

Waduk Universitas Indonesia

herr soeryantono

Januari 2016

Salam

2m x 4,2 ha

1998

Ulin

2m x 7,2 ha

1998

Kenanga

1m x 2,8 ha

1992

Mahoni

1,5m x 4,5 ha

1996

Puspa

2m x 2 ha

1995

Agatis

1,5m x 2 ha

1995

© 2015 Google
Image © 2015 DigitalGlobe

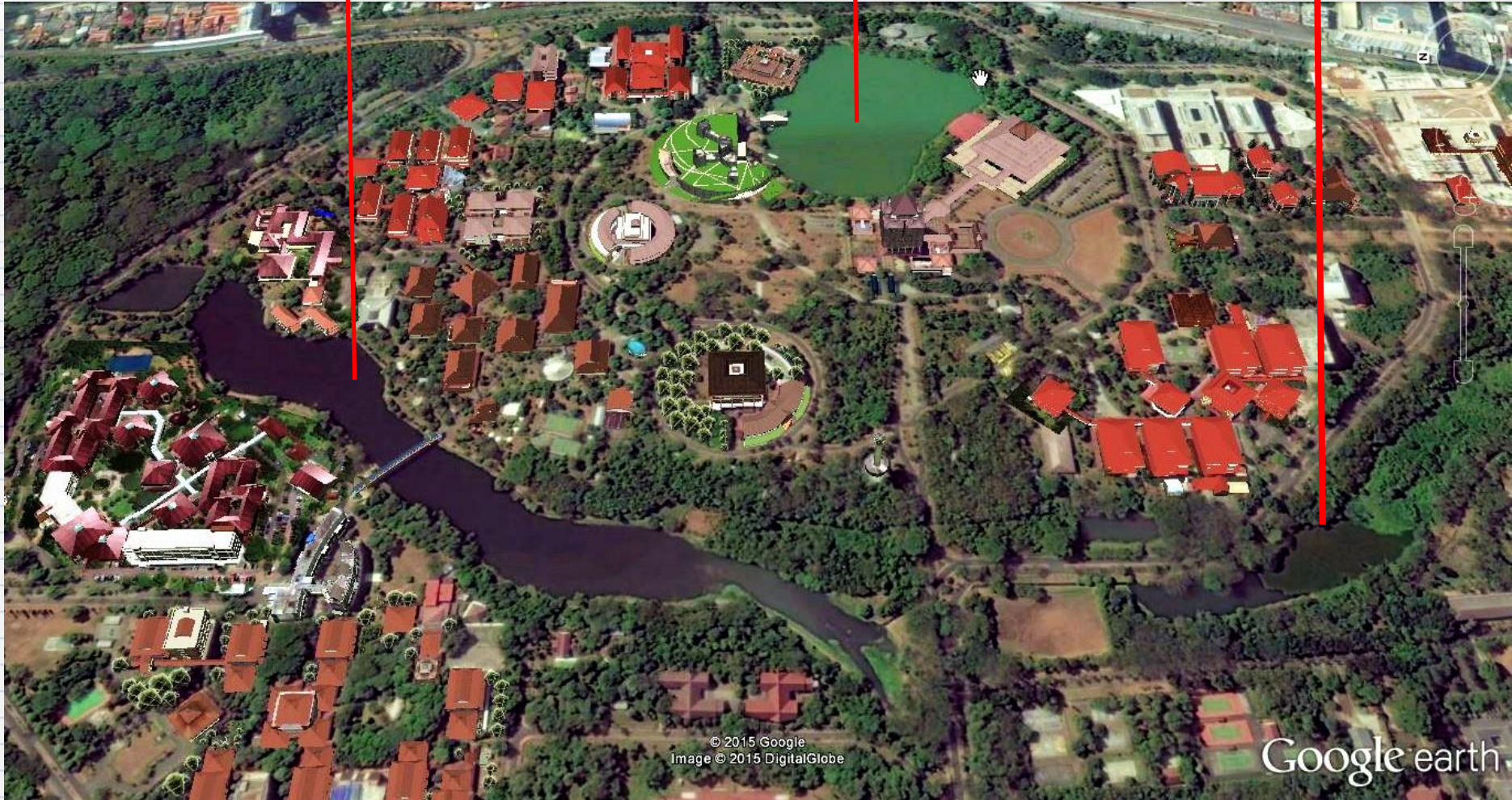
Google earth

Total 22,7

Mahoni

Kenanga

Agatis



© 2015 Google
Image © 2015 DigitalGlobe

Google earth

Salam

Ulin

Mahoni



The Purpose



The Purpose

Education



Education: Green Infrastructure is

An interconnected network of green space and other environmental assets that conserves the functions of the natural ecosystem and provides associated benefits to people.

Adapted from the Conservation Fund, Ed McMahon and Mark Benedict

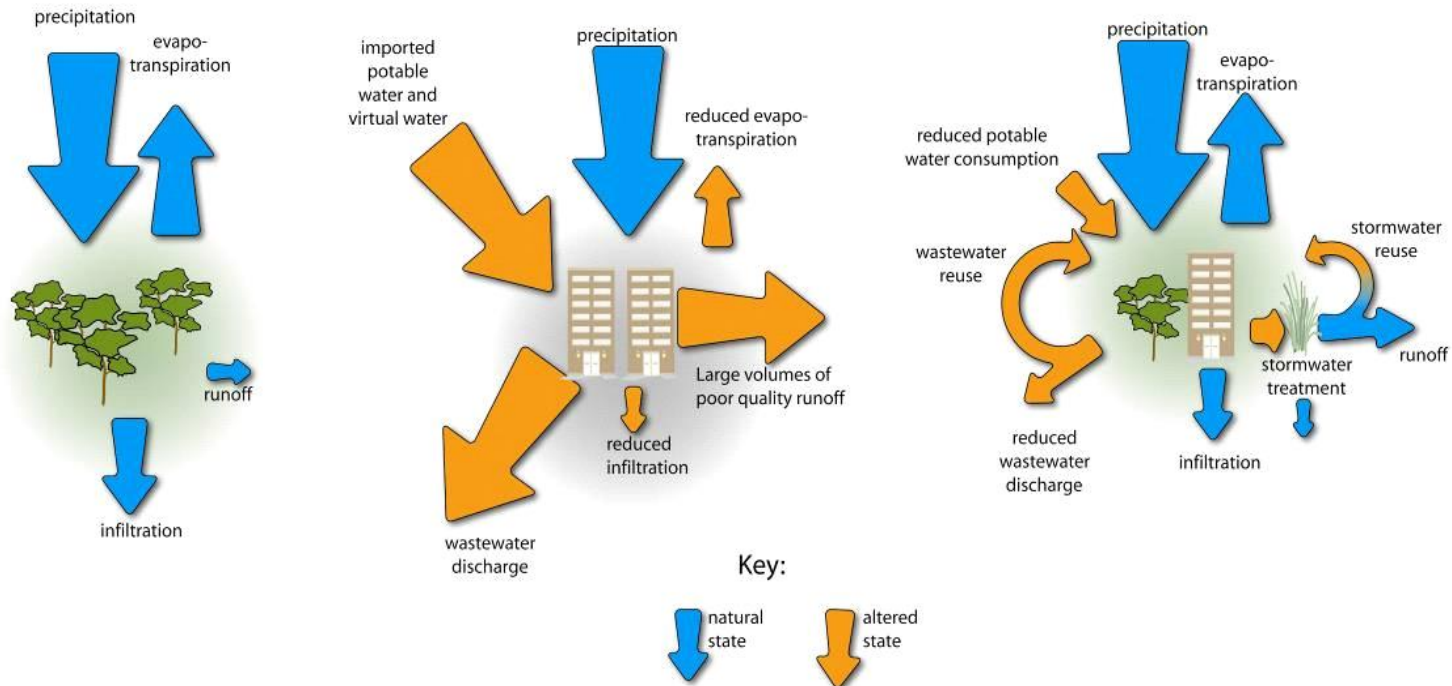
- A strategic approach to land conservation at national, state, regional and local scales
- Encourages land use planning for natural processes, infrastructure and recreational needs of people

- An interconnected green space network
- Managed for natural resource value
- Pre-identifies ecologically significant lands and suitable development areas

