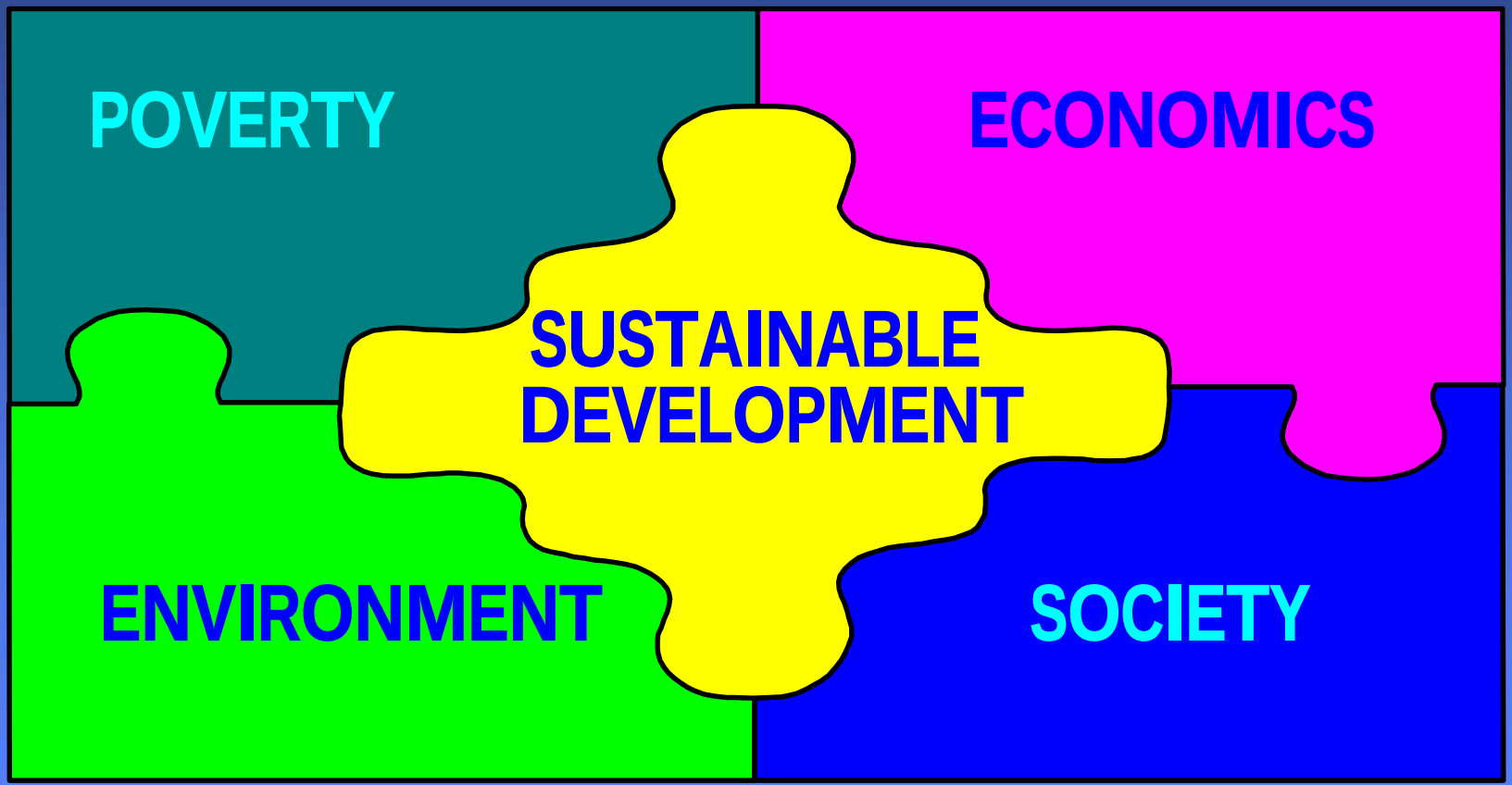

ENVIRONMENTAL
ECONOMICS
MEKONG RIVER COMMISSION
MRC
FOR SUSTAINABLE DEVELOPMENT

Lesson Learning Goals

At the end of this lesson you should be able to:

- Name four basic attitudes to the environment, and characterise your own attitude
- Define ‘economics’ and discuss, with examples, problems arising from traditional application of economic principles and perspectives
- Give four examples of externalised costs
- Describe alternative economic philosophies that could support sustainable development
- Explain the use of an index of sustainability

Pieces of the Puzzle



Attitudes to the Environment

- Utilitarian: Environment is a source of economic benefits
- Ecological: Environment is essential to life support systems on earth
- Aesthetic: Environment is valued for the beauty of nature, and its psychological, spiritual, and restorative benefits
- Moral: All creatures have a right to life; humans have the responsibility to allow this

Conventional Economics

- Definition: Economics is the science of the production and distribution of wealth
- Economics is about making money by minimizing costs and maximizing benefits (to investors)

The world has enough for everyone's need, but not enough for everyone's greed

(Mahatma Ghandi)

An Economics Perspective

- Economics analyses the most efficient allocation of resources given the current distribution of assets among people
- Not concerned with value judgements, fairness
- Demand and availability determine price
- New reserves of raw materials or substitutes will become available when the price is right
- Known reserves of ‘non-renewables’ continue to grow despite gloomy predictions

Economics Fundamentals

- Natural and social environments have no intrinsic economic value
- Externalise as much cost as possible
- Use high discount rates (short return on investment time) so long-term costs and damages are discounted away

More Economics Logic

- Why should this generation suffer to increase prospects for future generations?
- Only improved economic status and security will free people to improve environment
- Precautionary principle is too conservative - requires costly action now; why not wait until technology has been developed to solve a more clearly defined problem (if any) later, e.g., global warming

A Cynic's Viewpoint

Sustainable development is an oxymoron, a contradiction, a justification for 'business as usual'

Internalities and Externalities

- Economics usually treats the environment and natural resources as ‘free goods’
- Fails to adequately value natural capital
- Ecosystems subsidize the economy
- Costs are passed to society, other countries, or future generations
- Full cost accounting includes all internal and external costs associated with development - total value of a resource

Examples of Externalities

- Overuse of pesticides and fertilizers in agriculture externalises costs for contamination of food, surface and ground-water, and for soil depletion, loss of pollinators, human health
- Resettlement of residents for reservoir flooding externalises costs of their impoverishment due to loss of fishery, agriculture, fuelwood availability, traditional means of existence

More Externalities

- An industrial plant discharges untreated wastewater to a river upstream of a local fishery, a resort hotel, and drinking water intake. Costs of waste disposal are externalised
- A logging company clearcuts forest but removes only the best logs and burns the residues. Costs of lost forest values - food, medicines, shelter, biodiversity - passed on to society

