



# Managing impacts of deforestation, air, water and solid waste pollution in Vietnam



**EE361 Economics of CLMV Countries**



# Background



## The impacts

### Significant challenges

- Rapid economic growth
- Industrialization
- Urbanization
- Encroachment and intensification of agriculture
- Highly vulnerable to natural disaster



Deforestation

Air Pollution (PM 2.5)

Water Pollution

Waste Management



### Key takeaway

Government must prioritize protecting natural resources while supporting economic growth and public health.

# Deforestation

# Air Pollution (PM 2.5)




Tree cover loss in Vietnam during 2010-2020



From 2010 to 2020, Vietnam lost 2.07Mha of tree cover, equivalent to a 15% decrease in tree cover since 2010, and 1.54Gt of CO<sub>2</sub>e emissions.




### Cause



- Logging
- Agriculture expansion
- Infrastructure development
- Illegal logging

### Impact




- Generated soil erosion, water pollution.
- More severe flooding and economic consequences for the country.
- A decline in biodiversity

### Cause

- Vehicle emissions
- Industrial activities
- Construction
- Burning of waste and Biomass
- The change of season

### Impact

- PM2.5 can penetrate deep into the lungs and cause a range of health problems, including respiratory and cardiovascular diseases.
- Vietnam's GDP to fall



### World's 10 most polluted capital cities 2019

| City                   | Average annual PM2.5 concentration (µg/m³) |
|------------------------|--|
| Dhaka (Bangladesh)     | ~95  |
| Ulaanbaatar (Mongolia) | ~85  |
| Kabul (Afghanistan)    | ~75  |
| Jakarta (Indonesia)    | ~65  |
| Kathmandu (Nepal)      | ~60  |
| Hanoi (Vietnam)        | ~55  |
| Manama (Bahrain)       | ~45  |
| Beijing (China)        | ~40  |
| Tashkent (Uzbekistan)  | ~35  |

In 2019, Hanoi which is the capital city of Vietnam ranked world's 10 most polluted

# Water Pollution

# Waste Management



## Cause

- Industrial activities
- Domestic sewage
- Agricultural activities
- Natural disasters such as floods and typhoons



## Impact

- Reducing the quality and quantity of water available for human consumption and agricultural activities.
- Spread of waterborne illnesses like cholera and typhoid fever



## Cause

- Only a small percentage of waste being recycled or reused which can contribute to air and water pollution.
- Rapid economic development and urbanization.



## Impact

- Negative impacts on the environment, public health, and the economy such as
  - Generated environmental pollution
  - Spread diseases
  - Harm natural ecosystems
  - Reduce quality of life



Background

Key Issues

Government policy and regulations

Conclusion

# Government policies and regulations



Policies and regulations can help protect public health, protect ecosystems and biodiversity, and help Vietnam meet its international commitments, such as the UN Sustainable Development Goals.

## Environmental Protection Law



- A legal framework for the protection and management of the environment



- Environmental Impact Assessments (EIAs) which is the process to identify and mitigate possible impacts



- The assessment of potential environmental impacts
- Requires a monitoring and reporting of environmental conditions to ensure that the regulations are being followed.

## Forest Protection and development program



- Implement programs to promote sustainable forest management and reduce deforestation



- The Payment for Forest Environmental Services (PFES) program
- Compensates forest owners and managers for the environmental benefits

# Government policies and regulations



## Renewable Energy Development



- Feed-in tariffs for solar and wind power
- Promote the use of renewable energy sources by guaranteed price for the electrical power that firm create



- Rapid growth in renewable energy investment
- Environmental benefits, such as lower greenhouse gas emissions and air pollution

## Sustainable Development Goals



- The commitment between Vietnam and the United Nations on sustainable development
- A framework for sustainable development that includes goals related to the environment



- The National Programme of Water Safety Plan
- Delivering safe drinking water, ending open defecation, and developing sustainable sanitation systems.

## Environmental Education

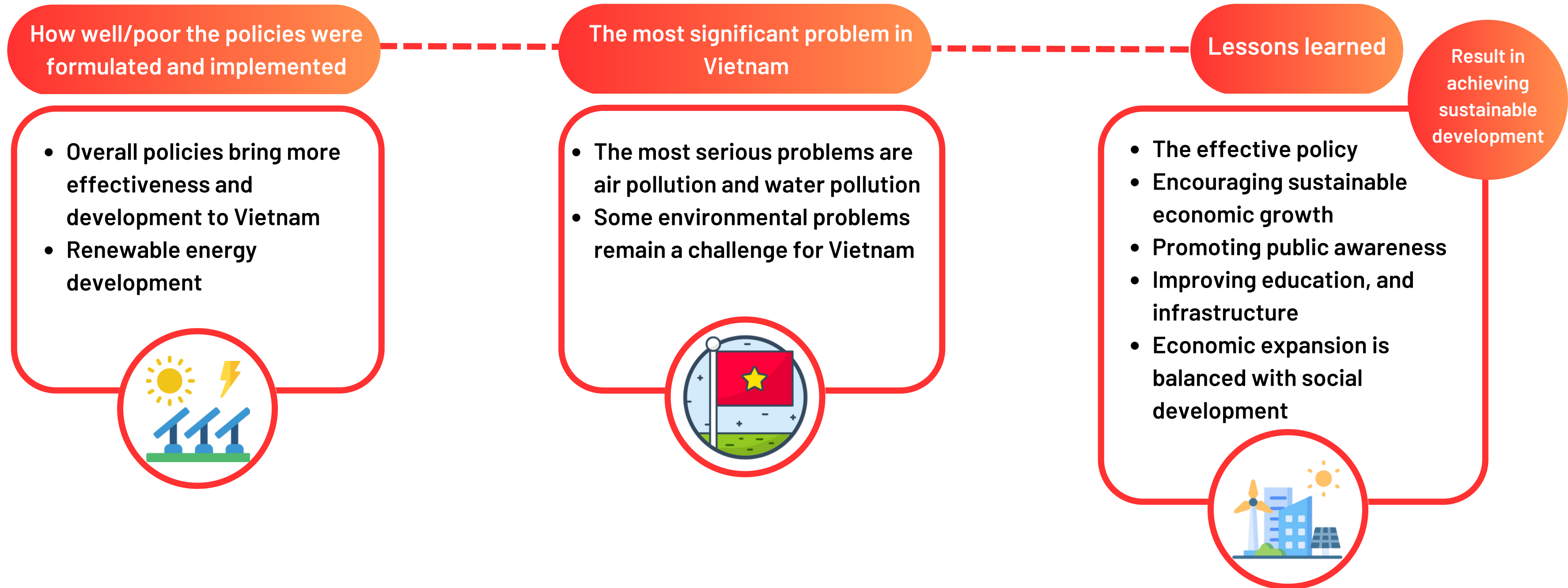


- National policy implementation highlights raising awareness and responsibility for environmental protection.
- Comprehensive levels and sectors.



- Participating youth and teenagers in conservation problems.
- Encouraging the public to engage in environmental actions.

# Conclusion



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**Thank you**

**Rattiya Klakhang 6304641282**

**Rawikorn Srisunthorn 6304641290**

**Sanikan Dansamasatid 6304641357**

**Supawit Wong-arun 6304641498**

**Sittha Kengsakul 6304641456**