathini Local Municipality relies on the uMgungundlovu District Policy Framework as a reference and to provide guidance and direction regarding Municipal disaster management affairs.

Currently, the Provincial Disaster Management Centre has stressed the importance of the Municipality drafting its own policy framework.

2.4. Status of Municipal Disaster Management Plan

Section 53 (2) of the Disaster Management, Act No. 57 of 2002 states that a Disaster Management Plan for a Municipal area must:

- Anticipate the types of disaster that are likely to occur in the municipal area and their possible effects;
- Place emphasis on measures that reduce the vulnerability of disaster-prone areas, communities and households;
- Seek to develop a system of incentives that will promote disaster management in the municipality;
- Identify the areas, communities or households at risk;
- Take into account indigenous knowledge relating to disaster management;
- Promote Disaster Management research;
- Identify and address weaknesses in capacity to deal with possible disasters;
- Provide for appropriate prevention and mitigation strategies; and
- Facilitate maximum emergency preparedness.

Section 43 (3) DM Amendment Act 16 of 2015 further require Local Municipalities to build capacity for development and implementation of disaster management plans.

In light of the above, the first level draft disaster management plan was approved by the Mkhambathini Disaster Management Advisory Forum in 2016. The plan needs to be updated and the Ward based risk assessment exercise was conducted on the 1st and 2nd September 2021 for all 7 Wards. The plan is currently under review and will be adopted during the 2022/23 financial year.

2.5. Municipal Disaster Management Inter-Departmental Committee

The Management Committee seats on a monthly basis and Disaster Management issues and resolutions are discussed and taken at that level and cascaded to the Portfolio Committee and subsequently the Council if there is a need.

2.6. Municipal Disaster Management Advisory Forum

Section 44(1) (b) of the Disaster Management Act No. 57 of 2002 (DM Act) calls for an integrated and coordinated approach to disaster risk management in municipal areas. To make provision for the integration and coordination of disaster risk management activities and to give effect to the principle of co-operative governance in the Mkhambathini Local Municipality, the Municipal Council may establish a Disaster Risk Management Advisory Forum. Section 51 of the Disaster Management Act makes provision for the establishment of such a Forum.

Accordingly, the Mkhambathini Disaster Management Advisory Forum was launched in 2013 for the purpose of dealing with the disaster risk management planning and coordination. There were a few challenges previously, however, those have been addressed and the Forum has now been revived and functioning commendably. The main objectives of the Forum are:

- Make recommendations to the Municipal Council concerning the disaster risk management activities;
- Ensure the application of the principles of Co-operative Governance for the purpose of Disaster Risk Management in the Municipality ;
- Establish integrated Technical Task Teams for the development and implementation of policies, plans, programmes and projects to reduce disaster risk and build resilience ;
- Contribute to the generation of a disaster risk profile for the Municipality ;
- Help to ensure community awareness of Disaster Risk Management arrangements;
- Participate in the development and maintenance of disaster risk management information management and communication systems;
- Establish integrated technical task teams for the development and maintenance of disaster contingency plans;
- Support and contribute to knowledge management programmes in the field of disaster risk management in the municipality; and
- Advise any organ of state, statutory functionary, non-governmental organisation, community or the private sector on any matter relating to disaster risk management.

The Advisory Forum seats quarterly and constitutes of the following role-players:

- Provincial Disaster Management Centre;
- Department of Social Development;
- Department of Home Affairs;
- SASSA;
- South African Police Services;
- Department of Transport;
- Non-Governmental Organisations;
- Community Based Organisations;
- Ward Committee members;

- Councillors; and
- Traditional leaders.

2.7. Disaster Management & Fire Services Swot Analysis

Strengths • Voluntary participation from affected communities i.e Ward Committee members, CCG and CDWs etc; and • Good relations with community leaders, i.e schools and community halls are readily available to assist with emergency accommodation in case of a major incident. • NGO's and sector departments readily available in case of a major incident or disaster.	**Weaknesses** • Lack of preparedness for a major incident or disaster; • Fire and Rescue station located in Ashburton and turnaround time is often not met;
Opportunities • Non-Governmental Organisations willing to partner i.e Al Imdaad etc; • Private sector also willing to partner when conducting awareness campaigns thus saving costs, for example, Transnet and SSA; and • Training on fire and Disaster Management	**Threats** • Lack of understanding of the duties of disaster management by both the community and leaders; • Not prioritising the function; and • Transnet pipeline regulations not adhered to by communities, i.e servitude

2.8 Challenges for DM and Fire Services as per SWOT Analysis

The following challenges were identified:

- The fire station is based in Ashburton and it makes it harder in terms of turnaround time;
- Insufficient fire equipment in case of a major incident, i.e jaws of life, fire trucks with a bigger water carrying capacity;
-

3. DISASTER RISK ASSESSMENT

Disaster Risk Management "is the systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to prevent or to limit (mitigation and preparedness) adverse effects of hazards" (NDMPF, 2005).

Disaster Risk Assessment gives an indication of each hazard which could cause a disaster, the hazard probability of occurrence, its possible impact, the vulnerable areas and the ability to cope when it occurs. A hazard may occur at any time so preparedness and resilience are what Disaster Management Practitioners need to strive for.

Disaster risk reduction is a community driven process, it is in the community where the operational activities related to disaster risk management take place. Ward Councilors, traditional leadership and sector Departments were fully involved during the risk assessment which informed the findings.

Accordingly, a risk assessment exercise was completed in September 2021, its purpose was as stated below:

- To determine levels of disaster risk by analysing hazards, vulnerability and coping capacity in order to set priorities for disaster risk reduction action;
- To develop a disaster risk management plan for Mkhambathini Local Municipality; and
- To identify possible disaster risk reduction programmes informed by ward based disaster risk assessment.

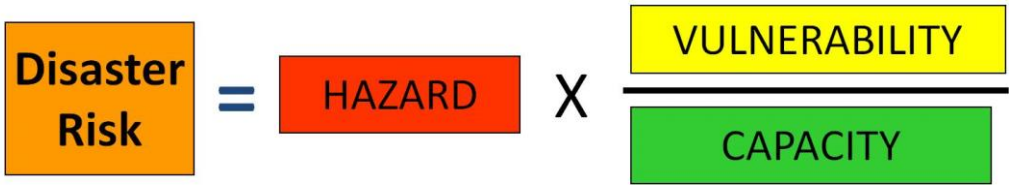


Figure 2 above: Formula for calculating disaster risk

3.1. List of Priority Risks (Hazards)

Below is a list of priority disaster risks/hazards in the Mkhambathini Municipal area as per the risk assessment exercise.

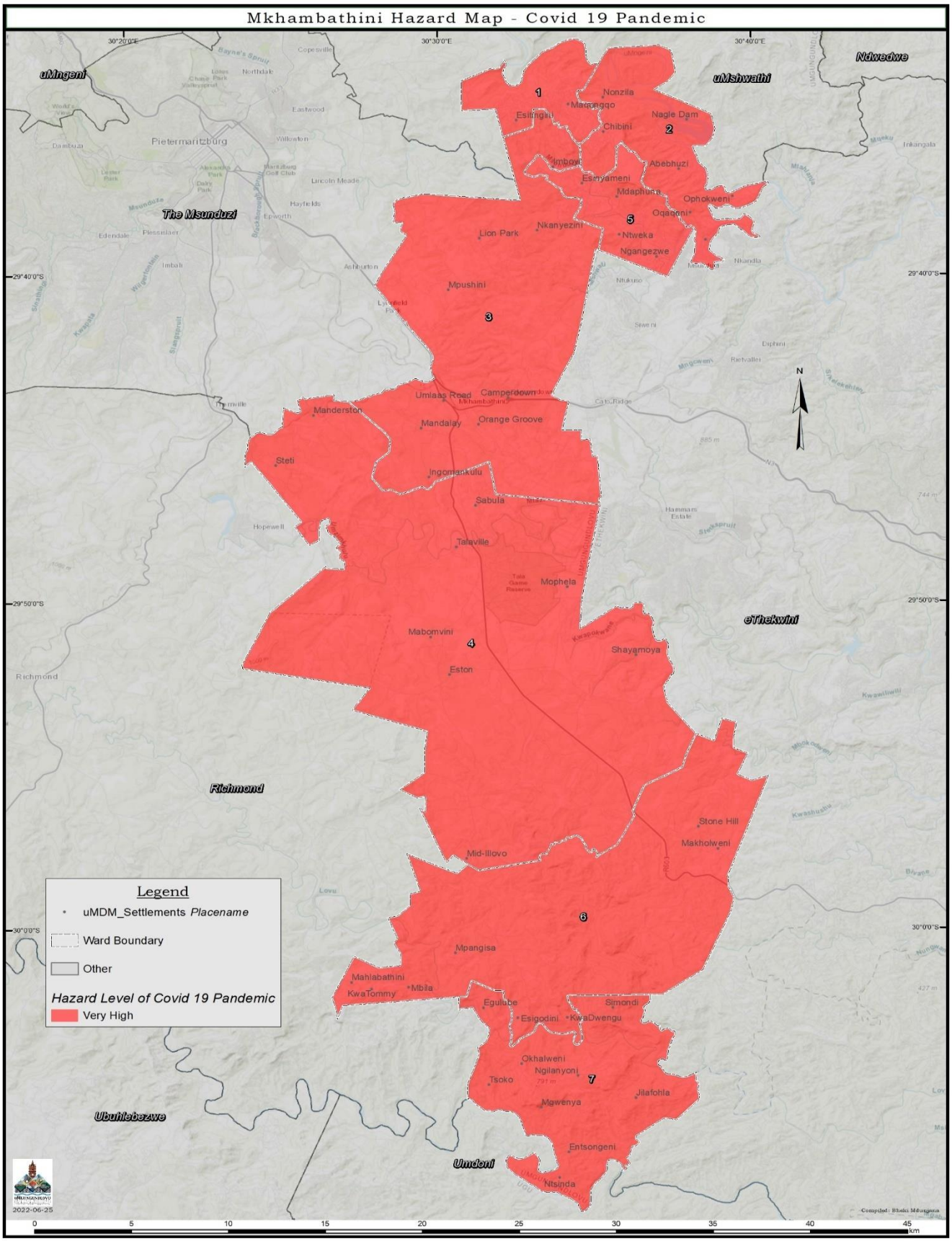
Potential Hazards or Hazardous Events	Category	Peak Season	Vulnerability	Likelihood	Rating	Consequence	Rating	Risk Rating	Risk Profile
Flooding	Natural	Summer	high	Likely	4	Moderate	3	12	High
House fires	Man-induced	Winter	medium	Possible	3	Minor	2	6	Medium
Veld fires	Man-induced	Winter	medium	Possible	3	Minor	2	6	Medium
Severe storms	Natural	Summer	high	Likely	4	Moderate	3	12	High
Landslide	Natural	Summer	high	Unlikely	2	Minor	2	4	Low
Transport accident	Technological	All year	medium	Possible	3	Minor	2	6	Medium
Env pollution	Civil	All year	medium	Possible	3	Minor	2	6	Medium
Hazmat	Technological	All year	high	Rare	1	Minor	2	2	Low
Animal and plant disease	Biological	All year	medium	Possible	3	Minor	2	6	Medium
Epidemic human disease	Biological	All year	medium	Possible	3	Moderate	3	9	Medium
Drought	Natural	Summer	high	Rare	1	Minor	2	2	Low
Lighting and thunderstorm	Natural	Summer	medium	Rare	1	Minor	2	2	Low
Tornados	Natural	Summer	high	Possible	3	Minor	2	6	Medium

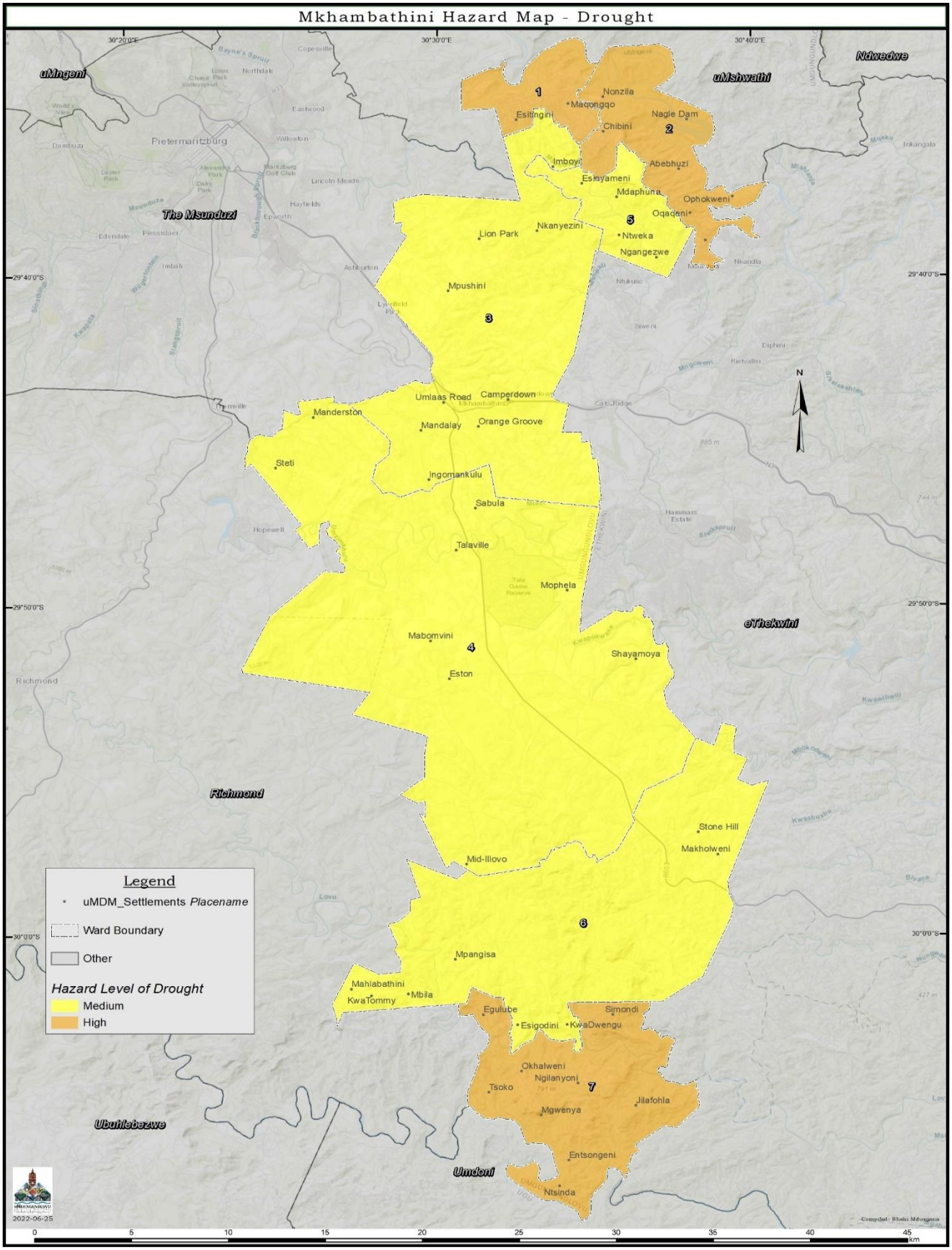
3.2. Hazard Maps

A hazard can be defined as a potentially damaging physical event, social and economic disruption or environmental degradation. Typical examples of hazards can be absence of rain (leading to drought) or the abundance thereof (leading to floods).

Natural hazard events can be characterized by their magnitude or intensity, **speed** of onset, duration, and the area they cover. Hazards occur at different intensities (or magnitudes) over different time scales (sometimes known as temporal scales).

Figure 3 to below shows hazard maps as per the results of the risk assessment exercise


