PRB POHON TUMBANG

Amien Widodo
08121780246

Angin Putting Belung menerjang Sidoarjo 23 Oktober 2022

Badan Penanggulangan Bencana Daerah (BPBD) Provinsi Jatim menyebutkan jumlah rumah rusak akibat puting beliung yang menerjang Sidoarjo Minggu 23 Oktober 2022 terdata sebanyak 261 unit rumah yaitu di Kecamatan Buduran, yaitu Citra Garden, Jade Ville, dan Kahuripan. Juga di Kecamatan Sidoarjo, Bundaran Aloha Kecamatan Gedangan, dan Kecamatan Taman. Rumah rusak paling banyak terdata di Desa Sidokepung Kecamatan Buduran lebih dari 100.

POHON ROBOH BUKAN BENCANA

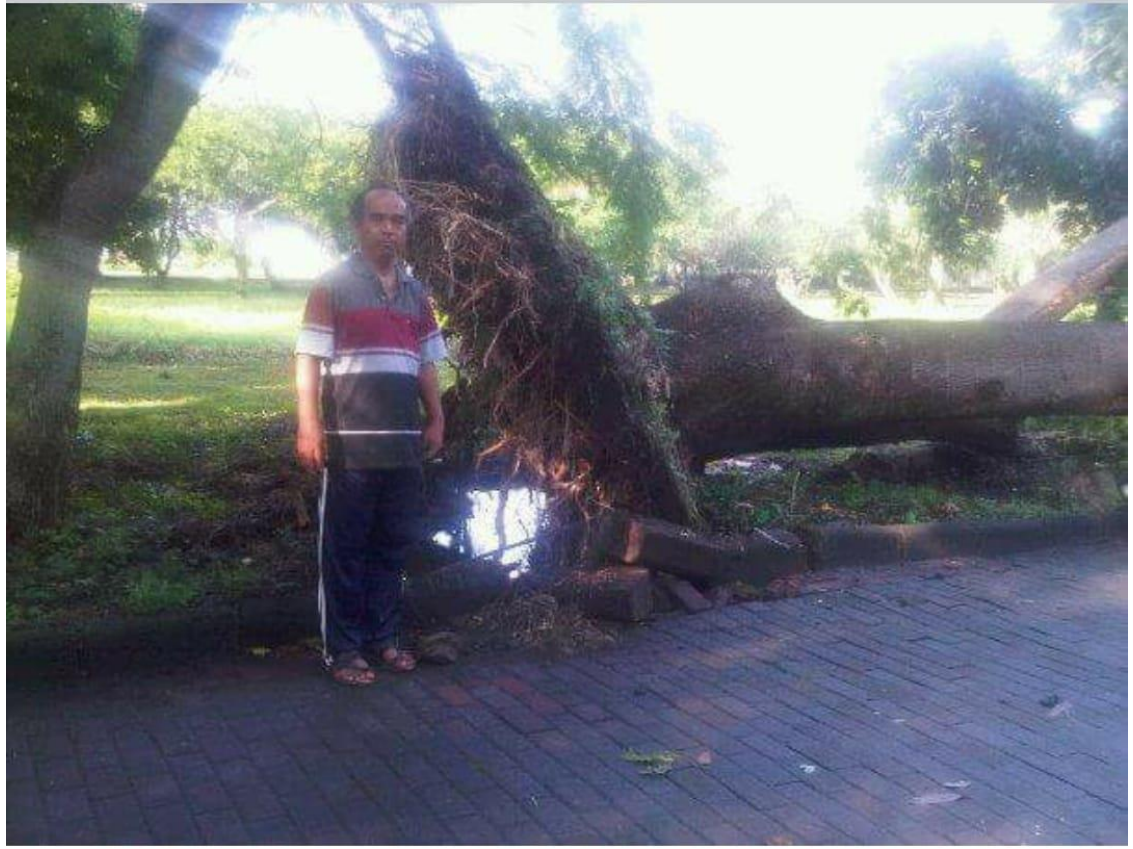
Setiap akan memasuki musim hujan dan saat musim hujan selalu diikuti angin puting beliung. Arah dan keceparan angin ini susah untuk diprediksi sehingga angin ini dianggap given.

Karena angin terbentuk alamiah dan susah diduga, maka sering dianggap peristiwa BENCANA. Selama bertahun tahun kita percayai ini, sampai sekaranpun semua orang menganggap bencana alam, jadi masalah selesai. Walau peristiwa itu berulang dan korban, kerusakan terus berulang dan terus berulang tanpa kita melakukan apa apa.

POHON ROBOH BUKAN BENCANA

Setelah diamati dan diperiksa dengan seksama, ternyata saat angin kencang menerjang TIDAK SEMUA bangunan dan pohon roboh. Saat diamati secara detail maka pohon sudah tua, mengering, keropos dan akarnya serabut tidak sebanding dengan diameter batang pohon.Jadi Pohon itu ROBOH karena bermasalah, sedangkan yang tidak roboh tidak bermasalah. Jadi POHON ROBOH BUKAN BENCANA.

Video Lainnya



Banyak pohon yang ditanam di kota berupa #STEK bukan ditanam dari bibit. Padahal tanah di kota umumnya tanah yang sudah dipadatkan dan sudah diaspal. Bisa dilihat akarnya lebih banyak ke samping dan tidak mau ke bawah. Perhatikan lebar akar dan besarnya batang pohon.

BANYAK TAMAN DI KOTA KOTA DI INDONESIA

Contoh pohon besar di taman tumbang BAHKAN TIDAK ADA ANGIN SAMA SEKALI.
BERITA MHS TERTIMPA POHON
http://ugm.ac.id/id/berita/9153-mahasiswa.ugm.meninggal.dunia.tertimpa.pohon.tumbang
POHON DI KEBUN RAYA BOGOR ROBOH DENGAN SENDIRINYA
http://megapolitan.kompas.com/read/2015/01/11/14100261/Pohon.di.Kebun.Raya.Bogor.Tumbang.4.Orang.Tewas

APA YANG HARUS DILAKUKAN?

Untuk diusulkan dan disarankan ada Kebijakan daerah untuk melakukan monitoring dan evaluasi terhadap variabel umur, kondisi fisik (keropos/utuh), tinggi, diameter, dan lebar kanopi sangat diperlukan. Mengingat banyaknya jumlah pohon yang ada di setiap kota maka peran aktif masyarakat sangat diperlukan agar ikut memeriksa dan melaporkan ke pihak yang berwenang.

SAAT INI MUSIM PANCAROBA SAATNYA MELAKUKAN PEMERIKSAAN. Kalau ada pohon menunjukkan tanda tanda mau roboh ya harus segera dirobohkan.

JANGAN TUNGGU ANGIN MEROBOHKANNYA TANPA ARAH.

In 2018, the area of **613** Green Open Spaces in Surabaya have reached **21,79%** or **7,290.53 Hectares** from the total area of the City.

Reference: https://surabaya.kompas.com/read/2019/07/31/21553881/cara-pemkot-surabaya-turunkan-suhu-udara-2-derajat-celsius?page=all

Because of those enormous number of trees, the mean temperature of Surabaya has decreased by 2 degree Celsius.