Education: Water Sensitive Urban Design

Hydrology cycle change due to urbanization

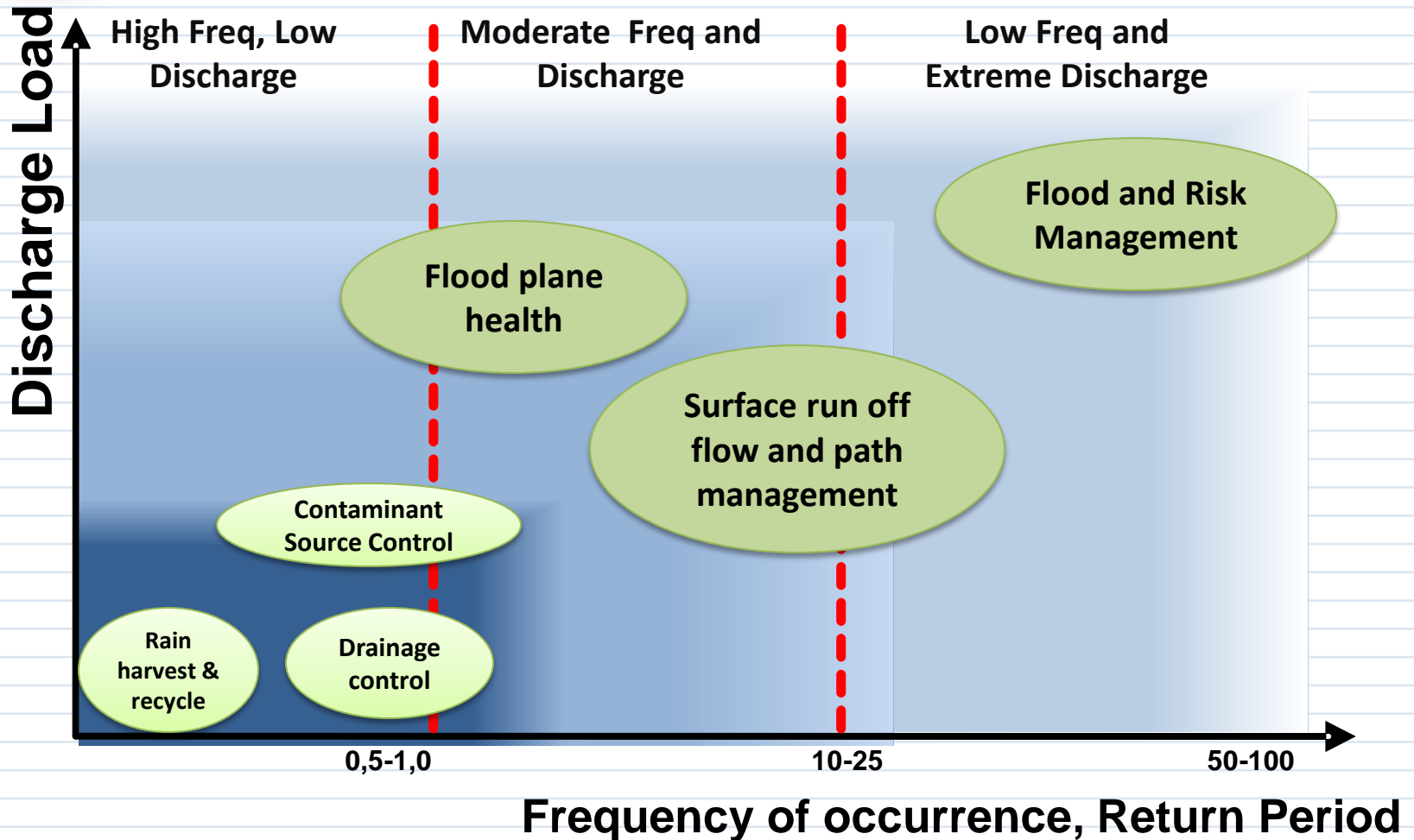
Natural water balance Urbanized water balance WUSD water balance



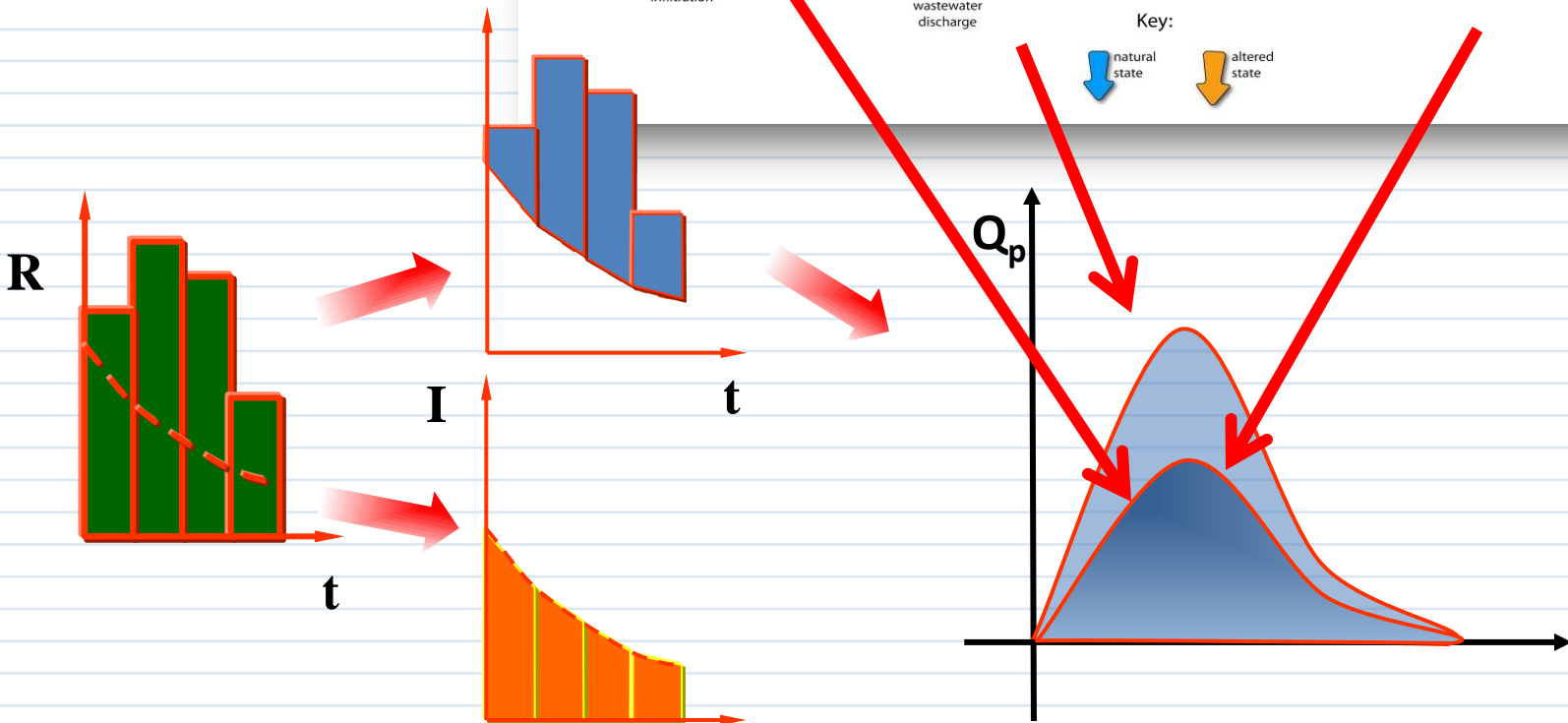
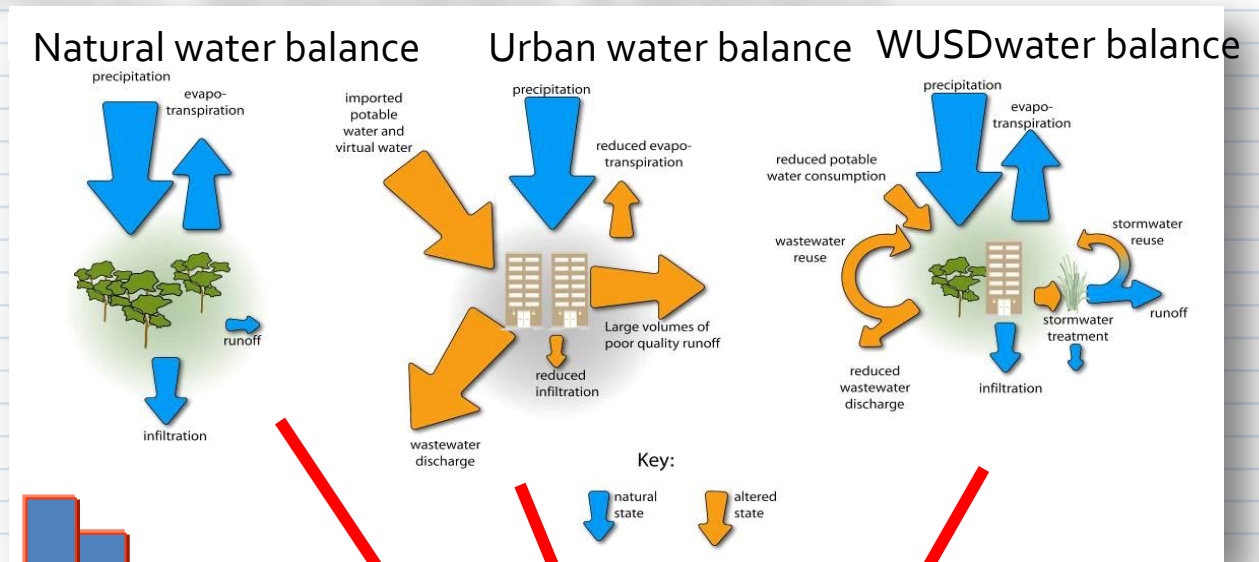
Education: Water Sensitive Urban Design