Mkhambathini Hazard Map - Covid 19 Pandemic
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esmyameni
Mdaphuna
Ophokweni
Oqaqoni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Esigodini
KwaDwengu
Simondi
Okhalweni
Ngilanyoni
Tsoko
Mgwenya
Jilafohla
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Covid 19 Pandemic
Very High
2022-06-25
Compiled: Bheki Mdunjana
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Hazard Map - Drought
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonqo
Esilingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Eshyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
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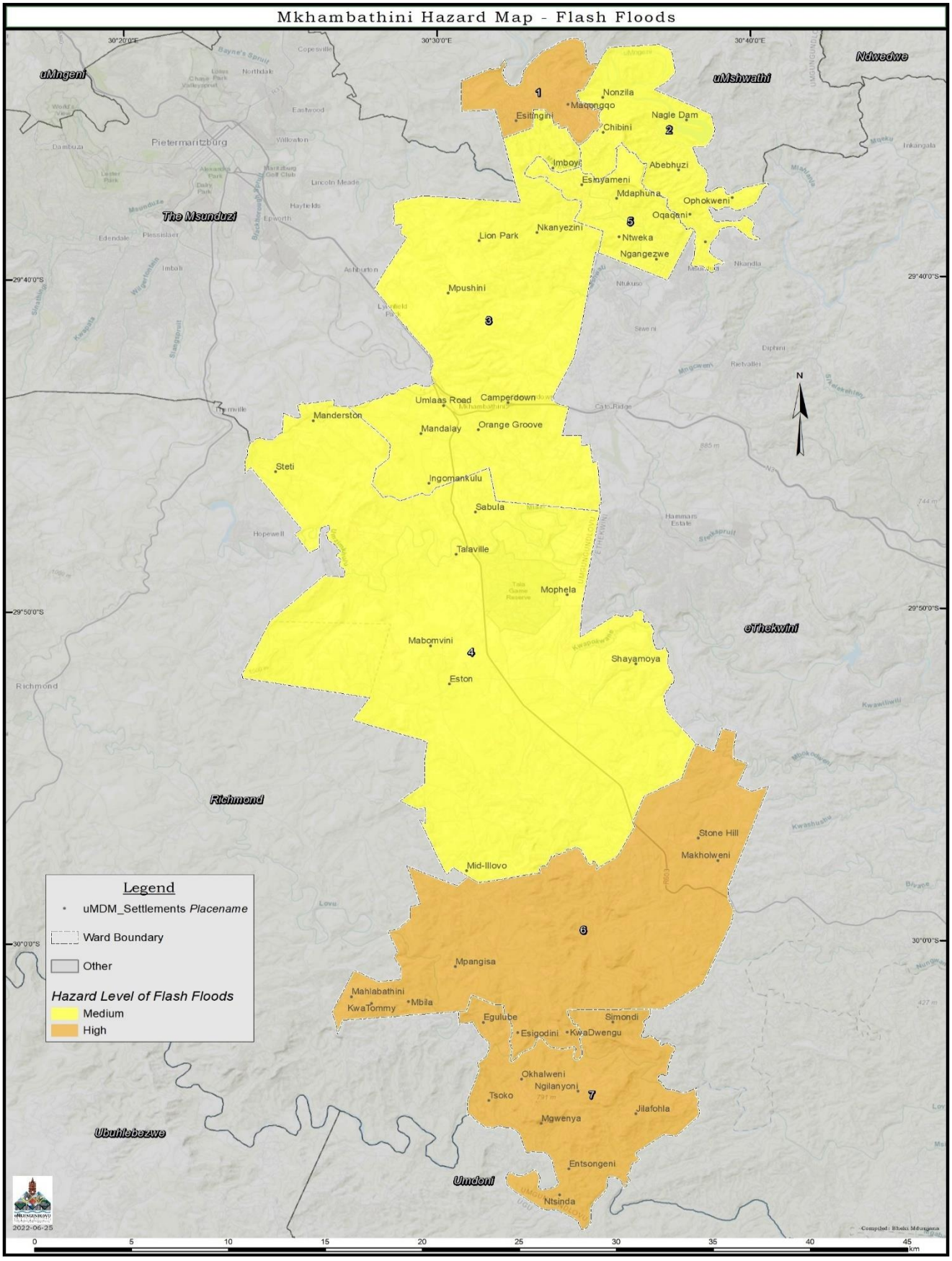
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Drought
Medium
High
N
2022-06-25
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Hazard Map - Flash Floods
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqongqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Flash Floods
Medium
High
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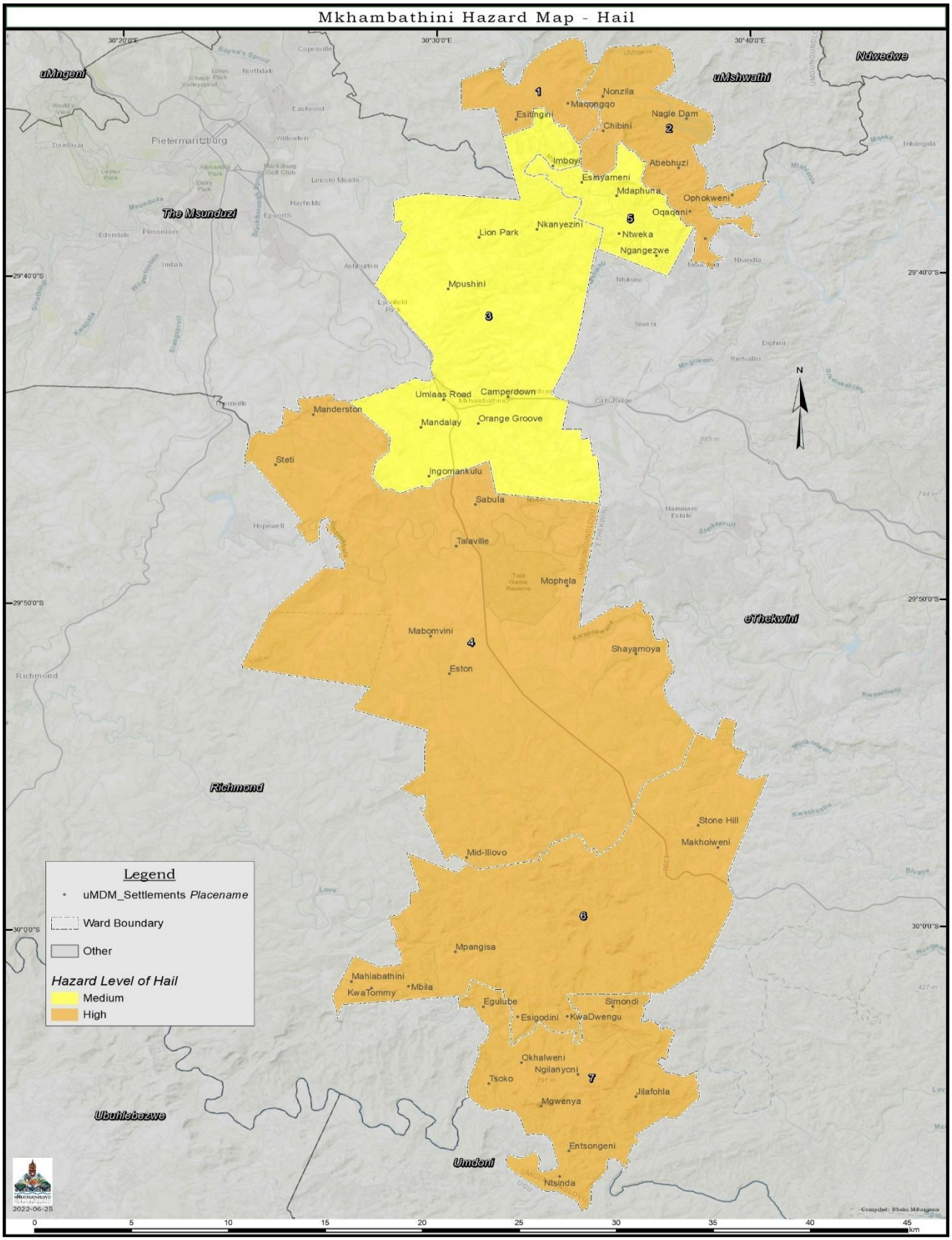
2022-06-25
Compiled: Bheki Mdunjana
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Hazard Map - Hail
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
Ubuhlebezwe
Umdoni
eThekwini
Pietermaritzburg
Nonzila
Maqonqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
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Lion Park
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Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
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Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
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uMDM_Settlements Placename
Ward Boundary
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Hazard Level of Hail
Medium
High
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2022-06-25
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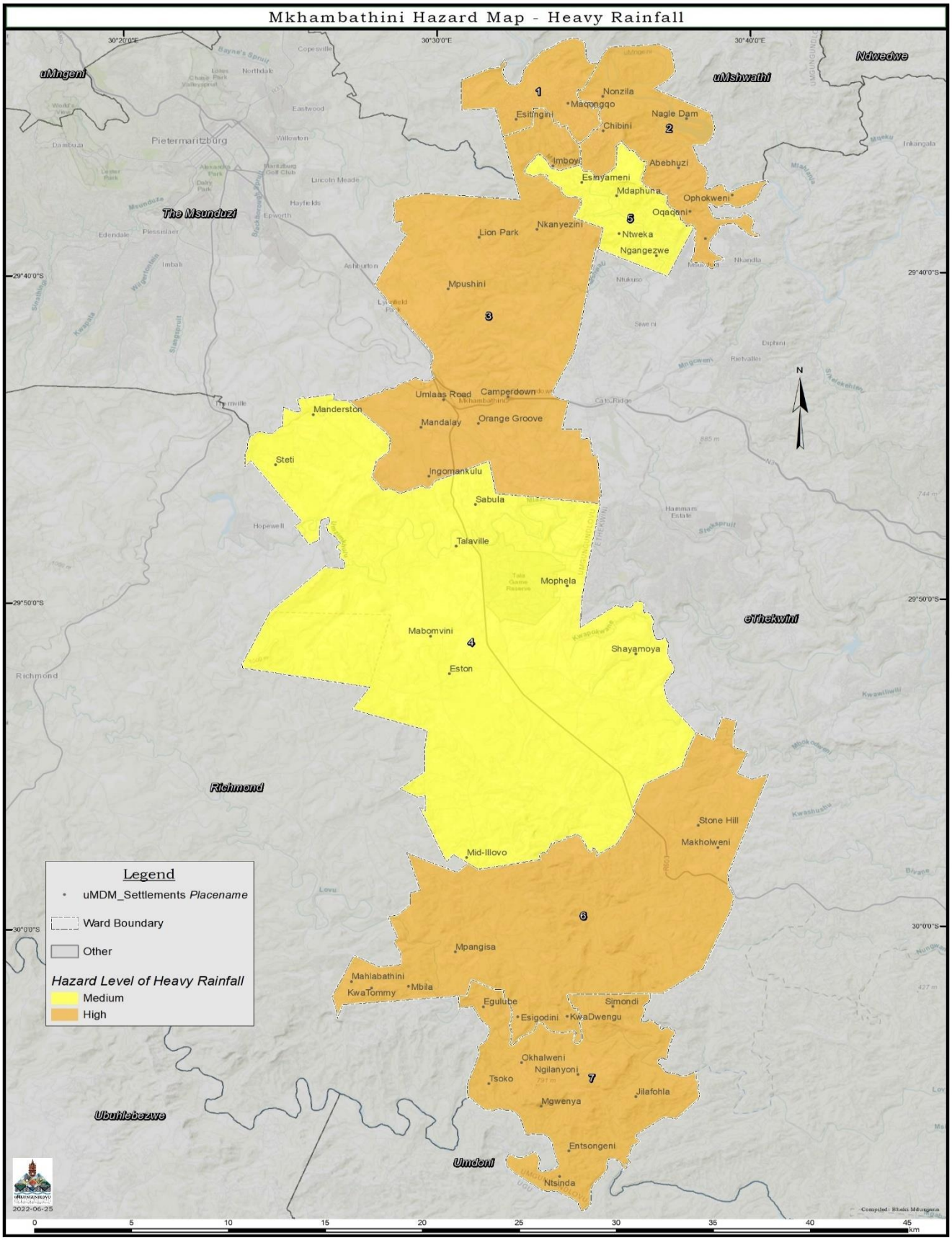
Mkhambathini Hazard Map - Heavy Rainfall
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
Ubuhlebezwe
Umdoni
eThekwini
Pietermaritzburg
Nonzila
Maqongqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
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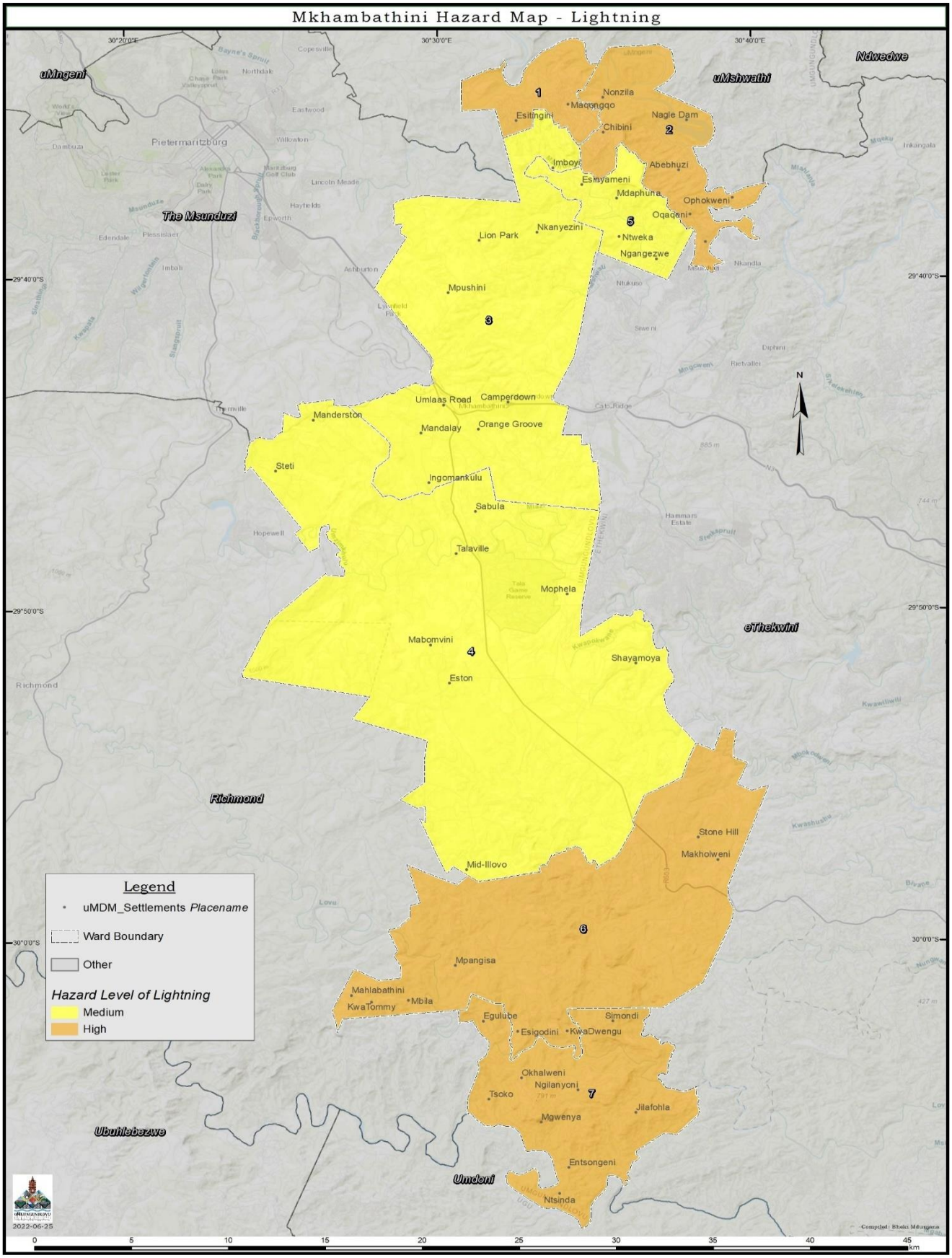
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Heavy Rainfall
Medium
High
N
2022-06-25
Compiled: Bheki Mdunjana
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Hazard Map - Lightning
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Nonzila
Maqongqo
Esitingini
Chibini
Nagle Dam
Imboyi
Abebhuzi
Esmyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
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Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Lightning
Medium
High
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2022-06-25
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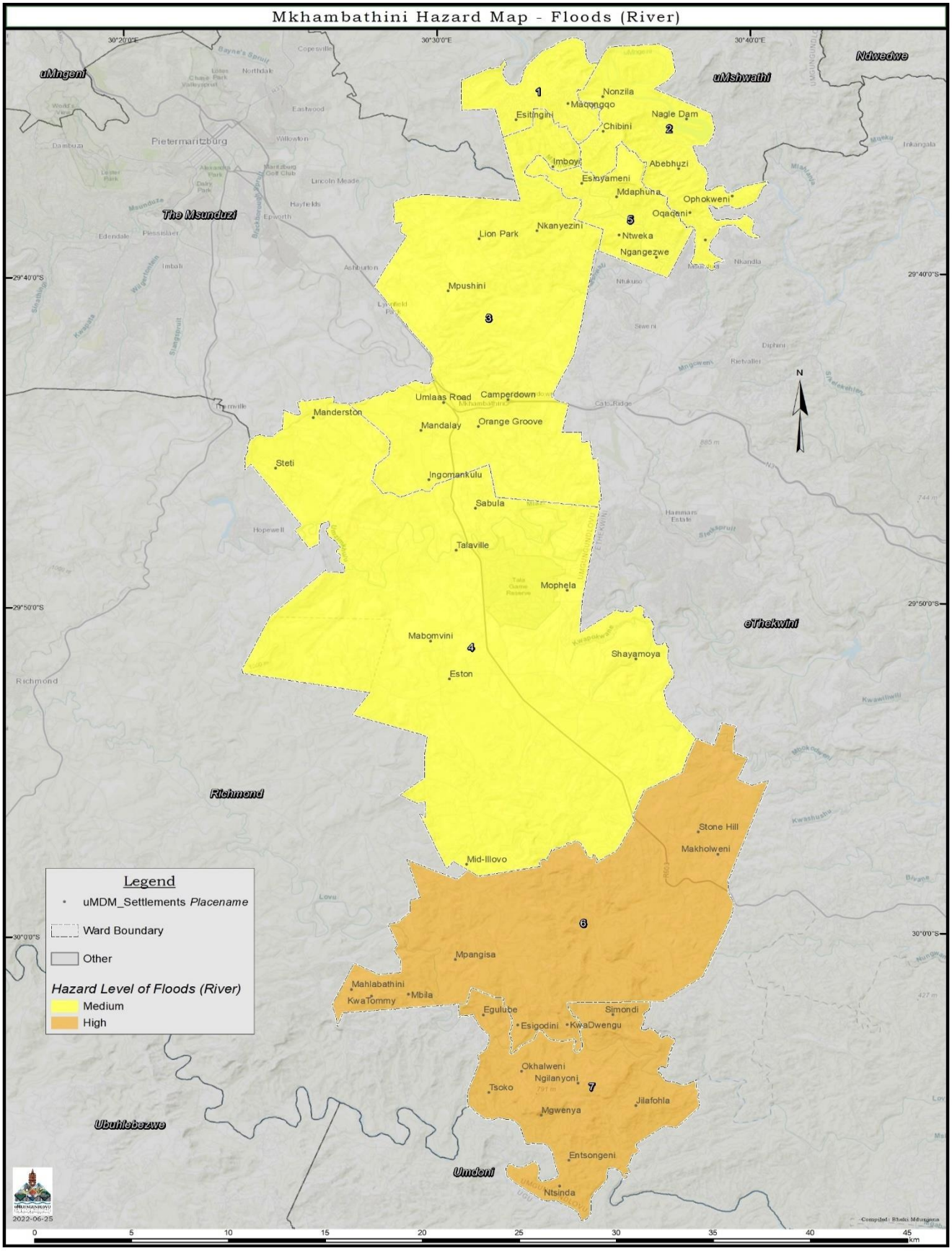
Mkhambathini Hazard Map - Floods (River)
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
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Ngangezwe
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Mpushini
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Manderston
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Sabula
Talaville
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Mabomvini
Shayamoya
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Mahlabathini
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Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
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Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Floods (River)
Medium
High
2022-06-25
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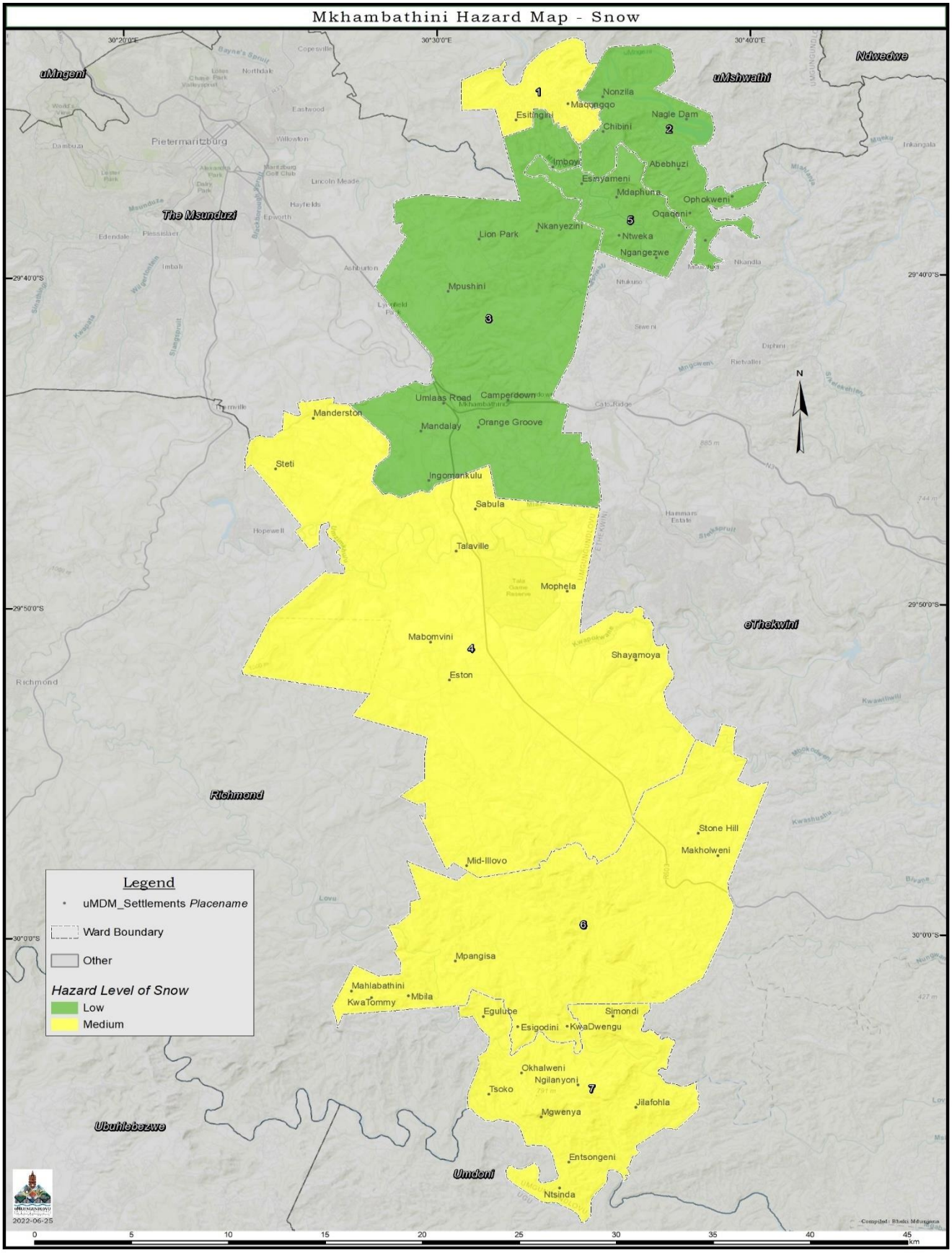
km


