

Supplementary Table S1

sensitivity analysis of different maximum spartial cluster sizes

Table 1: 2011-2015

Subdistrict	4%	6%	8%	10%	20%	30%	40%	50%
BANG PLA SOI (200101)	—	—	—	—	—	—	—	—
MAKHAM YONG (200102)	—	—	—	—	—	—	—	—
BAN KHOT (200103)	—	—	± (200111)	± (200111)	—	—	—	—
SAEN SUK (200104)	—	—	—	—	—	—	—	—
BAN SUAN (200105)	—	—	—	—	—	—	—	± (200106/200107/200109/200110/200111/200118)
NONG RI (200106)	—	√	± (200108)	± (200108)	± (200108)	± (200108)	± (200108)	± (200105/200107/200109/200110/200111/200118)
NA PA (200107)	—	—	—	—	—	—	—	± (200105/200106/200109/200110/200111/200118)
NONG KHANG KHOK (200108)	√	√	± (200106)	± (200106)	± (200106)	± (200106)	± (200106)	—
DON HUA LO (200109)	√	√	√	√	± (200110/200111/200112)	± (200110/200111/200112)	± (200110/200111/200112)	± (200105/200106/200107/200110/200111/200118)
NONG MAI DAENG (200110)	√	√	± (200112)	± (200112)	± (200109/200111/200112)	± (200109/200111/200112)	± (200109/200111/200112)	± (200105/200106/200107/200109/200111/200118)
BANG SAI (200111)	—	√	± (200103)	± (200103)	± (200109/200110/200112)	± (200109/200110/200112)	± (200109/200110/200112)	± (200105/200106/200107/200109/200110/200118)
KHLONG TAMRU (200112)	√	√	± (200110)	± (200110)	± (200109/200110/200111)	± (200109/200110/200111)	± (200109/200110/200111)	—
MUEANG (200113)	—	—	—	—	—	—	—	—
BAN PUEK (200114)	—	—	—	—	—	—	—	—
HUAI KAPI (200115)	—	—	—	—	—	—	—	—
SAMET (200116)	—	—	—	—	—	—	—	—
ANG SILA (200117)	—	—	—	—	—	—	—	—
SAMNAK BOK (200118)	—	—	—	—	—	—	—	± (200105/200106/200107/200109/200110/200111)

√ : independent significant cluster ($p < 0.05$); ± : detected but combined with neighboring subdistricts within a larger cluster; — : not detected

Table 2 2012-2016

Subdistrict	4%	6%	8%	10%	20%	30%	40%	50%
BANG PLA SOI (200101)	—	—	—	—	—	—	—	—
MAKHAM YONG (200102)	—	—	—	—	—	—	—	—
BAN KHOT (200103)	—	—	—	—	—	—	—	—
SAEN SUK (200104)	—	—	—	—	—	—	—	—
BAN SUAN (200105)	—	—	—	—	—	—	—	± (200106/200107/200109/200110/200111/200118)
NONG RI (200106)	—	√	± (200108)	± (200108)	± (200108)	± (200108)	± (200108)	± (200105/200107/200109/200110/200111/200118)
NA PA (200107)	—	—	—	—	—	—	—	± (200105/200106/200109/200110/200111/200118)
NONG KHANG KHOK (200108)	√	√	± (200106)	± (200106)	± (200106)	± (200106)	± (200106)	—
DON HUA LO (200109)	√	√	√	√	± (200110/200111/200112)	± (200110/200111/200112)	± (200110/200111/200112)	± (200105/200106/200107/200110/200111/200118)
NONG MAI DAENG (200110)	√	√	± (200112)	± (200112)	± (200109/200111/200112)	± (200109/200111/200112)	± (200109/200111/200112)	± (200105/200106/200107/200109/200111/200118)
BANG SAI (200111)	—	—	—	—	± (200109/200110/200112)	± (200109/200110/200112)	± (200109/200110/200112)	± (200105/200106/200107/200109/200110/200118)
KHLONG TAMRU (200112)	√	√	± (200110)	± (200110)	± (200109/200110/200111)	± (200109/200110/200111)	± (200109/200110/200111)	—
MUEANG (200113)	—	—	—	—	—	—	—	—
BAN PUEK (200114)	—	—	—	—	—	—	—	—
HUAI KAPI (200115)	—	—	—	—	—	—	—	—
SAMET (200116)	—	—	—	—	—	—	—	—
ANG SILA (200117)	—	—	—	—	—	—	—	—
SAMNAK BOK (200118)	—	—	—	—	—	—	—	± (200105/200106/200107/200109/200110/200111)

