

Communities at riverbanks

Of the total 82,190 villages/kelurahan in *Indonesia* 63,256 villages / kelurahans are located alongside rivers, and 21,065 villages/kelurahan (26% of total) have settlements on riverbanks (BPS 2015). Of these, 4,805 kelurahans have slums at riverbanks.

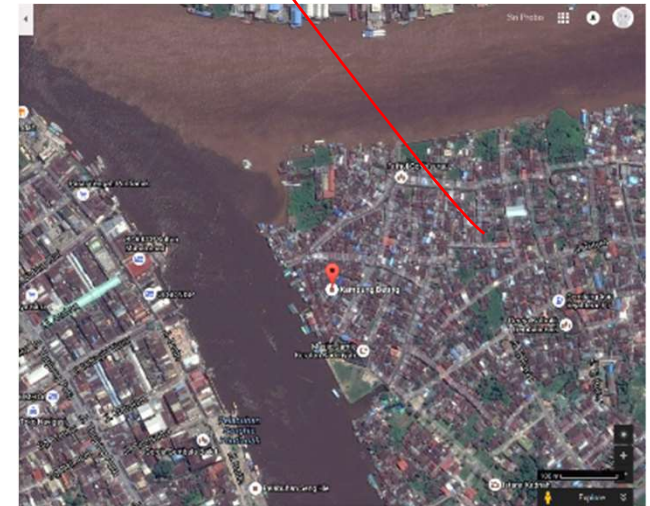
Some details:

- *Surabaya* – 2,099 families on riverbanks [survey on seasonal migrants, July 2002]
- *Jakarta* – 34,000 people on riverbanks [PU]
- *Yogyakarta* – 90% of slums are on riverbanks (Arkom)
- *Banjarmasin* – 23% of houses declared “kumuh” are on riverside areas.
- *Palu* – 55% of *kelurahan* (urban wards) with slums are on rivers / coast
-- 26% of slum RTs (neighborhood units) are on a riverbank / coast.

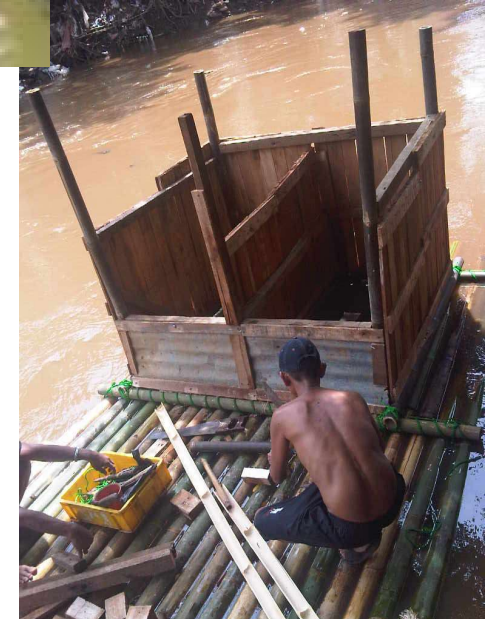
Kampungs occupying riverbanks or above water : a tradition for generations.

Pontianak, sungai Kapuas & Landak

(Kampung Beting, sedang didampingi DJCK)



Decline of Environmental quality with density increase



Government not always uniform: Conflicting paradigms

A “buang air” paradigm

or

B “lestarikan air” paradigm

- How to drain.
- The riverbank should be clear
- Clear the Edge
- Concrete dams

→ evict, relocate

BBWS / river authority, most local governments

- How to retain water.
- Not only riverbanks: catchment areas, floodplains
- Redevelop the whole area
- Biodiversity

→ rearrange, land consolidation

a few local gov'ts like Banjarmasin, Min. of ATR, environmentalists

* Yogyakarta, Malang, Balikpapan, Palembang compromising.

This community set back their houses to 5 m from the riverbank and were awarded a certificate by the mayor.



