# Community's Cohesion and Resistance in the Indonesian Anti-Communist (Anti-PKI) Purge of 1965-1966: Variables



Data simulation: local communities clustering by cell swapping

Inspired by Schelling's model of segregation (see the

right figure), we simulated the spatial configuration

pattern the two communities in each district:

https://mi-geo.github.io/

Schelling's model of segregation

the input map with settlements

extracted settlements in grey color

randomly assign anti- and pro-PKI

the to the estimated proportion.

swap until segregation

neighborhood to each grid based on

emphasized.

#### **One-Minute Background**

Indonesian Genocide of 1965-1966: state-sponsored anti-communist campaign initiated by the military and government in response to an alleged coup attempt by the Indonesian Communist Party (PKI).

Impact: 500k – 1 million killed, more incarcerated

Victims: members of Partai Komunis Indonesia (Indonesian Communist Party, PKI) and their sympathizers, ethnic Chinese, and other individuals deemed to be threats to the regime.

Persecutors: militia (e.g. Barisan Ansor Serbaguna, a.k.a. banser), Indonesian







The army and militia could not commit such atrocity without the mass support of ordinary local people. Did the community's local bond also assist or resist the killings? (Yet we don't know different communities' population and where were they)

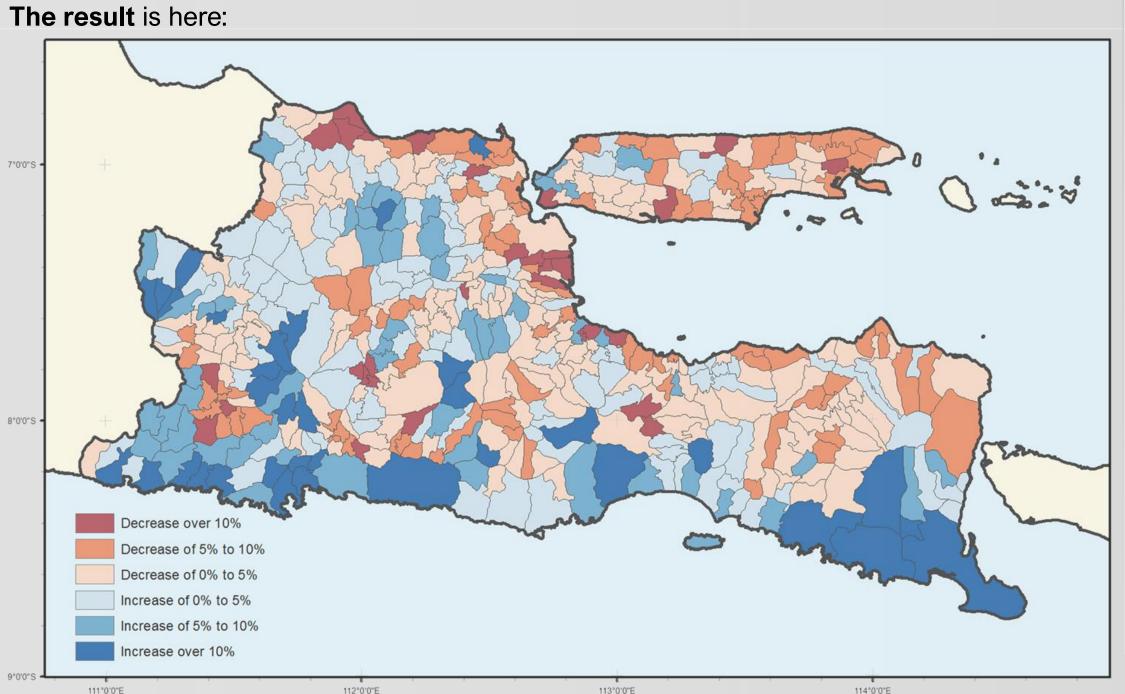
#### Variable Y: Estimated Population Change due to the Purge

We treat the population change caused by the genocide as a one-time shock

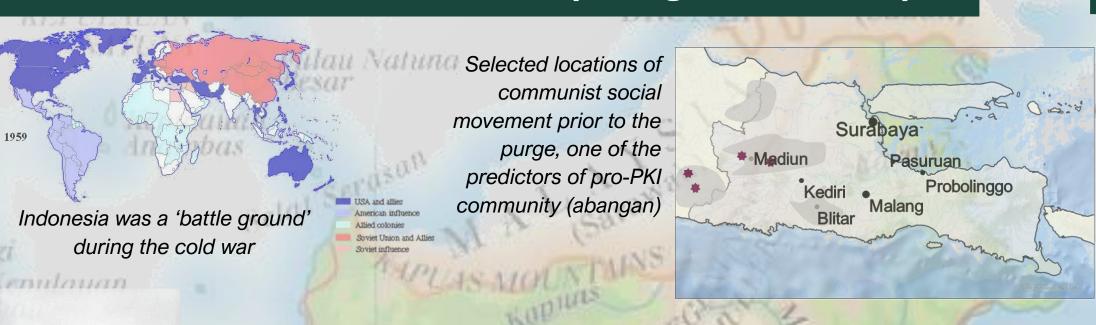
**Data** (census): 1961, 1971, 1980

Area of Study: East Java, district level (490 in total),

Method: project/estimate the population in each district at the time of the killing (end 1965), with two sets of data: prior and post to the killings. The gap would be the population change caused by the event.