√ : independent significant cluster ($p < 0.05$); ± : detected but combined with neighboring subdistricts within a larger cluster; — : not detected

Table 3: 2013-2017

Subdistrict	4%	6%	8%	10%	20%	30%	40%	50%
BANG PLA SOI (200101)	—	—	—	—	—	—	—	—
MAKHAM YONG (200102)	—	—	—	—	—	—	—	—
BAN KHOT (200103)	—	—	—	—	—	—	—	—
SAEN SUK (200104)	—	—	—	—	—	—	—	—
BAN SUAN (200105)	—	—	—	—	—	—	—	± (200106/200107/200109/ 200110/200111/200118)
NONG RI (200106)	—	√	± (200108)	± (200108)	± (200108)	± (200108)	± (200108)	± (200105/200107/200109/ 200110/200111/200118)
NA PA (200107)	—	—	—	—	—	—	—	± (200105/200106/200109/ 200110/200111/200118)
NONG KHANG KHOK (200108)	√	√	± (200106)	± (200106)	± (200106)	± (200106)	± (200106)	—
DON HUA LO (200109)	√	√	√	√	± (200110/200111/200112)	± (200110/200111/200112)	± (200110/200111/200112)	± (200105/200106/200107/ 200110/200111/200118)
NONG MAI DAENG (200110)	√	√	± (200112)	± (200112)	± (200109/200111/200112)	± (200109/200111/200112)	± (200109/200111/200112)	± (200105/200106/200107/ 200109/200111/200118)
BANG SAI (200111)	—	—	—	—	± (200109/200110/200112)	± (200109/200110/200112)	± (200109/200110/200112)	± (200105/200106/200107/ 200109/200110/200118)
KHLONG TAMRU (200112)	—	—	± (200110)	± (200110)	± (200109/200110/200111)	± (200109/200110/200111)	± (200109/200110/200111)	—
MUEANG (200113)	—	—	—	—	—	—	—	—
BAN PUEK (200114)	—	—	—	—	—	—	—	—
HUAI KAPI (200115)	—	—	—	—	—	—	—	—
SAMET (200116)	—	—	—	—	—	—	—	—
ANG SILA (200117)	—	—	—	—	—	—	—	—
SAMNAK BOK (200118)	—	—	—	—	—	—	—	± (200105/200106/200107/ 200109/200110/200111)

√ : independent significant cluster ($p < 0.05$); ± : detected but combined with neighboring subdistricts within a larger cluster; — : not detected

Table 4 2014-2018

Subdistrict	4%	6%	8%	10%	20%	30%	40%	50%
BANG PLA SOI (200101)	—	—	—	—	—	—	—	—
MAKHAM YONG (200102)	—	—	—	—	—	—	—	—
BAN KHOT (200103)	—	—	—	—	—	—	—	—
SAEN SUK (200104)	—	—	—	—	—	—	—	—
BAN SUAN (200105)	—	—	—	—	√	± (200106/200108/200118)	± (200106/200108/200115)	± (200106/200107/200109/200110/200111/200118)
NONG RI (200106)	—	√	± (200108)	± (200108)	± (200108)	± (200105/200108/200118)	± (200105/200108/200115)	± (200105/200107/200109/200110/200111/200118)
NA PA (200107)	—	—	—	—	—	—	—	± (200105/200106/200109/200110/200111/200118)
NONG KHANG KHOK (200108)	√	√	± (200106)	± (200106)	± (200106)	± (200105/200106/200118)	± (200105/200106/200115)	—
DON HUA LO (200109)	—	—	—	—	—	—	—	± (200105/200106/200107/200110/200111/200118)
NONG MAI DAENG (200110)	√	√	√	√	√	√	√	± (200105/200106/200107/200109/200111/200118)
BANG SAI (200111)	—	—	—	—	—	—	—	± (200105/200106/200107/200109/200110/200118)
KHLONG TAMRU (200112)	—	—	—	—	—	—	—	—
MUEANG (200113)	—	—	—	—	—	—	—	—
BAN PUEK (200114)	—	—	—	—	—	—	—	—
HUAI KAPI (200115)	—	—	—	—	—	—	± (200105/200106/200108)	—
SAMET (200116)	—	—	—	—	—	—	—	—
ANG SILA (200117)	—	—	—	—	—	—	—	—
SAMNAK BOK (200118)	—	—	—	—	—	± (200105/200106/200108)	—	± (200105/200106/200107/200109/200110/200111)

