

ANTHROPOGENIC EMISSION IN VIETNAM

1. ROLES OF THE EMISSION INVENTORY

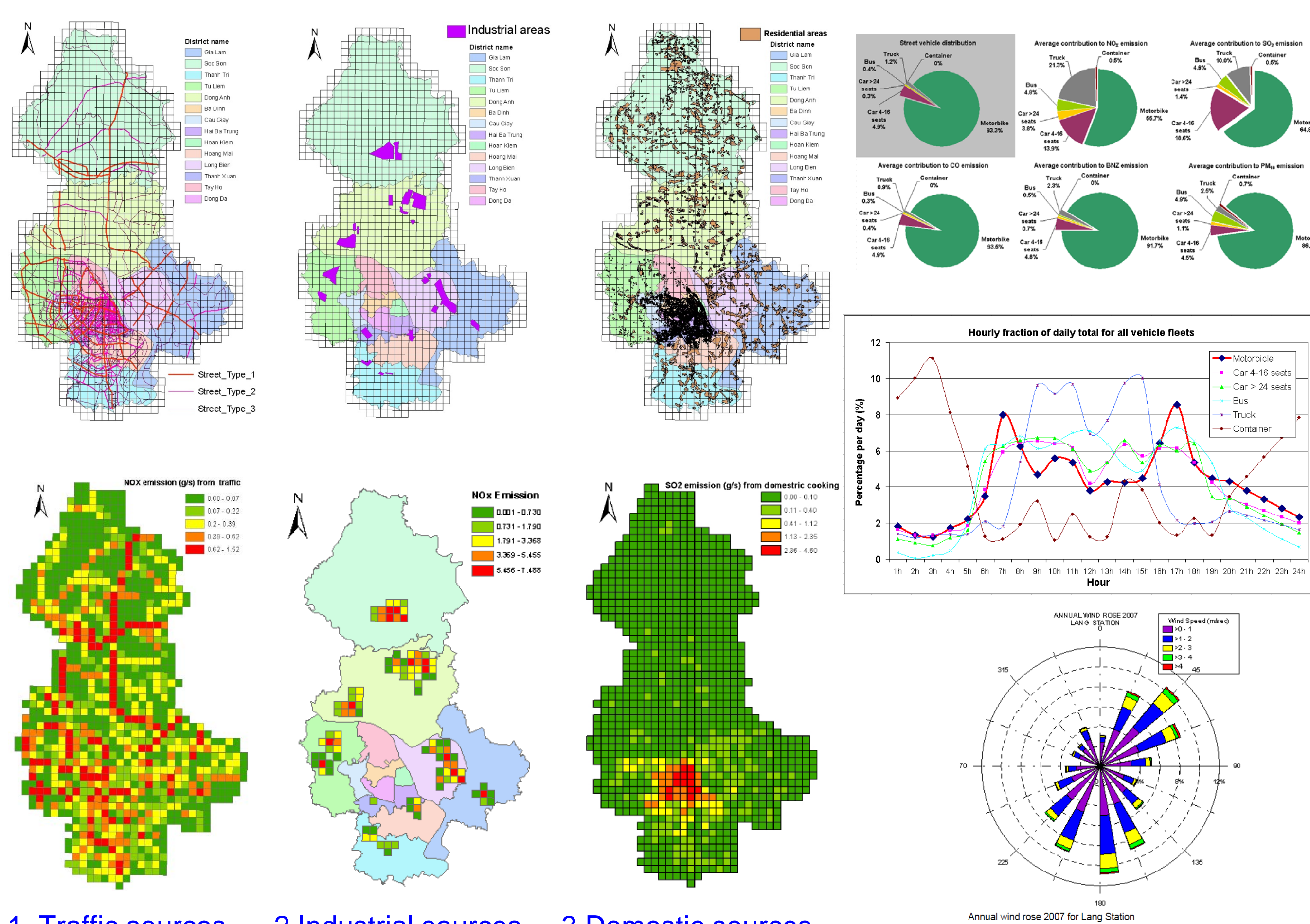


2. KEY SOURCES OF AIR POLLUTION IN VIETNAM

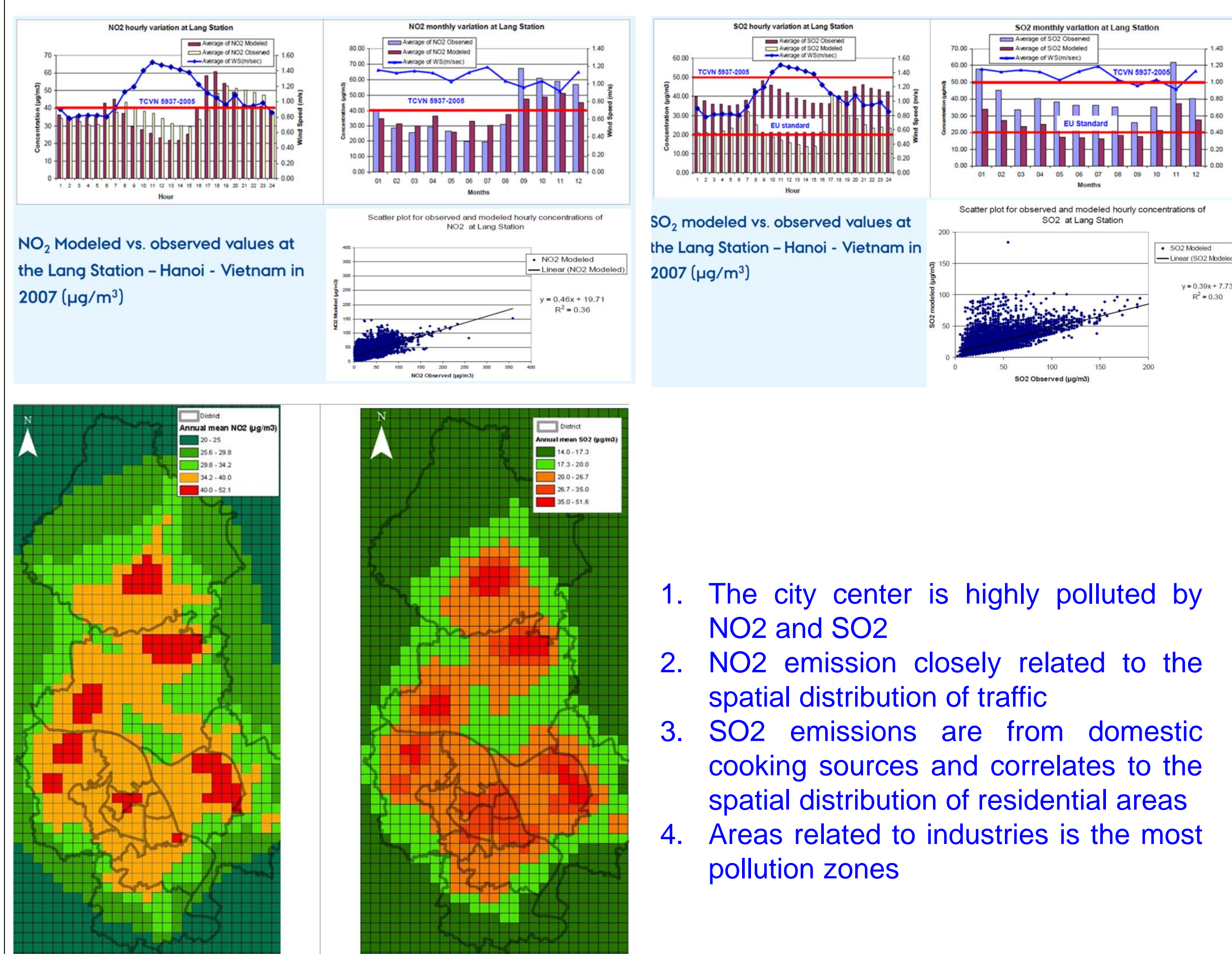
Province	Pollution Sources
Hanoi	Transport, construction, textile industry, glass factories
Ho Chi Minh City (HCMC)	Transport, construction, thermo-electric power, iron & steel processing
Da Nang City	Iron and steel processing, transport
Hai Phong City	Cement factories, glass factories, transport
Can Tho City	Transport, construction
Da Lat	Transport
Vinh City	Cement factories, paper mills
Bien Hoa	Transport
Thai Nguyen Province	Mining activities, steel production, thermo-electric power
Quang Ninh Province	Mining activities
Ha Nam Province (Kien Khe Village)	Quarrying, cement production plants

Ref: Support for Development of National Plan for Air Pollution Control 2015 in Vietnam, Suuri-Keikaku Co. Ltd by JICA, 2010