### Pro-PKI vs. Anti-PKI communities (abangan vs. santri)



General Sectary of PKI) speaking

Route of the spreading of orthodoxy Islam in East Java, a very rough predictor of the location of anti-PKI community (santri)

Banjarmasin Rally supporting the PKI in the 1955 (the rst) Indonesian general election.

Pro-communist (PKI) community members captured by Anti-PKI militia

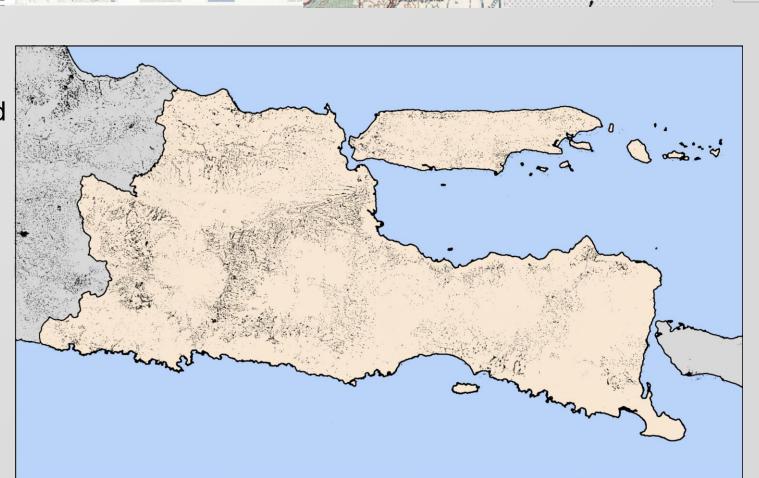
#### Estimation of the proportion of anti-PKI community in each place in East Java

Ujungpandang

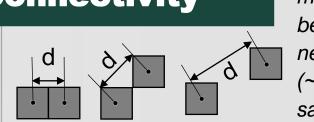
#### Data extraction: local settlements



From left to right: Index map, MPS map, MPS map zoom-in, and the extracted spatial configuration of settlements Pattern: The right figure shows all the extracted settlements in East Java. There were roughly 20,000+ settlements, represented by 100,000+ pixels (neighborhoods) in



#### Appendix: Connectivity



Left: three scenarios measuring distance between two neighborhoods (~100m<sup>2</sup>) of the

distance. A variety of

Left: connectivity as a function (decline) of

## **Connectivity Calculation: Variable X**

Data: Around 20,000 settlements, and 100,000+ neighborhood (pixels). Each neighborhood could be either pro- or anti PKI. Assumption: 1. connectivity (social bond) between two neighborhoods of the same kind (a pari), is determined by their geographic distance (a decline function). 2. connectivity level of a neighborhood is the sum of the connectivity of pairs related to the neighborhood. (1 to many Calculation: connectivity level in a district = MEAN

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Result: Pro-PKI community (left) and Anti-PKI community (right) spatial

(connectivity level of neighborhoods) = MEAN(SUM (connectivity between two neighborhoods) (100,000 neighborhoods in East Java means 10<sup>10</sup>pairs in total,,, 10 billion... ask the author for a better algorithm)

Calculated social bond in each district, upper: pro-PKI; bottom: anti-PKI.

#### **Empirical Result**

configuration, simulated

Y variable: population change due to the genocide. A higher Y indicate less impact from the genocide. We also includes several control variables.

Result: Stronger pro-PKI community connection led to a higher Y (population positive change). Stronger anti-PKI community connection led to a lower Y (population negative change) They are all cignificant

Model #	Model A	Model B	Model C	Model D	Model E
(intercept)	-0.065 ***	-0.065 ***	-0.065 ***	-0.065 ***	-0.458 ***
Connectivity: pro-PKI	0.0360 *	-0.0202 *		0.0202 *	0.0244 **
Connectivity: anti-PKI	-0.0360 *		-0.028 **	-0.018 *	-0.028 **
Ratio of the two above	-0.04367			-0.023	-0.043
Military		0.0000 ***	0.0000 ***	0.0000 ***	
Altitude		-0.000 ***	-0.000 ***	-0.000 ***	
slope		0.0059 ***	0.0030 **	0.0059 ***	
Forest		-0.035 ***	0.0385 **	-0.035 ***	
Modern_islam		0.0419	0.0618	0.0419	
N	490	490	490	490	490

### Appendix: Cell **Swapping Algorithm**

Step (a). assign values 1 = anti PKI community, -1 = pro-PKI community, 0 = it is not in a settlement

focal values (fvalue). Black cells should have high

f- values (& vice | -3 | -4 | -4 | -4 | -3 -1 -3 -3 -3 -1

the ones are not, and recalculate the focal value satisfied you are

Step (c). Swap | -3 | -3 | -1 | -1 | -1 (c1), until c1 (c2)

-6 -4 0 --5 | -6 | -6 | -2 | -1 -5 | -8 | -8 | -5 *c2* -3 -5 -5 -5 -3 same kind

functions! Distance to the village of interests (km

Fast calculation: is there a faster way to calculate the connectivity in each district? Considering there were 100,000+ pixels... (ask the author)

**Department of Geography,** Teng Zhang Environment, and Spatial Sciences
College of Social Science

