



COVID-19

Thailand Infectious Waste Management during COVID-19 pandemic

Mr. Boonsong Kaigate (Senator), Thai Parliament

Infectious waste management system

Sources

total generation of infectious waste

53,172 tons/year (2019)

10,838 Public Medical Facilities

Private Medical Facilities

350 Hospitals

23,054 Clinics

2,800 Veterinary Facilities

1,198 Infectious Diseases Laboratories

Other COVID-19 waste sources

Cohort ward Hospital

State Quarantine
Local Quarantine

Transportation



By 10 municipalities

By 24 private companies

Manifest System

Disposal



7 Local Administration Incinerators
3 Private Company Incinerators
2 University Incinerators
1 Municipality Autoclave

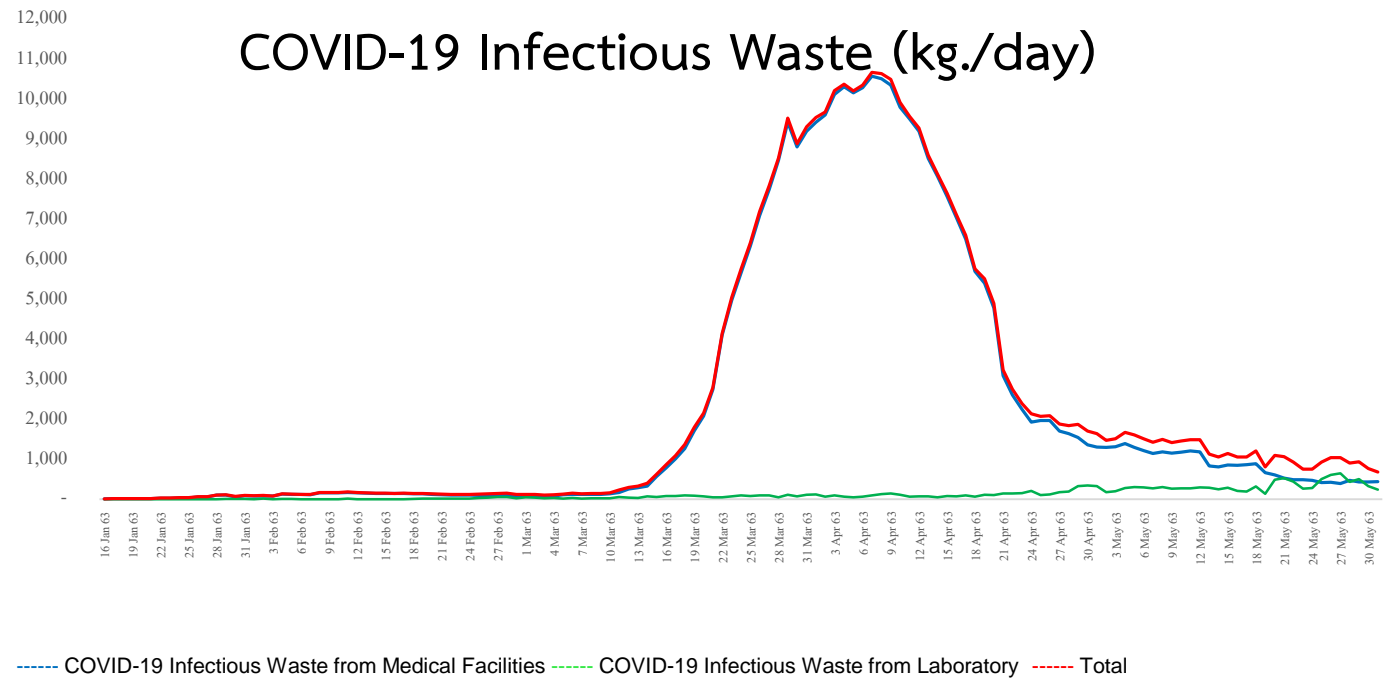
Dispose at the generation 23 sources
(15 incinerators, 8 autoclaves)