The more urban trees, the higher fallen tree hazard will be

"Green Open Space will always be increased until one day the temperature of Surabaya can reach **22 degree Celsius**"

– Tri Rismaharini, City Mayor of Surabaya

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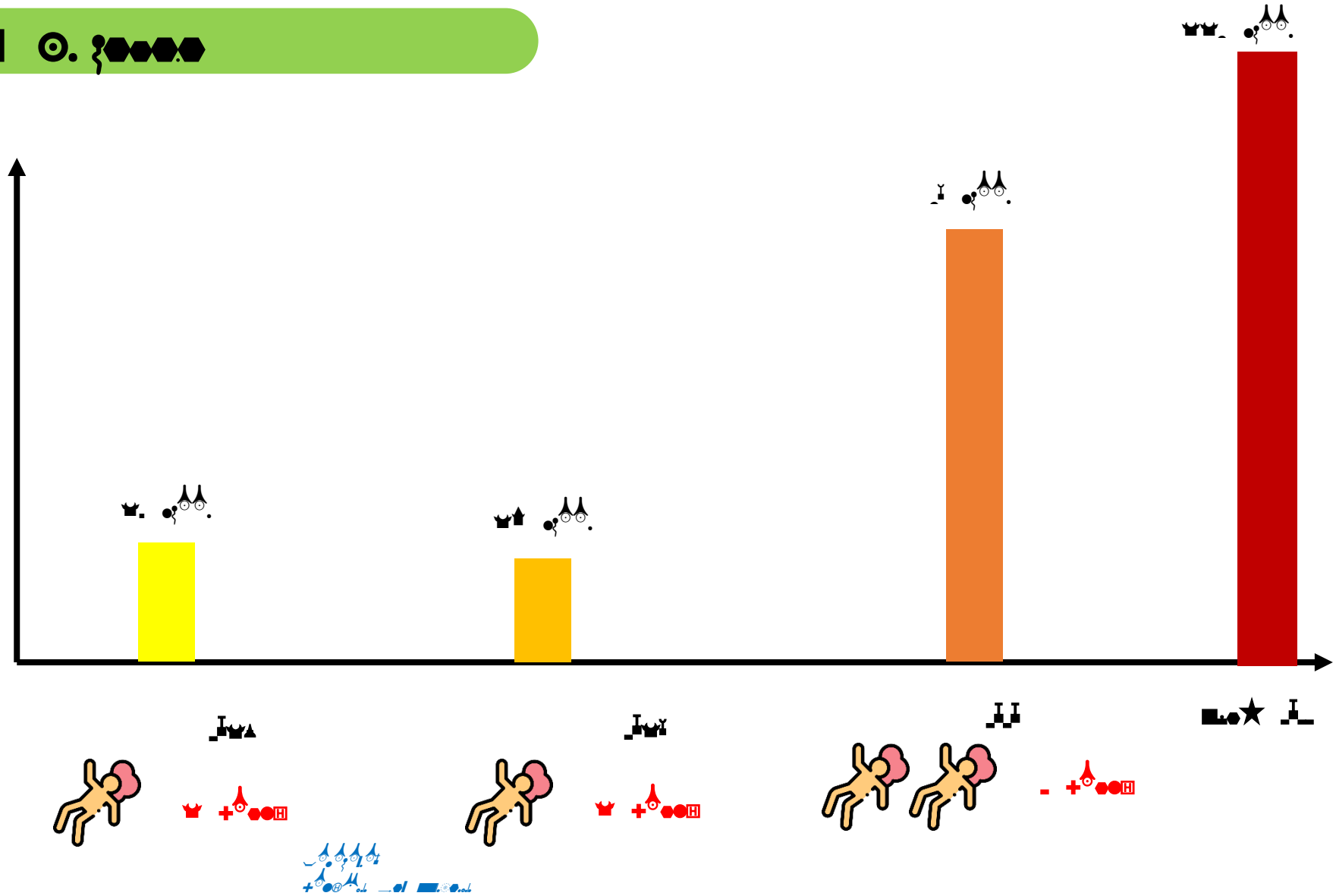

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Reference:
https://surabaya.liputan6.com/read/4083441/dua-pohon-tumbang-di-surabaya-satu-pengendara-motor-tewas-tertimpa

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Reference:
https://m.detik.com/news/berita-jawa-timur/d-4789059/tak-ada-angin-dan-hujan-pohon-sono-tumbang-timpa-rumah

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References:
https://m.detik.com/news/berita-jawa-timur/d-4849117/pasutri-meninggal-tertimpa-pohon-di-Surabaya- khofifah-sampaikan-duka-cita

https://m.detik.com/news/berita-jawa-timur/d-4848970/hujan-disertai-angin-kencang-tumbangkan-77-pohon-di-surabaya

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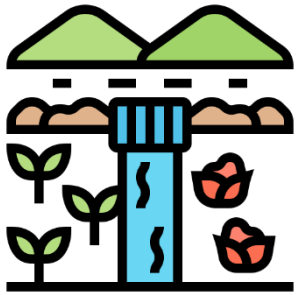

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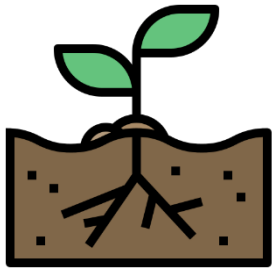

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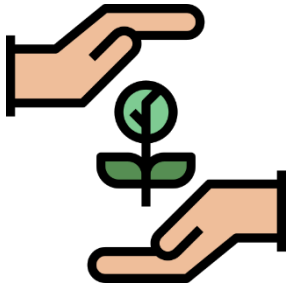