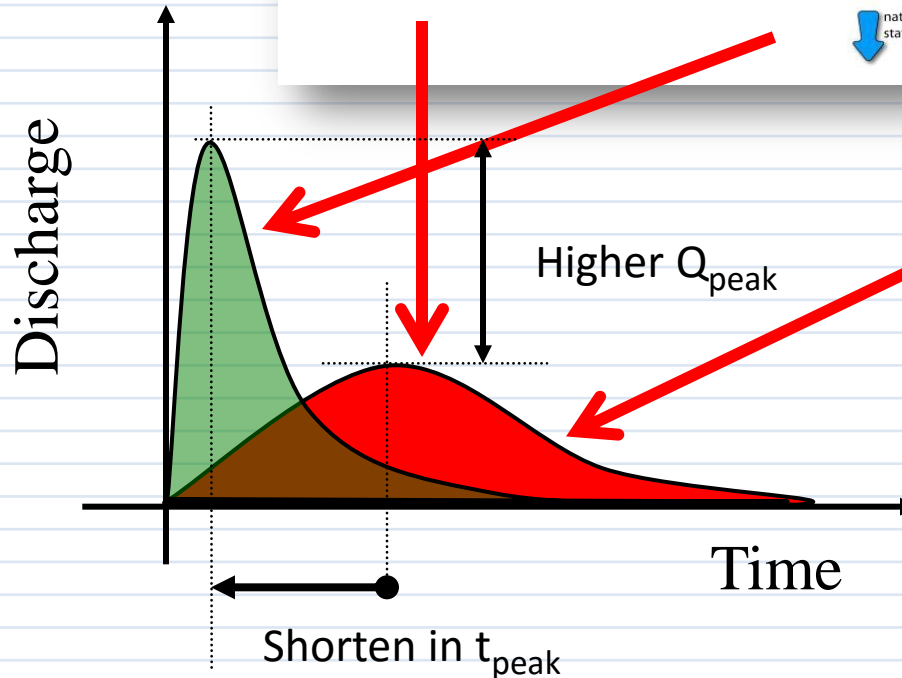
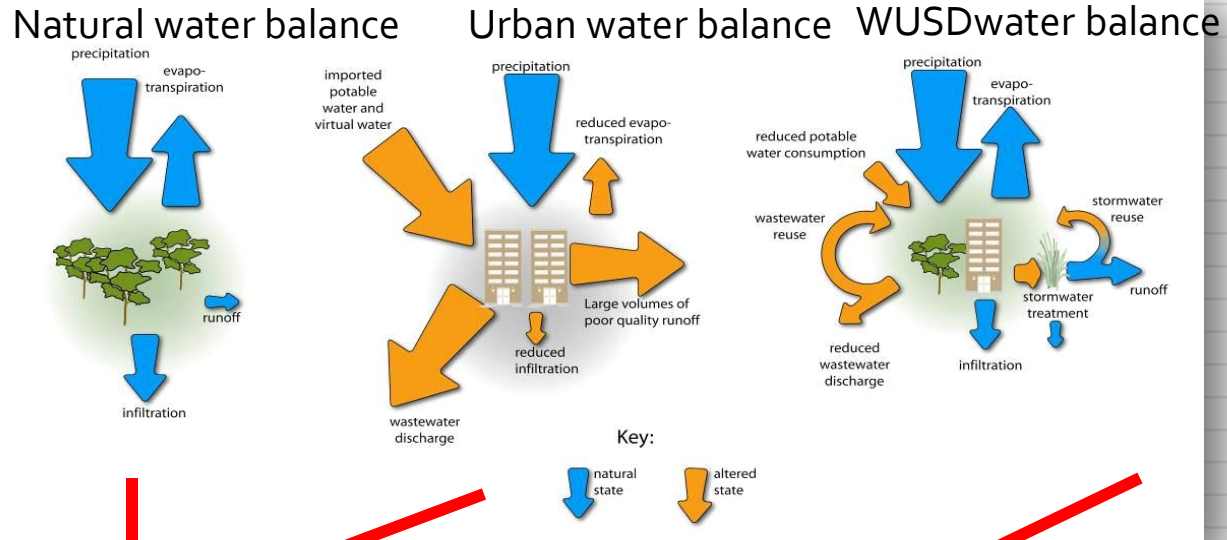
Education: Integrated Urban Stormwater Management



Education: Conservation



Education: Conservation



Education: Conservation

*Waduk UI,
do they really contributing??*

Preserve??

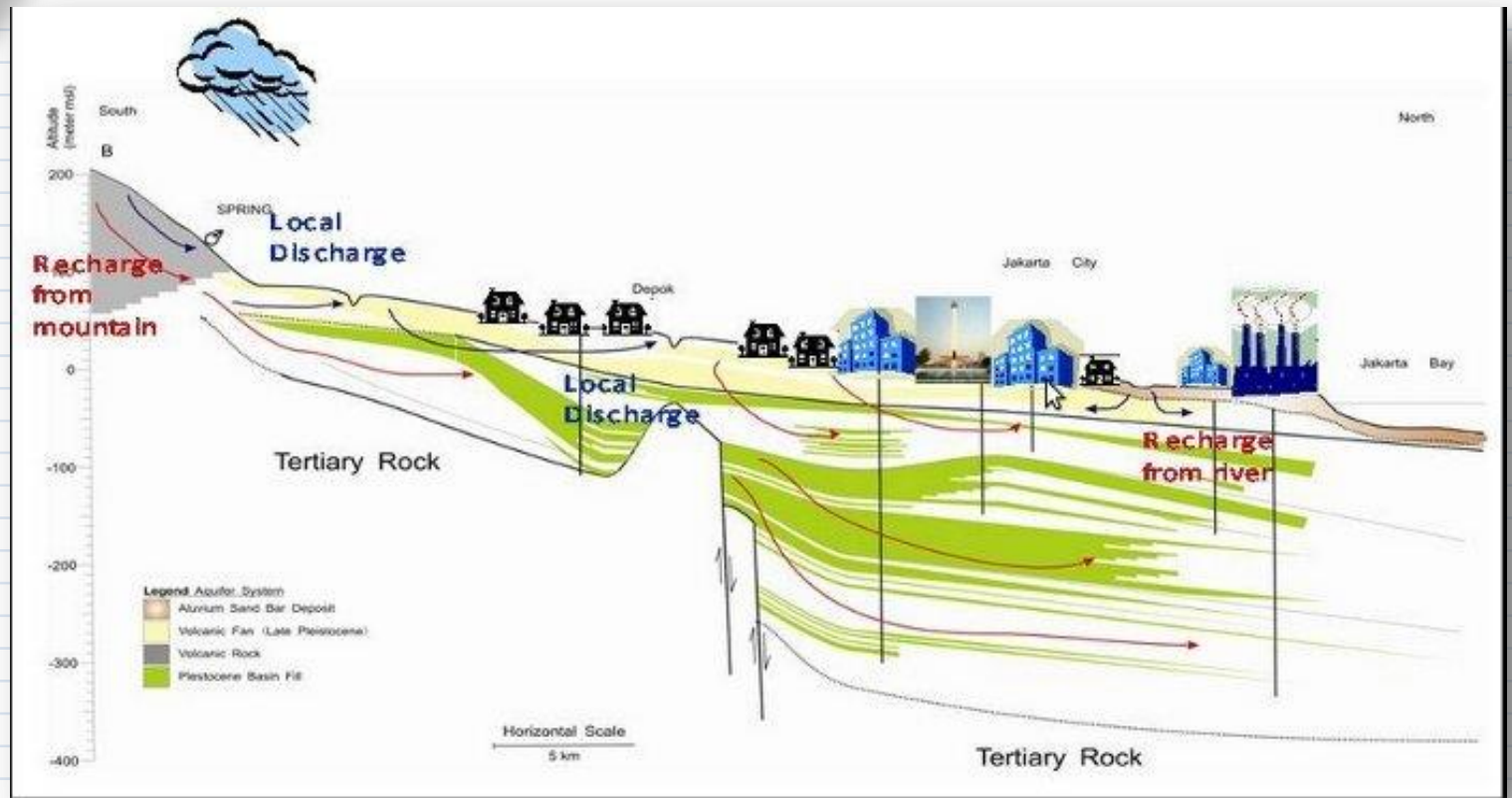
What's good for me?

Education: Conservation



Will these waduks increase infiltration rate,
and thus will boost ground water recharge ?

Education: Conservation



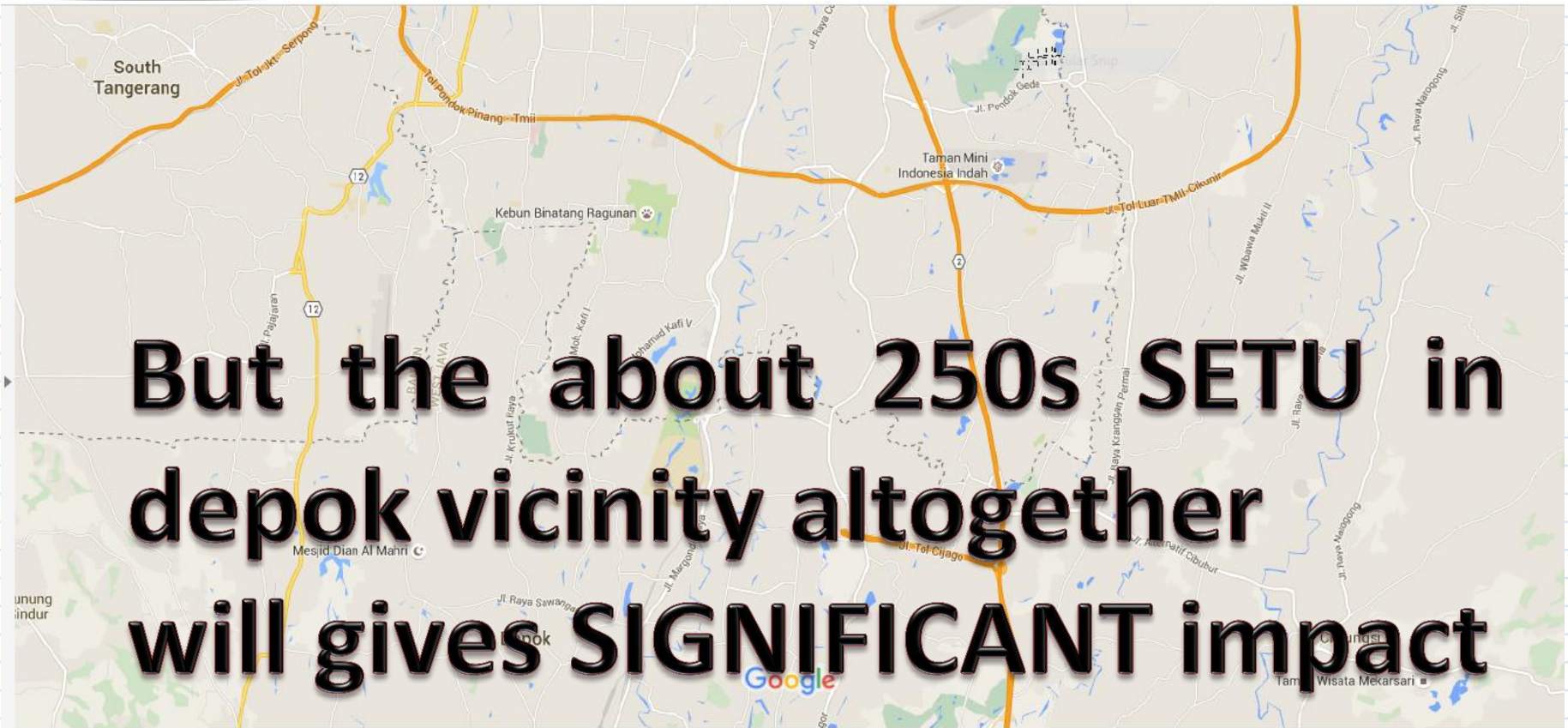
Might not likely !!! Their rate is too small