Mkhambathini Hazard Map - Snow
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqongqo
Esitingini
Nagle Dam
Chibini
Imbovi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Lion Park
Nkanyezini
Ntweka
Ngangezwe
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
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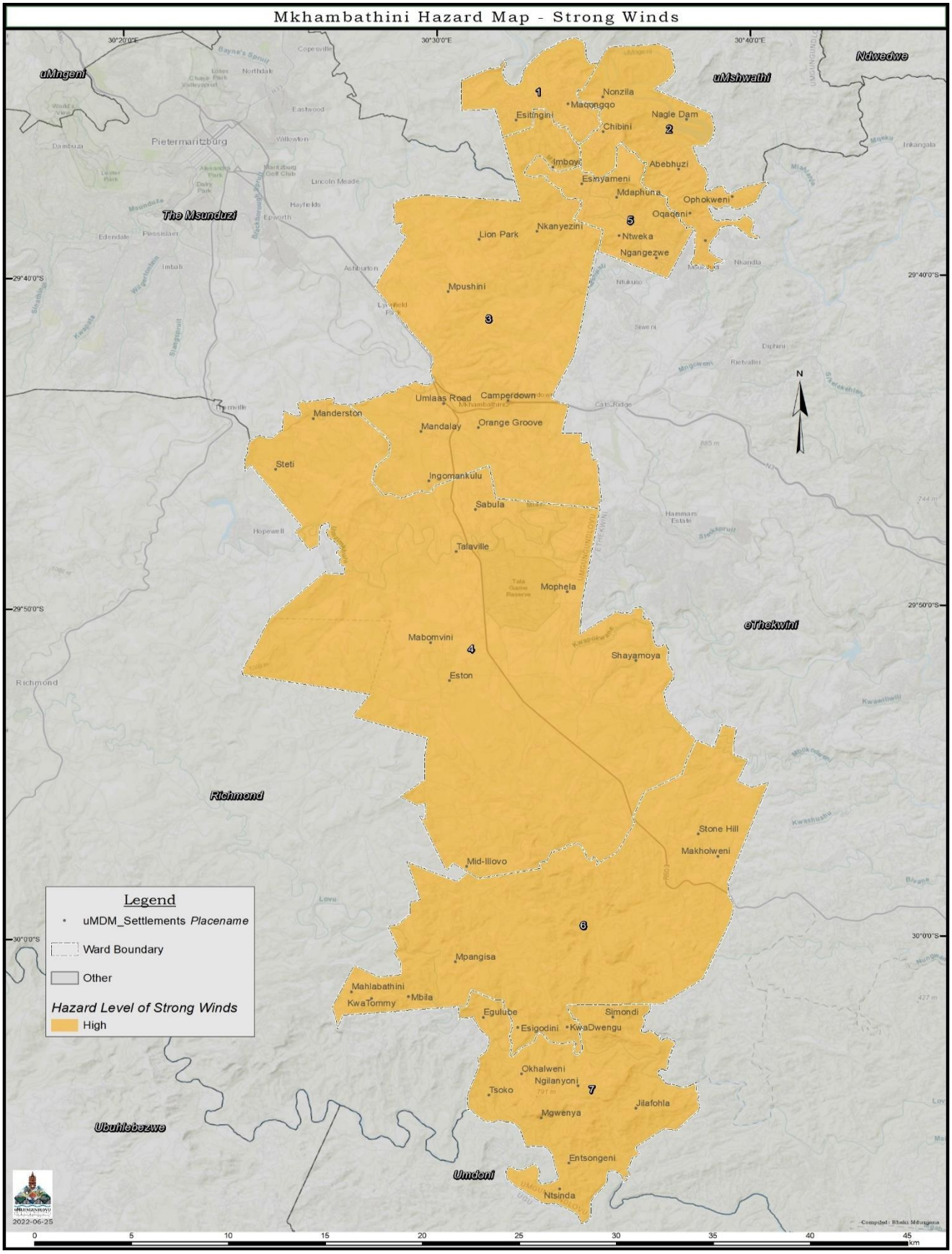
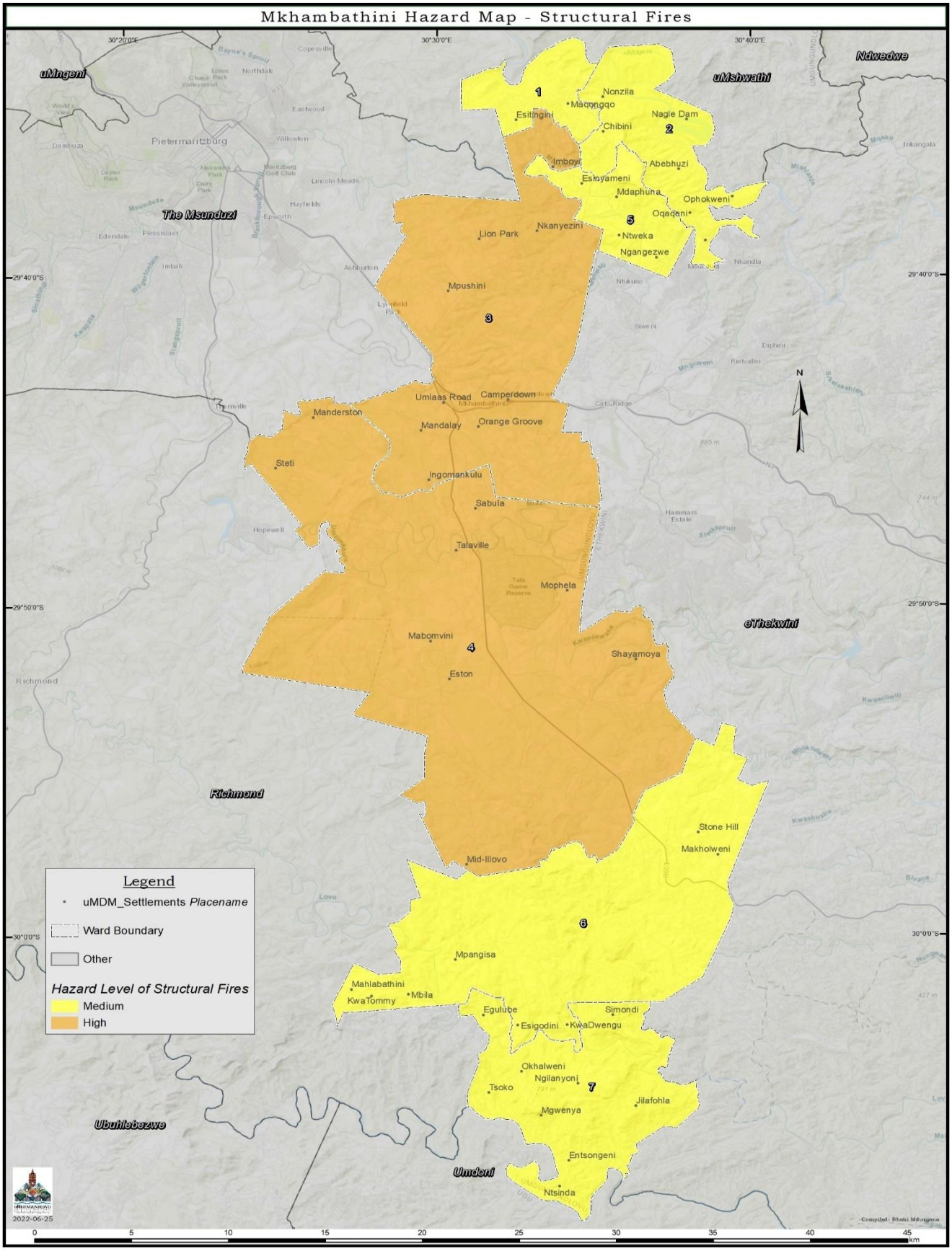
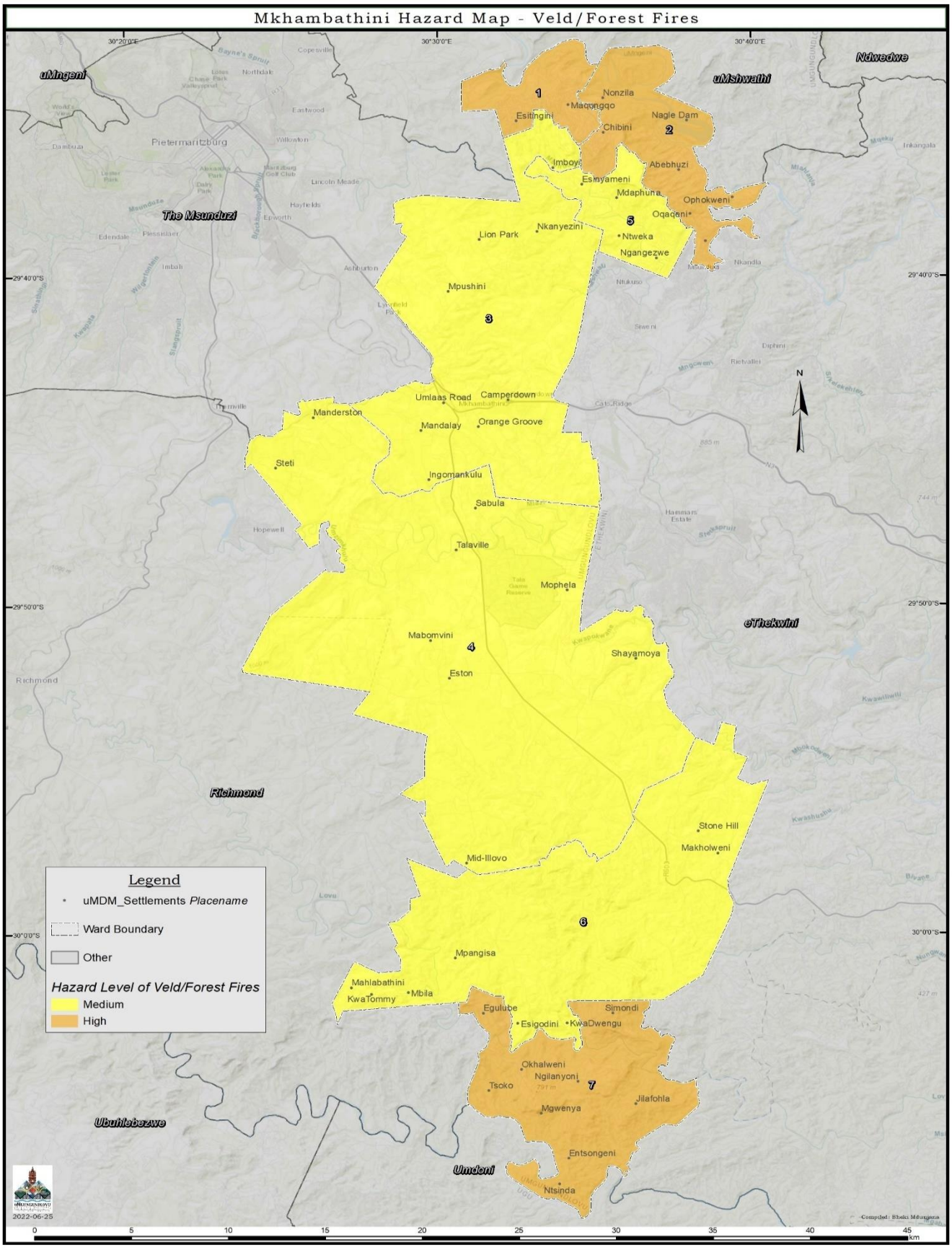
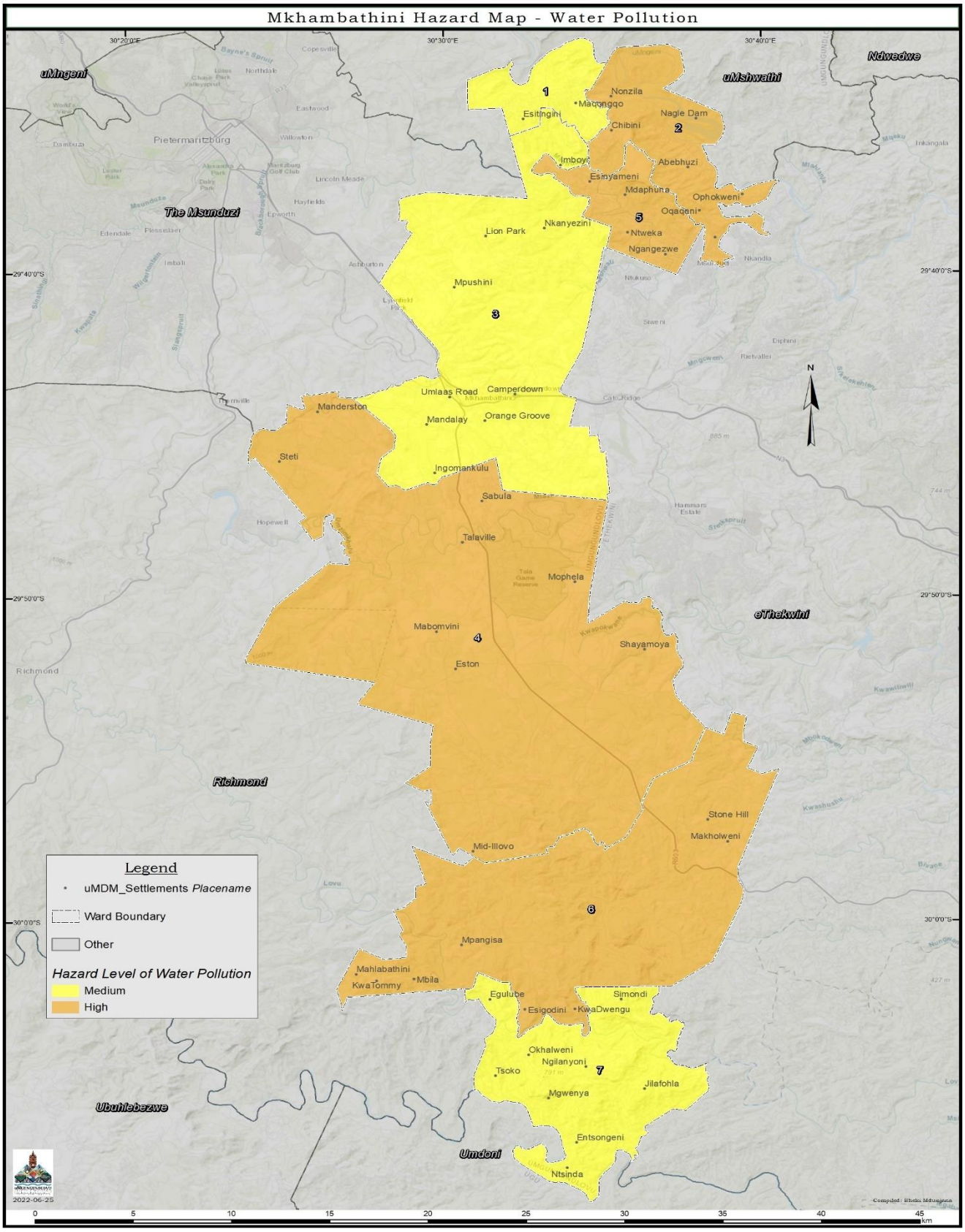
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Snow
Low
Medium
N
2022-06-25
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Hazard Map - Strong Winds
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqongqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esmyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Strong Winds
High
N
2022-06-25
Compiled: Bheki Mdunyana
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Hazard Map - Structural Fires
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
Kwatommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Structural Fires
Medium
High
N
2022-06-25
Compiled: Bheki Mdunjana
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Hazard Map - Veld/Forest Fires
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Nonzila
Maqongqo
Esitingini
Chibini
Nagle Dam
Imboyi
Abebhuzi
Esmyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Veld/Forest Fires
Medium
High
N
2022-06-25
0 5 10 15 20 25 30 35 40 45 km

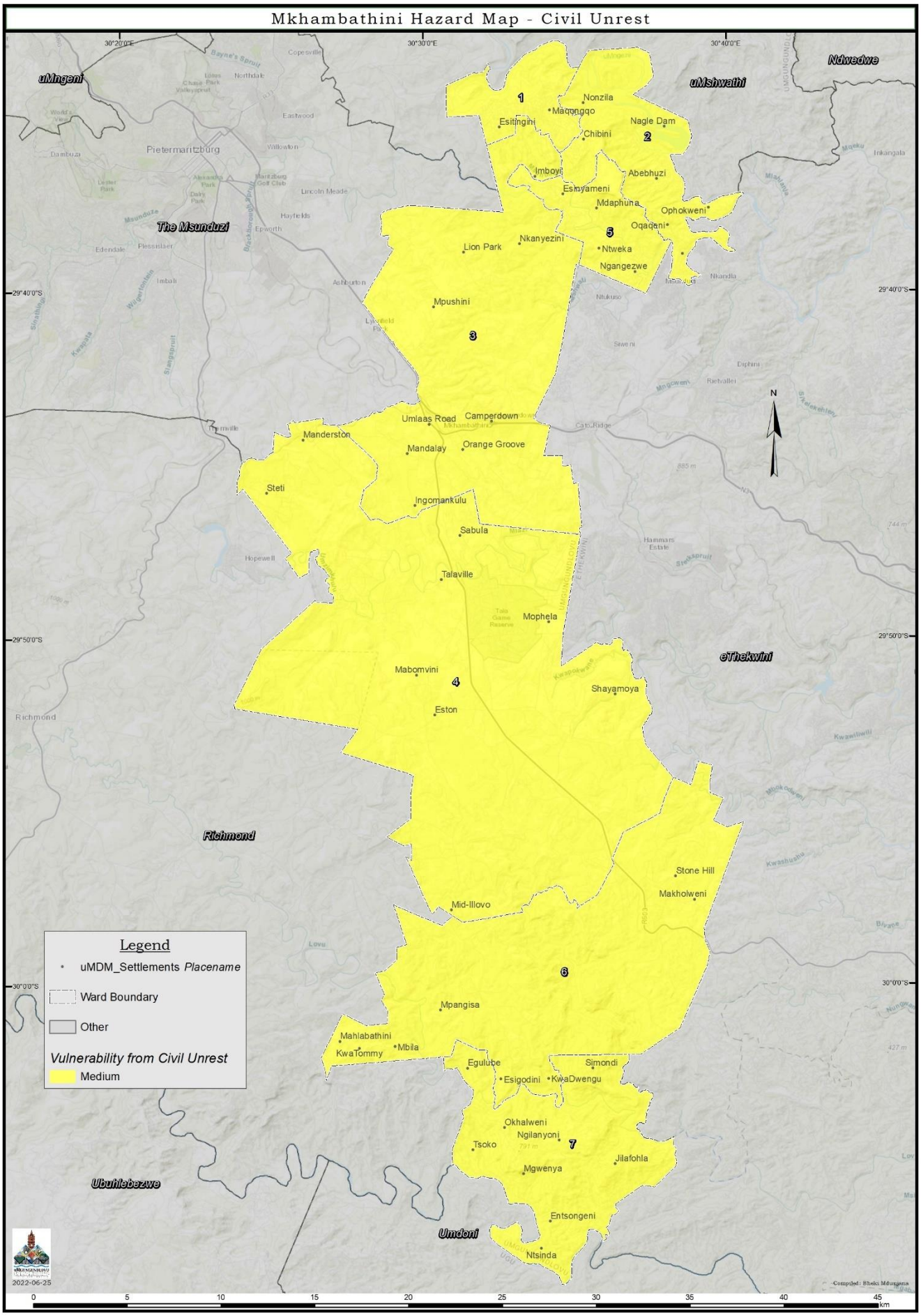

Mkhambathini Hazard Map - Water Pollution
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
Mbila
KwaTommy
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Hazard Level of Water Pollution
Medium
High
2022-06-25
0 5 10 15 20 25 30 35 40 45 km

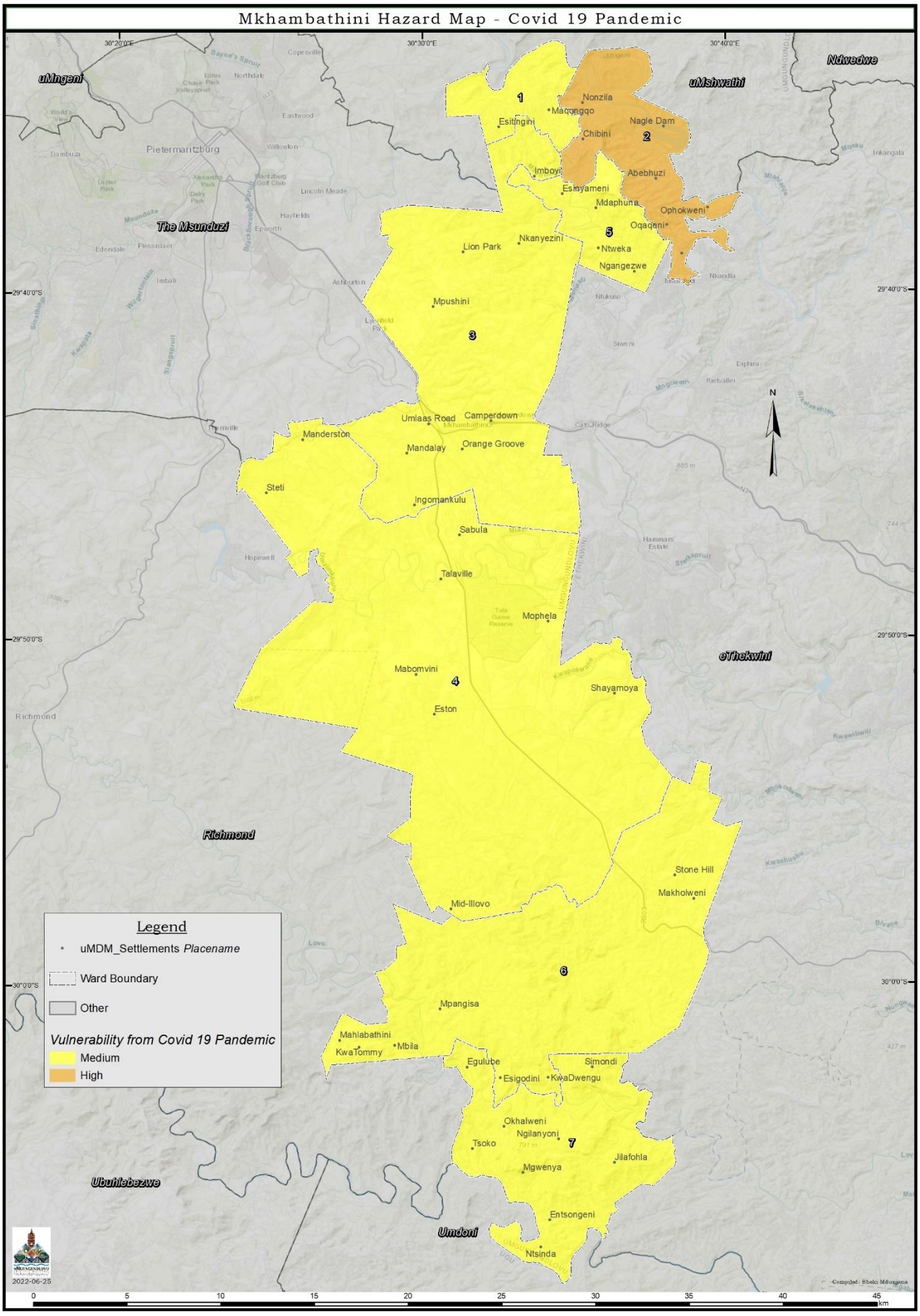
3.3. Vulnerability Maps

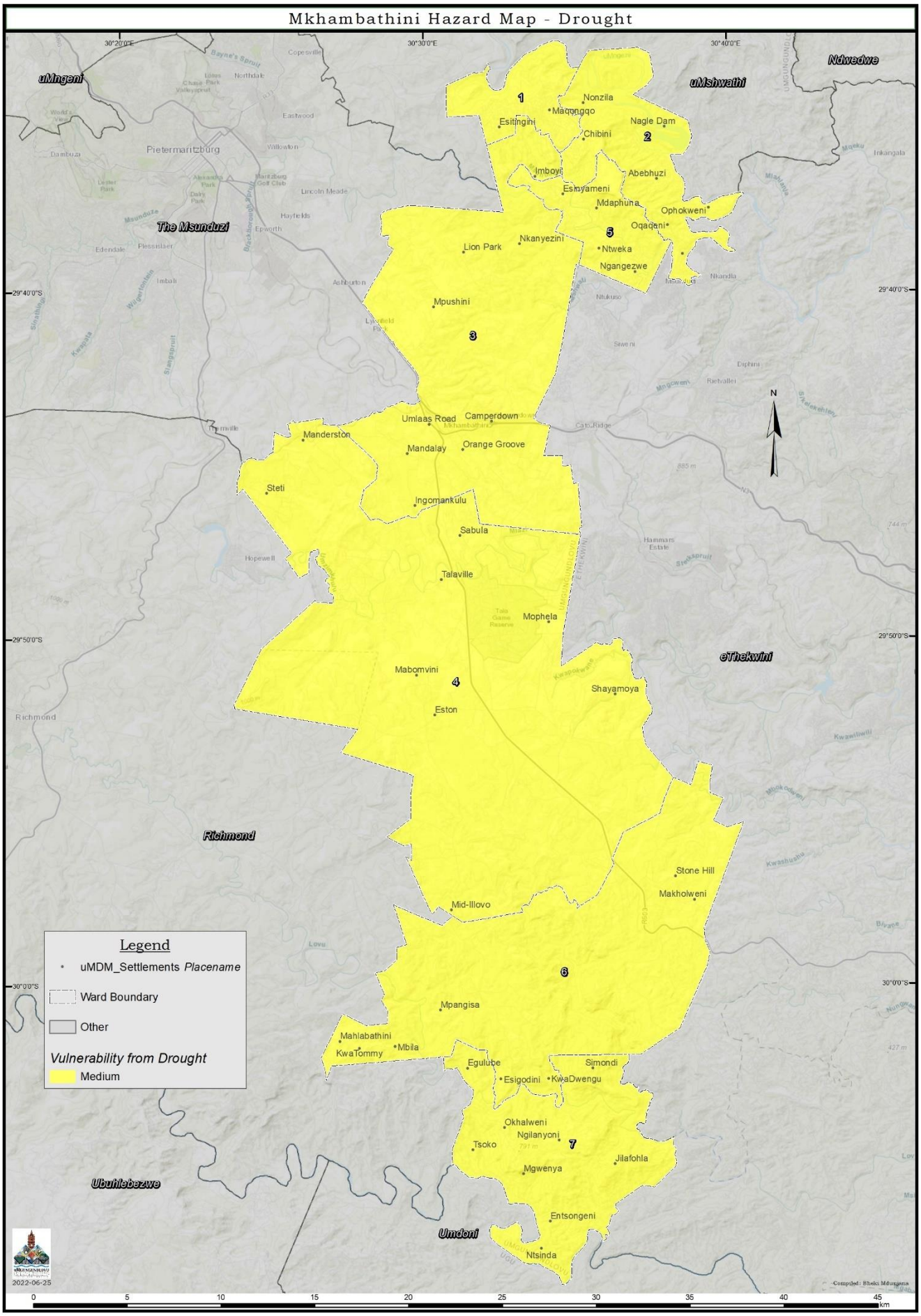
Vulnerability describes the characteristics and circumstances of a community, system or asset that make it vulnerable to the damaging effects of a hazard. There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. Examples may include:

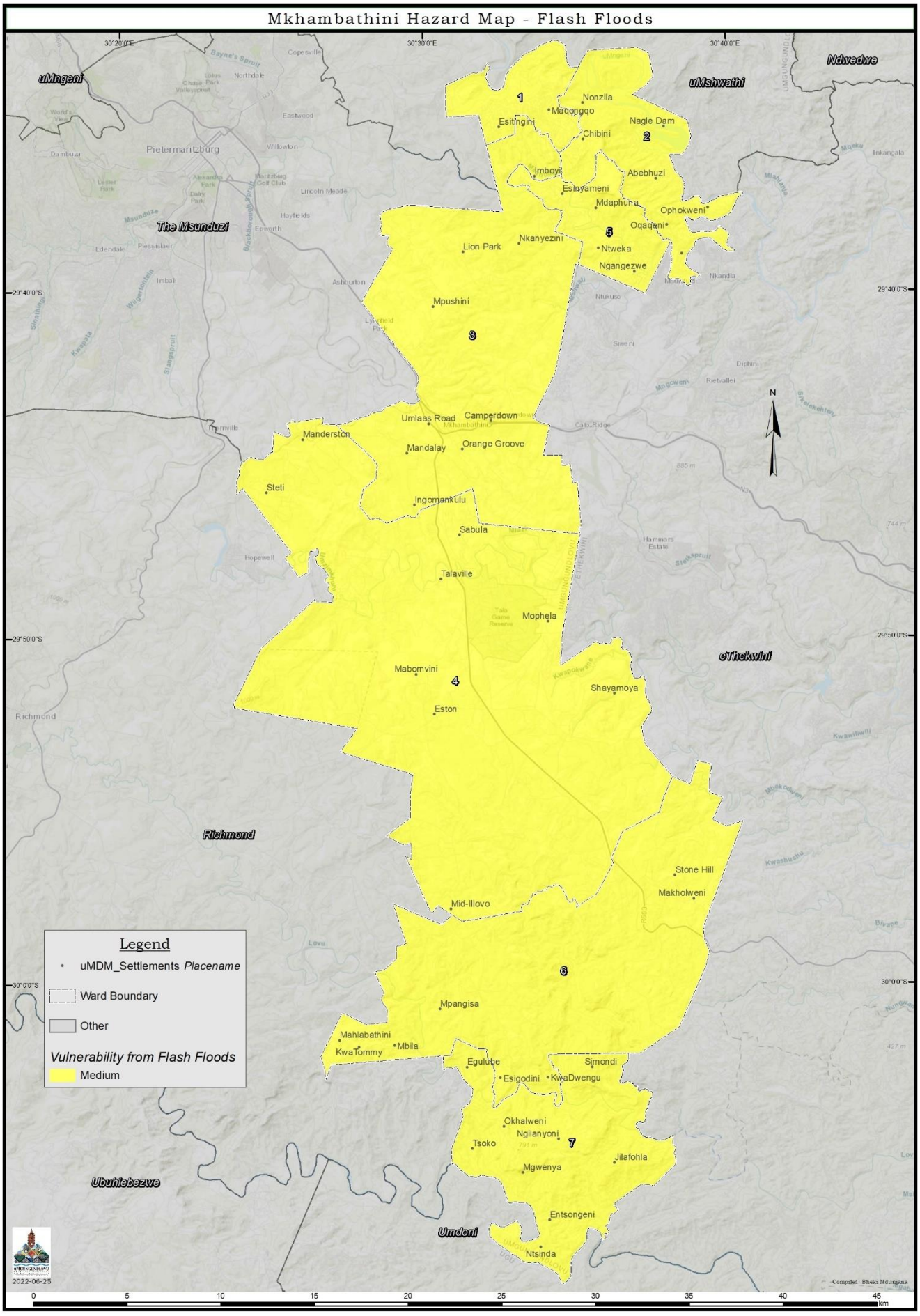
- poor design and construction of buildings;
- inadequate protection of assets;
- lack of public information and awareness;
- limited official recognition of risks and preparedness measures; and
- disregard for wise environmental management.