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METODOLOGI

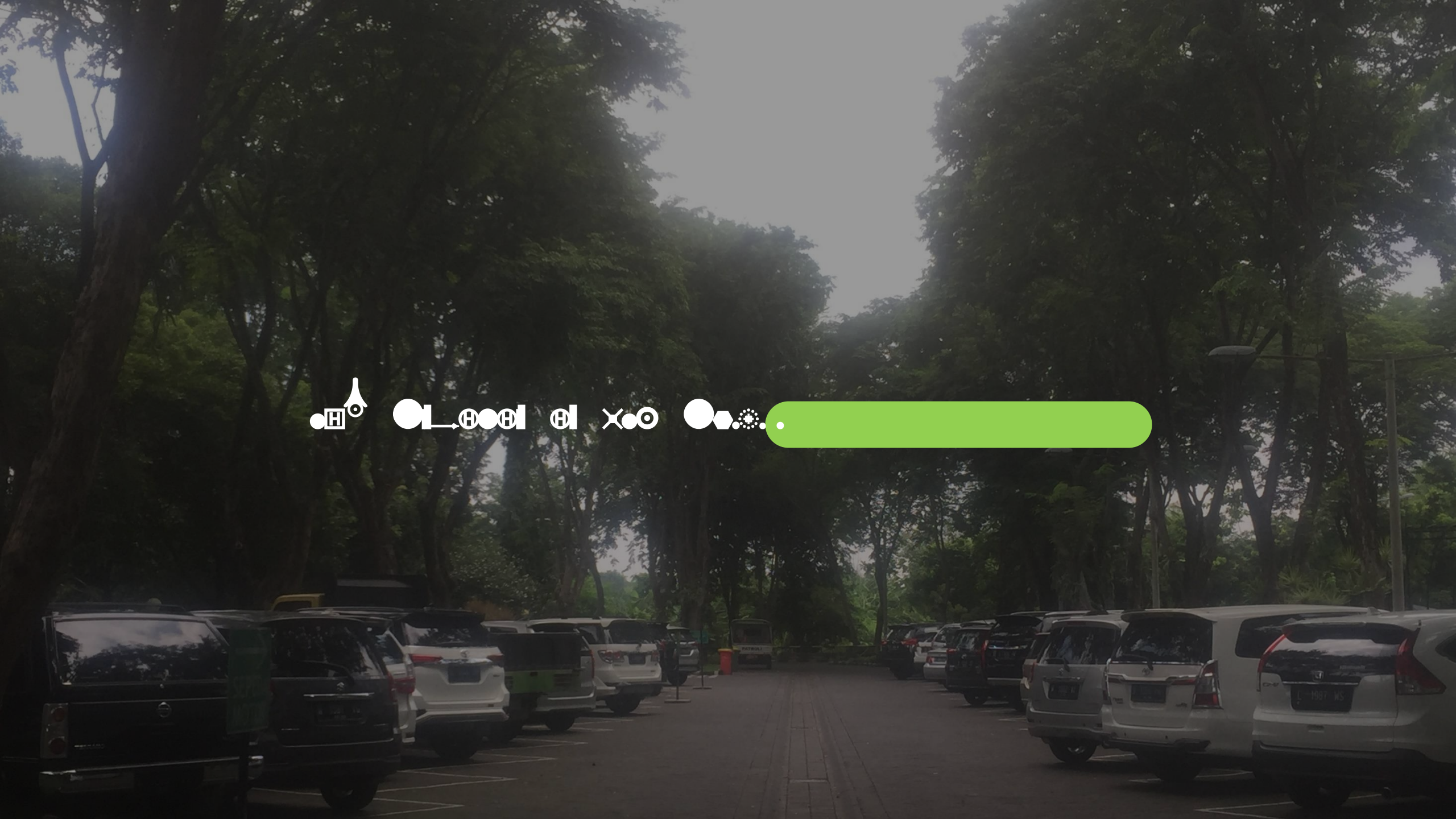
Hazard Zone Categories	Color Codes	Examples
Very High Hazard	Red	1. Emergency access routes 2. Medical and emergency facilities and shelters, handicap access areas 3. School playgrounds 4. In high-use parks/public areas: permanent structures and drive-in campsites 5. Individual trees or neighborhoods with very high-risk tree characteristics such as : • standing dead trees or those with very poor condition class ratings • severely storm-damaged trees • trees that visually obstruct traffic signs, stop lights, or security lights • tree roots causing severe sidewalk buckling
High Hazard	Orange	1. Main thoroughfares: congested intersections and visually obstructed traffic signs and stoplights 2. High-use parks, playgrounds, and picnic areas 3. Golf courses 4. Parking lots adjacent to high-use public areas 5. Bus stops along high-use thoroughfares 6. Individual trees or neighborhoods with high-risk tree characteristics such as: • old growth trees • high density of large diameter, mature, or "problem" tree species • root injury caused by sidewalk or road construction • storm-damaged trees
Moderate Hazard	Yellow	1. Secondary roadways: congested intersections and visually obstructed traffic signs and stoplights 2. Neighborhoods with a moderate density of large diameter, mature or "problem" tree species 3. Moderate-use parks, playgrounds and picnic areas 4. Parking lots adjacent to moderate-use areas
Low Hazard	Green	1. Low-use roads and public areas with dispersed recreation 2. Open areas, woods, riparian zones, and peripheral areas with limited use or access 3. Neighborhoods with a low density of large diameter, mature, or "problem" tree species

Source: Urban Tree Risk Management by US Department of Agriculture, 1992

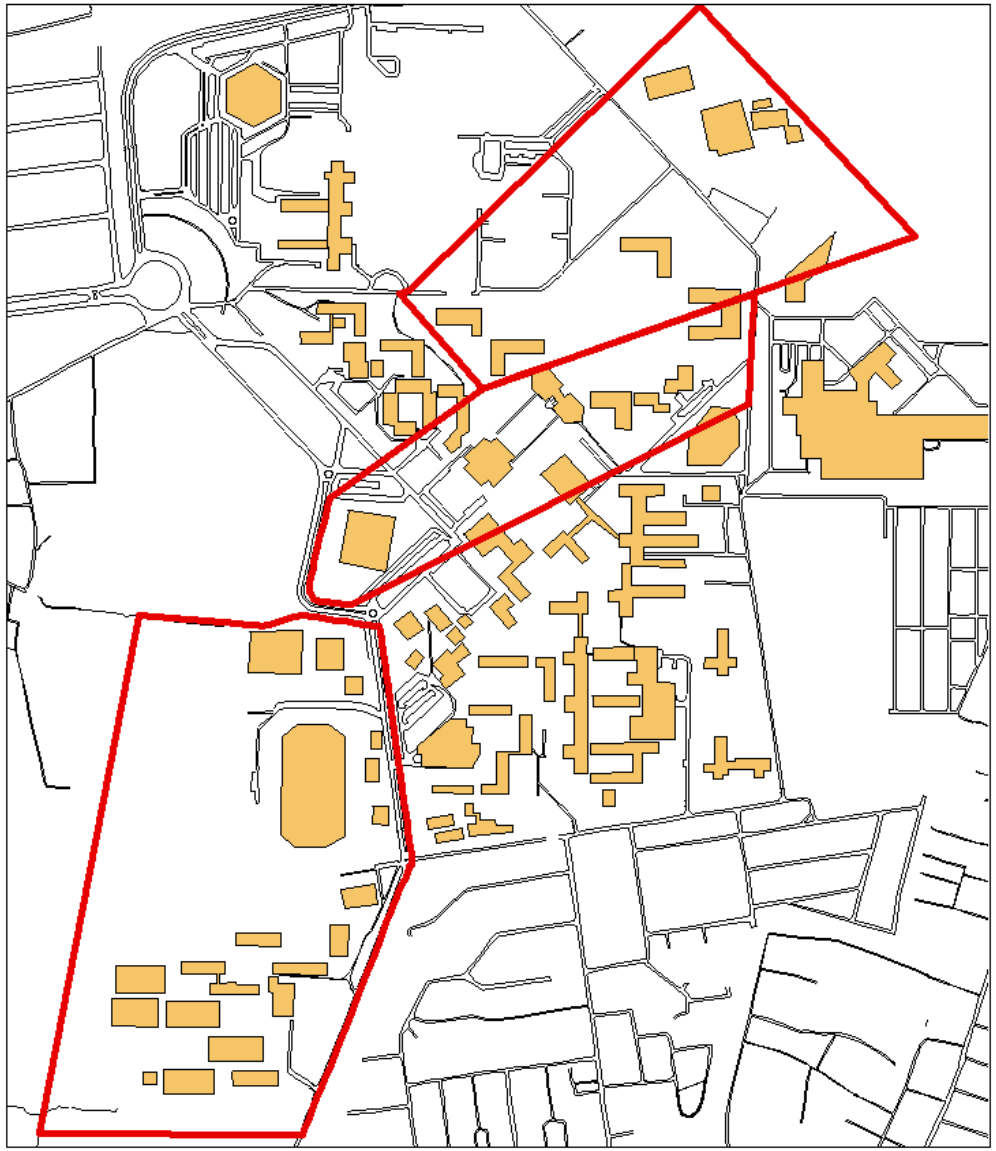
- Lokasi pohon di pinggir jalan utama
- Kawasan selalu ramai, Kawasan fasilitas publik
- Pohon kering yang masih berdiri

- Located in secondary road
- Neighborhoods with a moderate density of large diameter, mature trees

- Low-use roads
- Open areas, woods, riparian zones with limited use or access
- Neighborhoods with a low density of large diameter, mature trees