Education: Conservation



Will these waduks cut flood peak discharge ?
yes but not that significant. Their size is too small

Education: Conservation

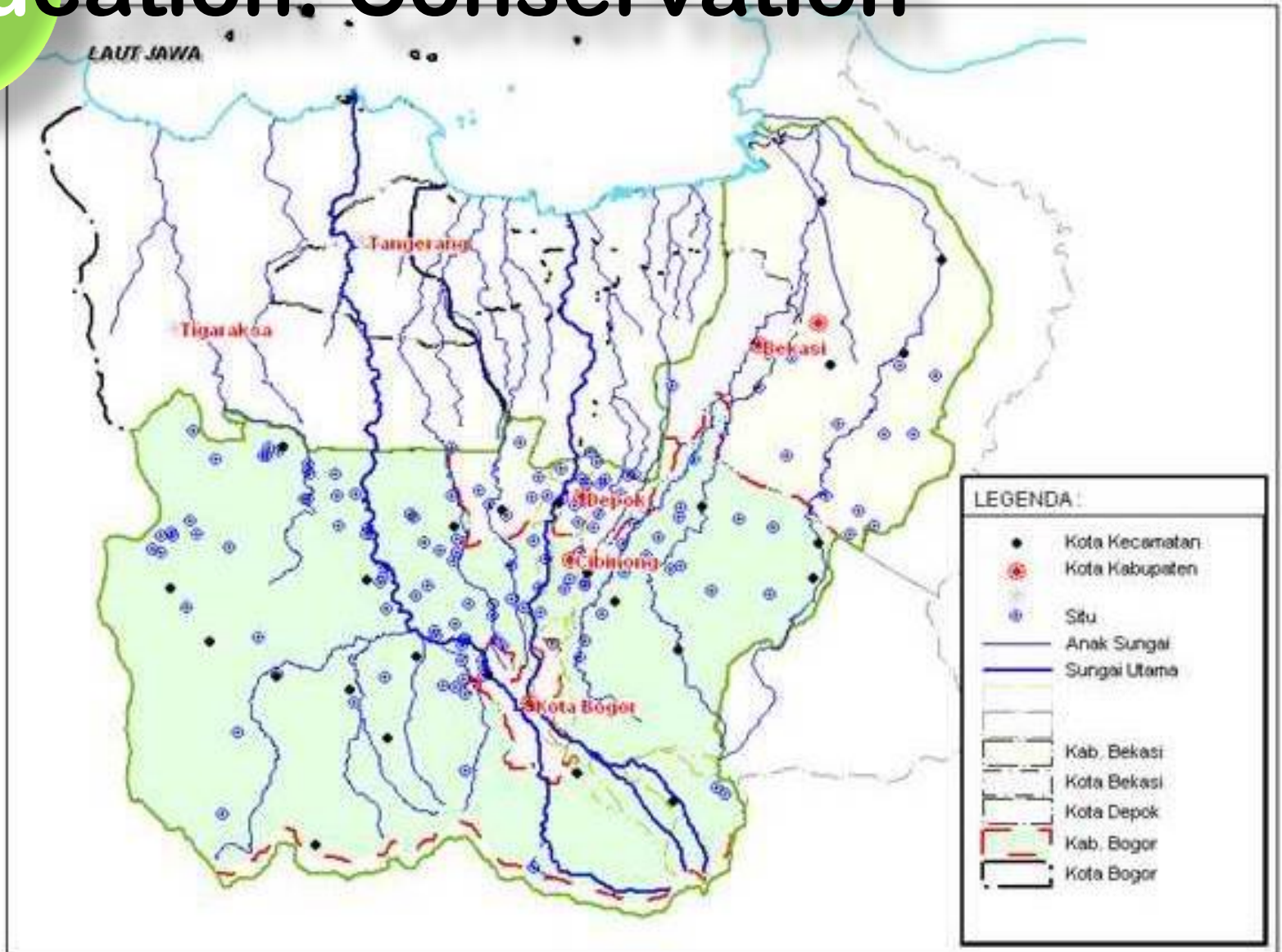


Education: Conservation

Preserve them

**But the about 250s SETU in
depok vicinity altogether
will gives SIGNIFICANT impact**

Education: Conservation



No	Nama Situ	Lokasi Kelurahan	Luas (ha)	Pemanfaatan	Pengelola
1.	Asih Pulo	Rangkapan Jaya	4,4	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
2.	Bahar / Sidomukti	Sukamaju / Sidomukti	2	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
3.	Bojongsari	Sawangan	28,25	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
4.	Bunder	Cisalak	2	Garbage dump	Pemda Tk I. Jabar
5.	Cilangkap	Cilangkap	6	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
6.	Cilodong	Kalibaru	9,5	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
7.	Ciming	Ciming	0	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
8.	Citayam	Bj. Pondok Terong	8,15	Drainage , waste disposal	Pemda Tk I. Jabar
9.	Gadog	Cisalak Pasar	1	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
10.	Gede	Cisalak Pasar	1		Pemda Tk I. Jabar
11.	Gembung Baru	Harja Mukti	7,2	Scout region	Pemda Tk I. Jabar
12.	Jatijajar	Jatijajar	8,5	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
13.	Krukut	Krukut	0	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
14.	Lembah Gurame	Depok Jaya	0	Drainage, pembuangan sampah, penampungan	Pemda Tk I. Jabar
15.	Pangarengan	Cisalak	10	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
16.	Pasir Putih	Pasir Putih	0	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
17.	Patinggi	Tapos	4	water tourism	Pemda Tk I. Jabar
18.	Dongkelan	Tugu	2,5	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
19.	Peladen	Beji	1,5	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
20.	Pengasinan	Pasir Putih	0	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
21.	Pitara	Pancoran Mas		Suplai air ke Jakarta Selatan	Pemda Tk I. Jabar
22.	Rawa Baru	Sukmajaya	7,5	Studio alam TVRI	Pemda Tk I. Jabar
23.	Rawa Besar	Depok Jaya	13	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
24.	Rawa Kalong	Curug	8	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
25.	Telaga Subur	Pancoran Mas	1,5		Pemda Tk I. Jabar
26.	Tipar	Mekarsari	11,5	Memenuhi kebutuhan air masyarakat	Pemda Tk I. Jabar
27.	UI 1	Pondok Cina	4,5	Konservasi air, penampungan drainase	Pemda Tk I. Jabar
28.	UI 2	Pondok Cina	4,5	Konservasi air, penampungan drainase	Pemda Tk I. Jabar
29.	UI 3	Pondok Cina	4,5	Konservasi air, penampungan drainase	Pemda Tk I. Jabar
30.	UI 4	Pondok Cina	4,5	Konservasi air, penampungan drainase	Pemda Tk I. Jabar
	J u m l a h		156,1		

