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Case A: The production of a plastic factory 'K Chemical' is located nearby a house village 'Dreamland'. If the production of the plastic factory reaches a certain level at Q_m , it will release air pollutions to the level that destroy clean air around the Dreamland village. However, if the production of the plastic factory does not exceed Q_m , it will create no significant impact for people living in the Dreamland village.

Case B: In Thailand, the CO_2 emissions from oil consumption in transport sector increased from 51 million tons of CO_2 in 2008 to about 63 million tons of CO_2 in 2018.

Please answer the following questions for both Case A and Case B above

- i. Does an externality exist? If so, classify the externality type (e.g., positive vs. negative, costs vs. benefits) and explain how inefficiency problems could arise in this case.
- ii. If an externality exists, could the Coase Theorem be applied to solve market inefficiencies in this case? Please explain your answer (Hint: is it possible to use property right rules and solve the problem?)
- iii. If the Coase Theorem does not apply, what the government could do to solve the problem?

i) the externality is exist in term of negative benefit, and arise when firm in case A and human activity in case B.

ii) I think it can applied the Coase theorem to negotiate with two parties. In case A, if the property right is assigned to house village the plastic factory must compensate for the damage costs. But if the property right is assigned to the factory, home village will pay the payment to reduce the damage cost

iii) Government should apply liability rules to force the polluter in both case A and B to pay the compensation for damages cost to damagers.

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Question 2 (2 points)

Suppose an investor is considering a wind farm project to produce electricity. The wind farm will create noises that affect people living in a house village Dreamland.

- i. How could you estimate the compensation amount for people living in the Dreamland to approve the wind-farm construction? (Hint: Choose WTP vs. WTA question, methods to estimate WTP and WTA).
- ii. What should be considered in the cost-benefit analysis to decide if the wind farm project should be built or not?

i) it depend on property right, if the investors have rights the WTA for good will small, but if they have right WTP will be large. for people who live in dreamland we need to ask for WTA to measure how much compensation they need to accept to get damages.

ii) the benefit and cost (PV) and NPV