COVID-19 waste generation rates

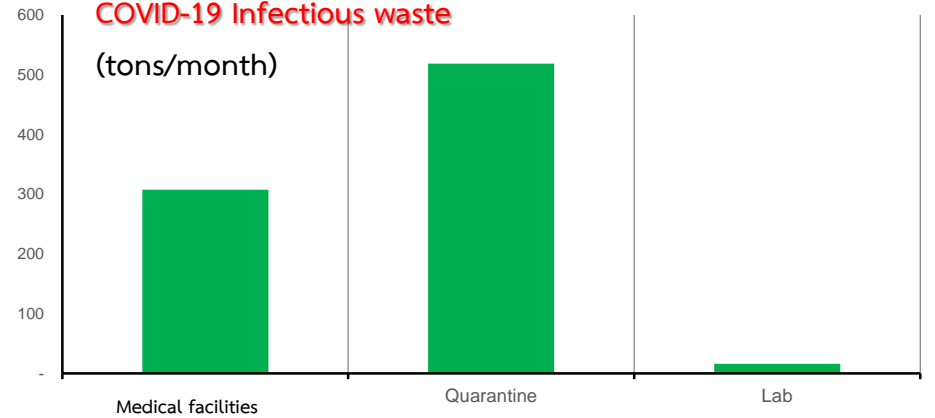
- Medical facilities (COVID-19 patients) 7.50 kg./person/day (Phra Nang Klao Hospital)
- Laboratory 0.08 kg./sample (Department of Medical Sciences)
- Area Quarantine 1.19 kg./person/day (Kamphaeng Saen District)

COVID-19 infectious waste (Estimated)

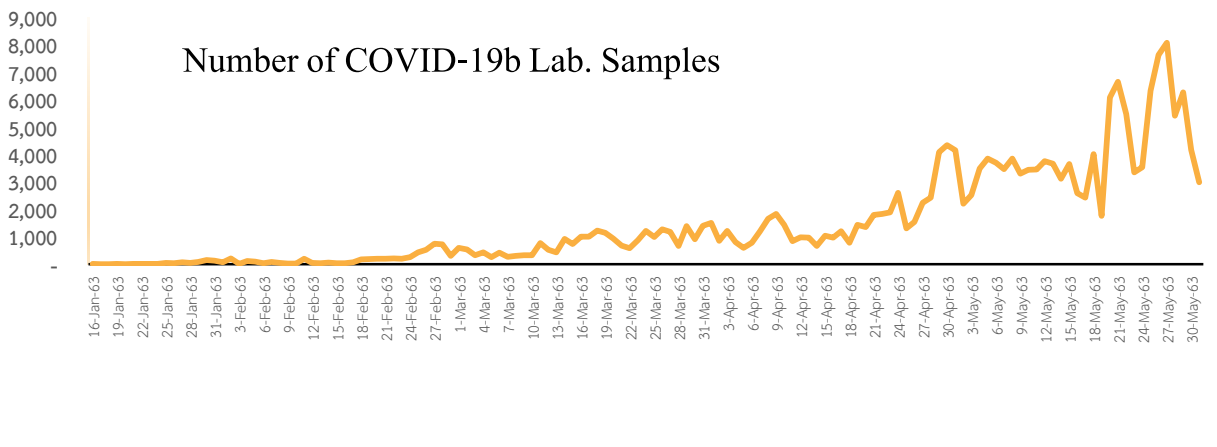
COVID-19 Infectious Waste (kg./day)



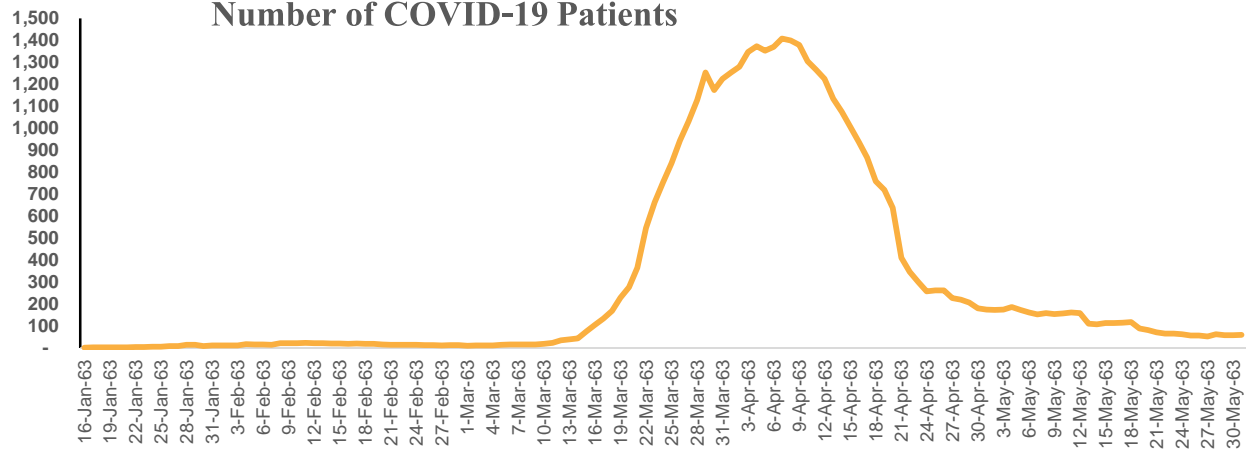
COVID-19 Infectious waste (tons/month)