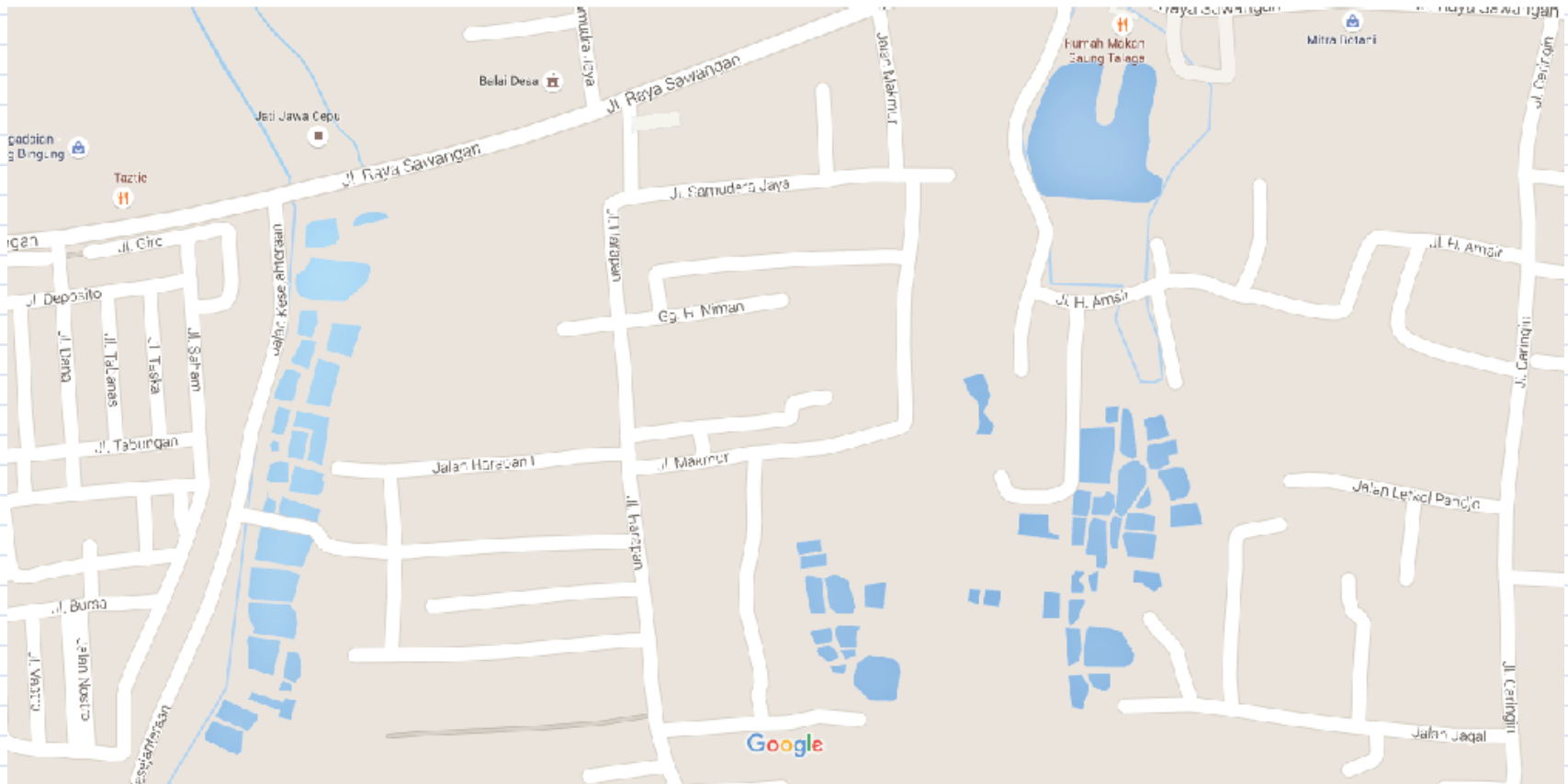


Education: Conservation

*What's good for me?
What's it for me?*

Education: Conservation

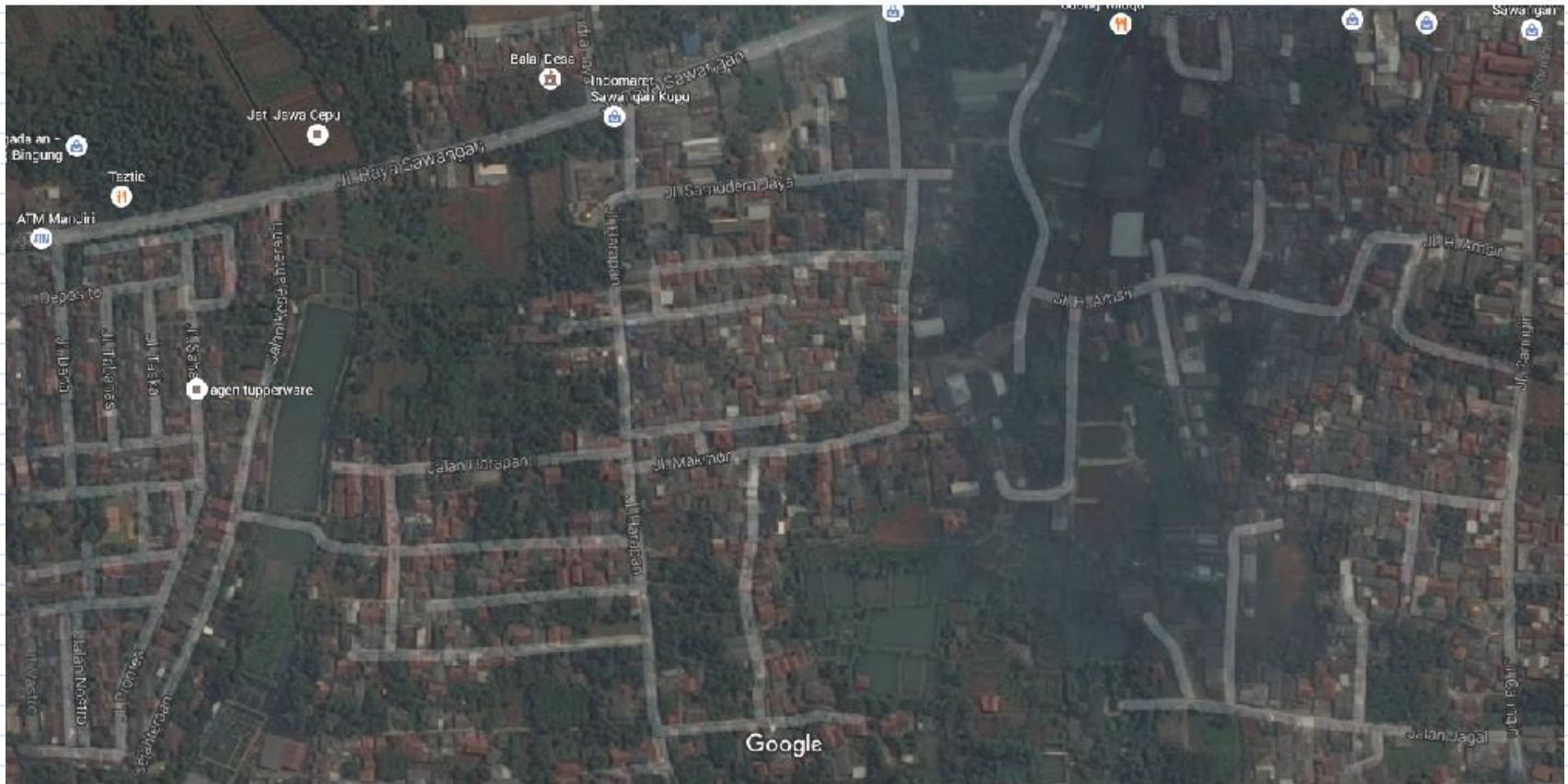
Google Maps



Map data ©2016 Google 50 m

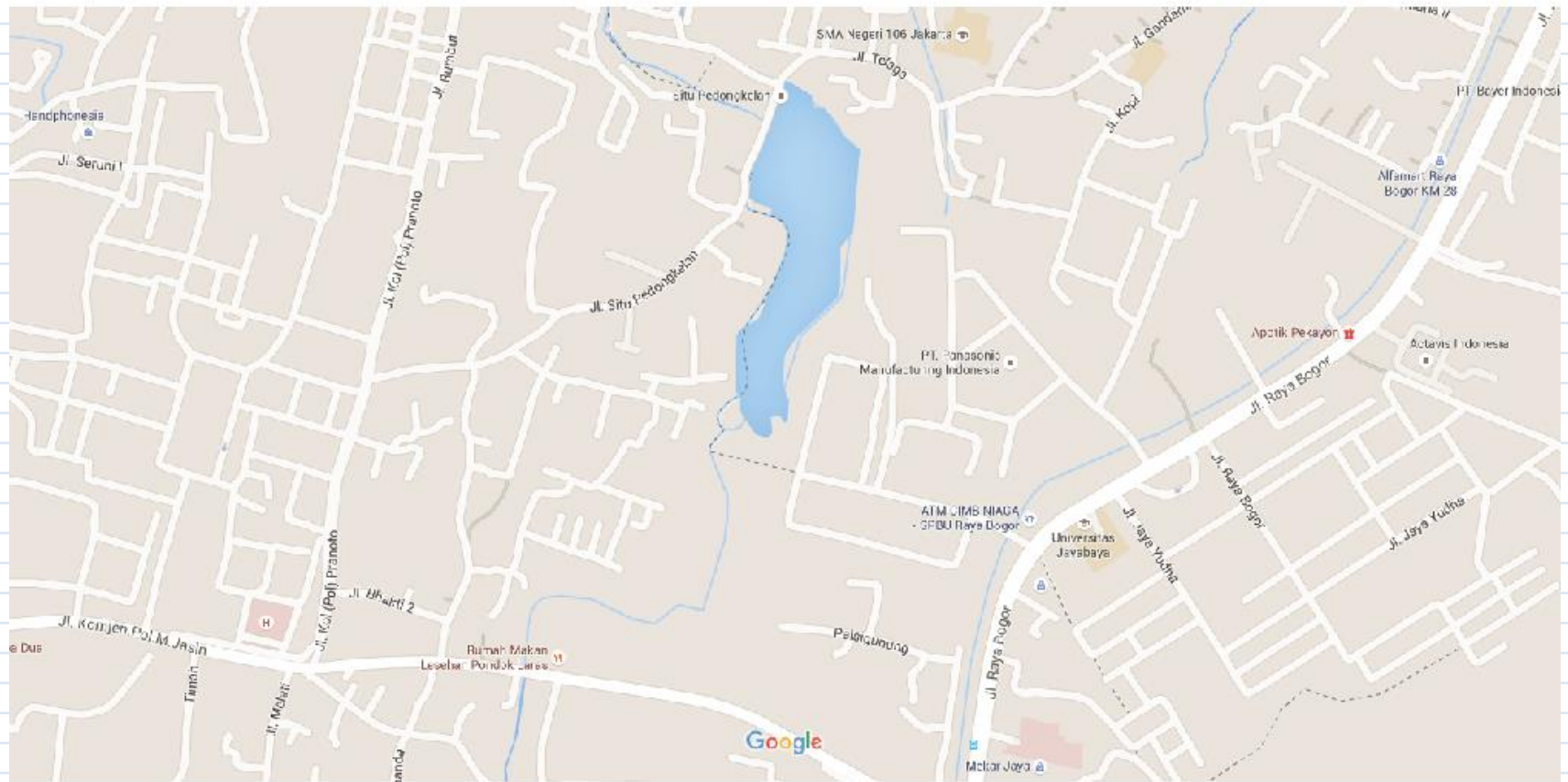
Education: Conservation

Google Maps



Education: Conservation

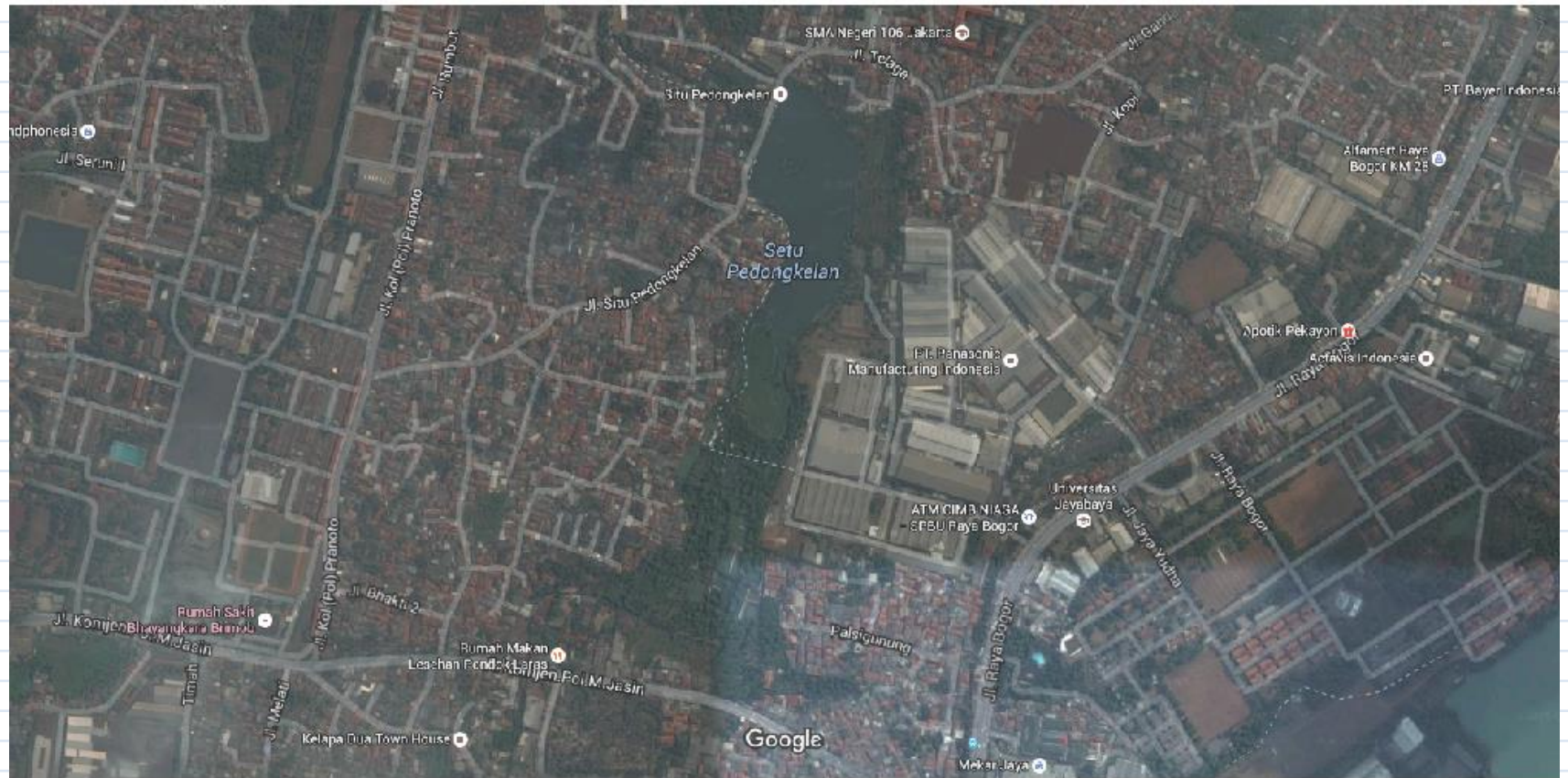
Google Maps



Map data ©2016 Google 200 m

Education: Conservation

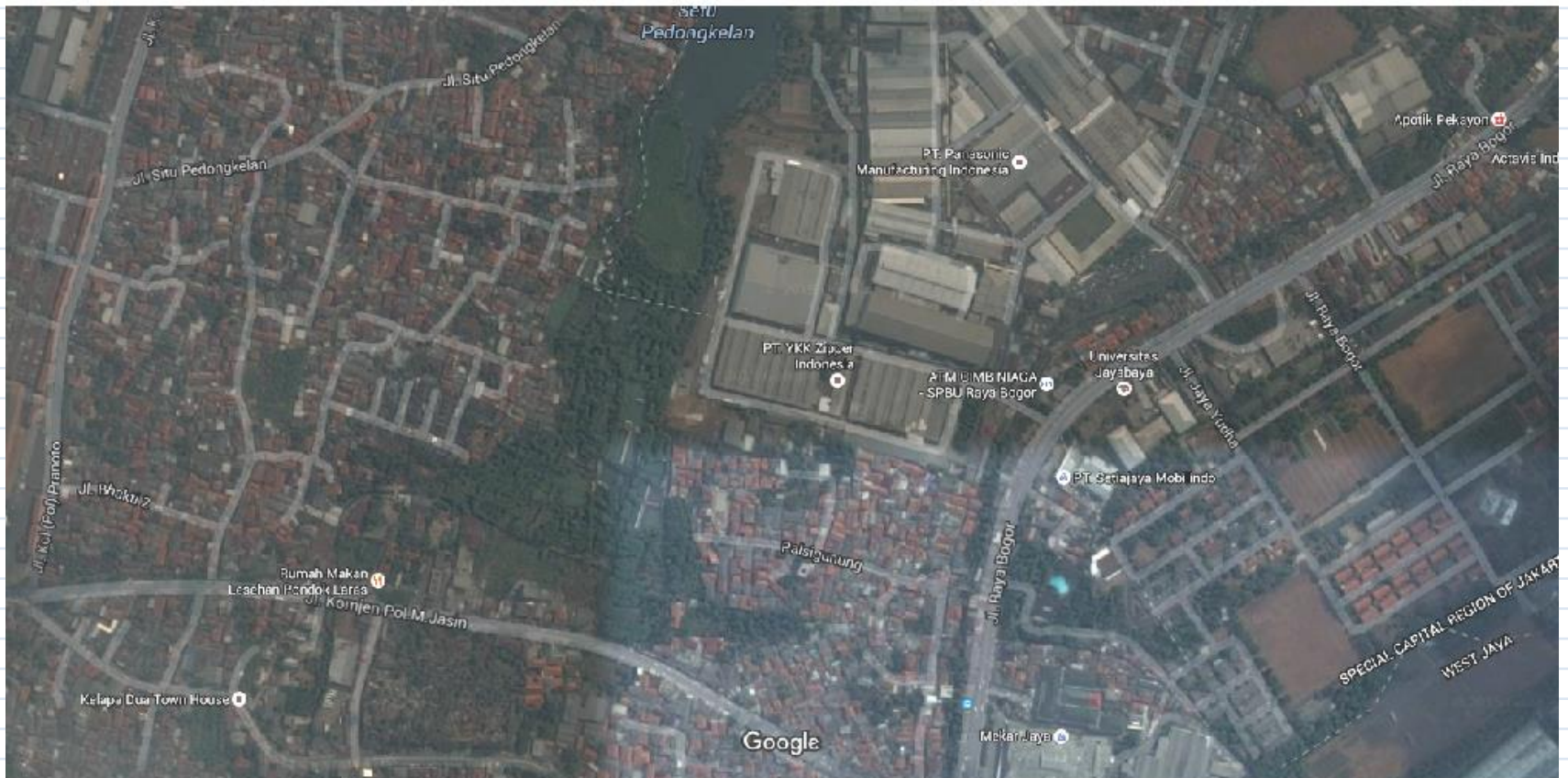
Google Maps



Imagery ©2016 DigitalGlobe, Map data ©2016 Google 200 m

Education: Conservation

