



OPEN BURNING STUDY

A CASE STUDY OF OPEN BURNING ACTIVITIES AMONG 3 SAMPLE VILLAGES IN VIENTIANE CAPITAL, LAO PDR

Challenge framed: the vast majority of people in Vientiane get rid of their trash by open burning

Main Objective: To understand the problem and the causes leading to open burning and air pollution in Vientiane Capital which can be related to waste management service and other factors

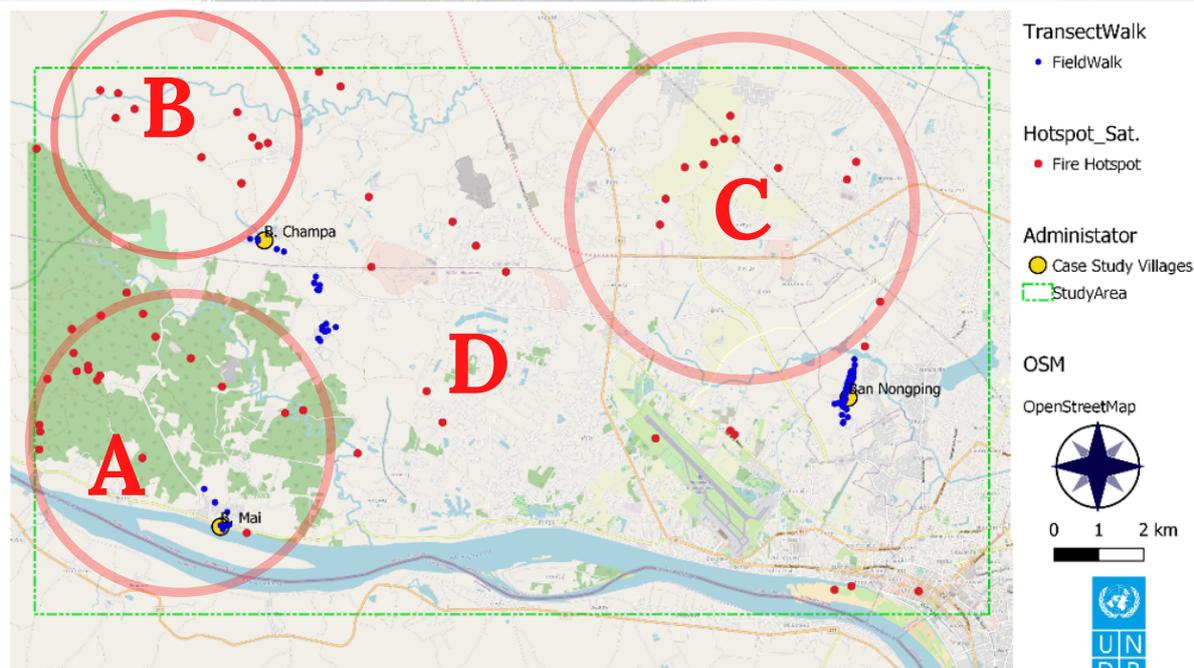
Waste Management Stats in Vientiane: Source: VCOMS (unofficial)

Population size	More than 800,000 people
Average waste production per person, per day	842 grams
Waste production from households, offices, organizations and factories per day	781 tons
Waste disposed at landfill per day (2019)	405 tons
Percentage of waste collection service use	27%

**Remark: data is in estimation which needs to be officially confirmed*

Open burning points from sensor VIIRS combined with satellite imagery and transect walk in Mai, Champa, and Nong Ping

Methodology
Sensor data and mapping hotspots or recently active fire
Field collection or transect walk
Household survey
Participatory workshops with villagers
Village authorities' workshops

