सत्यमेव जयते

ECONOMICS AND BIODIVERSITY

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Challenges

- Population growth
- Development
- Consumerism
- Increasing pressures on Ecosystem/Biodiversity
- Loss of species and ecosystem (45-250 species loss per day !).

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- Stopping biodiversity/ecosystem loss: major environmental policy agenda.

- Current market and legal unable to provide clear answers.

- Need for clear policy

- **Future lies in innovative approach and agenda setting.**

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Economics and Biodiversity

- **Economics** is a science of analysis of **use of limited and scarce resources to achieve human needs.**
  (bio-resources vs increasing demand).

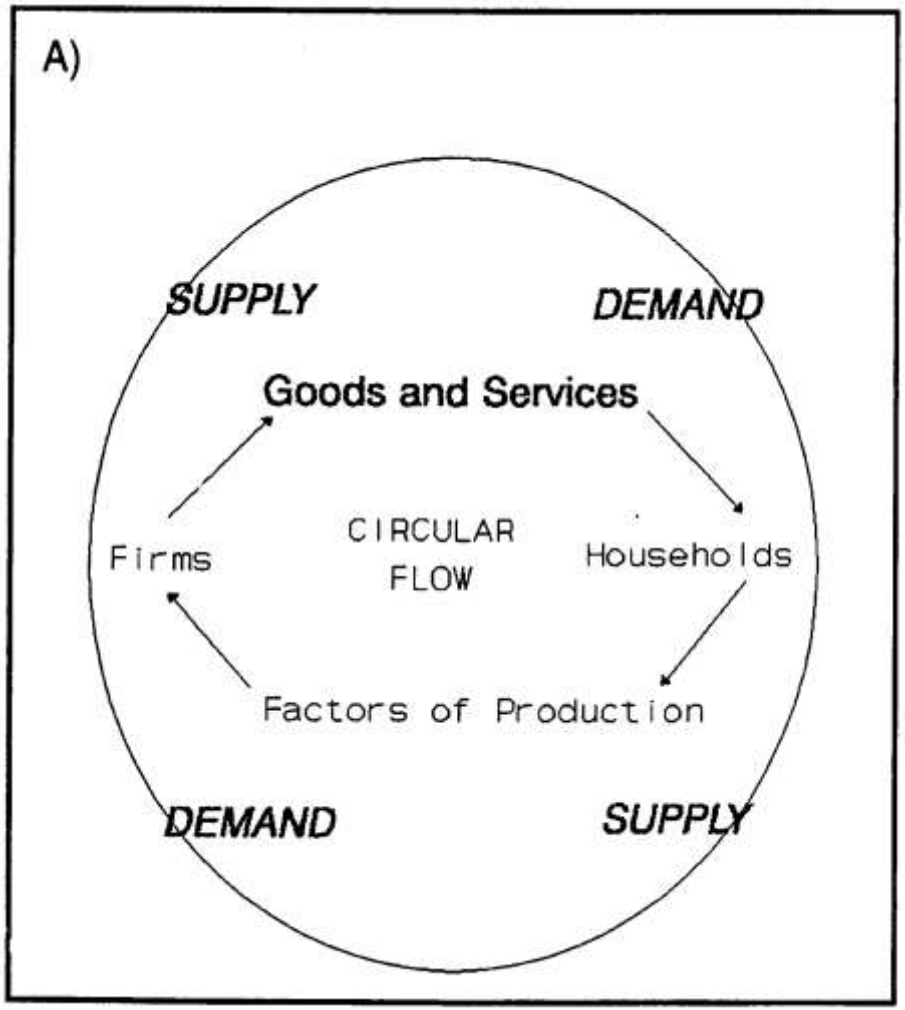
- The basic challenge to any economic system is "How the scarce resources should be allocated to get maximum human satisfaction"

- **Environmental Economics** provides thoughts for creating an argument and answer **to valuing environmental goods and services for human well-being and to protect ecosystems.**