Google Maps



Education: Conservation

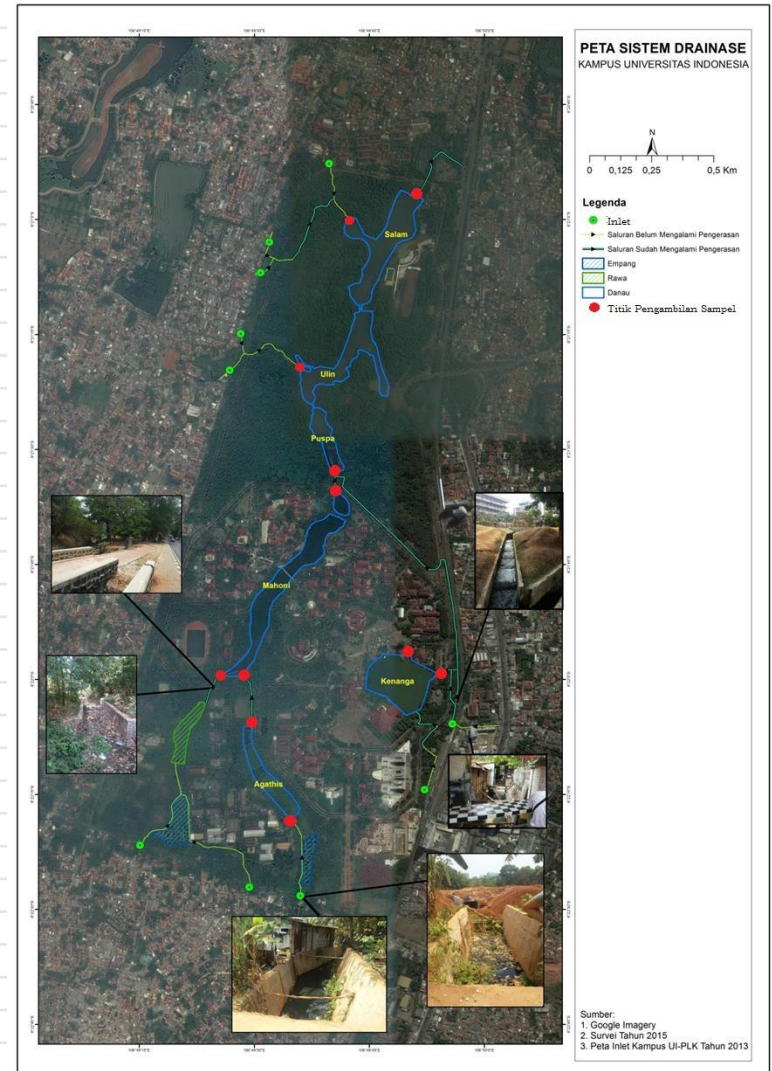
Danau Kenanga - Water Quality Index

Parameter	TEST RESULT	Units	Q-value	Weight ing Factor	Weight ing Factor	Subtotal
pH	7.08	pH units	90	0.12	0.12	10.79
Change in temp	0	degrees C	93	0.11	0.11	10.23
DO	39.2	% saturation	29	0.18	0.18	5.17
BOD	30.95	mg/L	2	0.12	0.12	0.24
Turbidity	50	NTU	39	0.09	0.09	3.52
Total Phosphorus	2.47	mg/L P	7	0.11	0.11	0.79
Nitrate Nitrogen	0.2	mg/L NO3-N	97	0.10	0.10	9.67
E. coli*		CFU/100 mL	NM	0.17	NM	NM
Fecal Coliforms*	13000	CFU/100 mL	9	0.17	0.17	1.57