Kampung Kunir, Pinangsia
2010

Evicted in 2015



Temporary shelters along “10m building line”



Quickly occupied by trucks

Sungai Buntung riverside improvement (1) Karangwaru village, YOGYAKARTA, DIY

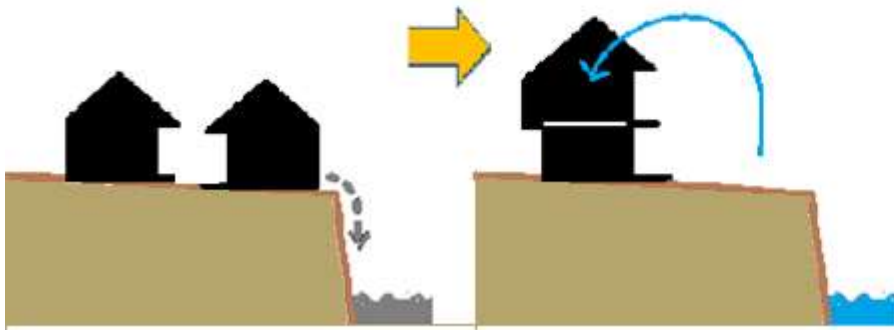
Upgrading of high density riverbanks settlements in Karang Waru-Yogyakarta

Karangwaru river was dirty and full of trash from surrounding settlements. With PLPBK program, Karangwaru residents rehabilitated riverside and built a communal sanitation system. Maintenance is managed by communities.



Biofill (communal septic tank)

Kali Winongo riverbank Kel. Ngampilan, YOGYAKARTA, DIY





Only an issue of setback?