Number of COVID-19b Lab. Samples

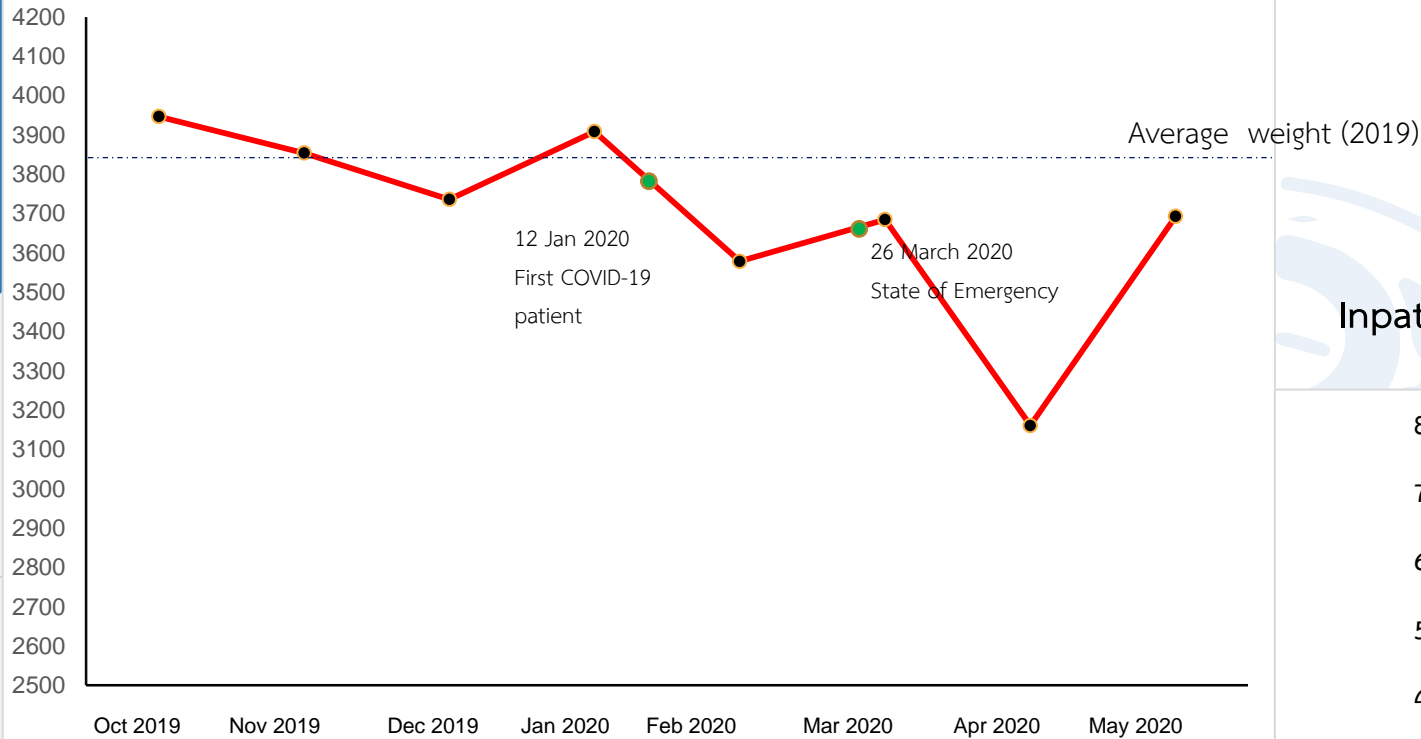


Number of COVID-19 Patients