*Only use one microorganism,

not fecal coliforms AND E. coli NM = Not Measured

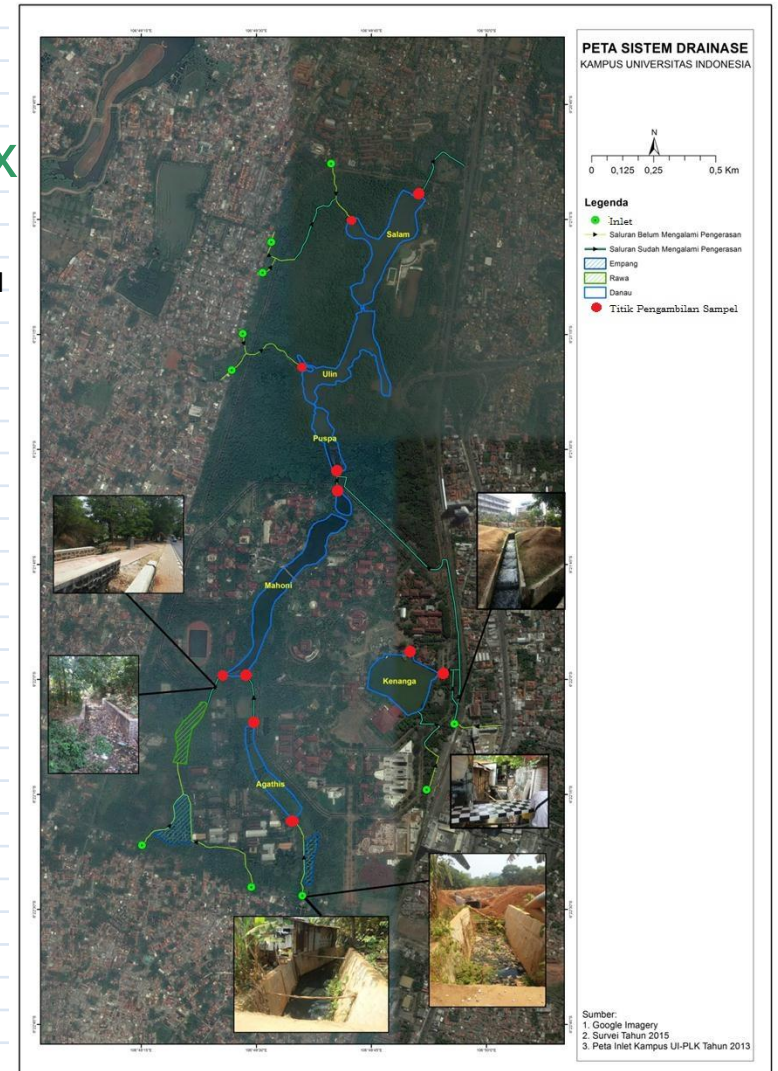
TOTALS
: **1.00** **41.98**
Water Quality
Index = **41.98**
Water Quality
Rating = **BAD**



Education: Conservation

Danau Aghatis - Water Quality Index

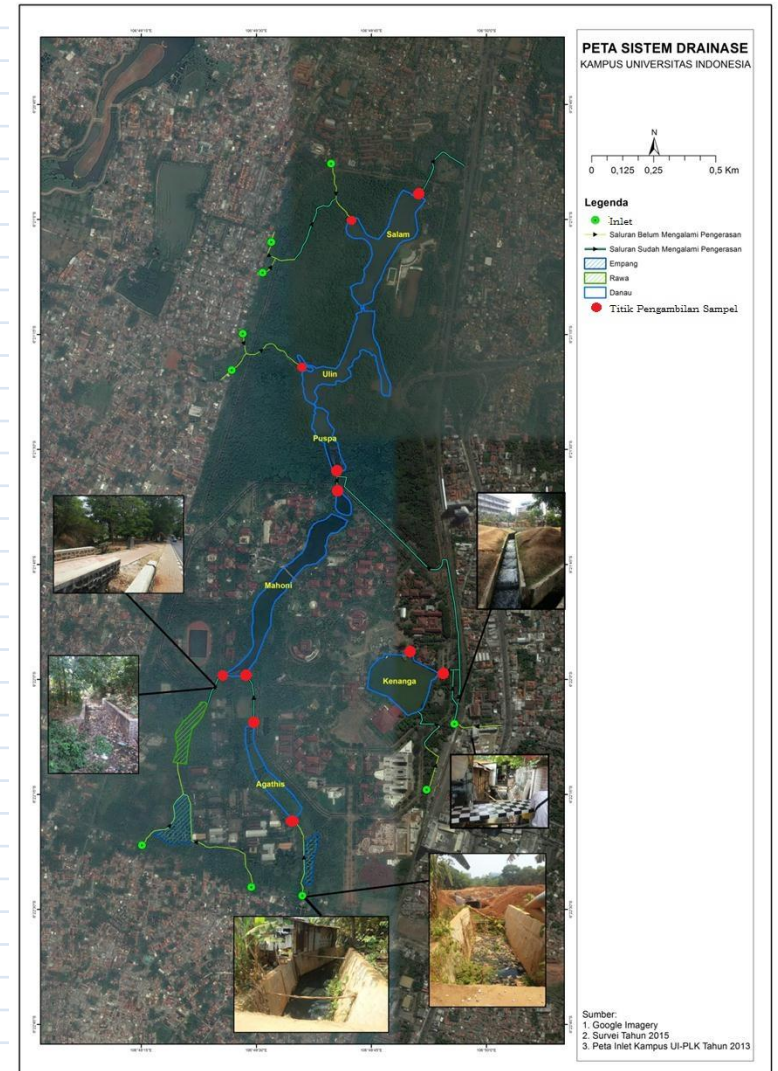
Parameter	TEST		Q-value	WeightinWeightin		Subtotal
	RESULT	Units		g	g	
pH	6.42	pH units	73	0.12	0.12	8.82
Change in temp	0.1	degrees C	93	0.11	0.11	10.18
DO	21.7	% saturation	14	0.18	0.18	2.58
BOD	55.21	mg/L	2	0.12	0.12	0.24
Turbidity	15	NTU	68	0.09	0.09	6.15
Total Phosphorus	8.95	mg/L P	5	0.11	0.11	0.55
Nitrate Nitrogen	1.6	mg/L NO3-N	61	0.1	0.1	6.14
E. coli*		CFU/100 mL	NM	0.17	NM	NM
Fecal Coliforms*	22000	CFU/100 mL	8	0.17	0.17	1.33
*Only use one microorganism,				TOTALS:	1	36.00
not fecal coliforms AND E. coli NM = Not Measured				Water Quality Index =		36.00
				Water Quality Rating =		BAD



Education: Conservation

Danau Mahoni - Water Quality Index

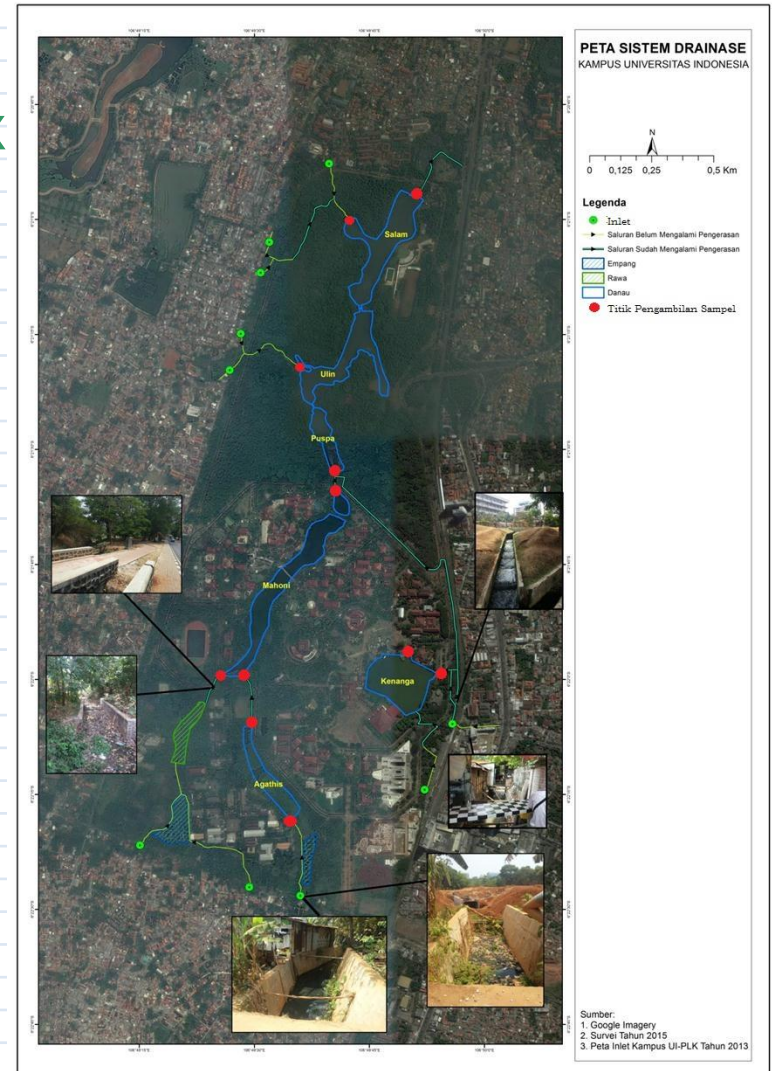
Parameter	TEST		Q-value	WeightinWeightin		Subtotal
	RESULT	Units		g	g	
pH	6.35	pH units	71	0.12	0.12	8.50
Change in temp	0.4	degrees C	91	0.11	0.11	10.06
DO	44.95	% saturation	36	0.18	0.18	6.44
BOD	89.04	mg/L	2	0.12	0.12	0.24
Turbidity		NTU	NM	0.09	NM	NM
Total Phosphorus	8.8	mg/L P	5	0.11	0.11	0.55
Nitrate Nitrogen	1.1	mg/L NO3-N	70	0.1	0.1	7.04
E. coli*		CFU/100 mL	NM	0.17	NM	NM
Fecal Coliforms*	60000	CFU/100 mL	5	0.17	0.17	0.88
*Only use one microorganism,				TOTALS:		0.91
not fecal coliforms AND E. coli NM = Not Measured				Water Quality Index =		37.06
				Water Quality Rating =		BAD