Kampung Pulo, after eviction 2016

(1) EVICTION, RELOCATION ... focus on strip / sempadan

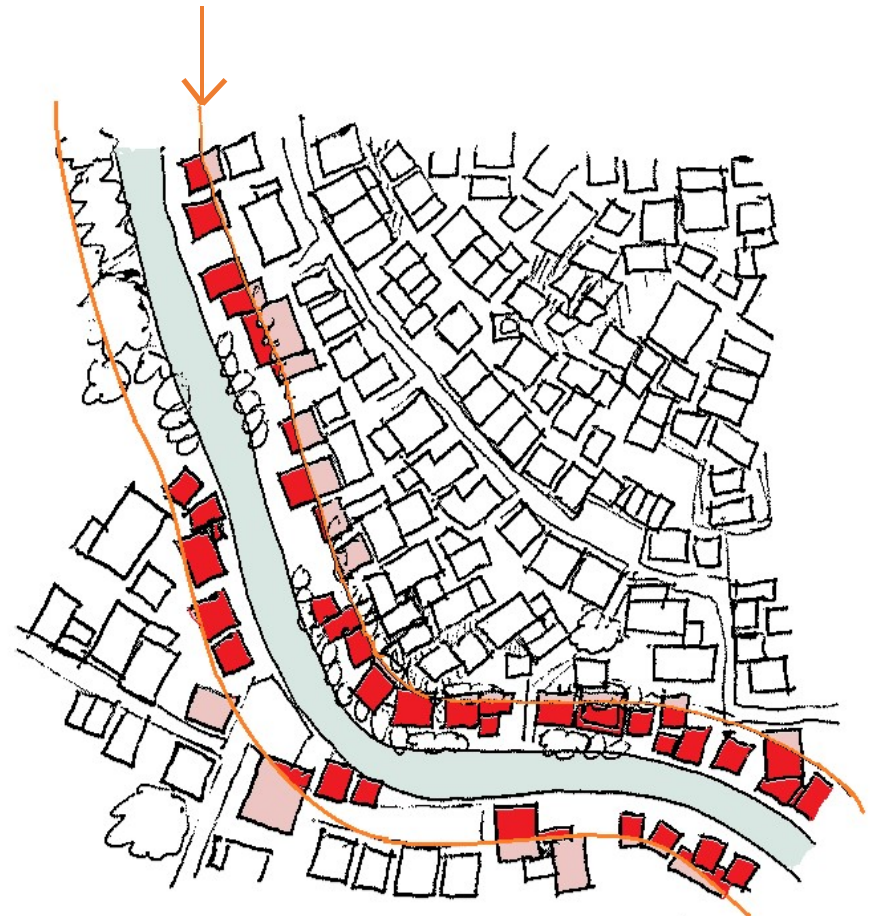


Houses / part of houses inside the riverbank strip / sempadan sungai

Sempadan sungai



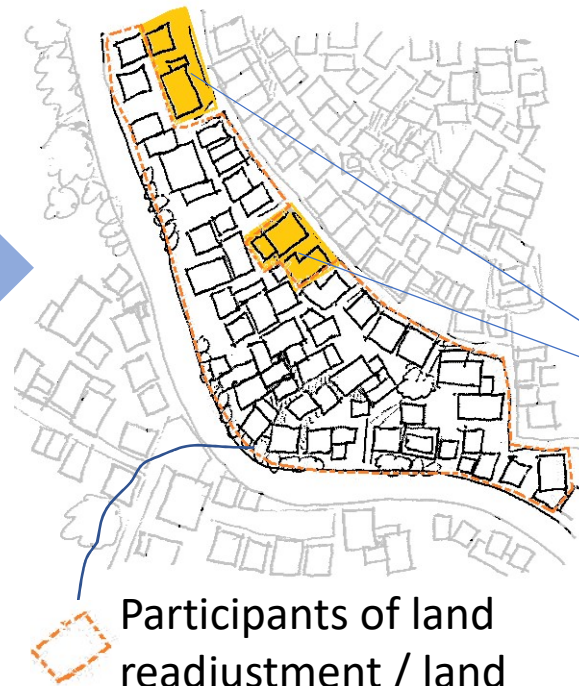
Initial situation



(2) LAND CONSOLIDATION ... considering neighborhood



Kondisi awal



Participants of land readjustment / land consolidation



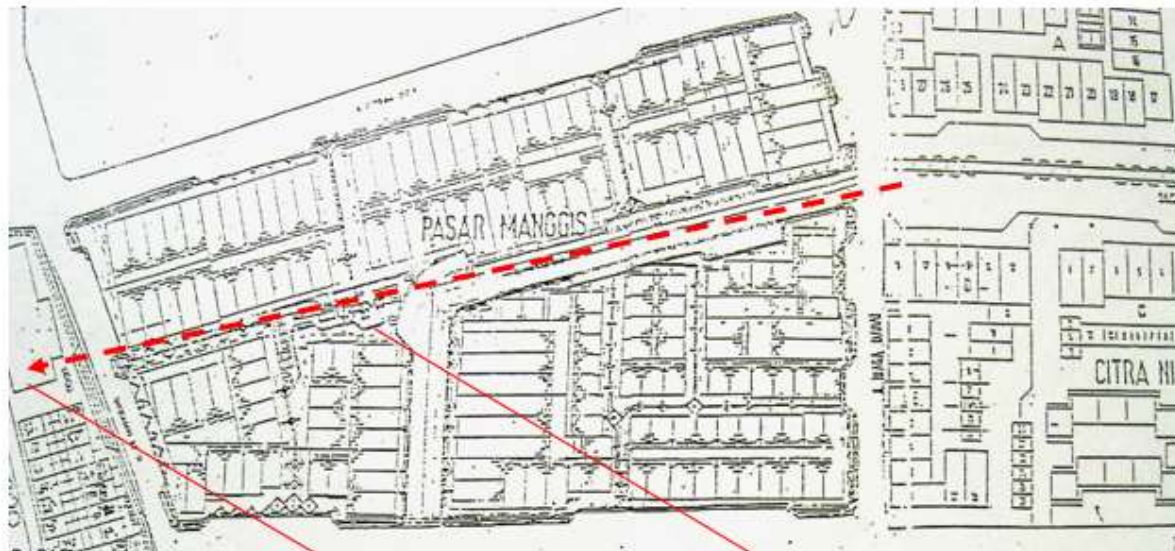
LC : participatory redesign of parcels for efficiency, more open space, infrastructure