Infectious Waste Disposal during COVID-19 pandemic

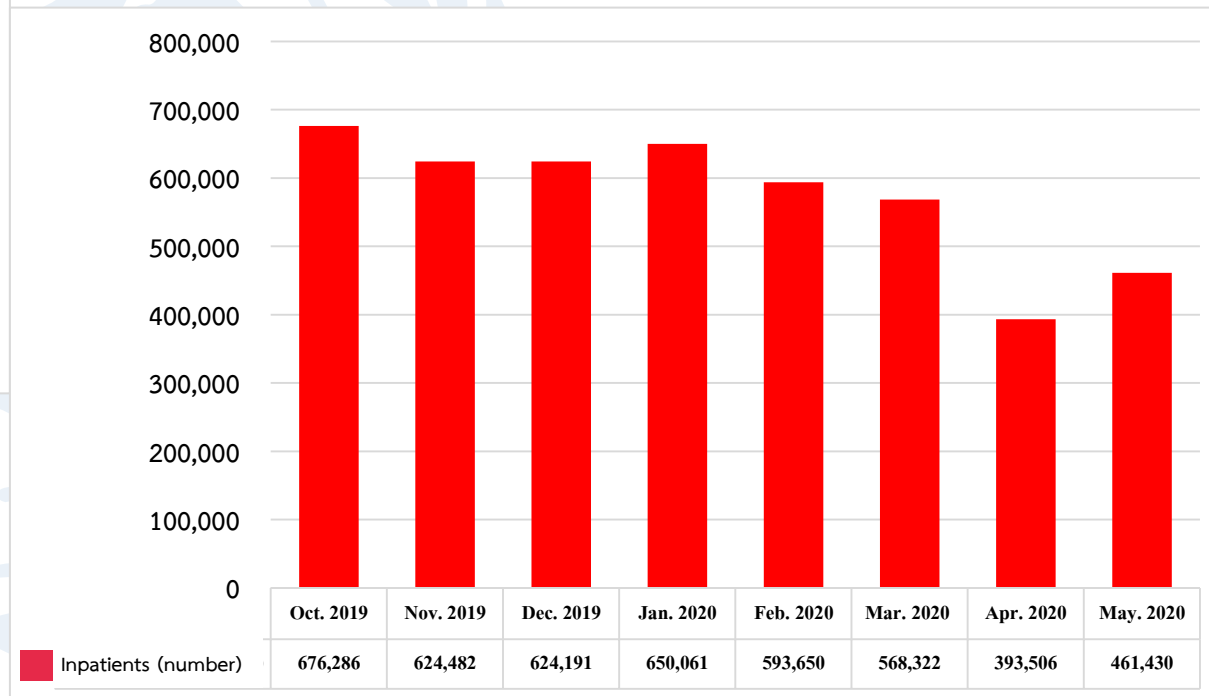
Infectious Waste Disposal (tons/month)