No.	Place	Diameter of Stem (cm), Canopy (m)	Height (m), Slope (°)	Criteria					Status
				Low/moderate/high use area	Open area/parking lot/playground/bus stop	Low/moderate/high density of large diameter	Type of Road	Condition of Tree	
1	Manarul Ilmi Mosque	183, 10	>10, 30	High	Parking	Moderate	Secondary	Healthy	Moderate Hazard
2	In front of Manarul Ilmi Mosque	63,3	4, 0	Moderate	Parking	Moderate	Secondary	Healthy	Moderate Hazard
3	Rektorat	217, 3	>10, 0	High	Parking	Moderate	Secondary	Healthy	Moderate Hazard
4	BAAK	>2.5, >10	>10, 30	High	Study Area	High	Secondary	High Risk	High Hazard
5	In front of UPMB	77,3	5, 0	Moderate	Road	High	Secondary	High Risk	Low Hazard
6	Urban and Regional Planning	323, >10	22.5, 15	High	Parking	Moderate	Secondary	High Risk	High Hazard
7	Beisde Sistem Perkapalan	71, 3	6, 0	High	Parking	High	Main	High Risk	High Hazard
8	Behind Library	204, 15	>10, 0	High	Parking	High	Secondary	High Risk	High Hazard
9	In front of Marine Eng.	123, 9.7	>10, 0	High	Parking	Moderate	Secondary	High Risk	High Hazard
10	Behind Research Center	89, 7	8, 0	Low	Road	High	Secondary	High Risk	Moderate Hazard
11	Behind Research Center	87.5, 3	>10, 0	Low	Road	Moderate	Secondary	High Risk	High Hazard
12	Beside Research Center	77, 5	>10, 30	High	Road	High	Secondary	High Risk	Moderate Hazard
13	In front of Research Center	91, 6	5, 0	High	Road	Moderate	Main	Healthy	Low Hazard
14	In front of Manarul Ilmi Mosque	132, 7-8	7, 10	High	Parking	High	Main	High Risk	High Hazard
15	In front of Manarul Ilmi Mosque	166, 8	7, 30	High	Parking	Moderate	Main	High Risk	High Hazard
16	In front of Stadion	185, 8	>10, 5	High	Road	High	Main	High Risk	High Hazard
17	In front of Stadion	127, 8	>10, 5	High	Road	High	Main	High Risk	High Hazard
18	In front of Basketball Court	133, 7	>10, 0	High	Road	High	Main	High Risk	High Hazard
19	In front of Gedung Olahraga	130, 6	>10, 5	High	Road	High	Main	High Risk	High Hazard
20	In front of Gedung Olahraga	137, >10	>10, 45	High	Road	High	Main	High Risk	High Hazard
21	In front of Futsal Court	144, 4	7,0	High	Road	High	Main	High Risk	High Hazard
22	In front of Dormitory	146, 5	6, 45	High	Road	High	Main	High Risk	High Hazard



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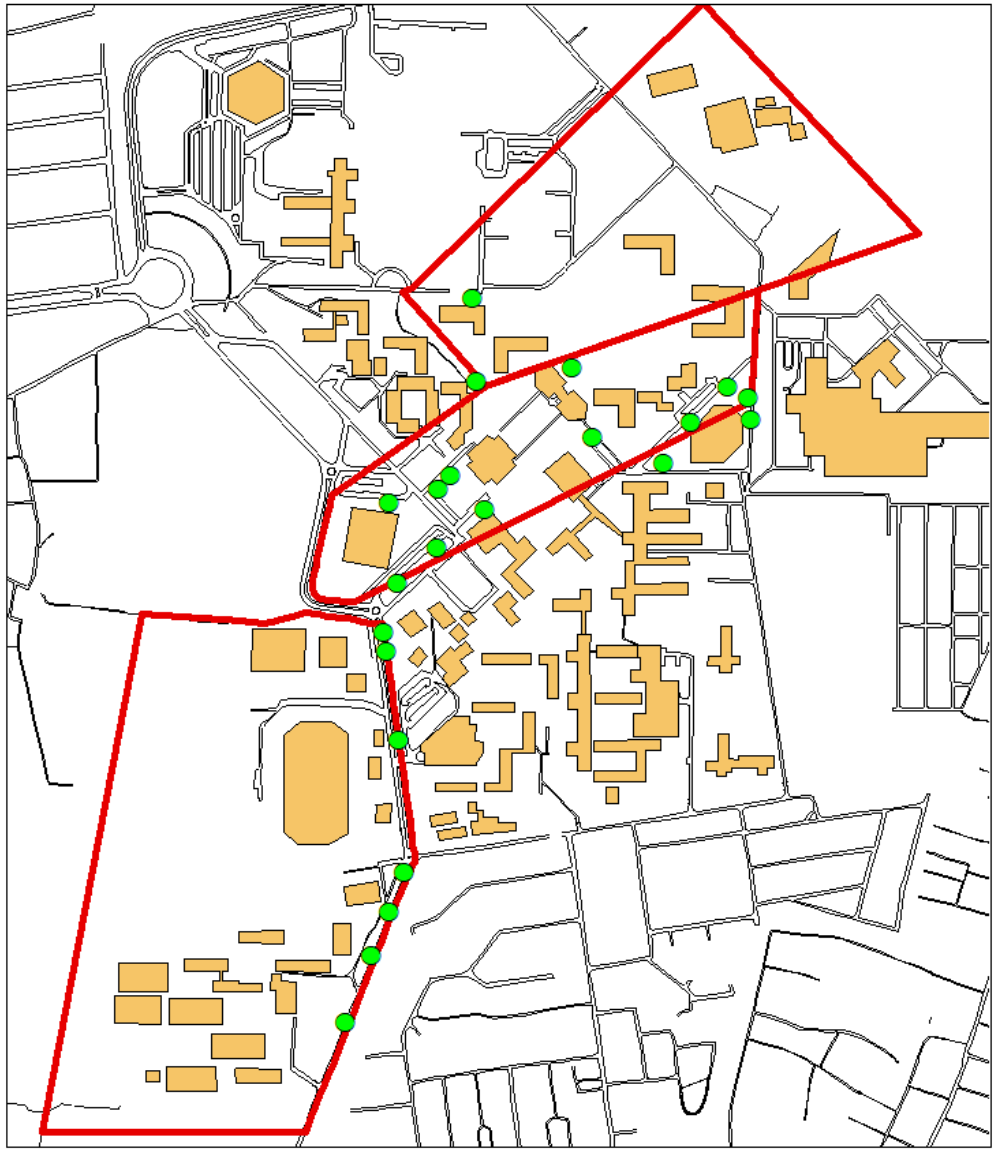
ITS Campus Map