√ : independent significant cluster ($p < 0.05$); ± : detected but combined with neighboring subdistricts within a larger cluster; — : not detected

Table 5 2015-2019

Subdistrict	4%	6%	8%	10%	20%	30%	40%	50%
BANG PLA SOI (200101)	—	—	—	—	—	—	—	—
MAKHAM YONG (200102)	—	—	—	—	—	—	—	—
BAN KHOT (200103)	—	—	—	—	—	—	—	—
SAEN SUK (200104)	—	—	—	—	—	—	—	—
BAN SUAN (200105)	—	—	—	—	√	± (200106/200108/20018)	± (200106/200108/200115)	± (200106/200107/200109/200110/20018)
NONG RI (200106)	—	√	± (200108)	± (200108)	± (200108)	± (200105/200108/20018)	± (200105/200108/200115)	± (200105/200107/200109/200110/20018)
NA PA (200107)	—	—	—	—	—	—	—	± (200105/200106/200109/200110/20018)
NONG KHANG KHOK (200108)	√	√	± (200106)	± (200106)	± (200106)	± (200105/200106/20018)	± (200105/200106/200115)	—
DON HUA LO (200109)	—	—	—	—	—	—	—	± (200105/200106/200107/200110/20018)
NONG MAI DAENG (200110)	√	√	√	√	√	√	√	± (200105/200106/200107/200109/20018)
BANG SAI (200111)	—	—	—	—	—	—	—	—
KHLONG TAMRU (200112)	—	—	—	—	—	—	—	—
MUEANG (200113)	—	—	—	—	—	—	—	—
BAN PUEK (200114)	—	—	—	—	—	—	—	—
HUAI KAPI (200115)	—	—	—	—	—	—	± (200105/200106/200108)	—
SAMET (200116)	—	—	—	—	—	—	—	—
ANG SILA (200117)	—	—	—	—	—	—	—	—
SAMNAK BOK (200118)	—	—	—	—	—	± (20005/200106/200108)	—	± (200105/200106/200107/200109/200110)

√ : independent significant cluster ($p < 0.05$); ± : detected but combined with neighboring subdistricts within a larger cluster; — : not detected

Table 6 2016-2020

Subdistrict	4%	6%	8%	10%	20%	30%	40%	50%
BANG PLA SOI (200101)	—	—	—	—	—	—	—	—
MAKHAM YONG (200102)	—	—	—	—	—	—	—	—
BAN KHOT (200103)	—	—	—	—	—	—	—	—
SAEN SUK (200104)	—	—	—	—	—	—	—	—
BAN SUAN (200105)	—	—	—	—	√	√	√	± (200106/200107/200109/200110/20018)
NONG RI (200106)	—	√	√	√	—	± (200107/200109/200110/20018)	± (200107/200109/200110/20018)	± (200105/200107/200109/200110/20018)
NA PA (200107)	—	—	—	—	± (200109/200110)	± (200106/200109/200110/20018)	± (200106/200109/200110/20018)	± (200105/200106/200109/200110/20018)
NONG KHANG KHOK (200108)	—	—	—	—	—	—	—	—
DON HUA LO (200109)	—	—	—	—	± (200107/200110)	± (200106/200107/200110/20018)	± (200106/200107/200110/20018)	± (200105/200106/200107/200110/20018)
NONG MAI DAENG (200110)	√	√	√	√	± (200107/200109)	± (200106/200107/200109/20018)	± (200106/200107/200109/20018)	± (200105/200106/200107/200109/20018)
BANG SAI (200111)	—	—	—	—	—	—	—	—
KHLONG TAMRU (200112)	—	—	—	—	—	—	—	—
MUEANG (200113)	—	—	—	—	—	—	—	—
BAN PUEK (200114)	—	—	—	—	—	—	—	—
HUAI KAPI (200115)	—	—	—	—	—	—	—	—
SAMET (200116)	—	—	—	—	—	—	—	—
ANG SILA (200117)	—	—	—	—	—	—	—	—
SAMNAK BOK (200118)	—	—	—	—	—	± (200106/200107/200109/200110)	± (200106/200107/200109/200110)	± (200105/200106/200107/200109/200110)

√ : independent significant cluster ($p < 0.05$); ± : detected but combined with neighboring subdistricts within a larger cluster; — : not detected