Education: Conservation

Danau Puspa - Water Quality Index

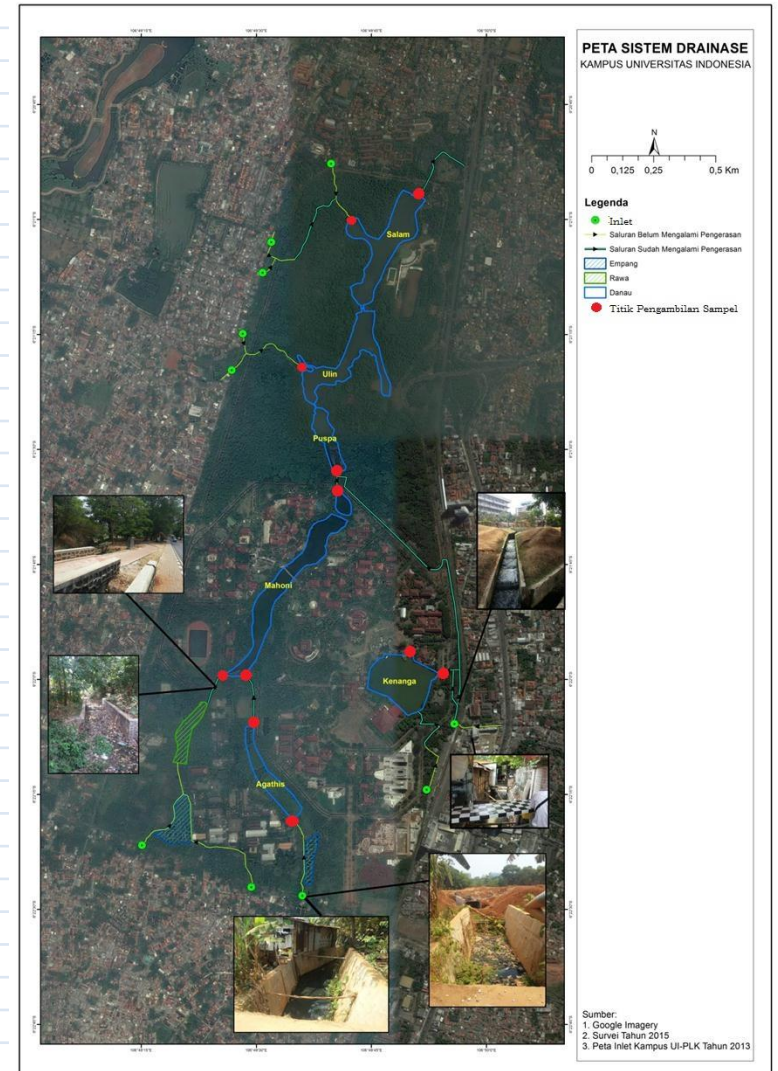
Parameter	TEST		Q-value	Weightin Weightin		Subtotal
	RESULT	Units		g	g	
pH	6.53	pH units	77	0.12	0.12	9.27
Change in temp	0.1	degrees C	93	0.11	0.11	10.18
DO	39.5	% saturation	29	0.18	0.18	5.23
BOD	29.05	mg/L	6	0.12	0.12	0.70
Turbidity		NTU	NM	0.09	NM	NM
Total Phosphorus	9	mg/L P	5	0.11	0.11	0.55
Nitrate Nitrogen	1	mg/L NO3-N	73	0.1	0.1	7.30
E. coli*		CFU/100 mL	NM	0.17	NM	NM
Fecal Coliforms*	110000	CFU/100 mL	2	0.17	0.17	0.34
*Only use one microorganism,				TOTALS:	0.91	33.58
not fecal coliforms AND E. coli				Water Quality Index =		36.90
				Water Quality Rating =		BAD



Education: Conservation

Danau Ulin - Water Quality Index

Parameter	TEST		Q-value	Weightin Weightin		Subtotal
	RESULT	Units		g	g	
pH	6.54	pH units	78	0.12	0.12	9.31
Change in temp	0.2	degrees C	92	0.11	0.11	10.14
DO	48.4	% saturation	41	0.18	0.18	7.30
BOD	26.52	mg/L	7	0.12	0.12	0.83
Turbidity		NTU	NM	0.09	NM	NM
Total Phosphorus	13.45	mg/L P	5	0.11	0.11	0.55
Nitrate Nitrogen	0.7	mg/L NO3-N	82	0.1	0.1	8.22
E. coli*		CFU/100 mL	NM	0.17	NM	NM
Fecal Coliforms*	50000	CFU/100 mL	6	0.17	0.17	0.96
*Only use one microorganism,				TOTALS:		0.91
not fecal coliforms AND E. coli				Water Quality Index =		41.01
				Water Quality Rating =		BAD

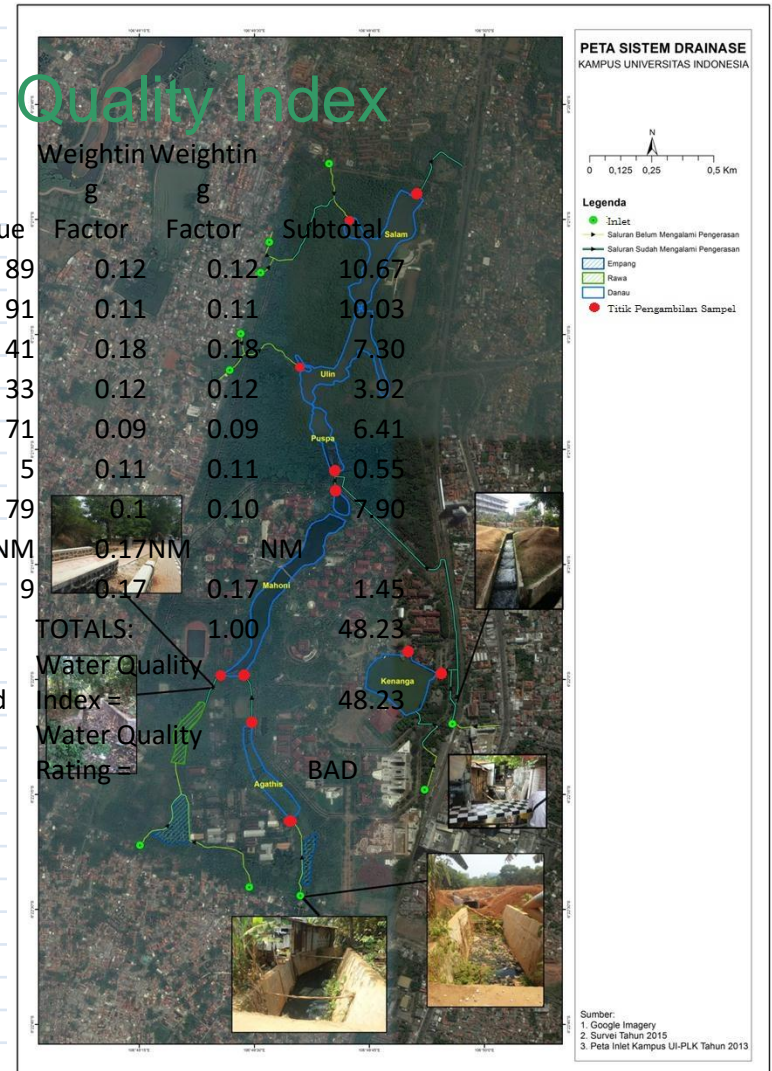



Education: Conservation

Danau Salam - Water Quality Index

Parameter	TEST RESULT	Units	Q-value
pH	7.01	pH units	89
Change in temp	0.5	degrees C	91
DO	48.4	% saturation	41
BOD	10.08	mg/L	33
Turbidity*	13	NTU	71
Total Phosphorus	10.24	mg/L P	5
Nitrate Nitrogen	0.8	mg/L NO3-N	79
E. coli*		CFU/100 mL	NM
Fecal Coliforms*	17000	CFU/100 mL	9

*Only use one microorganism,
not fecal coliforms AND E. coli NM = Not Measured





Education: Challenge


**How to create, maintain and
manage a healthy pond system**

**So they functions as refference of
best practice in action**



Education: Issue

- **Funding**
- **To manage input from external**
- **Institutionalization**
- **To manage healthy interaction with the public**
- **Operation and maintenance**



Education: Challenge

UI strives to answer this challenge

Thanks

Education: Challenge

Google Maps