1:7,000

0 45 90 180 270 Meters

Legend

- Campus Building
- Area Observed
- Road



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ITS Campus Map

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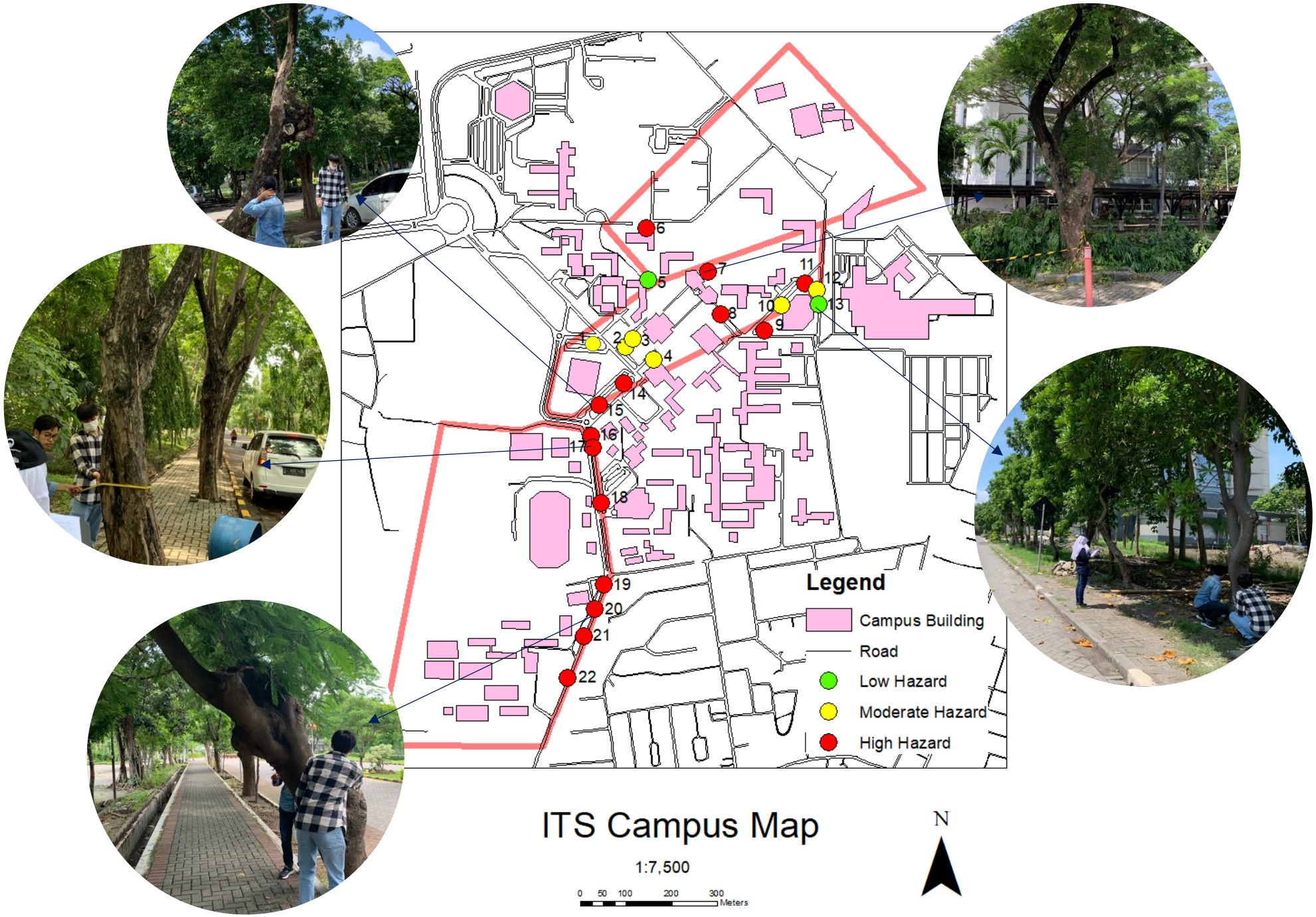
0 45 90 180 270 Meters

Legend

- Tree Observed
- Campus Building
- Area Observed
- Road


1
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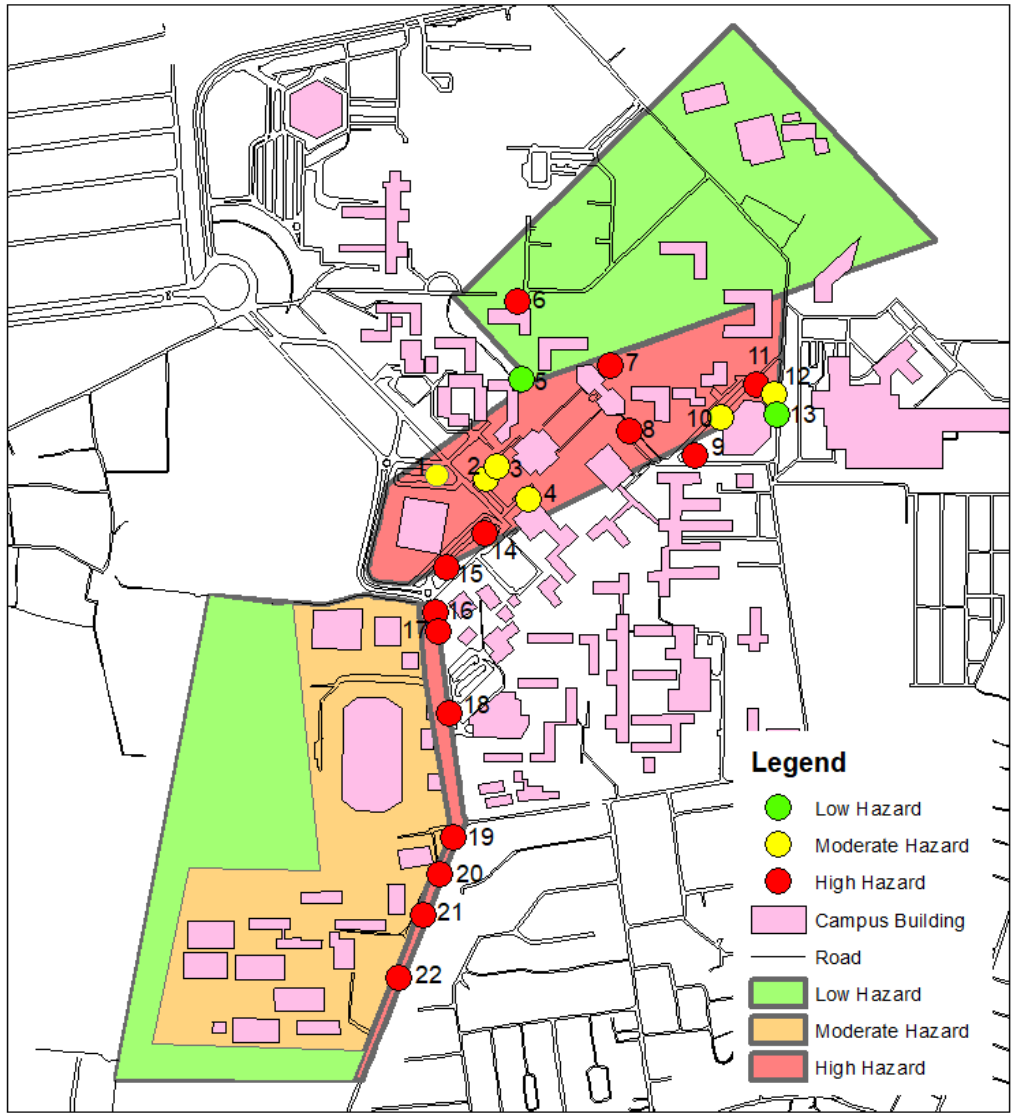
22
Legend
Campus Building
Road
Low Hazard
Moderate Hazard
High Hazard
ITS Campus Map
1:7,500
0 50 100 200 300
Meters
N



ITS Campus Map

1:7,500

0 50 100 200 300 Meters

N

No.	Diameter of Stem (cm), Canopy (m)	Height (m), Slope (°)	Condition of Tree	Status
1	65, 5	>10, 30	Healthy	Moderate Hazard
2	53, 3	4, 0	Healthy	Moderate Hazard
3	147, 15	>10, 0	Healthy	Moderate Hazard
4	80, 4	>10, 30	Healthy	Moderate Hazard
5	69, 5	5, 0	Healthy	Moderate Hazard
6	86, 7	22.5, 15	Healthy	Moderate Hazard
7	48, 3	6, 0	Healthy	Moderate Hazard
8	120, 1	>10, 0	Healthy	Moderate Hazard

N

0 12.5 25 50 75 Meters

Harmoni Park Map

1:2,000

Legend

Tree Observed

Area Observed

N

0 12.5 25 50 75 Meters

Harmoni Park Map

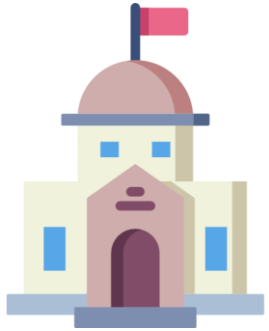
1:2,000

Legend

Moderate Hazard

Area Observed

The government of Surabaya for now **only cutting the branches** if they are already too long.