3. EMISSION CATEGORIES & DISTRIBUTION (SAMPLE IN HANOI)

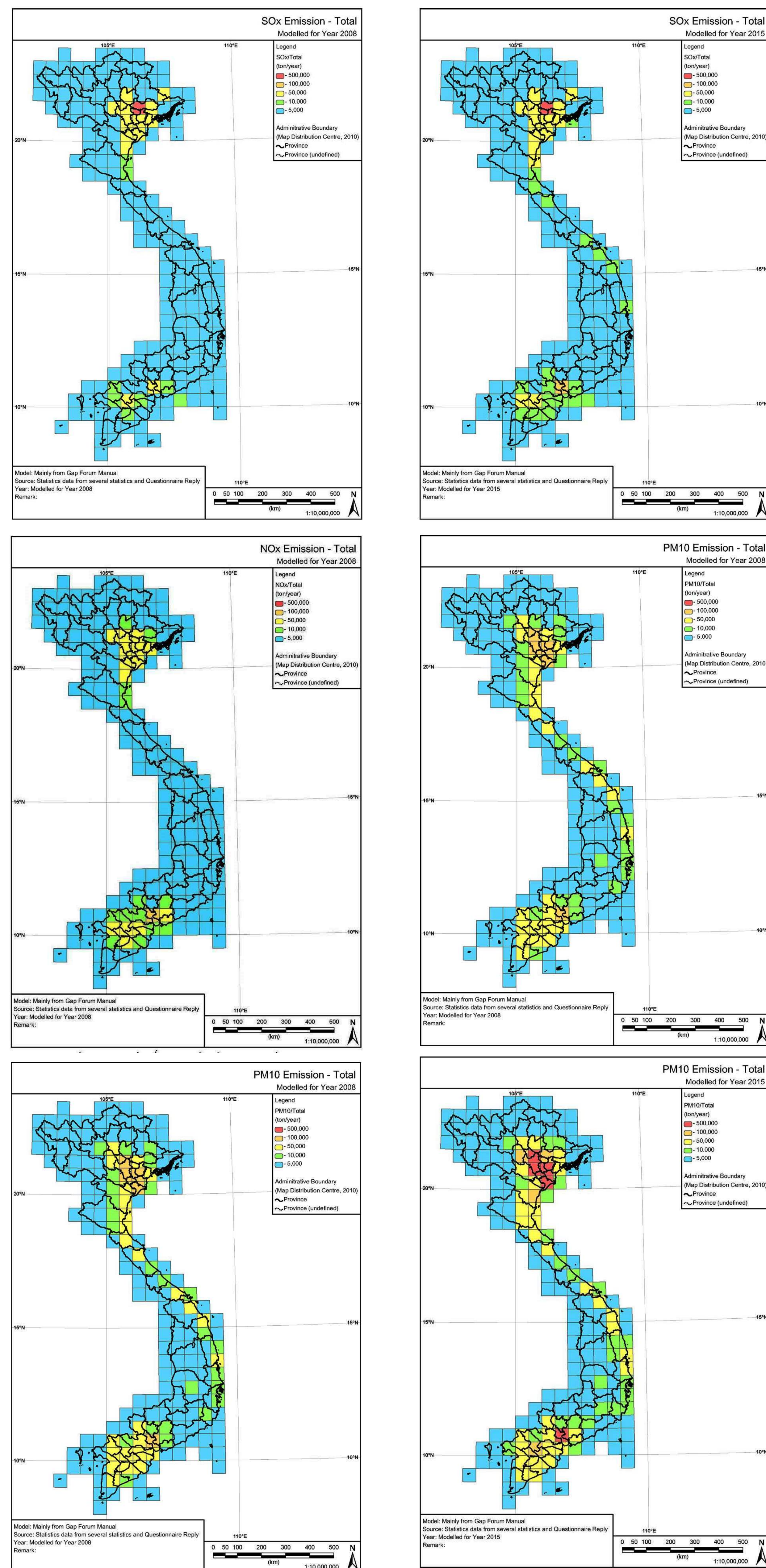


4. MONITORING & MODEL RESULTS BY OML MOD IN HANOI



Ref: Ngo Tho Hung, 2010: Urban air quality modelling and management in Hanoi, Vietnam. PhD; Thesis, Aarhus University, National Environmental Research Institute, Denmark. 211 pp

5. VIETNAMESE EMISSION MODELING FOR 2008 & 2015 SCENARIO



Ref: Support for Development of National Plan for Air Pollution Control 2015 in Vietnam, Suuri-Keikaku Co. Ltd by JICA, 2010

6. FUTHER STUDIES

- Experimental study on the emission factors reflecting the Vietnamese conditions:
 - Industry emissions can be estimated based on production amount reported by industries.
 - Estimation of the emissions per capital based on each residential area
- TOP DOWN and BOTTOM UP Integrated Modeling and Measurement for better Emission Inventory; GIS base emission data
- Modeling human exposure and estimation of the health impacts of air pollution
- Studies on the institutional aspects of air quality

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