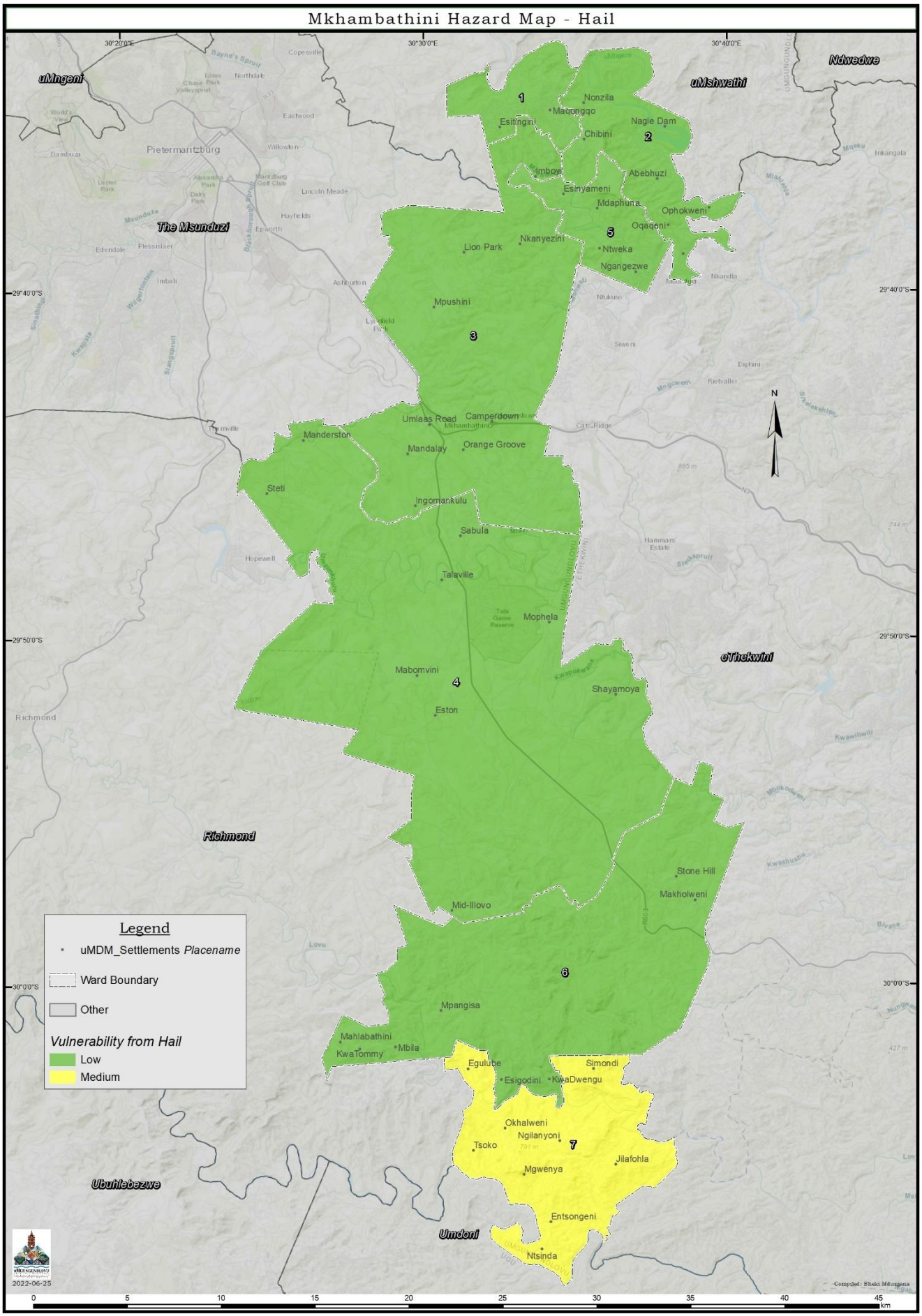
Vulnerability differs for each communities and over time. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure.

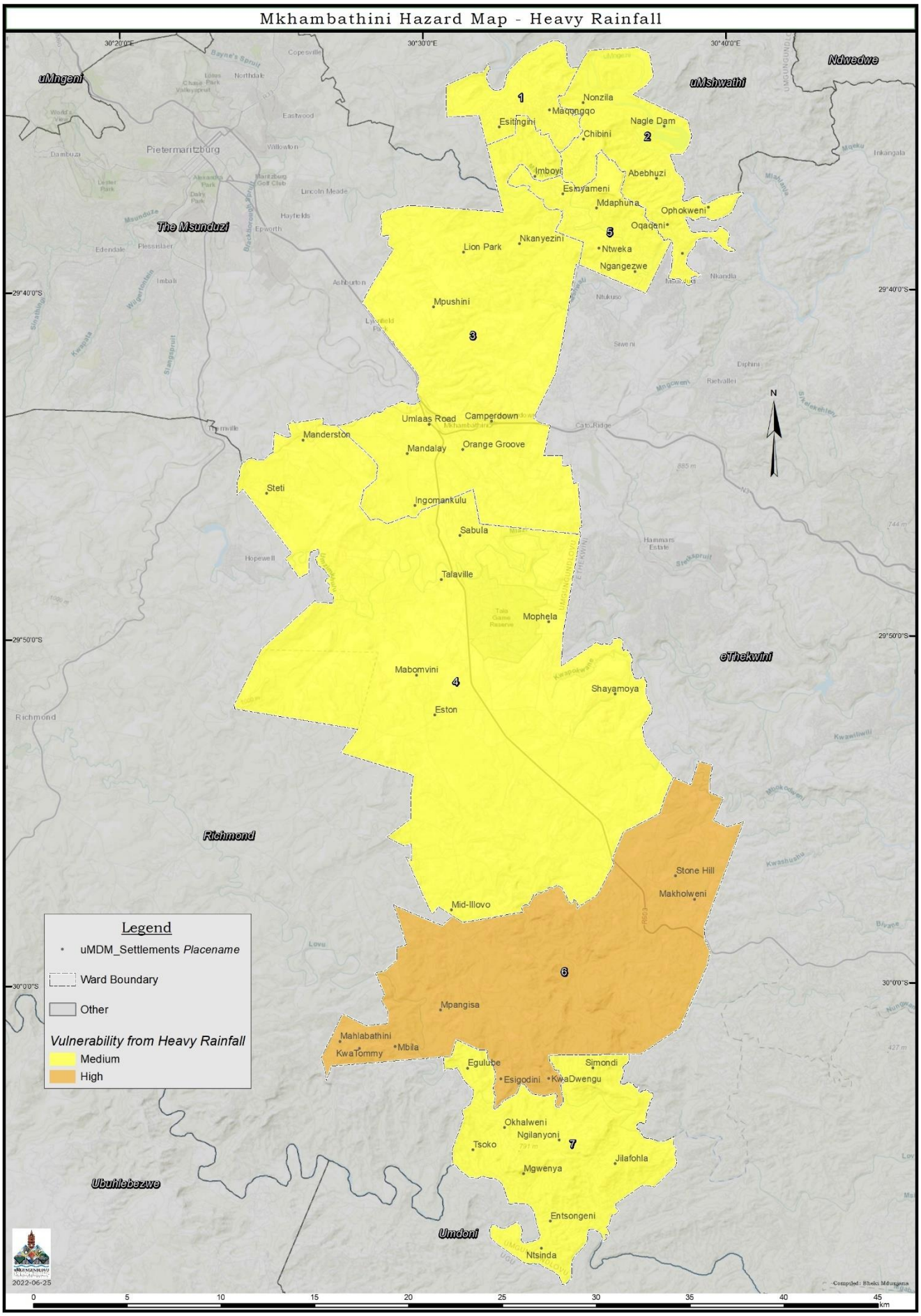

Mkhambathini Hazard Map - Civil Unrest
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongco
Esithingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Eshayameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Civil Unrest
Medium
1
2
3
4
5
6
7
N
30°20'0"E
30°30'0"E
30°40'0"E
29°40'0"S
29°50'0"S
30°0'0"S
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km

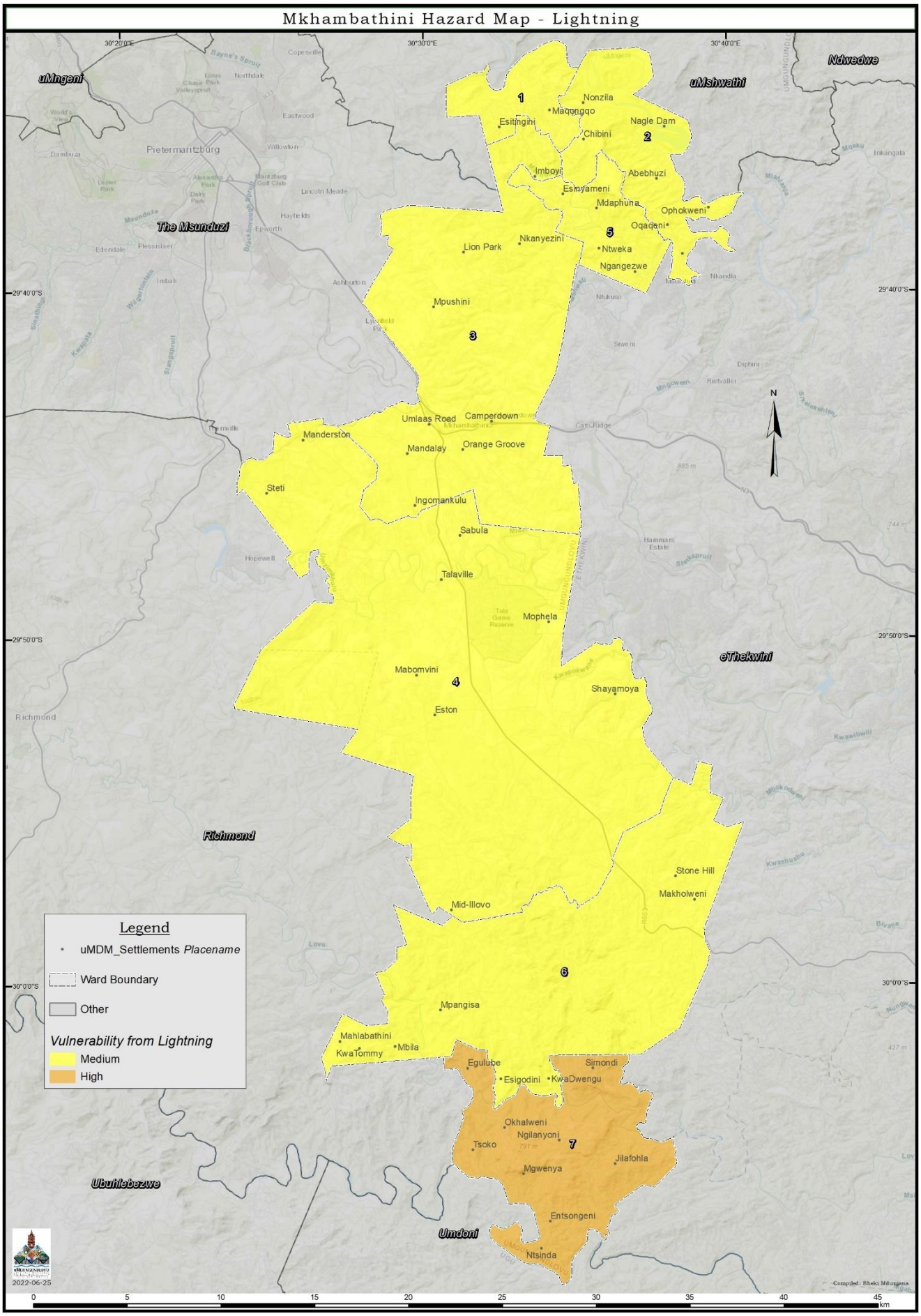

Mkhambathini Hazard Map - Covid 19 Pandemic
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Camperdown
Umlaas Road
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Mid-Illovo
Stone Hill
Makholweni
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Esigodini
KwaDwengu
Simondi
Okhalweni
Ngilanyoni
Tsoko
Mgwenya
Jilafohla
Entsongeni
Ntsinda
Nonzila
Maqonggo
Esithingini
Nagle Dam
Chibini
Imboyi
Esiyameni
Abebhuzi
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Covid 19 Pandemic
Medium
High
N
29°40'0"S
29°50'0"S
30°0'0"S
30°20'0"E
30°30'0"E
30°40'0"E
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km

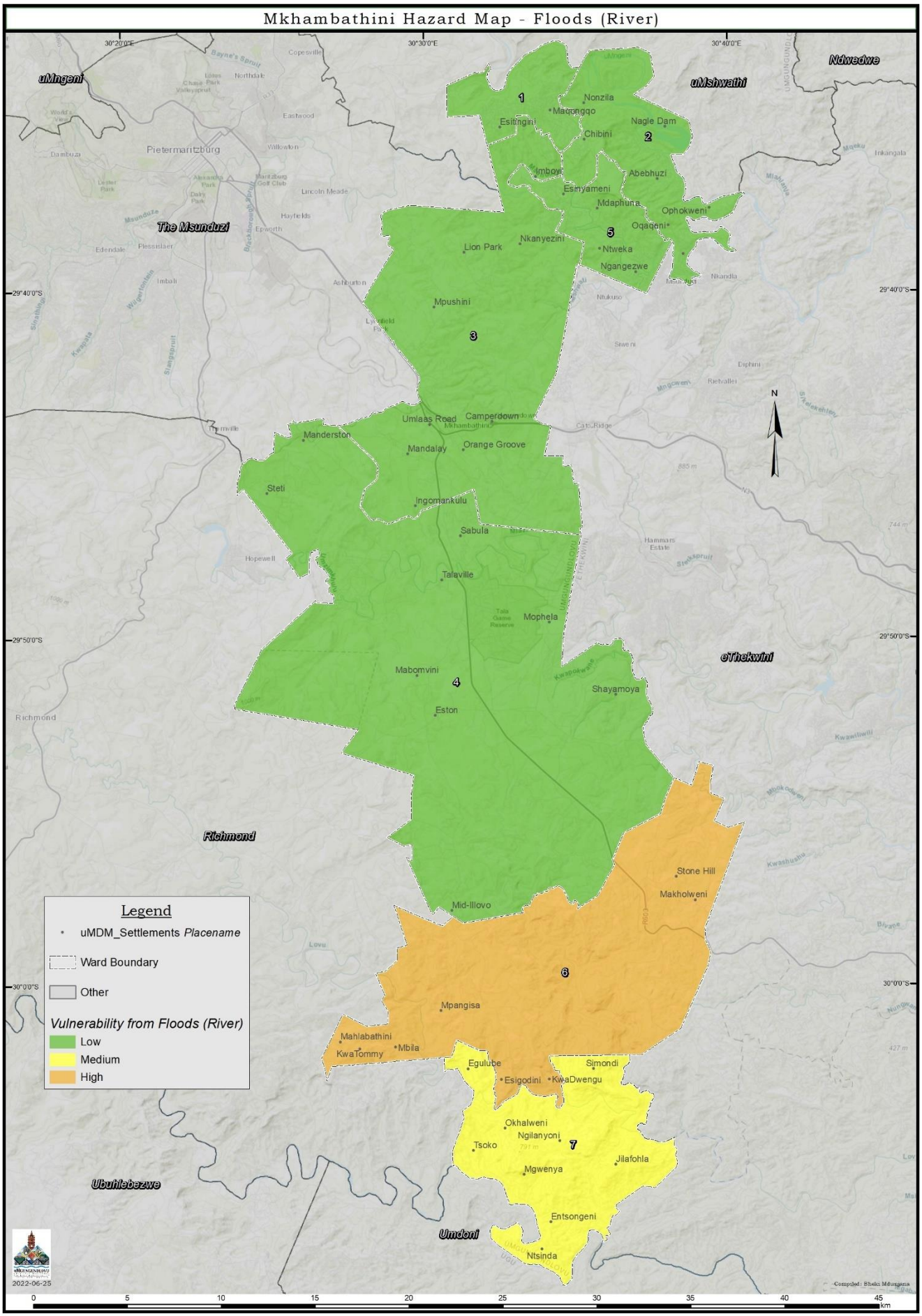

Mkhambathini Hazard Map - Drought
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Camperdown
Umlaas Road
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Mid-Illovo
Stone Hill
Makholweni
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Esigodini
KwaDwengu
Simondi
Okhalweni
Ngilanyoni
Tsoko
Mgwenya
Jilafohla
Entsongeni
Ntsinda
Nonzila
Macongco
Esithingini
Chibini
Nagle Dam
Imboyi
Eshayameni
Abebhuzi
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Drought
Medium
N
30°20'0"E
30°30'0"E
30°40'0"E
29°40'0"S
29°50'0"S
30°0'0"S
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km

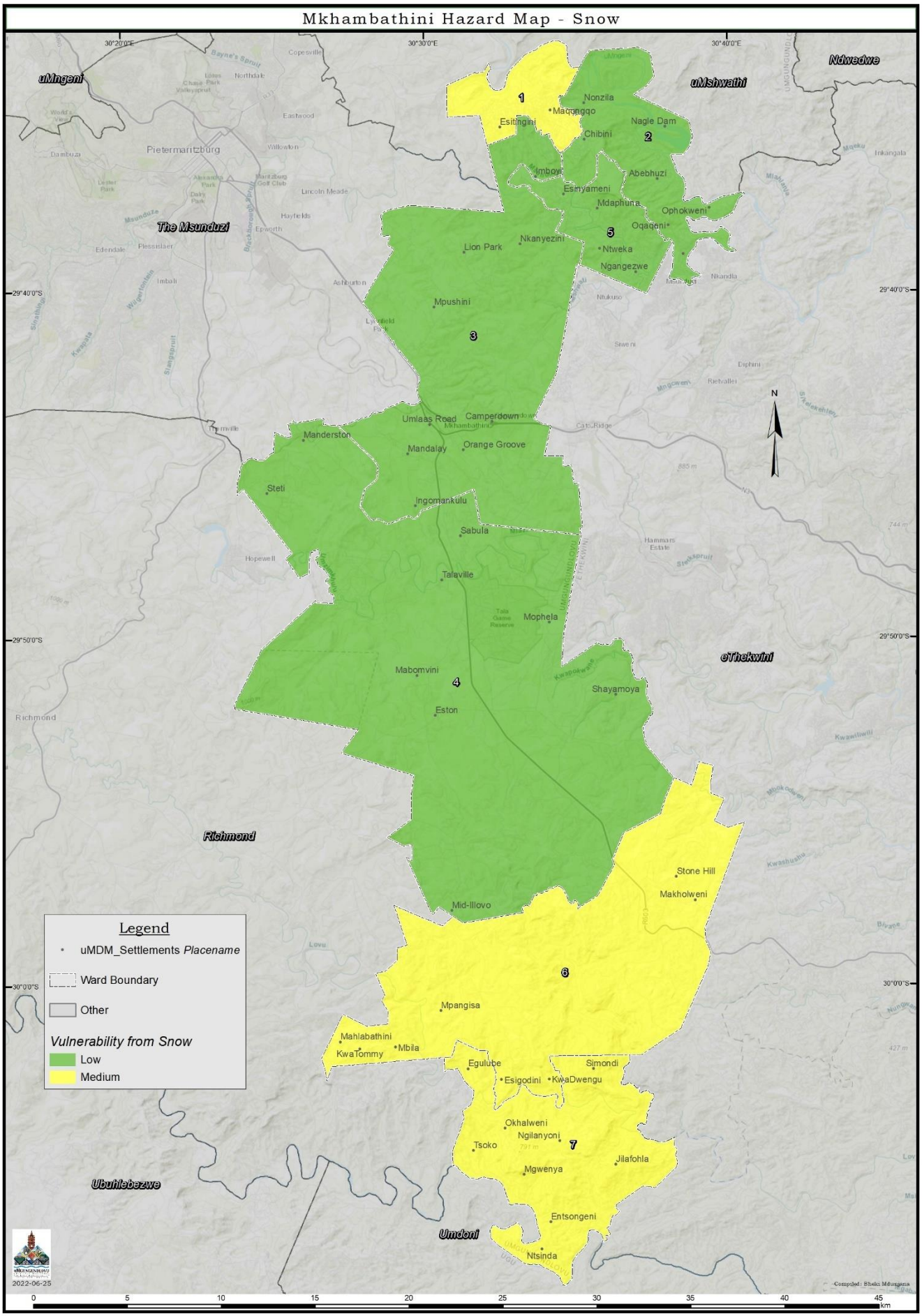

Mkhambathini Hazard Map - Flash Floods
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Camperdown
Umlaas Road
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Mid-Illovo
Stone Hill
Makholweni
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Esigodini
KwaDwengu
Simondi
Okhalweni
Ngilanyoni
Tsoko
Mgwenya
Jilafohla
Entsongeni
Ntsinda
Mpushini
Lion Park
Nkanyezini
Ntweka
Ngangezwe
Oqaqeni
Ophokweni
Mdaphuna
Eshayameni
Abebhuzi
Imboyi
Chibini
Nagle Dam
Esithingini
Macongco
Nonzila
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Flash Floods
Medium
N
30°20'0"E
30°30'0"E
30°40'0"E
29°40'0"S
29°50'0"S
30°0'0"S
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km