Limit Theories

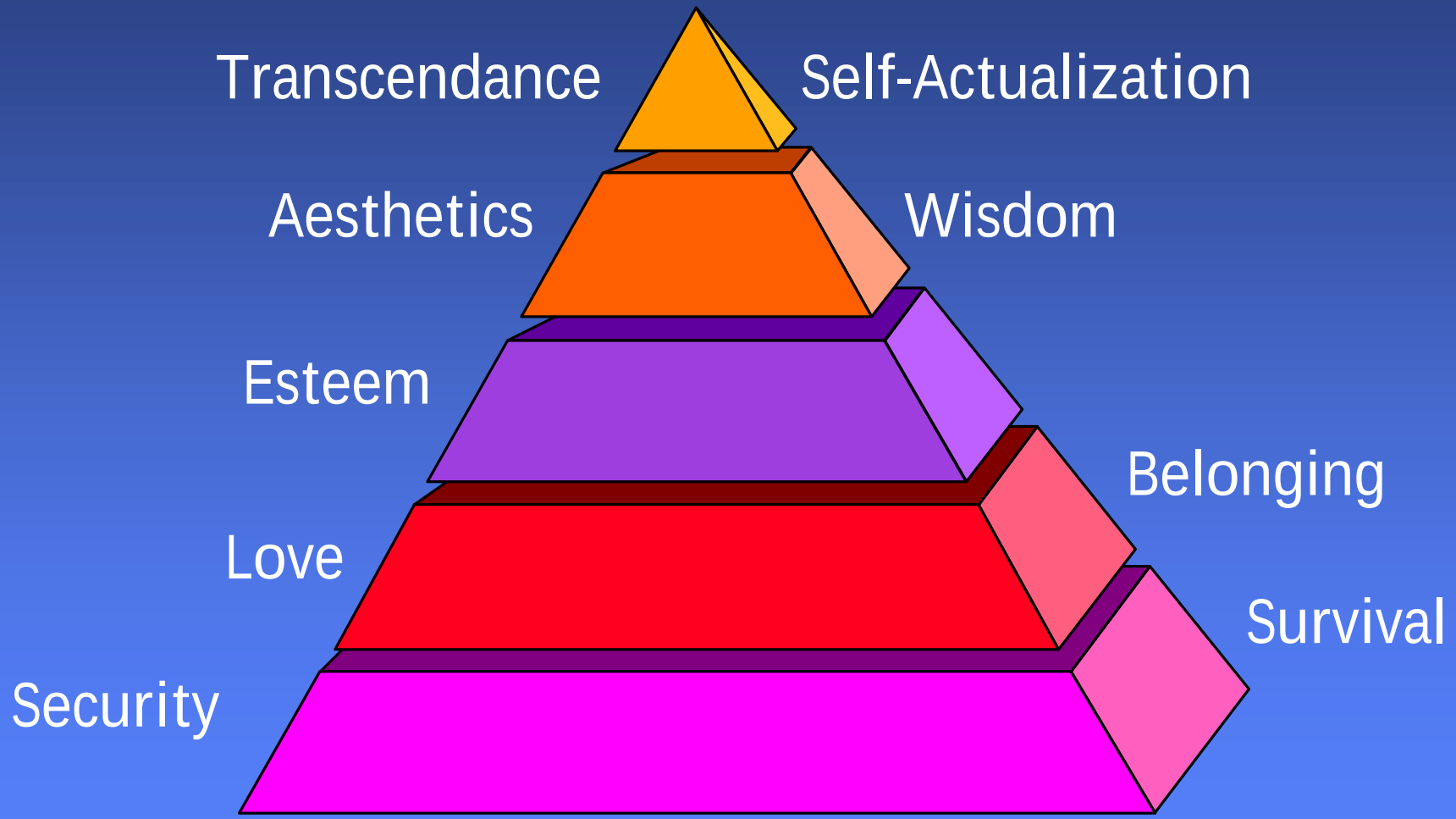
- Malthus: Pressure from increasing population will eventually exhaust natural resources
- Hardin (Tragedy of the Commons): When everyone is in charge, nobody is in charge - collectively held resources tend to be over-exploited through competition and self-interest

Consequences of Conventional Economics

Why development has not been sustainable to date:

- Depletion of non-renewable resources
- Drawing down natural capital
- Focus on present least cost, highest price regardless of long-term costs
- Enriches a few at the expense of many
- Human nature and needs

Maslow's Hierarchy of Needs



Poverty and Maslow's Hierarchy of Needs

- Most people care about protection of the environment only after their survival and security needs have been satisfied
- Focus is on here and now, today, not on future needs
- Aesthetic considerations, saving for the future are luxuries of the secure and the rich

Alternatives to Conventional Economics

- Development starts with people, education, organization, self-discipline, not with goods
- Use appropriate technology; “technology with a human face” - dignified, fulfilling work
- Recognise that nature conducts its own economic activity - produces and converts resources; purifies air and water; influences climate; provides tourist destinations