There is no further maintenance and monitoring.

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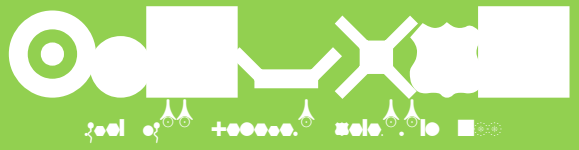
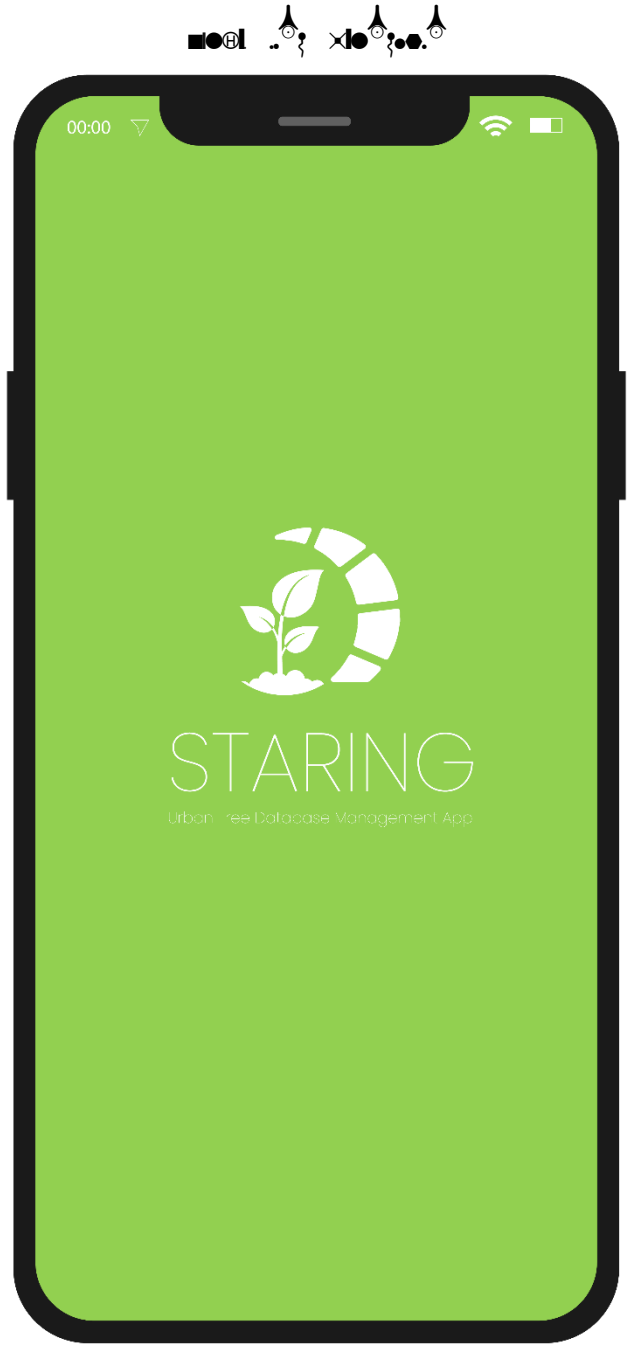