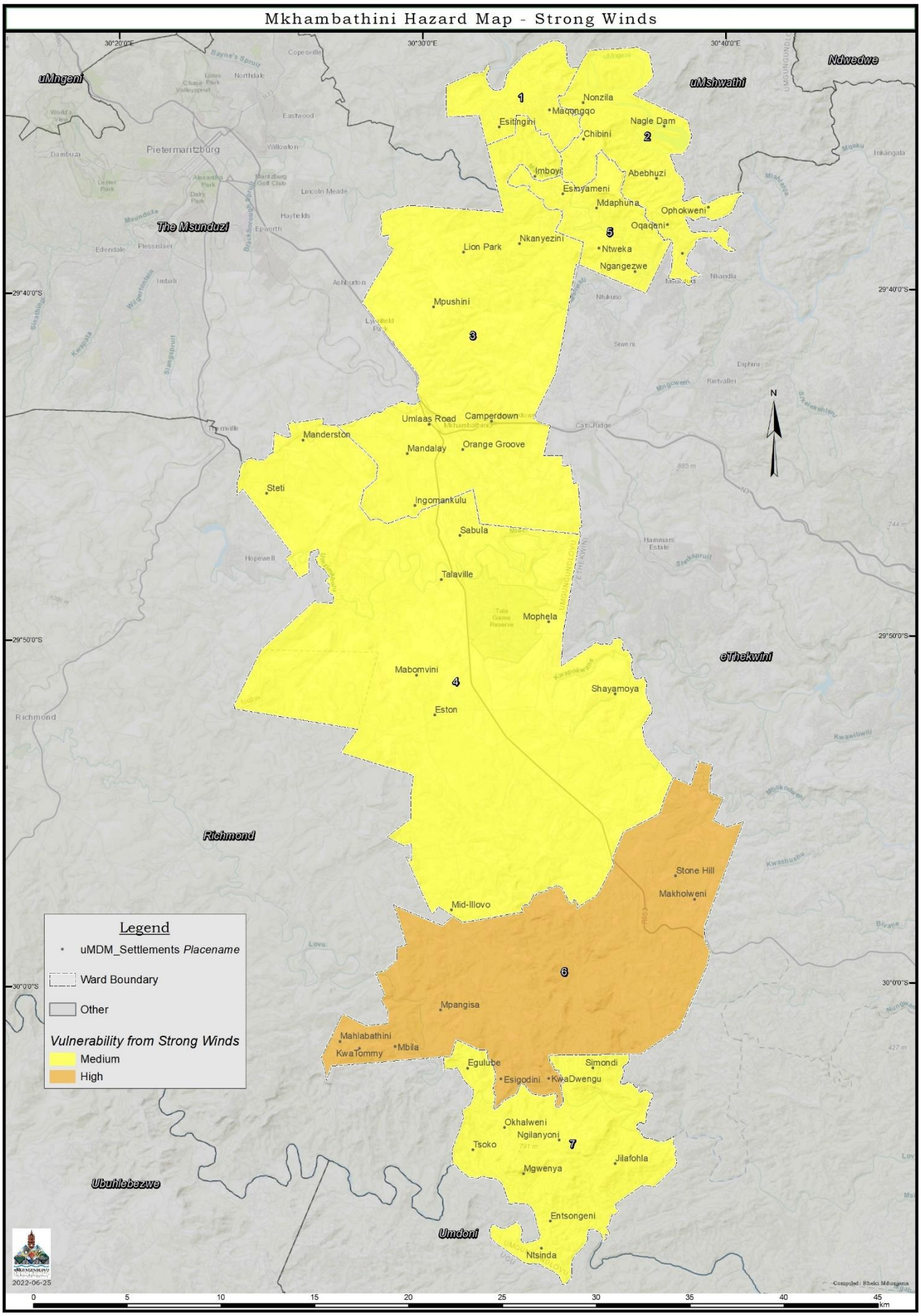

Mkhambathini Hazard Map - Hail
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqongqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Esigodini
KwaDwengu
Simondi
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Hail
Low
Medium
2022-06-25
Compiled: Bheki Mdunjana
0 5 10 15 20 25 30 35 40 45 km

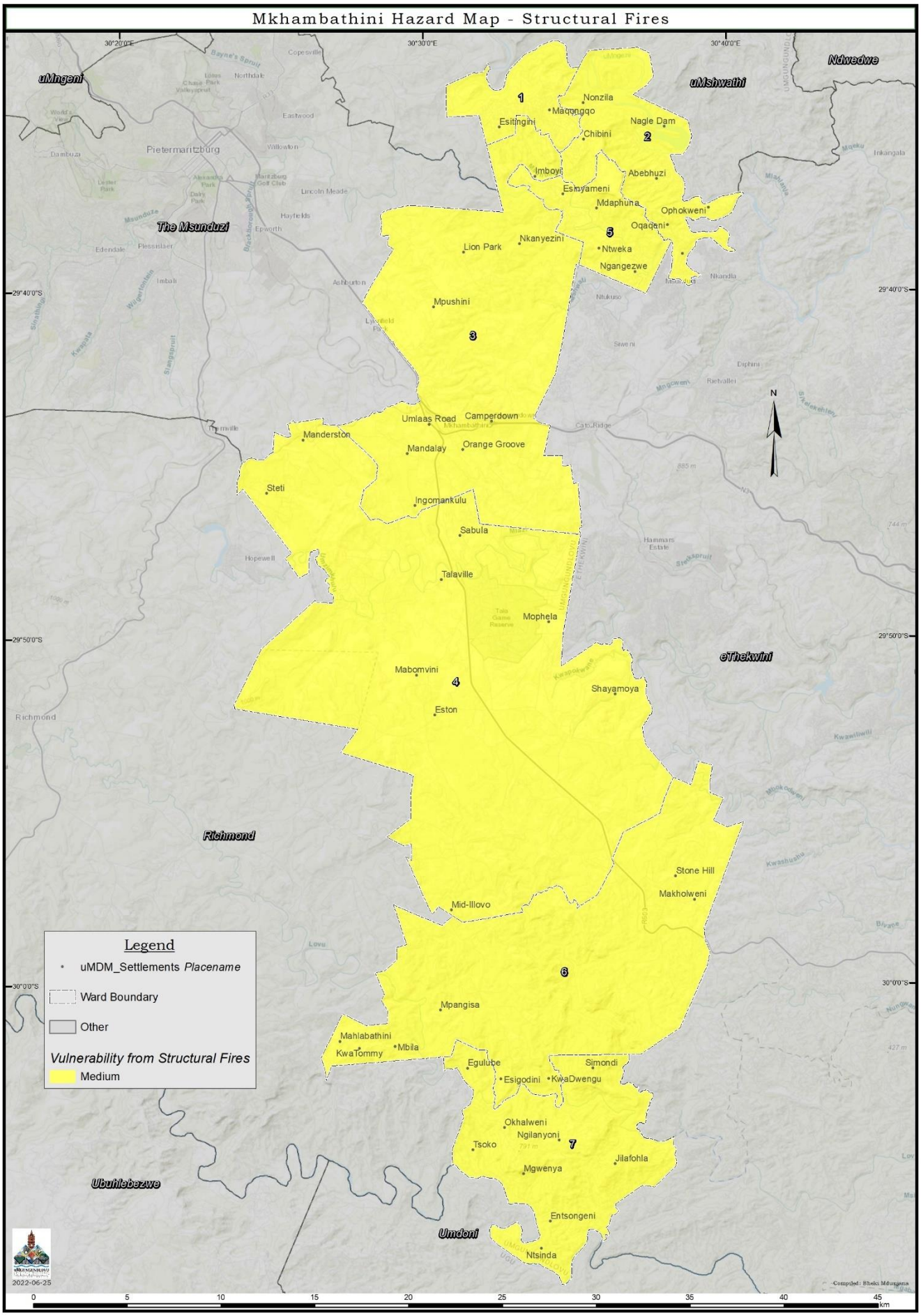

Mkhambathini Hazard Map - Heavy Rainfall
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongco
Esithingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Eshyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Heavy Rainfall
Medium
High
1
2
3
4
5
6
7
N
30°20'0"E
30°30'0"E
30°40'0"E
29°40'0"S
29°50'0"S
30°0'0"S
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km

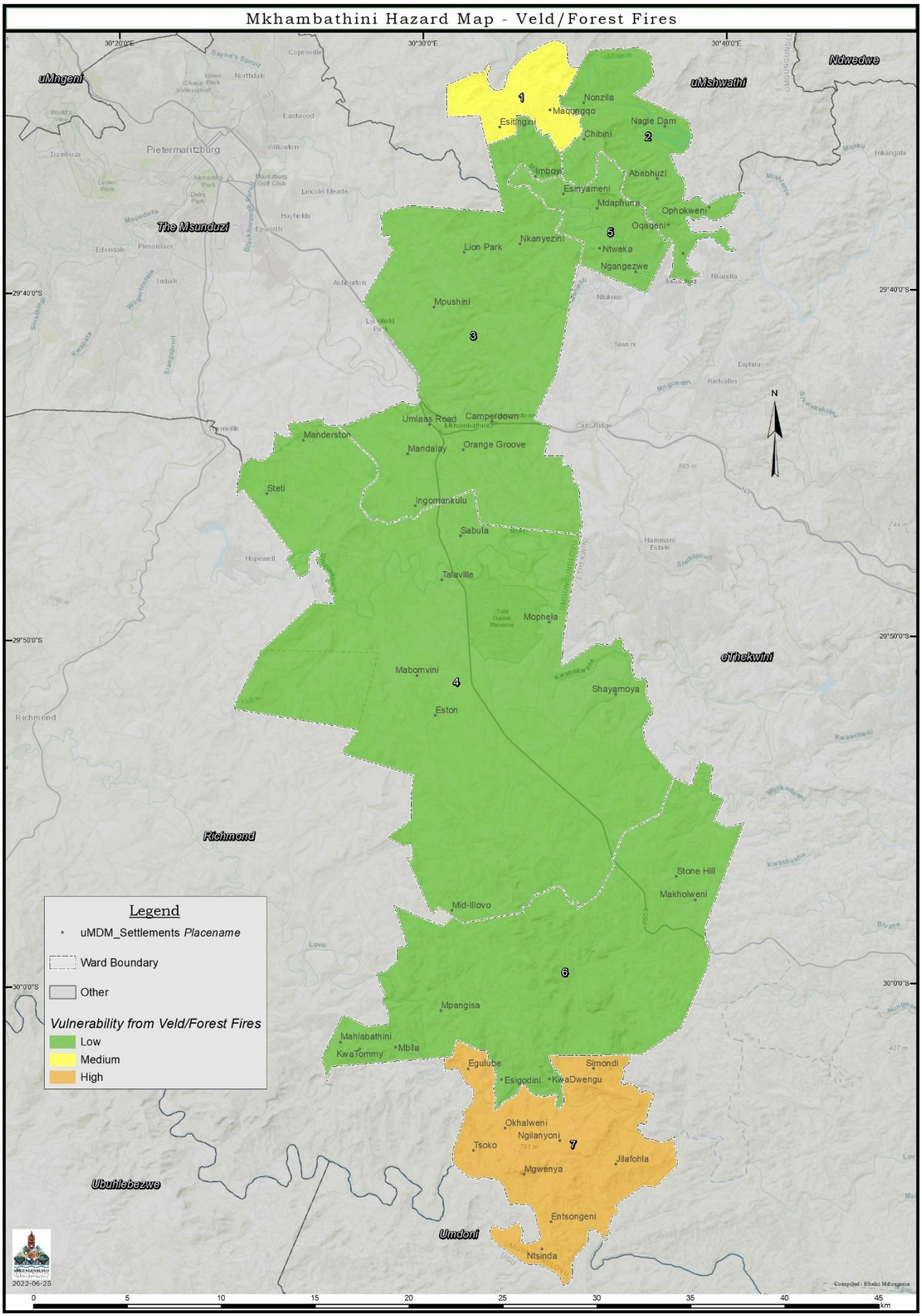

Mkhambathini Hazard Map - Lightning
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongco
Esithingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Eshyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
N
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Lightning
Medium
High
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km

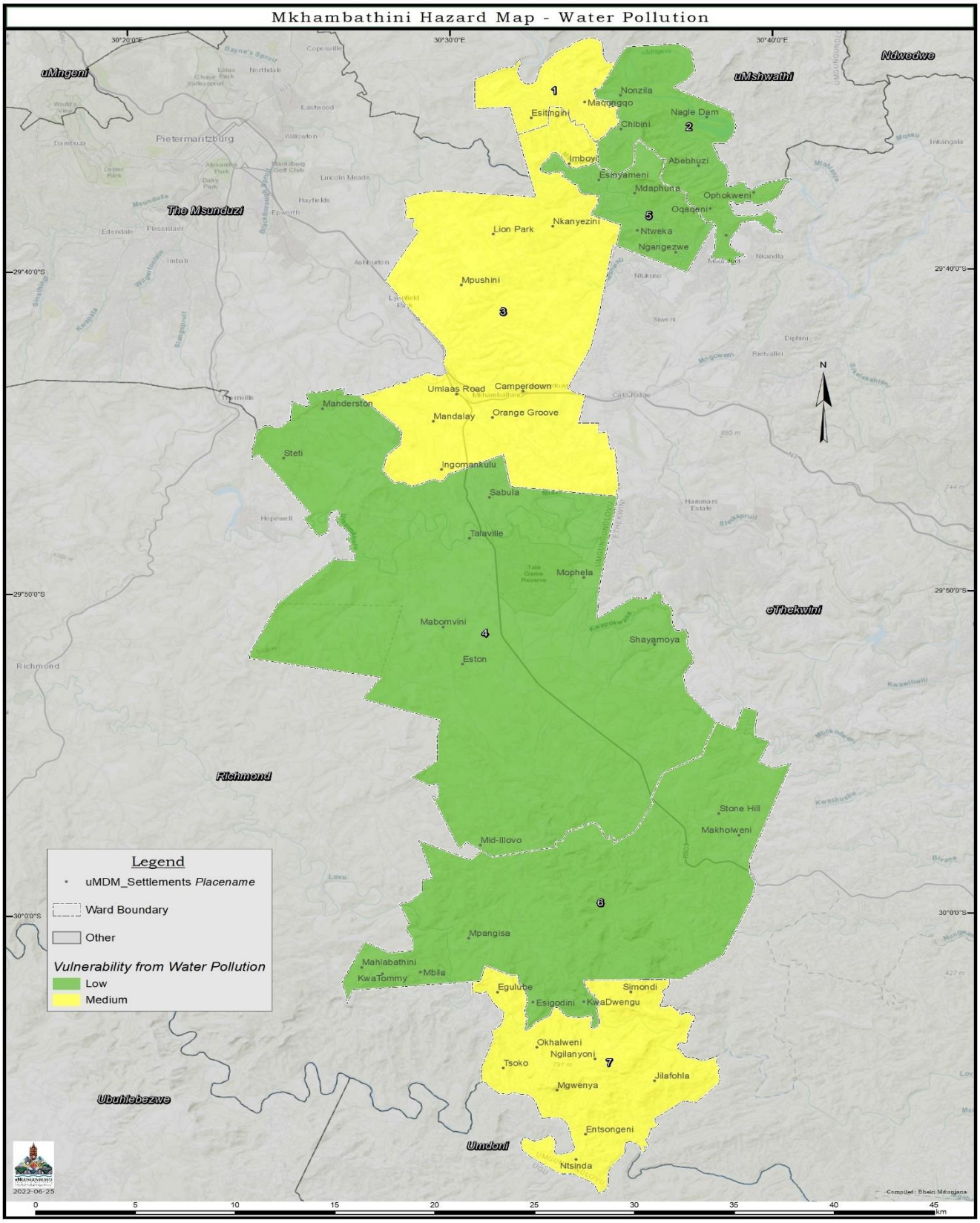

Mkhambathini Hazard Map - Floods (River)
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonggo
Esitingini
Nagle Dam
Chibini
Imboyi
Esinyameni
Abebhuzi
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Mid-Illovo
Stone Hill
Makholweni
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
N
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Floods (River)
Low
Medium
High
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km


Mkhambathini Hazard Map - Snow
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonggo
Esithingini
Nagle Dam
Chibini
Imboyi
Esinyameni
Abebhuzi
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Mid-Illovo
Stone Hill
Makholweni
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Snow
Low
Medium
N
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km


Mkhambathini Hazard Map - Strong Winds
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongco
Esithingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Eshayameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Strong Winds
Medium
High
N
2022-06-25
Compiled: Bheki Mdunyana
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Hazard Map - Structural Fires
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Camperdown
Umlaas Road
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Mid-Illovo
Stone Hill
Makholweni
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Esigodini
KwaDwengu
Simondi
Okhalweni
Ngilanyoni
Tsoko
Mgwenya
Jilafohla
Entsongeni
Ntsinda
Mpushini
Lion Park
Nkanyezini
Ntweka
Ngangezwe
Oqaqeni
Ophokweni
Mdaphuna
Eshayameni
Imboyi
Abebhuzi
Chibini
Nagle Dam
Esithingini
Macongco
Nonzila
1
2
3
4
5
6
7
N
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Structural Fires
Medium
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km


Mkhambathini Hazard Map - Veld/Forest Fires
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Nonzila
Maqonggo
Esithingini
Nagle Dam
Chibini
Imboyi
Esinyameni
Abebhuzi
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
1
2
3
4
5
6
7
N
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Vulnerability from Veld/Forest Fires
Low
Medium
High
2022-06-25
Compiled: Bheki Mdunyana
0
5
10
15
20
25
30
35
40
45
km



Vulnerability maps were produced after considering critical factors of vulnerability such as political, social, economic, technological and environmental factors.

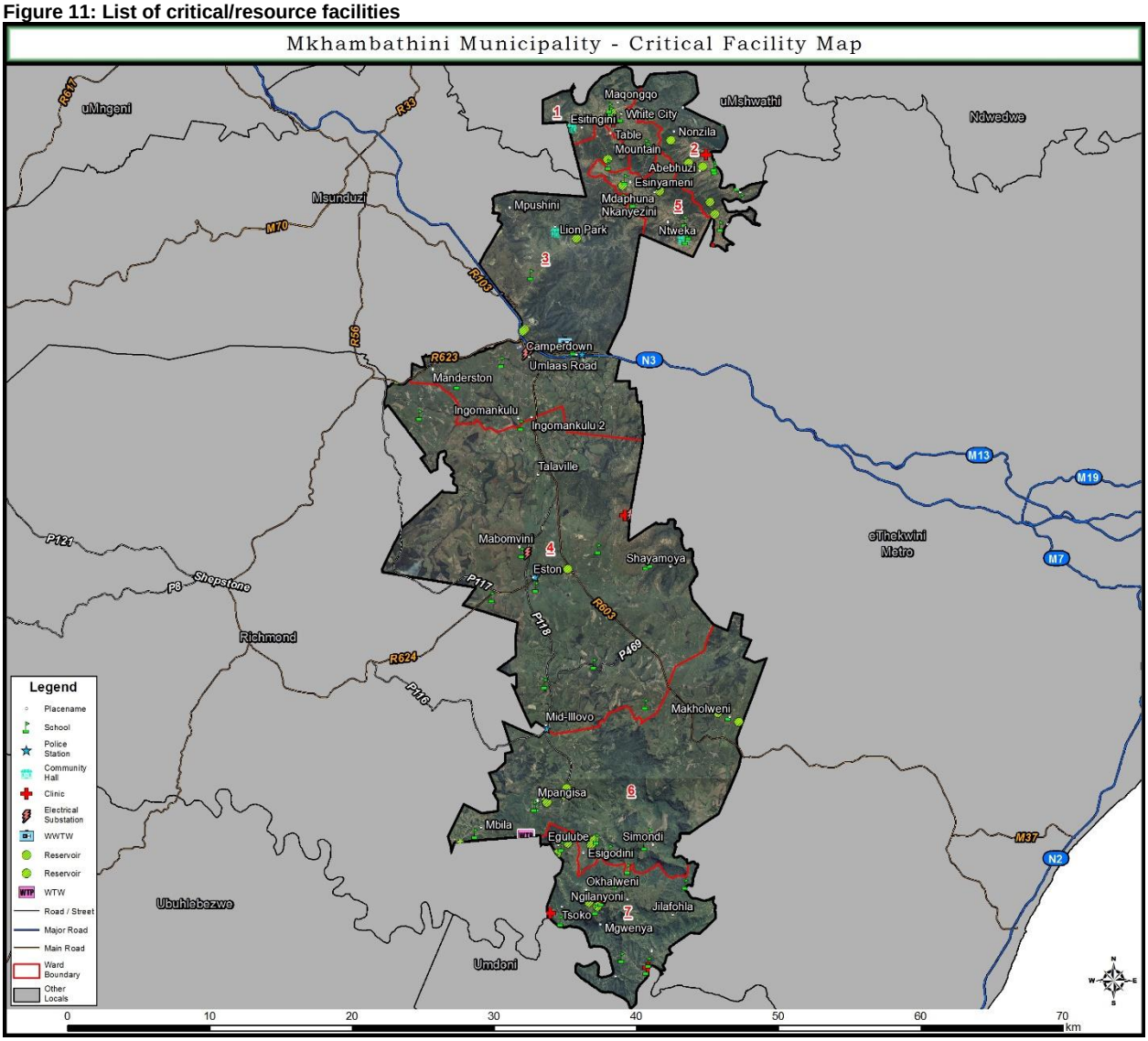
3.4. Capacity Maps

Capacity (or the lack of it) is central to reducing disaster risk and therefore critical to meeting development objectives. Disaster risk reduction requires an all-of-society engagement and partnership. It also requires empowerment and inclusive, accessible and non-discriminatory participation (UN, 2015).

Regular awareness campaigns are conducted in all Wards within the Municipality to enhance people capacity.

The capacity map below was produced after considering the combination of all the strengths, attributes and resources available within communities, society or organization that can be used should a need arise.