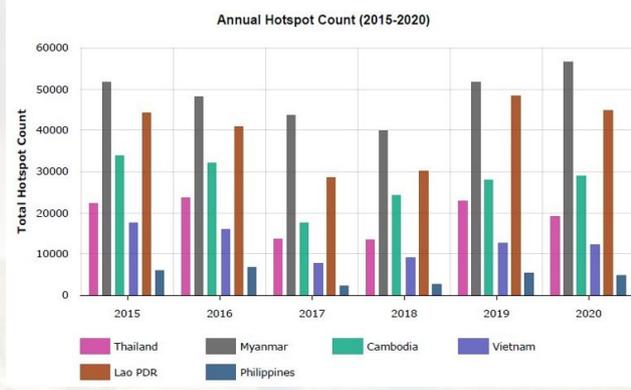
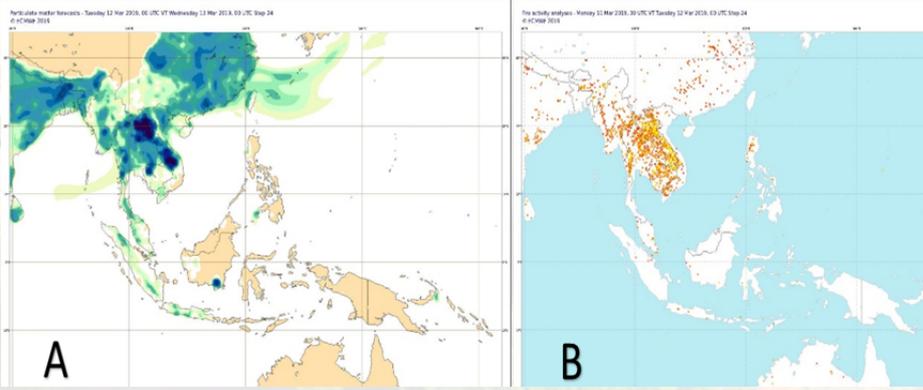


Area size: approximately 26,000 hectares, total hotspots occurred about 70 times during **Jan-Apr 2020**

Zone A: two villages covering abandoned farmland, a vast amount of emerging space for residential and agricultural purpose

Zone B and C: areas linked to direct and active agricultural practices

Zone D: no specific land use identified



Hotspots detected through Remote Sensing-high surface PM2.5 air pollution predicted for large areas of upper ASEAN countries. Myanmar is number one with the highest fire hotspots counted, the average is about 50,000 times. Lao PDR is the second highest with about 40,000 times and could rise to 45,000 times by the end of 2020. Cambodia and Thailand (29,500 times, 19,500 times) ranked third and fourth respectively in 2020. Myanmar and Laos produced the highest hotpot volume especially during March.

Key findings and insights

Why do people burn?

- Norm or common practice to keep the house clean
- To save money on the waste collection fee (40,000 LAK or \$4.5/month)
- Waste collection does not accept organic waste such as leaves and construction waste
- Inaccessibility, no waste collection service in a newly established village
- Difficult access due to small alleys (people find it inconvenient to bring out their waste to the main road)
- Low frequency of waste collection: once per week, at dawn

- The open burning tends to link to seasoning and farming activities.
- It occurs as a repetitive pattern and as an annual cycle. The most frequent time for open burning in ASEAN countries mostly starts in December each year and likely to finish in May.
- The open burning or hotspot trend in each country links to the country profile on agricultural practices.

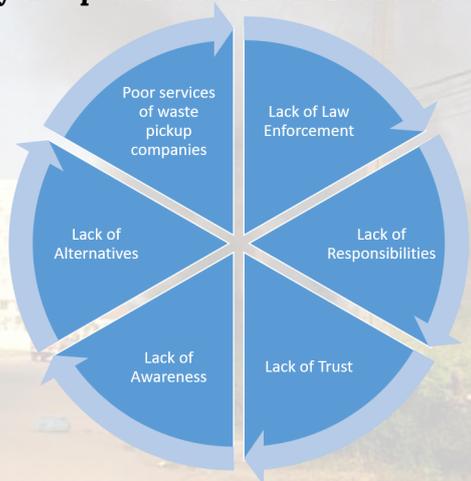
While open burning of municipal and agricultural wastes is banned, illegal dumping and burning of garbage to avoid paying fees in Vientiane capital still continues at an increasing rate (Vientiane Mayor Order and hotline).

Although residential trash pickup service is available, open burning activities still occur at least once a week, this is support from our participation workshop with villagers and the village authorities.

Villagers do not know how to make fertilizer or compose biomass waste. In the future, they hope to make the compost and use it for green agriculture that is good for the environment in the community.

Some villagers and village leaders would like to have a community waste bank which can be run by the school. This will encourage learning in the community and provide an incentive for students to practice if they get something in return.

Gap identification



3 GOOD HEALTH AND WELL-BEING
 11 SUSTAINABLE CITIES AND COMMUNITIES
 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
 13 CLIMATE ACTION