Some residents not participating

Communities can invite private firm in Land Consolidation scheme

Manggis shophouses, Samarinda (1985)

a fire destroyed substandard housing - partially shops. An NGO helped the community to set up a cooperative. Land was readjusted to allow for better infrastructure. A private firm rebuilt the complex, compensated with 5 years Build-Operate-Transfer agreement.



- Manggis market blockplan
- smaller shophouses, two story
 - bigger units at main road
 - traditional market
 - pedestrianization & vendor (K5) stalls

2% of location collectively owned for K5 (kakilima) zone

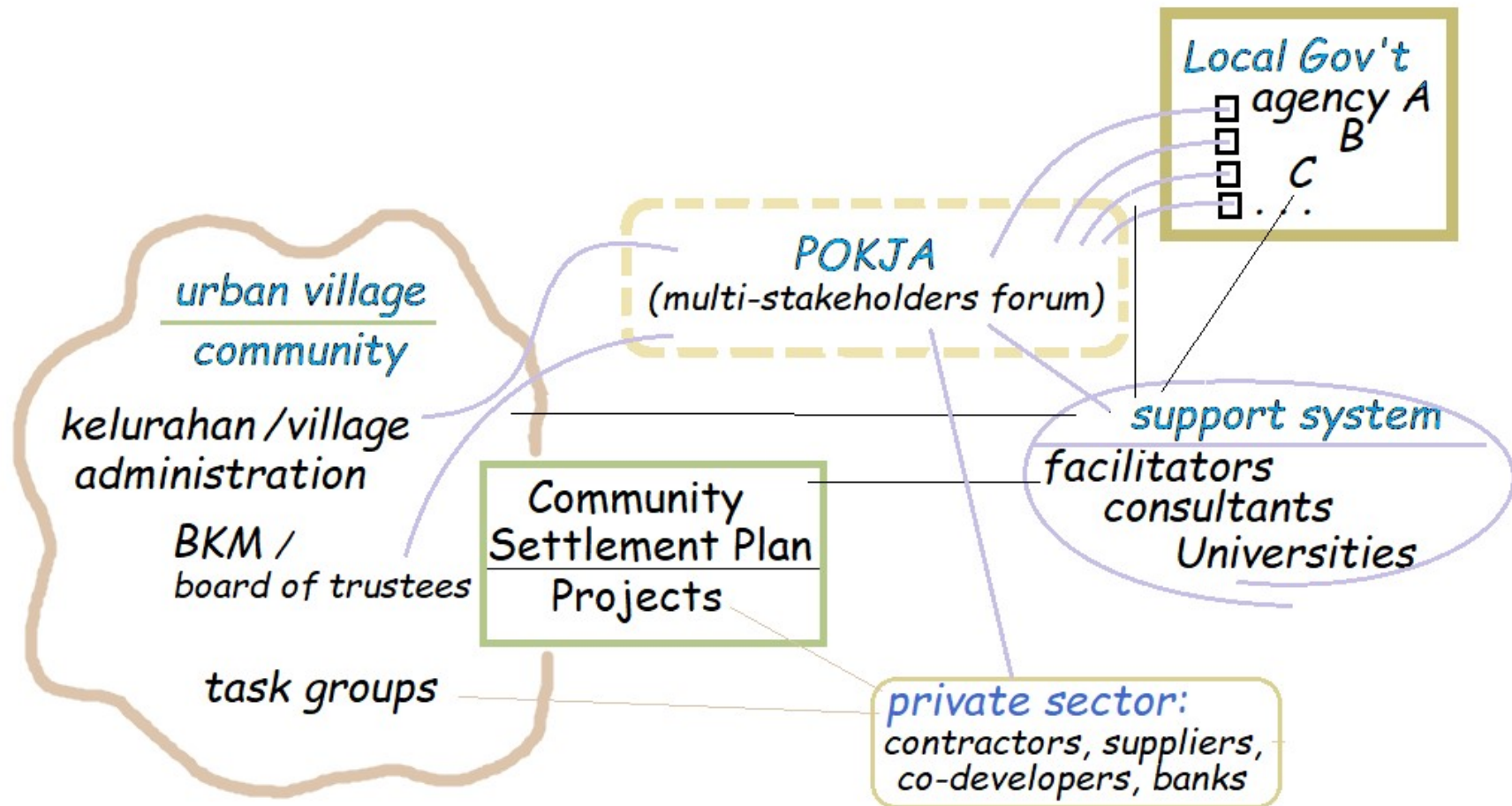
before fire



after reconstruction



Platform for collaboration through the urban slums upgrading program



Multi-interpretation of Regulation on riverbank setback / sempadan sungai:

especially PERMEN-PUPR 28/2015 (= PP38/2011, includes annex on sempadan study).

- Par. 4: “Tanggul . . . merupakan bangunan penahan banjir yang terbuat dari *timbunan tanah*” (heaped earth?)
- Par. 5 (criteria sempadan): in urban areas, less than 3m if no tanggul (embankment) → 10 m sempadan . . . etc.
- Par. 13-14: The *sempadan* should be decreed by the Head of the Region – sesuai lingkup wewenangnya, berdasar kajian penetapan sempadan sungai.
- Par. 14: Kepala daerah (sesuai wewenangnya) membentuk *Tim Kajian* sempadan sungai. Lampiran 1 menetapkan tatacara kajian: *lingkup kajian, dokumen yang dihasilkan.*
 - * Catatan: baru sedikit daerah yang membentuk Tim Kajian. Belum jelas apakah Tim ini dapat mengubah sempadan di lapangan, dari PP dan PermenPUPR.
- Par. 15 & 26: bila terdapat bangunan, dapat ditetapkan status quo, untuk secara bertahap “mengembalikan” fungsi sungai.