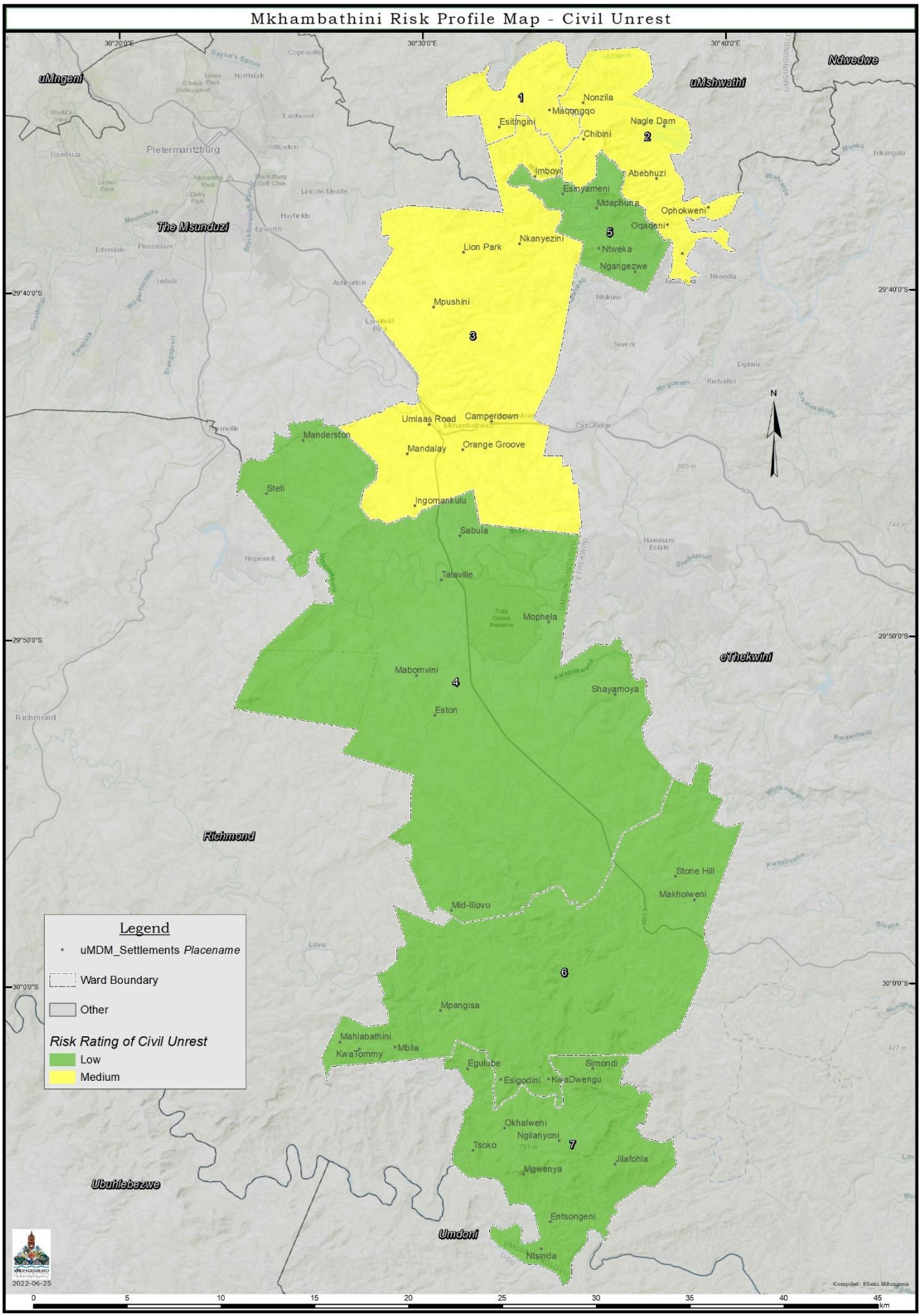
Figure 11: List of critical/resource facilities

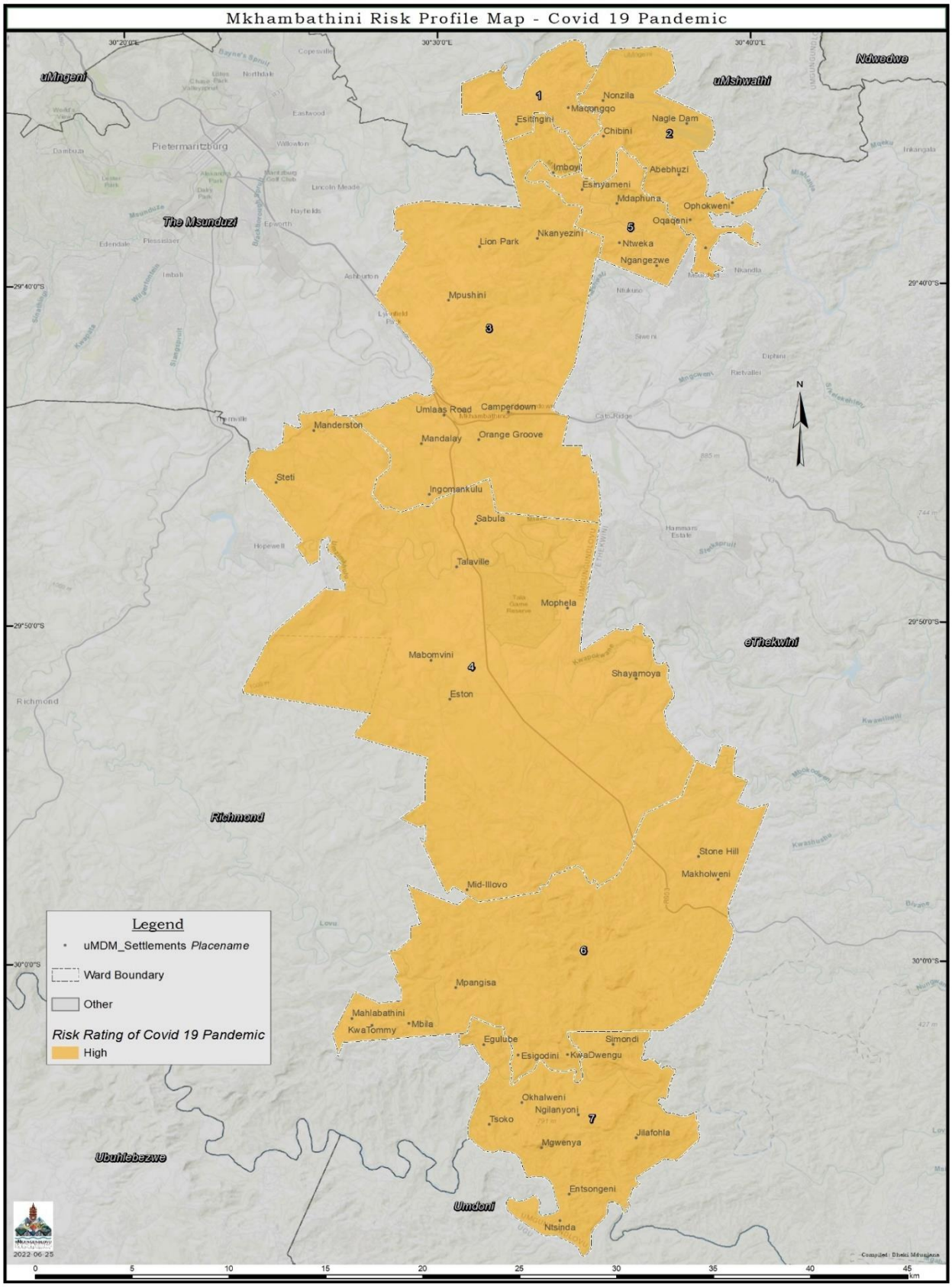


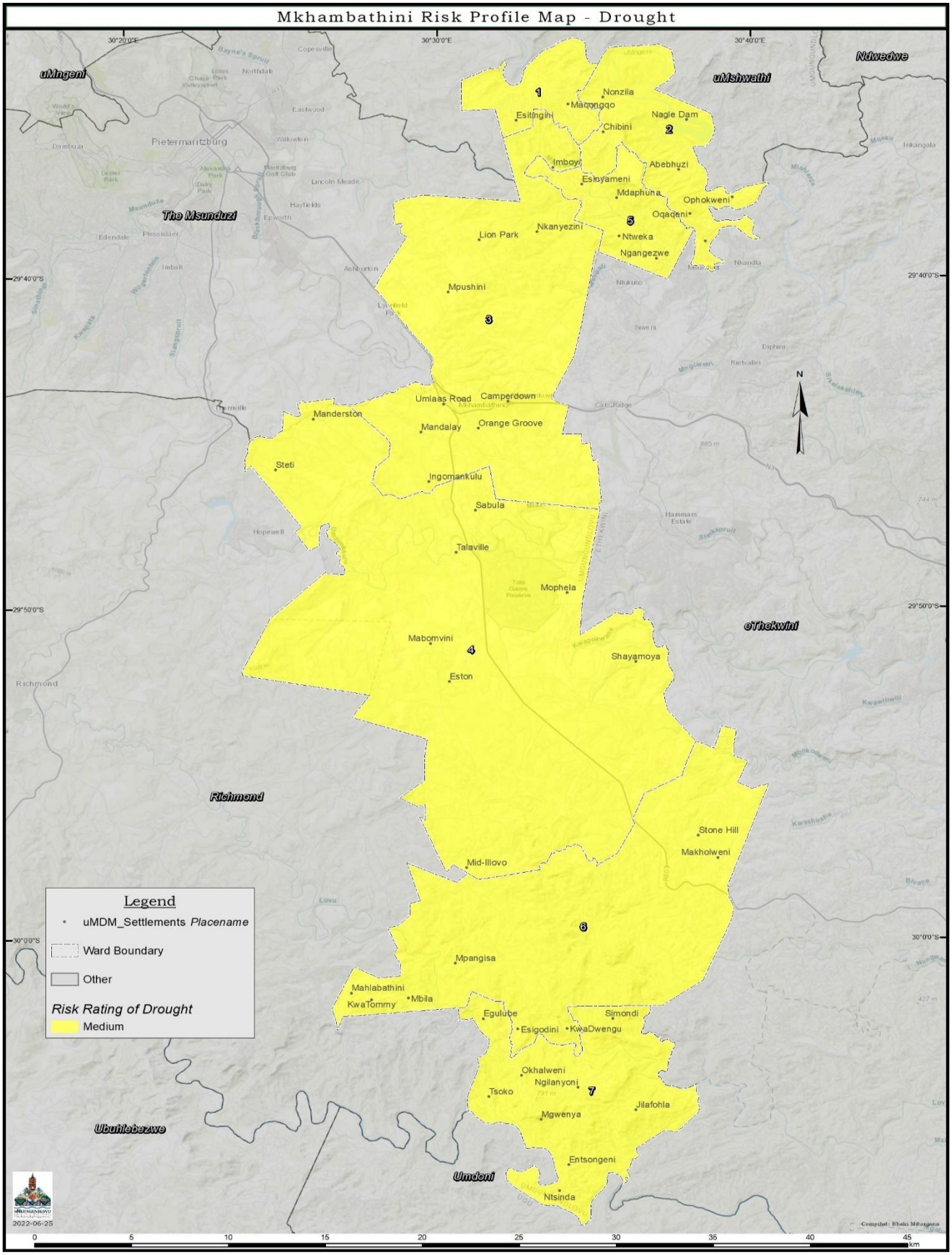
3.5. Disaster Risk Rating Maps (Disaster Risk Evaluation Maps)

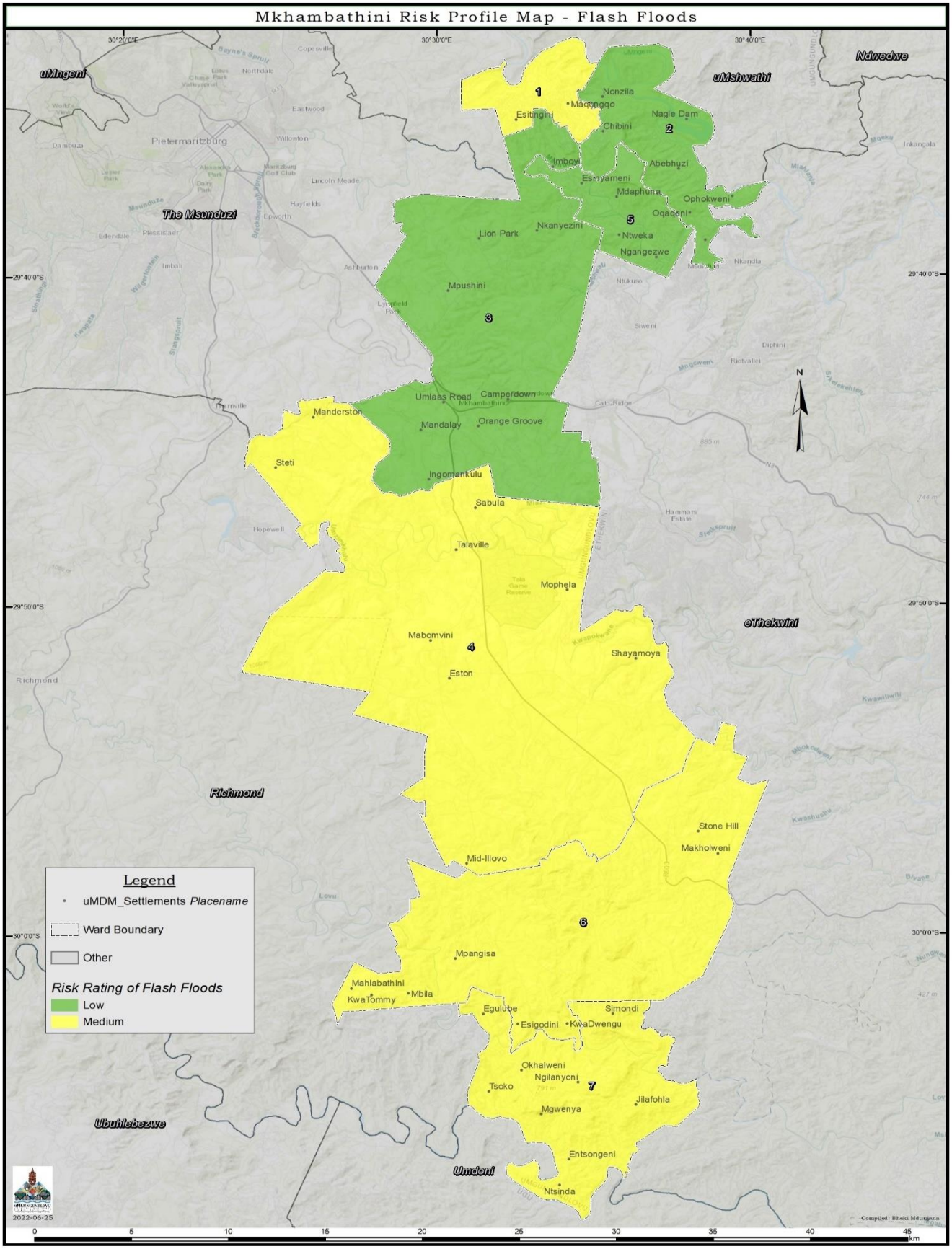
Disaster risk rating assists the municipality with determining the following:

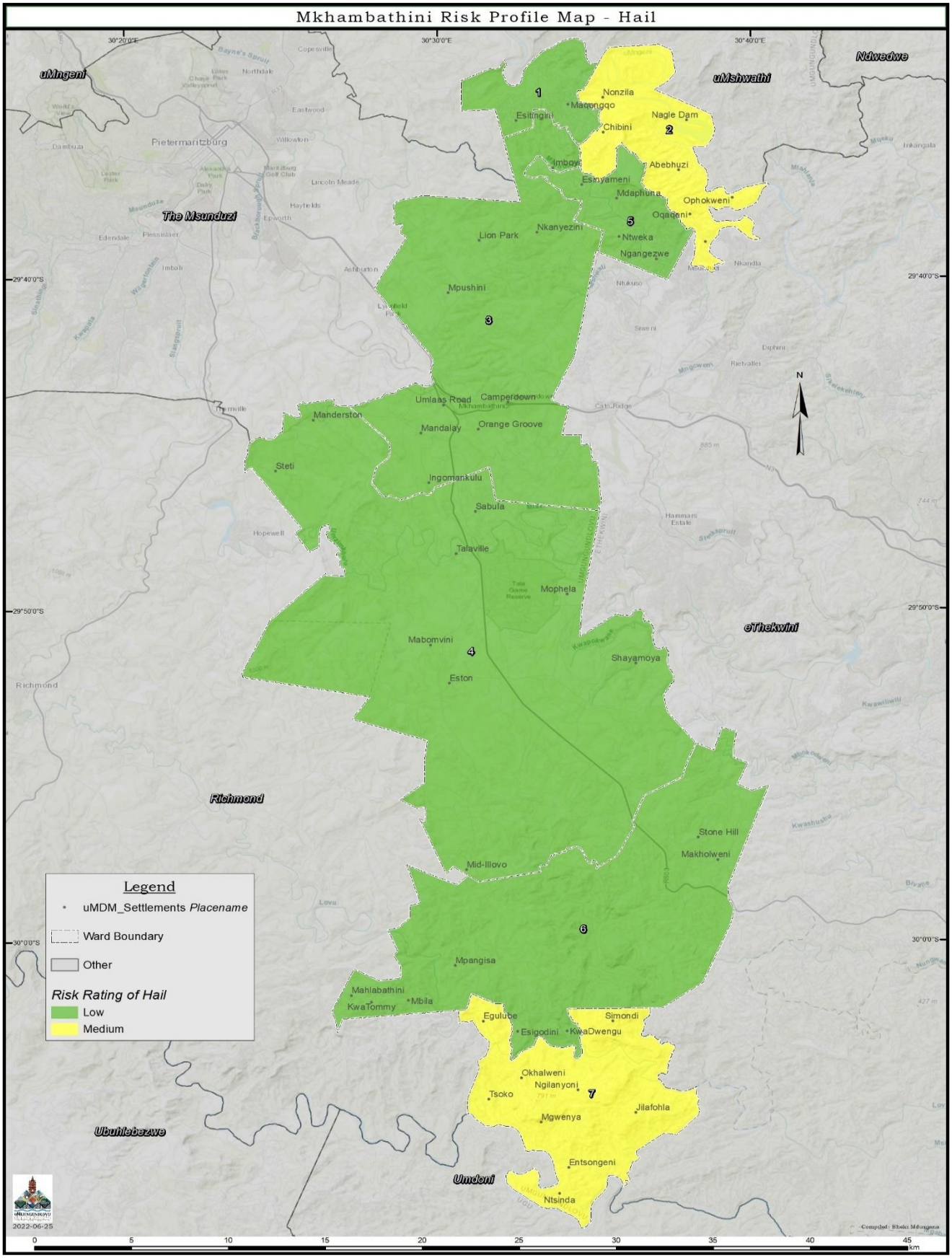
- Levels of disaster risk by analysing hazards, vulnerability and coping capacity in order to set priorities for disaster risk reduction action;
- To develop a comprehensive disaster risk management plan for Mkhambathini Local Municipality; and
- To identify possible disaster risk reduction programmes informed by ward based disaster risk assessment.

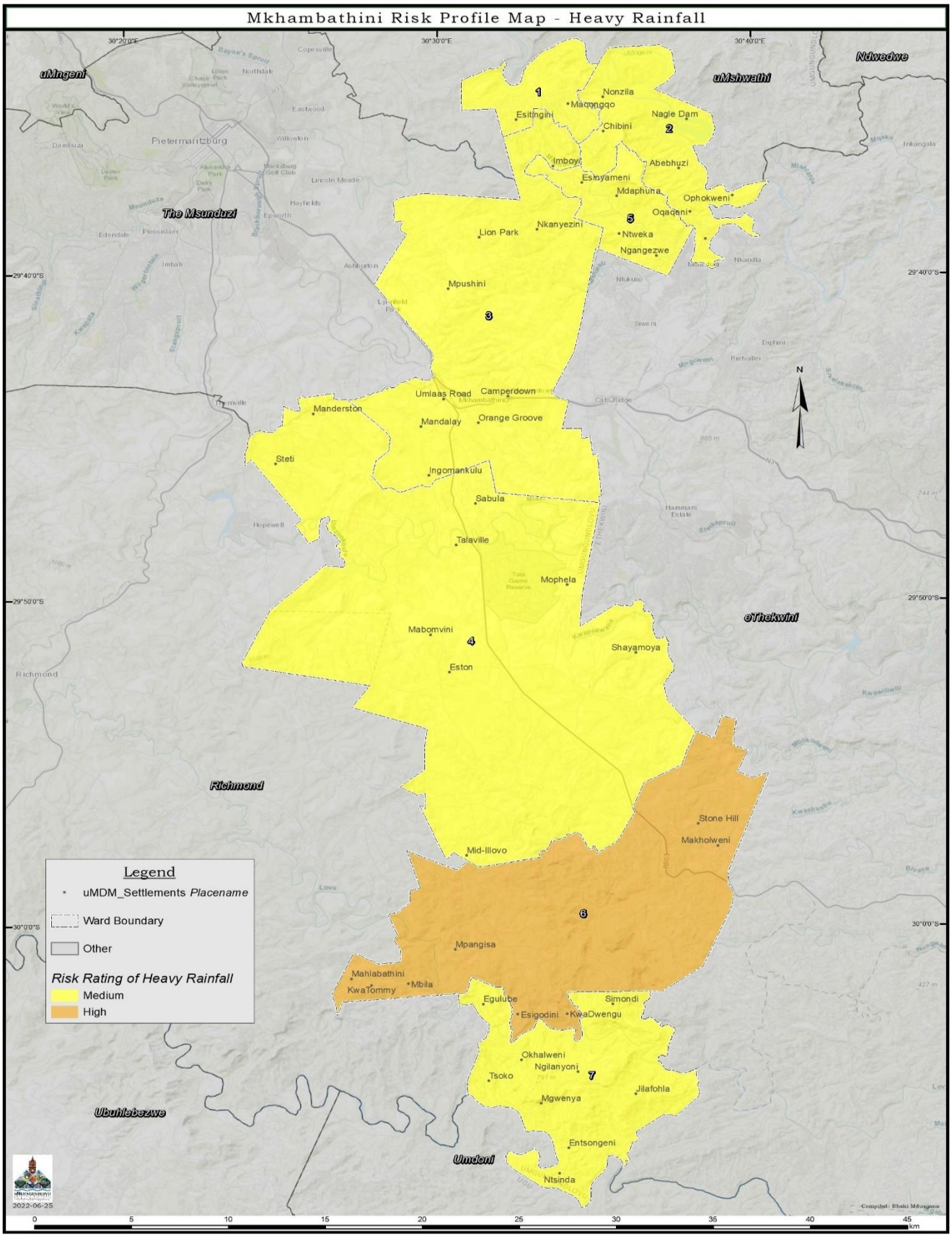

Mkhambathini Risk Profile Map - Civil Unrest
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
Ubuhlebezwe
Umdoni
eThekwini
Pietermaritzburg
Nonzila
Esitingini
Nagle Dam
Chibini
Imboyi
Esinyameni
Abebhuzi
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Civil Unrest
Low
Medium
1
2
3
4
5
6
7
N
2022-06-25
Compiled: Bheki Mdungwa
0 5 10 15 20 25 30 35 40 45 km