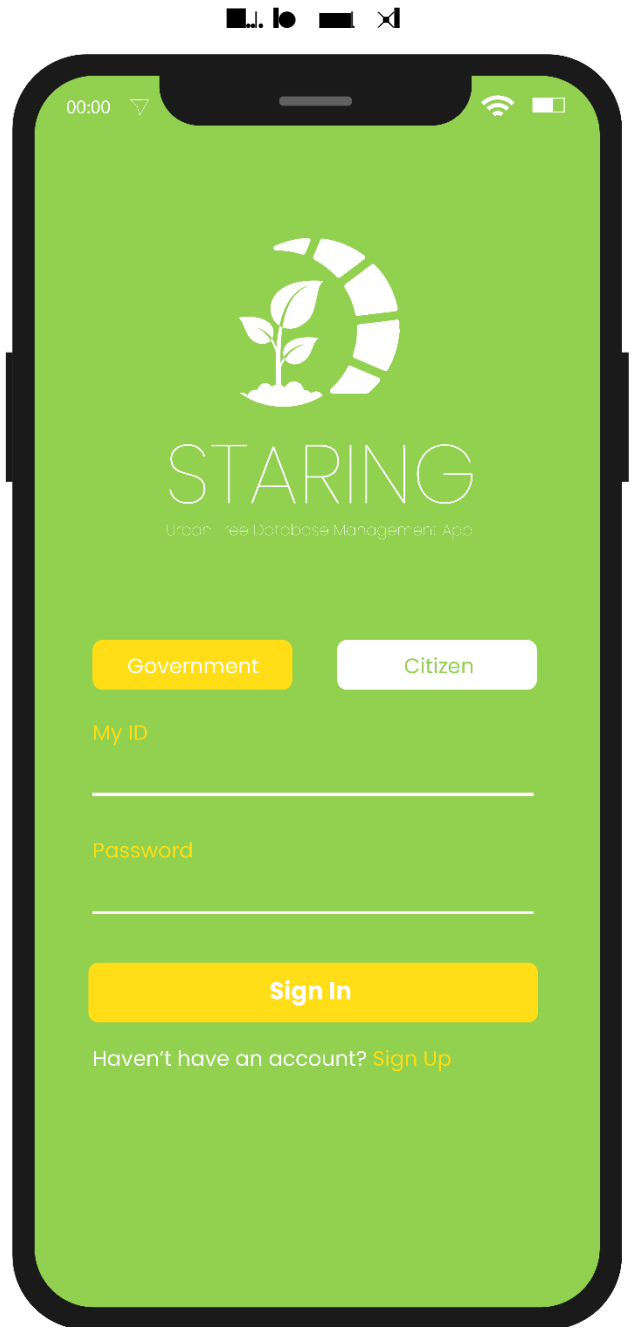
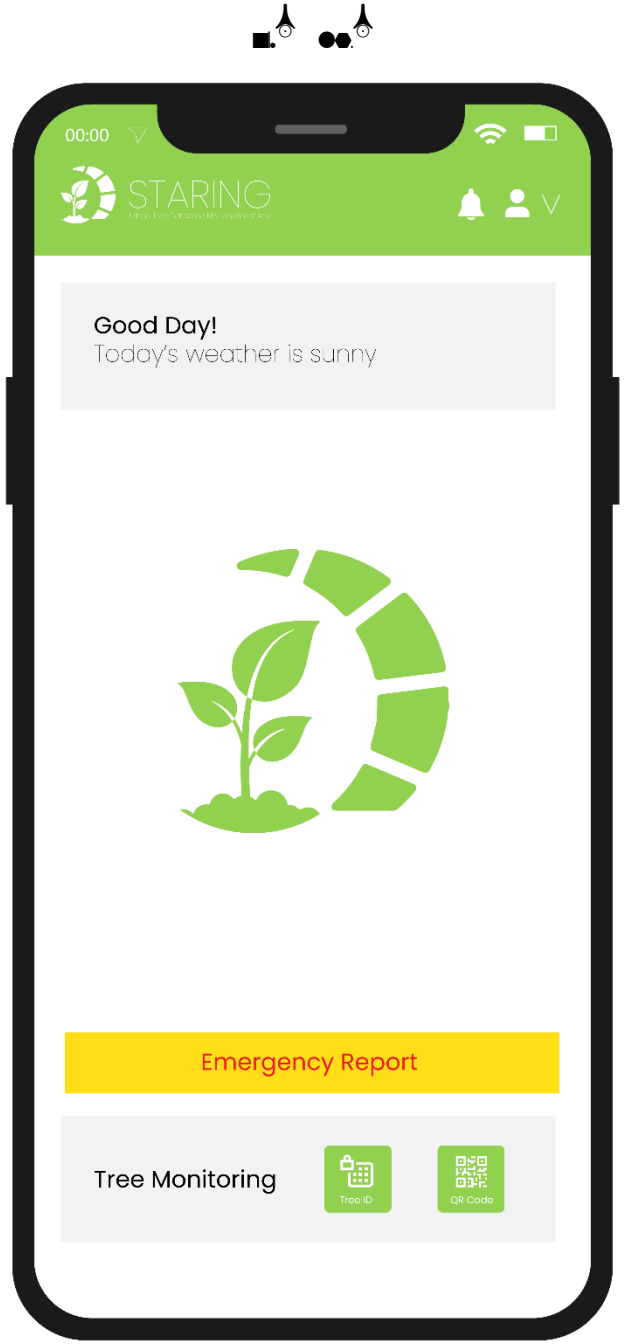
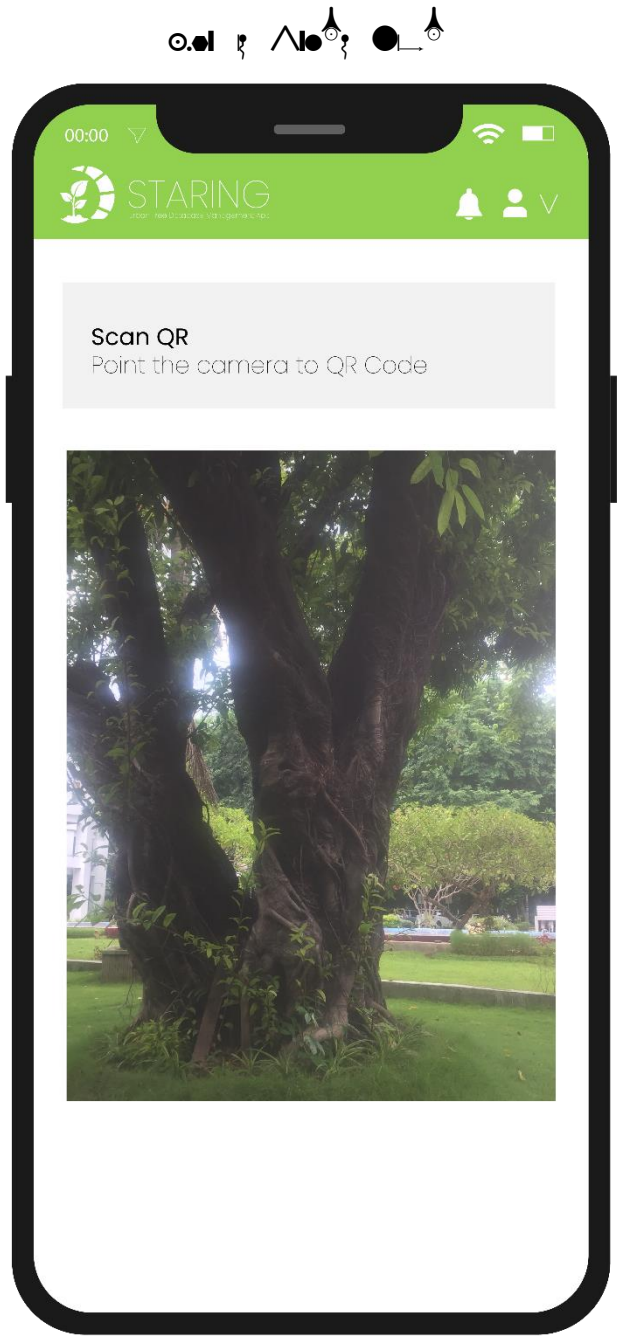
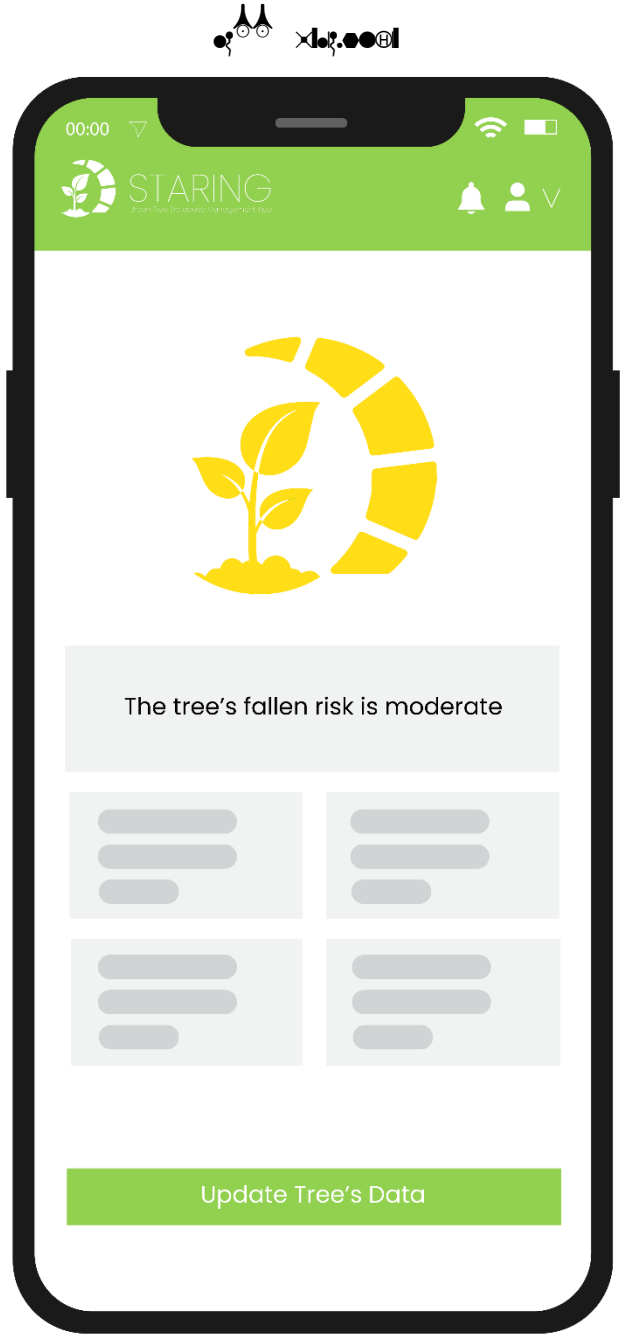