Before (70-80's)

Bishhan Park, Singapore

After (now)



BISHAN PARK'S \$76M MAKEOVER

Parkgoers can dip their toes in a new river, enjoy three playgrounds and amble up a hill built with recycled concrete.

UPPER TIERSON ROAD

LOTUS GARDEN

WATER CLEANSING SYSTEM
Natural plants and soil will help rid impurities from water in the pond and river. It is then pumped into a control room where ultraviolet disinfection will destroy bacteria. The water will then be channelled to the water playground.

NEW PLAYGROUNDS
Three new playgrounds – a water playground, an adventure playground with climbing facilities, and a sand-filled bubble playground – will cater to different groups of parkgoers.

RECYCLE HILL The concrete from the original canal was recycled, cut into slabs, and stacked to form Recycle Hill.

SAFETY FEATURES
■ A warning system with water level sensors, warning lights, sirens and audio announcements in four languages will alert parkgoers when heavy rain or rising water levels are expected.
■ Six safety lines and 36 life buoys are scattered along the river.
■ Warning signs and red markers to warn parkgoers not to go beyond a certain point during heavy rain are also in place.
■ 22 CCTVs and a round-the-clock patrol surveillance team will monitor the safety of parkgoers.

LEGEND:
● Food & beverage ● Toilet ● Carpark
● Fitness station ● Bus-stop
● Park connector network

TEXT: KEVIN TAN PHOTO: CHEW HANG KIM AND PHIL SPAIN/SPICES-LIM YONG



Concrete embankment removed at a VERY high cost to return **back to natural conditions**. Involving people: maintenance of the river quality through educational activities.