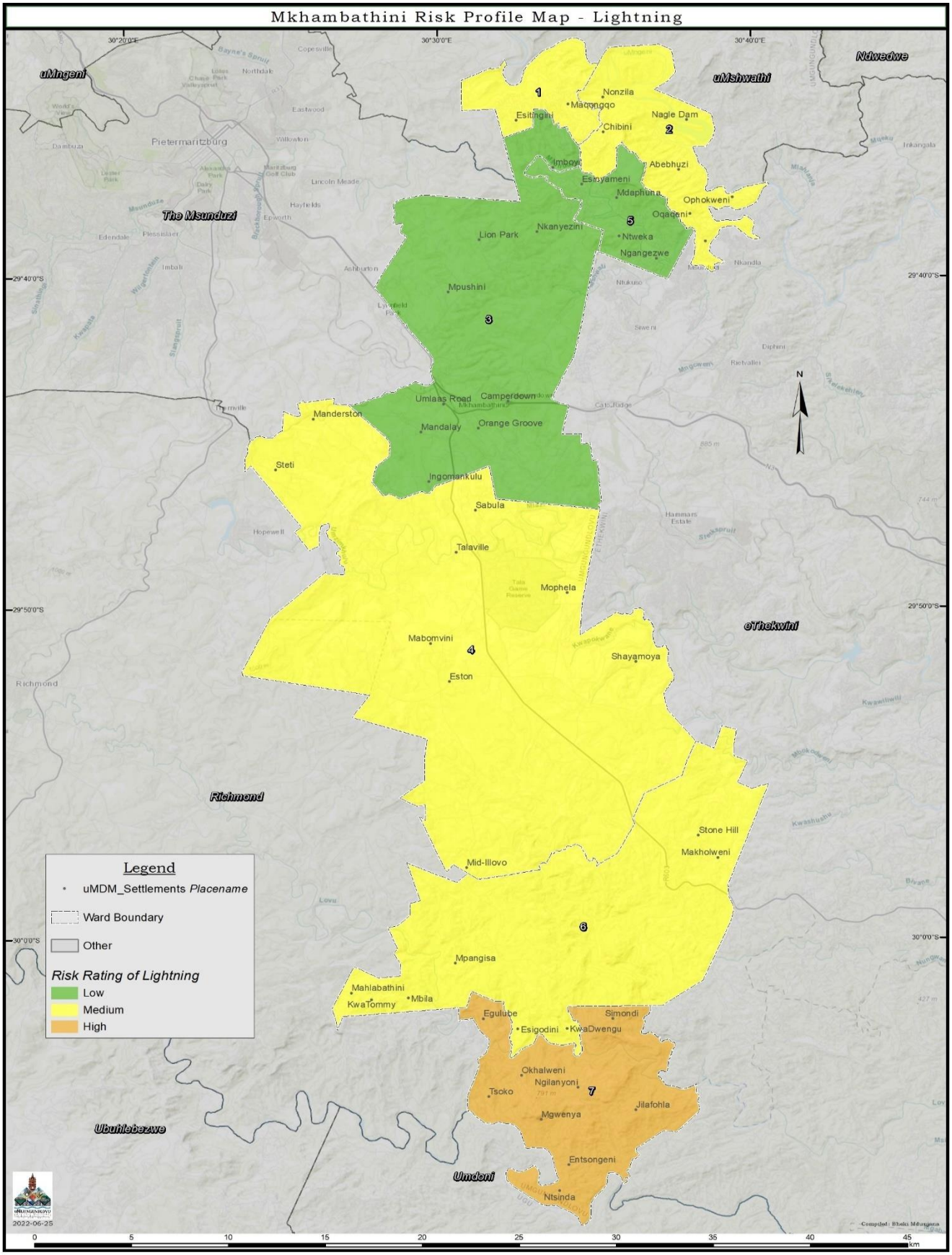

Mkhambathini Risk Profile Map - Covid 19 Pandemic
uMngeni
Ndwedwe
uMshwathi
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongqo
Esimgini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Covid 19 Pandemic
High
N
2022 06 25
0 5 10 15 20 25 30 35 40 45 km

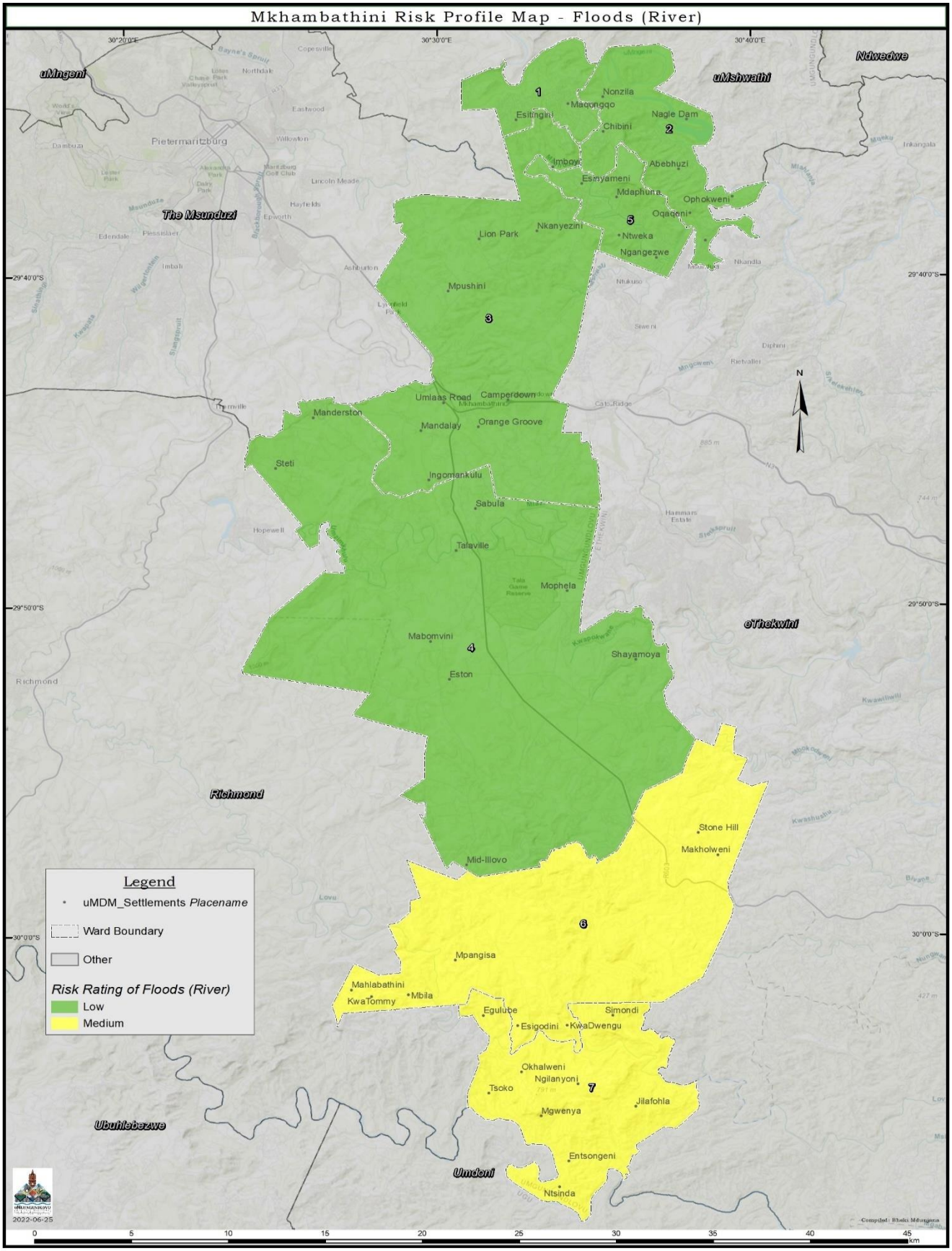

Mkhambathini Risk Profile Map - Drought
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Eshayameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Drought
Medium
1
2
3
4
5
6
7
N
30°20'0"E
30°30'0"E
30°40'0"E
29°40'0"S
29°50'0"S
30°0'0"S
2022-06-25
0 5 10 15 20 25 30 35 40 45 Km

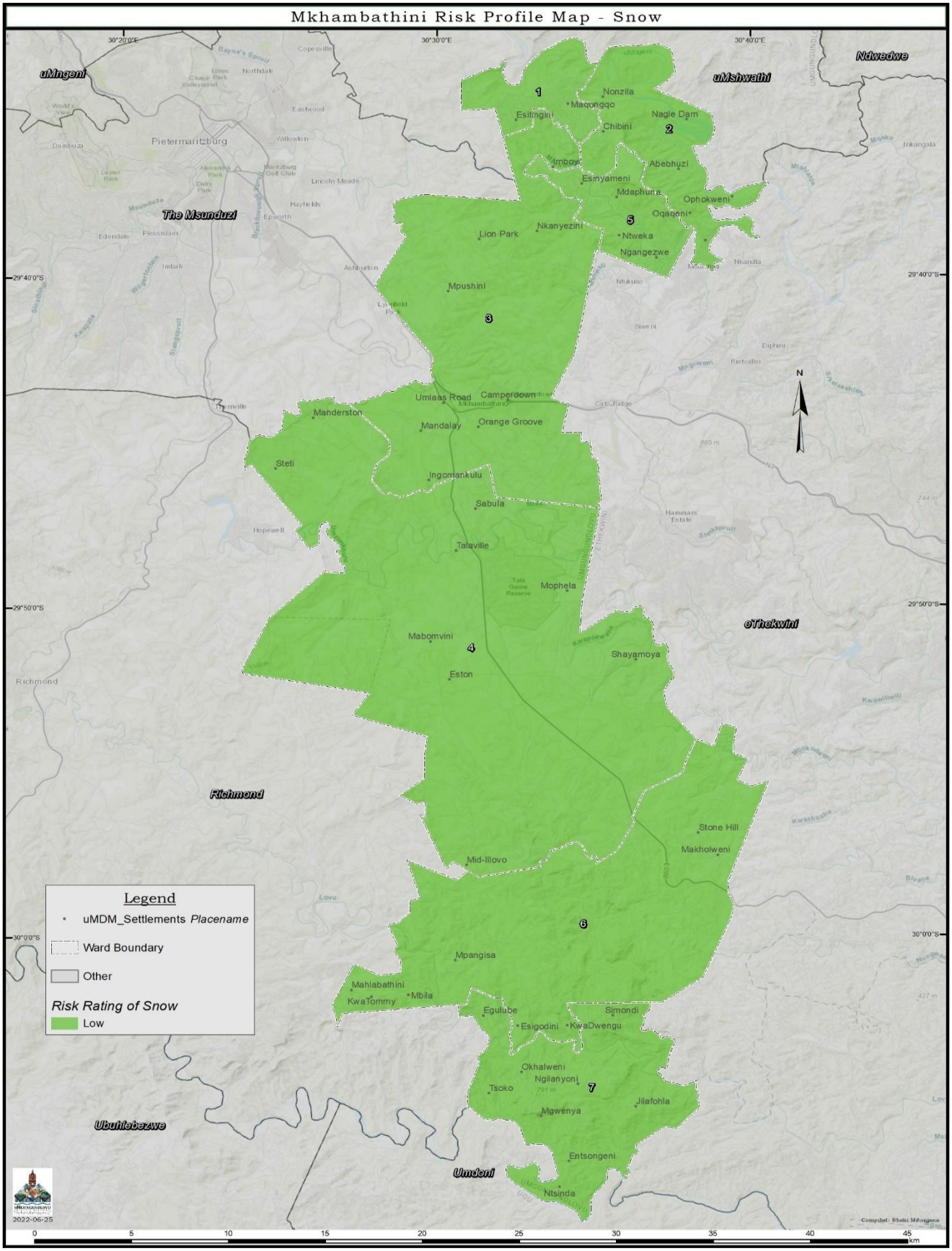

Mkhambathini Risk Profile Map - Flash Floods
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Esigodini
KwaDwengu
Simondi
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Flash Floods
Low
Medium
2022-06-25
0 5 10 15 20 25 30 35 40 45 km

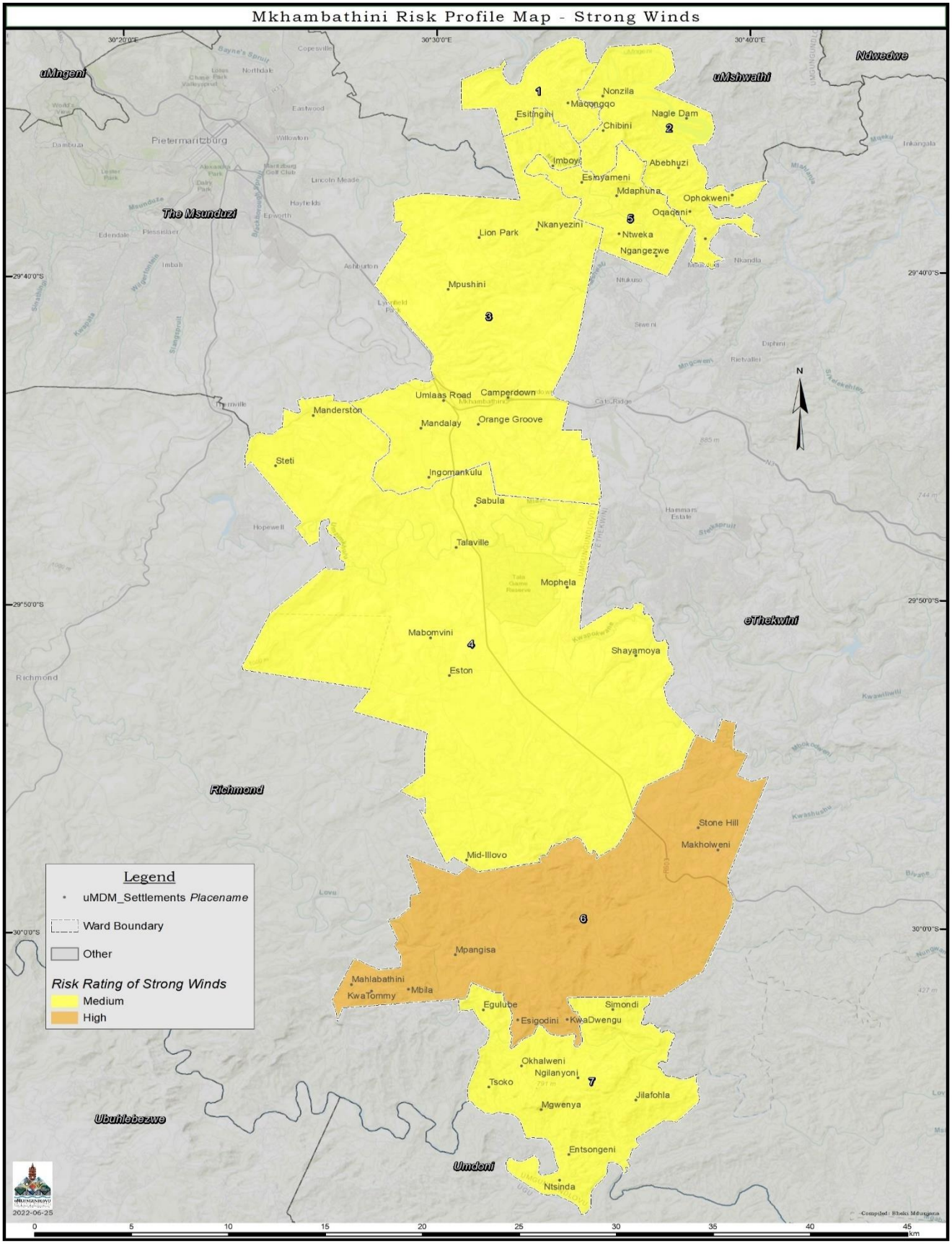

Mkhambathini Risk Profile Map - Hail
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonqqo
Esitingini
Nagle Dam
Chibini
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Esigodini
KwaDwengu
Simondi
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Hail
Low
Medium
1
2
3
4
5
6
7
N
2022-06-25
0 5 10 15 20 25 30 35 40 45 km

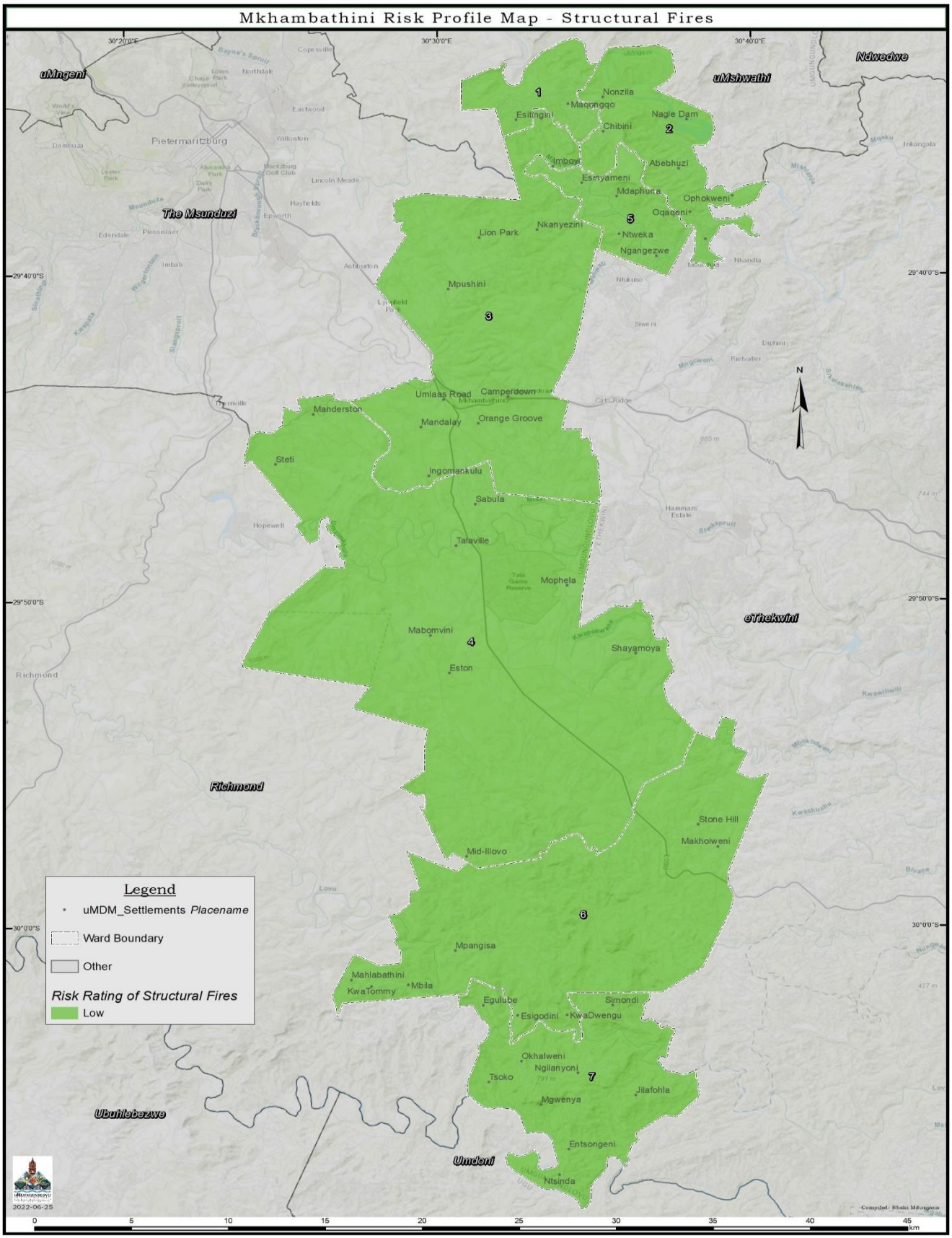

Mkhambathini Risk Profile Map - Heavy Rainfall
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqongqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqani
Nkanyezini
Lion Park
Ntweka
Ngangezwe
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Heavy Rainfall
Medium
High
2022-06-25
Compiled: Bheki Mdunjana
0 5 10 15 20 25 30 35 40 45 km

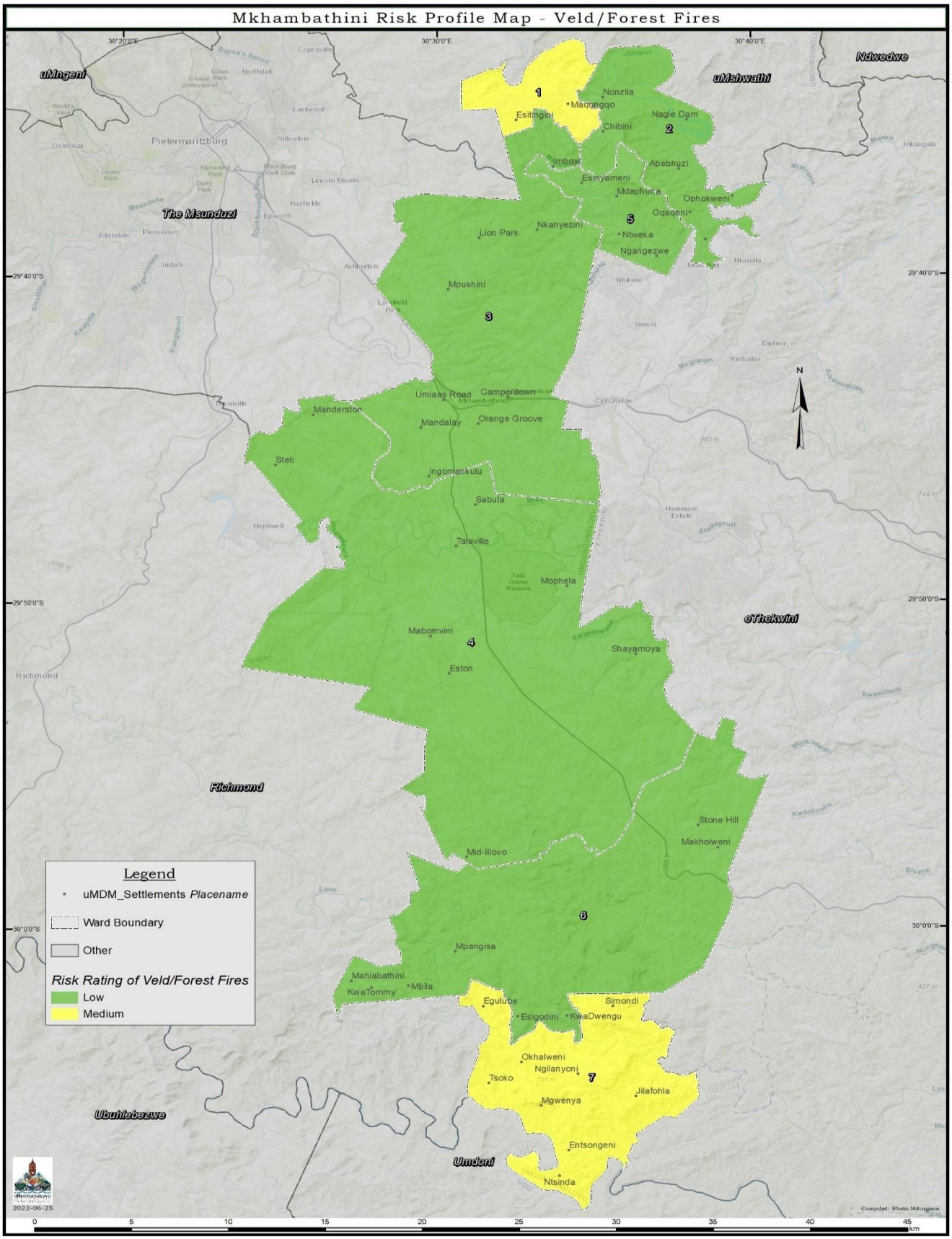

Mkhambathini Risk Profile Map - Lightning
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongqo
Esitingini
Nagle Dam
Chibini
Imbovi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Lightning
Low
Medium
High
1
2
3
4
5
6
7
N
2022-06-25
Compiled: Bheki Mdunjana
0 5 10 15 20 25 30 35 40 45 Km