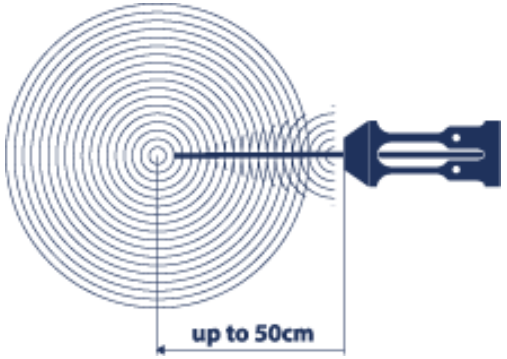

00:00
STARING
Urban Tree Database Management App

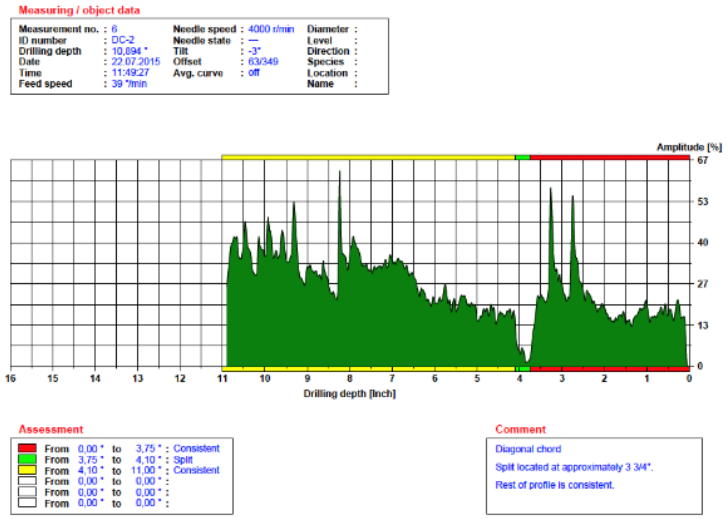

00:00
STARING
Urban Tree Database Management App
Government
Citizen
My ID
Password
Sign In
Haven't have an account? Sign Up


00:00
STARING
Good Day!
Today's weather is sunny
Emergency Report
Tree Monitoring
Tree ID
QR Code


00:00
STARING
Scan QR
Point the camera to QR Code

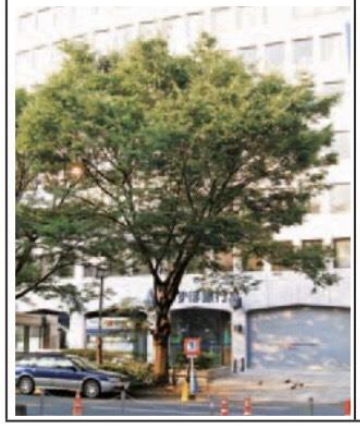
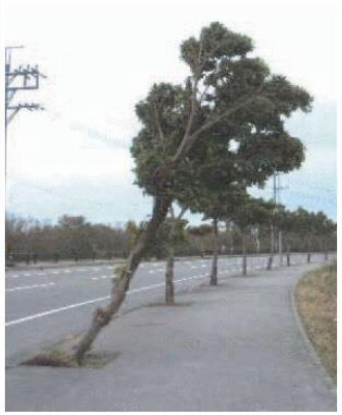

00:00
STARING
The tree's fallen risk is moderate
Update Tree's Data


up to 50cm


Measuring / object data
Measurement no. : 6
ID number : DC-2
Drilling depth : 10,894 "
Date : 22.07.2015
Time : 11:49:27
Feed speed : 39 "/min
Needle speed : 4000 r/min
Needle state : —
Tilt : -3°
Offset : 63/349
Avg. curve : off
Diameter :
Level :
Direction :
Species :
Location :
Name :
Amplitude [%]
67
53
40
27
13
0
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
Drilling depth [Inch]
Assessment
From 0,00 " to 3,75 " : Consistent
From 3,75 " to 4,10 " : Split
From 4,10 " to 11,00 " : Consistent
From 0,00 " to 0,00 " :
From 0,00 " to 0,00 " :
From 0,00 " to 0,00 " :
Comment
Diagonal chord
Split located at approximately 3 3/4".
Rest of profile is consistent.

[illegible]

[illegible]

傾き・無	傾き・有（安全）	傾き・有（危険）	
傾いていない	傾いた後、直上に伸長している※)	根元から傾いている	傾いて周辺施設に接触している
			

※）直上に伸長した長さが、樹高全体の 1/3 以上のものを「安全」とし、それ以下の場合は「危険」と判断する。

写真 -3.5　樹体の傾き

	さび病	胴枯病
病害		
虫害	穿孔性害虫	

	良い	普通	少し悪い	悪い	枯死
樹勢					
	良い	普通	少し悪い	悪い	枯死
葉の生育状況					

[illegible]

EDUKASI DAN SOSIALISASI
PENANGGULANGAN BENCANA DAERAH
KABUPATEN BULELENG

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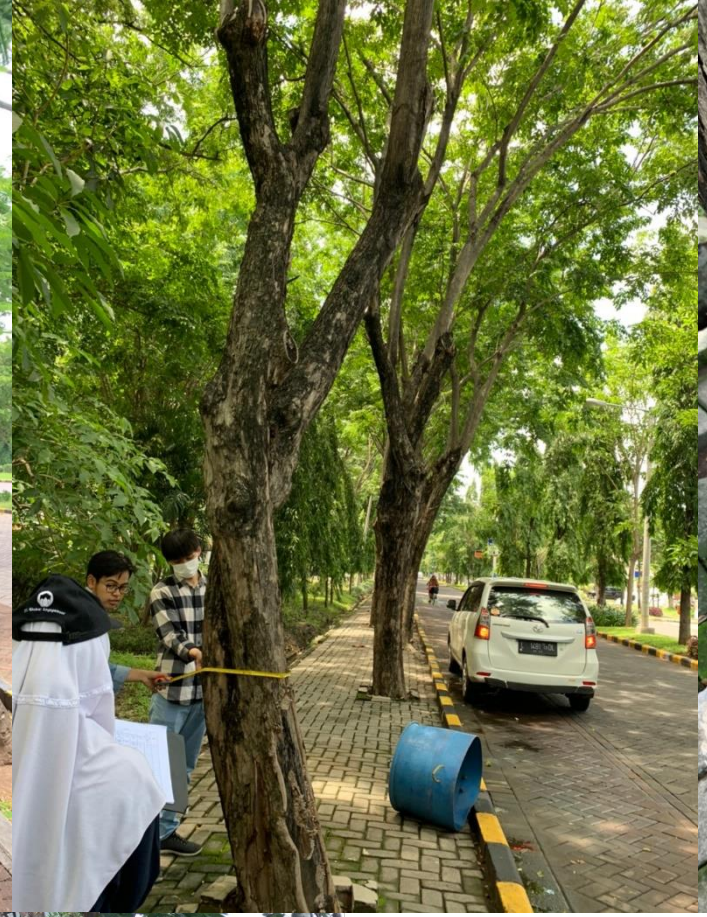
ITS

STATISTIKA
L 1031 EC



PESTA CAK KOEN

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ITS Institut Teknologi Sepuluh Nopember

ITS Institut Teknologi Sepuluh Nopember

SOKA University

Kumamoto University

Thank You