More Alternative Economics

- Focus on village development
- Ensure local resource management rights are not usurped (i.e., either ignored or effectively taken away) by local elites or powerful external interests
- Introduce rental, lease, or harvesting rights for local people
- Life-cycle costing for resource use and manufactured goods

Types of Capital

- Natural
- Social
- Human
- Physical
- Financial

Natural Capital

- Water
- Land
- Air
- Forests
- Fish
- Minerals

Social Capital

- Relationships of trust and mutual support that enable cooperative action
- Membership in groups and organizations
- Networks and structures that improve people's ability to work together and have access to institutions and services
- Laws, religion, customs

Human Capital

- Skills
- Knowledge
- Beliefs
- Attitudes (e.g., motivation)
- Ability to work
- Good health

Which enable people to make a living and contribute to society

Physical Capital

- Basic infrastructure and products needed for productive living, such as affordable:
  - shelter
  - water and sanitation
  - energy and fuel
  - transportation

Financial Capital

- Property, land ownership
- Wages
- Savings, credit, loans
- Subsidies, grants

Balance

All five types of capital assets:

- Natural
- Social
- Human
- Physical
- Financial

must be balanced to achieve sustainable development

Buddhist Principles of Sustainability

- Rhythms of nature, human intervention, and society should flow together in harmony
- Wholeness of all things in inter-relationship - One exists in the All, and All exists in the One
- Non-violence, gratitude to all living things
- Natural resources are life-support systems
- Wisdom must dominate desire (which always runs faster)
- Care and nurture rather than domination and exploitation

Buddhist Economics

- Value growth to the point of sufficiency
- Aim for optimal consumption (not maximum as in conventional economics)
- Do not violate nature
- Waste nothing
- Strive for a ‘right livelihood’

Some Measures of Sustainable Development

- UNDP Human Development Index (HDI)
- IUCN Barometer of Sustainability

UNDP Human Development Index

- Emphasis is on human well-being as the goal of development
- Contrasts with conventional target of material wealth as the measure of progress
- Places people at the centre of economic and political change

UNDP Human Development Index (Cont'd)

Attempts to measure whether the combined natural, social, physical, human, financial environment is conducive to people, collectively and individually, developing to their full potential, and leading productive and creative lives in accordance with their needs, talents, and interests

Criteria for Human Development Index

- Life expectancy
  - a measure of overall health, nutrition, and opportunity to develop talents and achieve life goals
- Education and knowledge measured by adult literacy and years of schooling
  - enables people to realise their potential
- Income, measured as per capita GDP adjusted for purchasing power and exchange rate distortions (real GDP)

MRB Riparian Country Human Development Index Rankings

THAILAND 74

VIETNAM 115

LAO PDR 141

CAMBODIA 148

out of 174 countries

IUCN Barometer of Sustainability

- Developed by International Union for the Conservation of Nature and Natural Resources (IUCN)
- Tool to measure a society's well-being and progress towards sustainability
- Combines ratings for diverse indicators of ecosystem and human well-being

Examples of Indicators

Ecosystem:

- Water supply, water quality
- Forested area, pressure on forests
- Species diversity, endangered species

People:

- Health, personal security
- Literacy, education, gender equity
- Income, property ownership

Concluding Thoughts

Important points to remember are:

- Conventional economics avoids many costs of production, which are then borne by society
- The prime focus of economics is wealth
- Conventional economics has rewarded unsustainable use of natural resources
- For poor people, immediate survival and security are more important than long-term conservation
- For development to be sustainable it must generate a strong triple bottom line: economic, social, and enviromental

Concluding Thoughts (Cont'd)

Additional points to remember are:

- Land and water resources are the natural capital on which sustainable development is based
- Preservation of natural capital is essential for sustainable development
- More localised responsibility for resources may improve conservation
- Balancing the use of natural, human, physical, social and financial capital assets is a key to sustainable development

Concluding Thoughts (Cont'd)

More points to remember are:

- Buddhist philosophy is the essence of sustainability
- Indexes of sustainable development incorporating ecosystem and human measures help to monitor progress and rate countries' performance