

AEDE 4330 Study Guide II

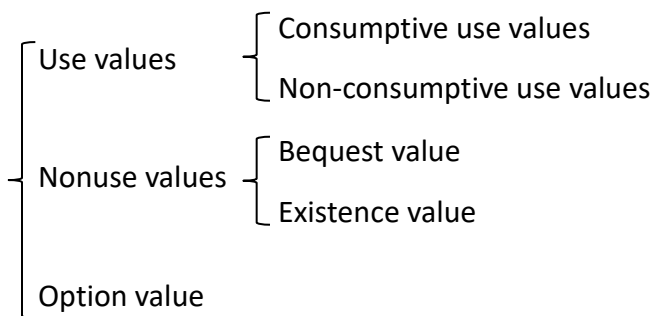
Spring 2018

Lecture 9

- Anthropocentric approach → Instrumental value
- Biocentric approach → intrinsic value

✧ Why is it difficult to implement the biocentric approach?

- Ecosystem service values



- Methods for valuing the environment

- 1) Stated preference methods
 - Contingent valuation
 - Choice experiments

✧ WTP vs. WTA?

✧ What are the advantages and disadvantages of stated preference methods?

- 2) Revealed preference methods
 - Travel cost
 - Hedonic price
 - Defensive expenditures / Averting behavior

- 3) Production function approaches
 - Replacement costs
 - Avoided damages
 - Avoided cost of illness

➤ $VMP = \frac{\Delta Output}{\Delta Input} \times Price_{Output}$

✧ Avoided cost of illness vs. Defensive expenditures / Averting behavior?

4) Benefits transfer

Lecture 10

- Uses of ecosystem service valuation

{ Wealth accounting:
Trade-off analysis:

- Cost-benefit analysis (CBA)

Step 1: Identify the outcomes/impacts for each scenario

Step 2: Define the cost and benefit for changes from the baseline to alternatives

Step 3: Calculate the value (PDV)

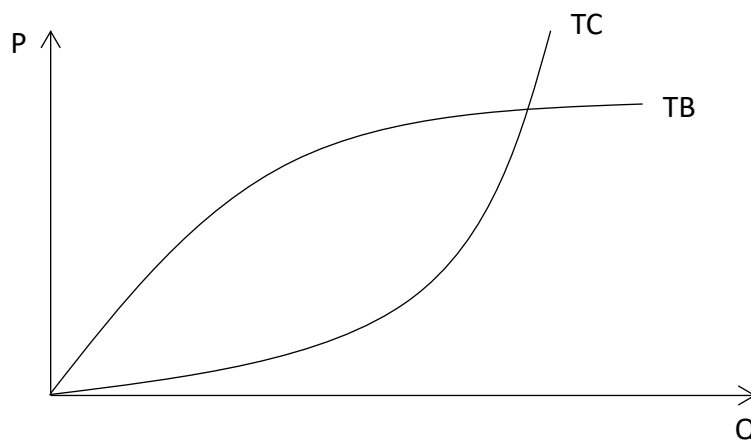
Step 4: Apply the CBA test: net benefit = total benefit – total cost > 0?

Step 5: Perform sensitivity analysis

Step 6: Make a recommendation

Lecture 11

- CBA vs. Economic efficiency



✧ CBA vs. Sustainability tests?

- Efficiency criteria
 - ┌ Pareto improvement
 - └ Potential Pareto improvement
- ✧ Which criterion is CBA based on?

Lecture 13

- ┌ MWTP: Price
- └ WTP: The sum of MWTP
- └ Consumer surplus: $WTP - \text{Actual payment}$