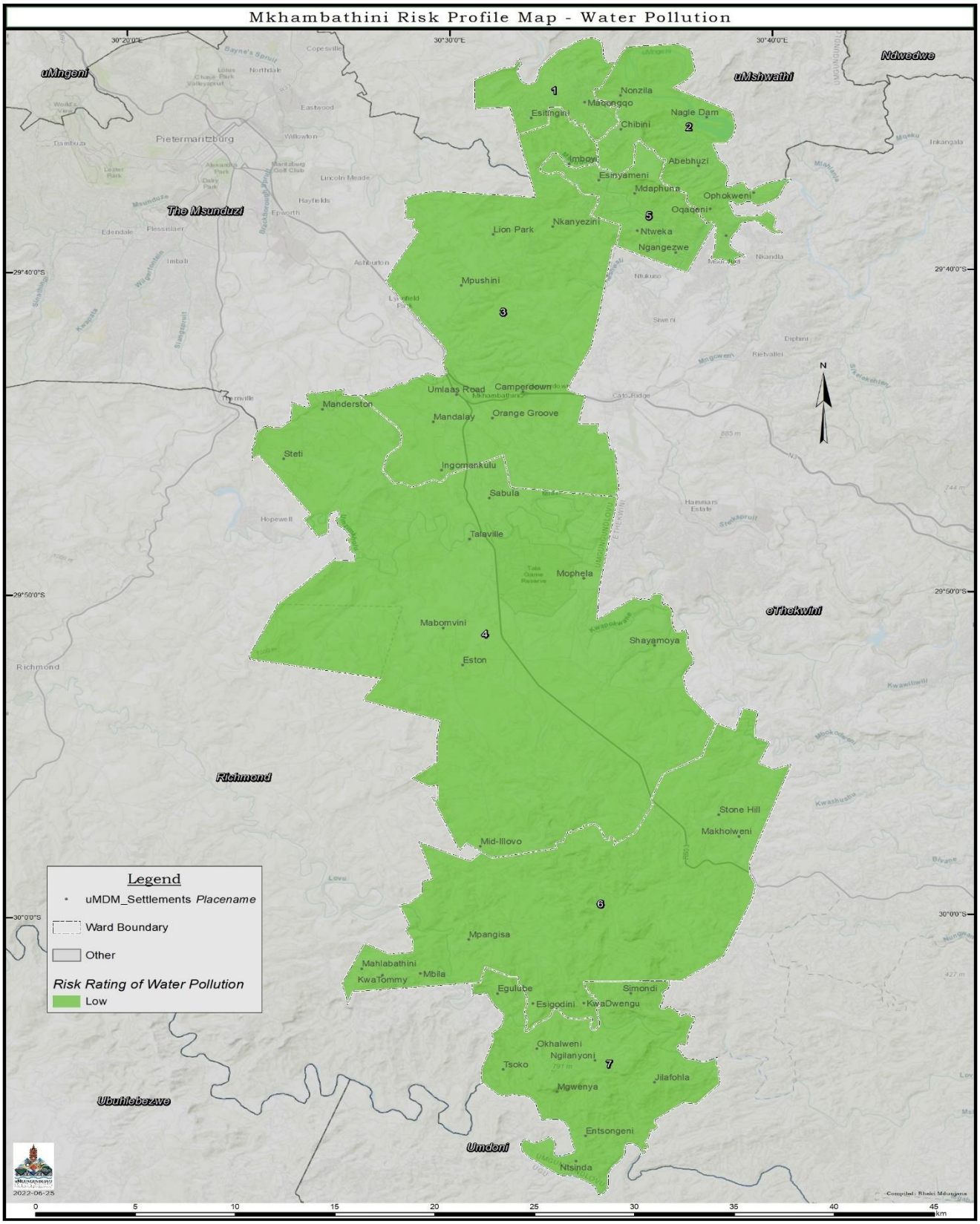

Mkhambathini Risk Profile Map - Floods (River)
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonqqo
Esitingini
Chibini
Nagle Dam
Imbovi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Eston
Shayamoya
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Floods (River)
Low
Medium
N
2022-06-25
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Risk Profile Map - Snow
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonqqo
Esitingini
Chibini
Nagle Dam
Imbovi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Snow
Low
1
2
3
4
5
6
7
N
2022-06-25
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Risk Profile Map - Strong Winds
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
Richmond
eThekwini
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Macongqo
Esitingini
Nagle Dam
Chibini
Imboyi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Strong Winds
Medium
High
1
2
3
4
5
6
7
N
2022-06-25
0 5 10 15 20 25 30 35 40 45 Km


Mkhambathini Risk Profile Map - Structural Fires
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Ubuhlebezwe
Umdoni
Richmond
Pietermaritzburg
Nonzila
Maqonqqo
Esitingini
Nagle Dam
Chibini
Imbovu
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Structural Fires
Low
1
2
3
4
5
6
7
N
29°40'0"S
29°50'0"S
30°0'0"S
30°20'0"E
30°30'0"E
30°40'0"E
2022-06-25
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Risk Profile Map - Veld/Forest Fires
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqonqo
Esitingini
Nagle Dam
Chibini
Imbovu
Abebhuzi
Esmyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Lion Park
Nkanyezini
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Veld/Forest Fires
Low
Medium
1
2
3
4
5
6
7
N
2022-06-25
Compiled: Bheki Mdunyana
0 5 10 15 20 25 30 35 40 45 km


Mkhambathini Risk Profile Map - Water Pollution
uMngeni
uMshwathi
Ndwedwe
The Msunduzi
eThekwini
Richmond
Ubuhlebezwe
Umdoni
Pietermaritzburg
Nonzila
Maqongqo
Esitingini
Nagle Dam
Chibini
Imbovi
Abebhuzi
Esinyameni
Mdaphuna
Ophokweni
Oqaqeni
Ntweka
Ngangezwe
Nkanyezini
Lion Park
Mpushini
Umlaas Road
Camperdown
Manderston
Mandalay
Orange Groove
Steti
Ingomankulu
Sabula
Talaville
Mophela
Mabomvini
Shayamoya
Eston
Stone Hill
Makholweni
Mid-Illovo
Mpangisa
Mahlabathini
KwaTommy
Mbila
Egulube
Simondi
Esigodini
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
Entsongeni
Ntsinda
Legend
uMDM_Settlements Placename
Ward Boundary
Other
Risk Rating of Water Pollution
Low
1
2
3
4
5
6
7
N
29°40'0"S
29°50'0"S
30°0'0"S
30°20'0"E
30°30'0"E
30°40'0"E
2022-06-25
0 5 10 15 20 25 30 35 40 45 km

3.6 Analysis of Climate Change Risks

According to the Disaster Management Act *(Act no 57 of 2002),* climate change may be defined as a change in the state of the climate that can be identified by changes in the variability of its properties and that persists for an extended period, typically decades or longer.

Drought is one of the major hazards affecting the Municipality due to climate change. Climate change is going to make this hazard happen more often, and more intensely, making life for vulnerable communities even tougher. The Municipal area will get hotter and summer rains will come later. Storms will become stronger, making flash flooding more likely. Dry spells between periods of rain will stretch out longer, which means more frequent and hotter droughts. This will hit farmers within the Mkhambathini area heavily, make wildland fires more problematic and damage grasslands.

3.7 COVID 19 Pandemic

The Mkhambathini Local Municipality continues to roll out a broad range of interventions aimed at mitigating the impact of Covid-19 in their communities. But the window of opportunity to respond effectively closes rapidly, and outbreaks quickly become a humanitarian crisis. Issues to tackle include political manoeuvring, inadequate financial agility, a lack of coordination, ambivalence towards response structures, and tensions in key relationships, as well as antibiotic and anti-microbial resistance, biosecurity, and the need for better data sharing in disease surveillance.

The Council's primary responsibility is to continue to ensure that basic services, including water, sanitation and cleaning continues and they are doing everything within their means to assist their communities who are all struggling as a result of the Covid-19 virus and the impact thereof.

The following initiatives have already been undertaken by the Municipality:

- Key services including technical services, water, sewerage and waste management continues;
- The Council is working closely with SAPS to ensure the safety of all communities; and
- Loud hailing pertaining to Covid-19 operations and information is done in rural areas and informal settlements.

A snapshot of some of the additional measures the Council in partnership with the District has undertaken include but not limited to:

- In partnership with the District, Mkhambathini Municipality has rolled out additional water points and toilets in informal settlements which are also being serviced on a greater frequency by the District;
- The District Municipality continues to render all essential services, including firefighting, road maintenance and environmental health services;
- The disaster management centre is in 24/7 activation and working hard to tackle the Covid-19 crisis;
- The Municipality continues with the awareness campaigns relevant to Covid 19. During the period in question, those are planned to be held as per the table below:

WARD	DATE	CAMPAIGN	ROLEPLAYERS

1		Disease outbreak awareness campaign	Disaster Management DDMC DOH Environmental Health uMDM Fire Services Public participation Communication Waste Management Technical Services Youth Coordinator
2		Disease outbreak awareness campaign	
3		Disease outbreak awareness campaign	
4		Disease outbreak awareness campaign	
5		Disease outbreak awareness campaign	
6		Disease outbreak awareness campaign	
7		Disease outbreak awareness campaign	

4. DISASTER RISK REDUCTION FOR DM AND FIRE SERVICES

4.1. Disaster Management & Fire Services Programmes/Projects by Municipality

Disaster preparedness and response is exceptionally important in the context of financial inclusion. Municipalities with higher concentrations of poverty, weak infrastructure, and poor public services are more at risk.

While the initial humanitarian and emergency response to crisis is crucial, there is a growing recognition of the value of Disaster Risk Reduction (DRR) strategies in preparing for and thus reducing economic losses associated with disasters.

During the 2022/23 financial year, the Municipality plans to create awareness of the need for disaster preparedness and to build a general consensus among key stakeholders around effective disaster risk reduction practices. This will be achieved through convening key stakeholders, interactive workshops, case studies highlighting DRR best practices, and constant risk mapping.

Over and above what has been mentioned in the paragraph above, the Mkhambathini Disaster Management Unit in partnership with the uMgungundlovu District has planned the following programs/projects as shown in the table below:

NAME OF THE PROJECT	BUDGET	TARGETED AREAS	DATE
Disaster Management plan review		Risk assessment in all 7 wards	
Disaster Relief support		All 7 wards	
Awareness campaign		Ward 1, 3 and 4	
Fire safety awareness and training			
Pandemics awareness campaign			
Installation of lightning conductors	PDMC/District	Wards prone to lightning	

4.2. Disaster Management Programmes/Projects by Stakeholders

NAME OF THE PROJECT	BUDGET	TARGET AREAS	DATE

4.3. Specific Climate Change Adaptation Programmes (If any)

Climate change facilitates the spread and establishment of many alien species and creates new opportunities for them to become invasive. Those alien species that are likely to become invasive due to climate change need to be identified and eradicated or controlled before they spread and become invasive.

In light of the above, the Municipality, in partnership with the Department of Agriculture and Rural Development has a program of clearing invasive alien plants and cleaning the wetlands especially in rural areas.

Further, regular awareness campaigns are conducted to enhance capacity-building and resilience as a prerequisite for managing and reducing vulnerability climate change risks.
Lightning incidents have also been on the rise due to climate change. Lightning causes many fatalities and injuries worldwide every year [*Holle,* 2015]. It also ignites forest fires, damages electrical infrastructure, and causes numerous other forms of loss and damage and the storms that come with the lightning cause even more damage.

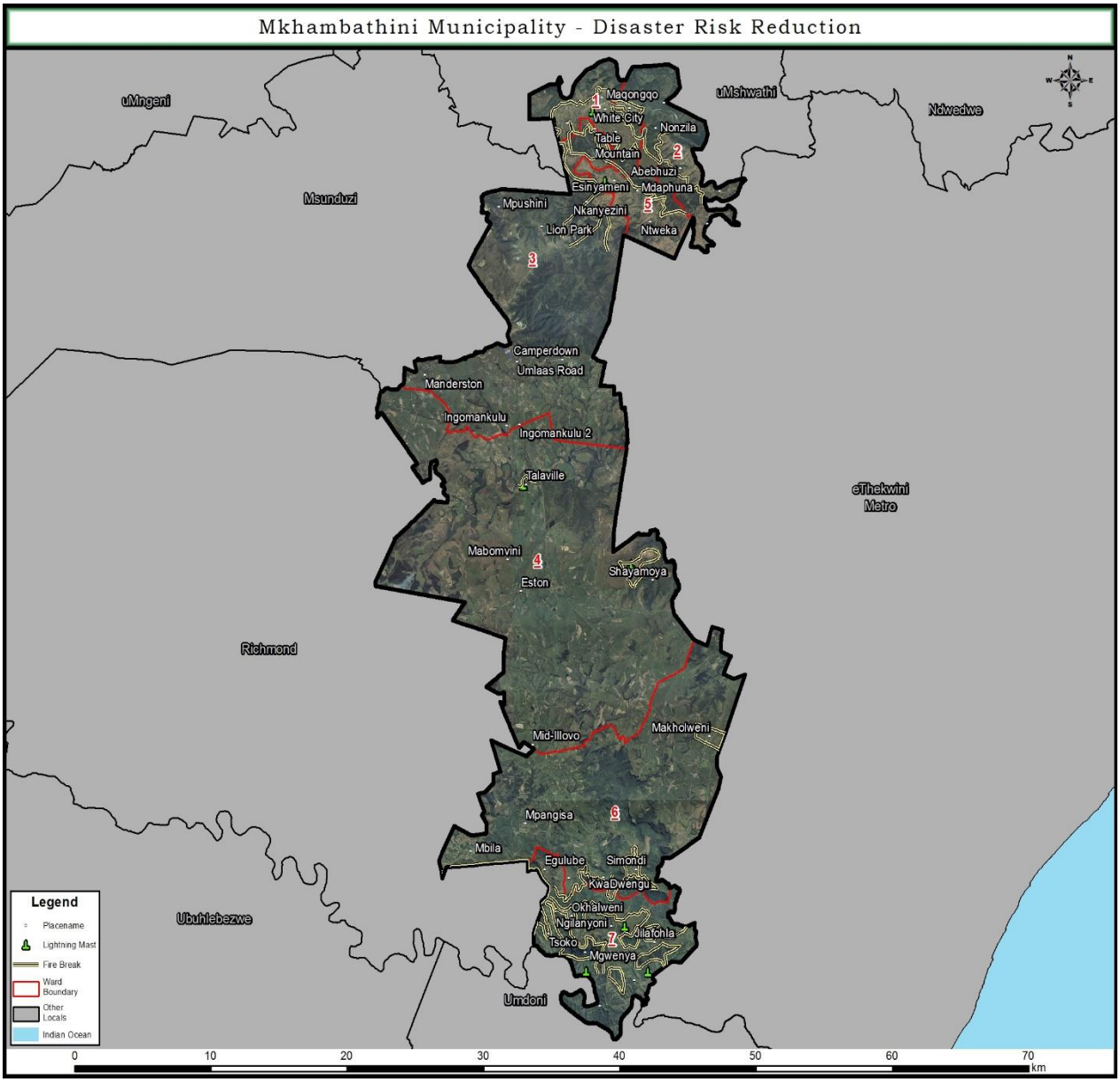
What's more, lightning is not only an indicator of climate change; it also affects the global climate directly. Lightning produces nitrogen oxides, which are strong greenhouse

In light of the above, the Disaster Management Centre has partnered with Working on Fire to conduct fuel load reduction programme especially in areas prone to lightning and veld fires. Further, procurement of lightning conductors forms part of the SDBIP.

4.4. Map reflecting strategic interventions for DRR

A number of interventions are planned to be undertaken in an attempt to reduce disaster risks. The map below summarises some of those interventions: A budget allocation for disaster reduction has been set aside as it reflects on the Municipality's IDP document.

The map below highlights all the strategic interventions, planned for the 2022/23 financial year i.e burning of fire breaks and installation of lightning conductors:


Mkhambathini Municipality - Disaster Risk Reduction
uMngeni
uMshwathi
Ndwedwe
Msunduzi
eThekwini Metro
Richmond
Ubuhlebezwe
Umdoni
Maqonqqo
White City
Nonzila
Table Mountain
Abebhuzi
Esinyameni
Mdaphuna
Mpushini
Nkanyezini
Lion Park
Ntweka
Camperdown
Umlaas Road
Manderston
Ingomankulu
Ingomankulu 2
Talaville
Mabomvini
Shayamoya
Eston
Mid-Illovo
Makholweni
Mpangisa
Mbila
Egulube
Simondi
KwaDwengu
Okhalweni
Ngilanyoni
Tsoko
Jilafohla
Mgwenya
1
2
3
4
5
6
7
Legend
Placename
Lightning Mast
Fire Break
Ward Boundary
Other Locals
Indian Ocean
0
10
20
30
40
50
60
70
km

5. DISASTER RESPONSE AND RECOVERY

5.1. Municipal Capacity in terms of Response and Recovery

The Municipality meets the minimum requirements of KPA1, that is, human capacity, storage space, tools of trade, office and response vehicle.

Further, the Municipality works with various organs of states and Non-Governmental Organisations in terms of response and recovery namely:

- Provincial Disaster Management Centre;
- uMgungundlovu District Municipality;
- Ethekwini and Msunduzi Municipalities;
- Department of Social Development;
- South African Social Security Agency;
- Department of Human Settlements;
- Department of Home Affairs;
- Al Imdaad; and
- South African Red Cross Society.

Moreover, CCG's, CDW's, Ward Committee members, Councillors, Traditional leaders are readily available to respond upon request or in case of a major incident.

5.2. Grant funding allocated for post-disaster recovery (where applicable)

The Department of Human Settlements has allocated a budget in its Emergency Housing Grant for emergency houses for post disaster recovery. Further, the Provincial and the National Disaster Management Centres also has an allocation to assist Municipalities where they fall short.

6. INFORMATION MANAGEMENT AND COMMUNICATION

6.1. Information Management

Disaster Management information is recorded manually and electronically. Such records are also submitted to the Registry Department for safe keeping.

The information is also transmitted electronically to both the District Municipality and the Provincial Disaster Management Centre.

6.2. Communication system

In case an incident occurs, the Municipality reports to the District Municipality using telecommunications or email, the District then forwards the report to the Provincial disaster Management Centre.

6.3. Early Warning Strategy

An early warning system is a set of capacities needed to disseminate and generate timely warning information of the possible extreme events, for example, severe thunderstorms.

The Disaster Management Centre relies on the information from the South African Weather Services and disseminate the information to Local Councillors who further cascade the information to the community structures, thus ensuring that the information reaches the ordinary people. The criteria is similar in case of an incident.

Non-Governmental organisations also assist with early warning systems, especially at a community level.

Further, there is constant communication with other stakeholders, for example, the South African Police Services, information is received first hand in case of an emergency and such information is cascaded as outlined above.

The Municipality also uses the following platforms as further interventions to early warning:

Mkhambathini facebook page;

LTT and War room whatsapp groups;

Volunteers; etc

7. EDUCATION, TRAINING, PUBLIC AWARENESS AND RESEARCH

7.1. Planned Capacity Building Programmes

During the 2022/23 financial year, the Municipality, in partnership with the Provincial Disaster Management Centre plans to hold regular workshops for Councillors and traditional leaders. These are aimed at capacitating them to ensure that they are available and are aware of what is expected of them in case of an incident or a disaster. Further, training on the following aspects is also planned for the 2022/23 financial year as outlined below:

- *Basic Fire Fighting;*
- *Disaster response and recovery; and*
- *Incident mapping.*

The initiatives outlined above are scheduled to be held as per the table below:

DATE	*TARGET GROUP*		*FACILITATOR*
	COUNCILLORS AND TRADITIONAL LEADERS	*WORKSHOP ON DISASTER MANAGEMENT ACTIVITIES*	*PDMC*
	COUNCILLORS, TRADITIONAL LEADERS AND VOLUNTEERS	*FIRE SAFETY TRAINING*	*WOF*
	VOLUNTEERS	*FIRE SAFETY TRAINING*	*UMDM FIRE SERVICES*

7.2. Planned Public Awareness Campaigns

The Municipality has a budget allocation for two awareness campaigns each financial year.During the 2022/23 financial year, the awareness campaigns will be held as follows:

AREA/WARD		
Ward 3 Mandalay		
Ward 3		
Ward 1		

7.3. Research

No research studies had been conducted at Mkhambathini Local Municipal area.

8. FUNDING ARRANGEMENTS FOR DISASTER RISK MANAGEMENT

8.1. Breakdown of available budget for disaster management and fire services

The Municipality has a budget of R 000.00 for the 2022/23 financial year. Please see the breakdown below:

8.2. Funding Mobilization Strategy

The Municipality does not have a formal funding mobilization strategy, however, there are good working relations with sector Departments and NGO's and in case of a disaster or an incident, they are readily available to assist with emergency response and rehabilitation.

These organisations include:

- SA Red Cross;
- Al Imdaad;
- Gift of the Givers;
- DSD;
- Human Settlements;
- DARD;
- SaSSA; etc

8.3. Private Partnerships

The Municipality does not have any formal private partnerships.