source: from 13 disposal facilities

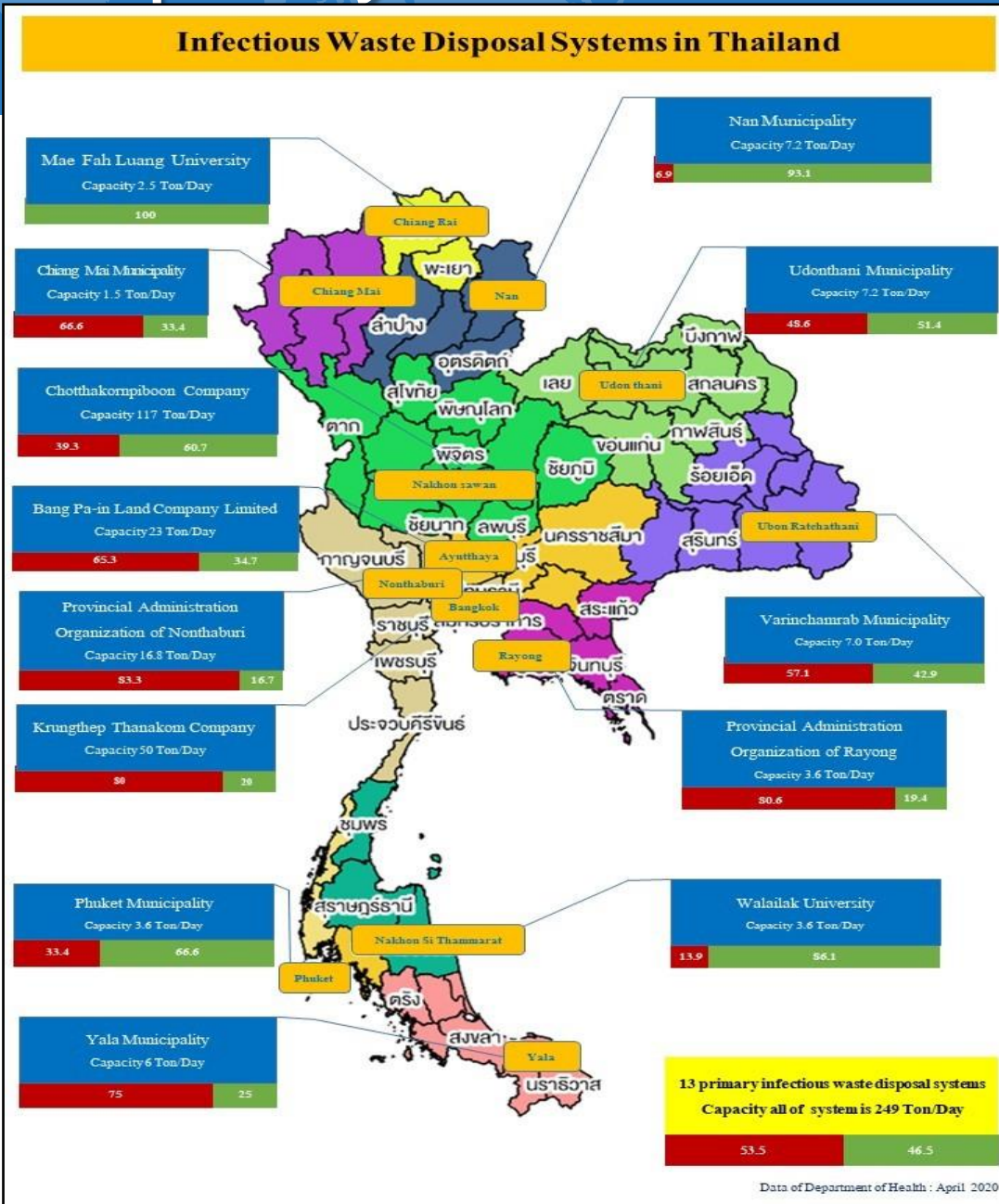
- Feb 2020 6.98 % decreased
- Mar 2020 4.22 % decreased
- April 2020 18.48 % decreased
- May 2020 3.97 % decreased

Inpatients Number (per month)



Capacity of infectious waste disposal systems

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Capacity of infectious waste disposal

1. Government and Private sectors infectious waste disposal clusters : 13 units

- Capacity for infectious waste disposal: 249 tons/day (Just use 53.5%)
- Capacity for supporting more infectious waste disposal : 115.9 tons/day (46.5%)
 - * Covid-19 patient support : 15,450 persons/day

2. Onsite treatment : 23 units

- Capacity for infectious waste disposal: 48 tons/day (Just use 50%)
- Capacity for supporting more infectious waste disposal : 24 tons/day (50%)
 - * Covid-19 patient support : 3,200 persons/day

Emergency plan to support the outbreak COVID-19 infectious waste disposal (crisis case)

Phases	Collection	Transportation	Infectious waste disposal
Phase 1 (Normal)	At source	+ 10 Local Administrations/ 24 Private sectors	+ 13 main clusters have capacity to deal with infectious waste disposal for more than 165.9 tons/day, and with the COVID-19 diagnosed 15,450 persons/day
Phase 2 (Moderate)	At source	++ Local Administration	<p>++ Akkhie Prakarn industrial waste incinerators and disposal system (an increased capacity of 50 tons/day)</p> <p>++ Incinerators of Bangkok Metropolitan Administration (an increased capacity of 500 tons/day)</p> <p>++ Onsite Treatment : 23 units (an increased capacity of 24 tons/day and of the COVID-19 diagnosed 76,500 persons/day)</p>
Phase 3 (Severe)	At source	<p>++ Local Administration</p> <p>+++ Local Healthcare</p> <p>+++ Military Units</p>	+++ Use an effective incinerator for infectious waste disposal, compared to an industrial waste incinerator, such as a general waste incinerator, a cement incinerator or a 2-chamber system crematory

Guidelines for infectious waste disposal

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- ☑ Guidelines for infectious waste disposal for health-care facilities and hazardous laboratories
- ☑ Guidelines for infectious waste disposal for infectious waste transporters
- ☑ Guidelines for infectious waste disposal for infectious waste agencies

Infectious waste incinerator (Rotary Kiln)

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