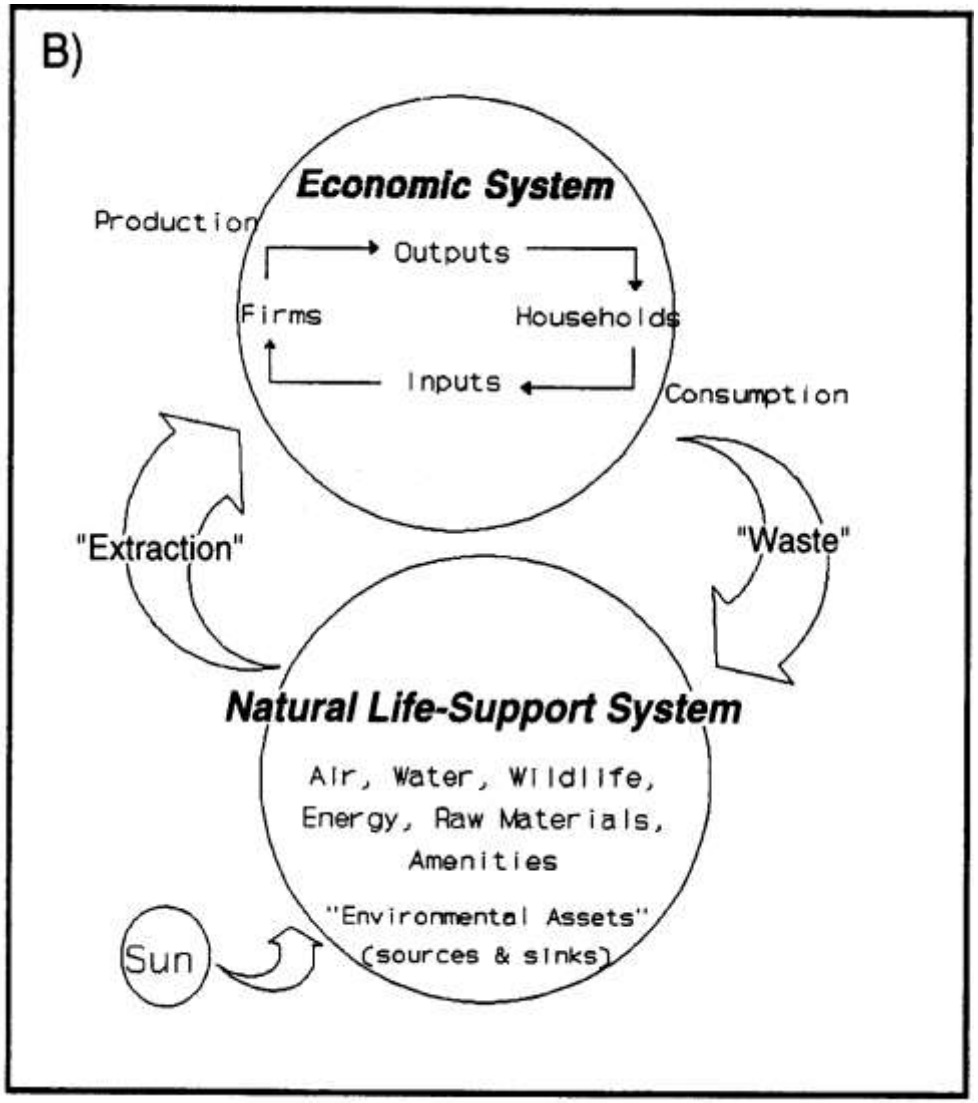
Changing Trends

- Environmental concerns overriding development concerns
- Abilities to translate potential of biodiversity and ecosystem services to real
- **Science-policy interface being revisited.**

THE ECONOMY AS AN ISOLATED SYSTEM



LINKING ECONOMIC AND ECOLOGICAL SYSTEM



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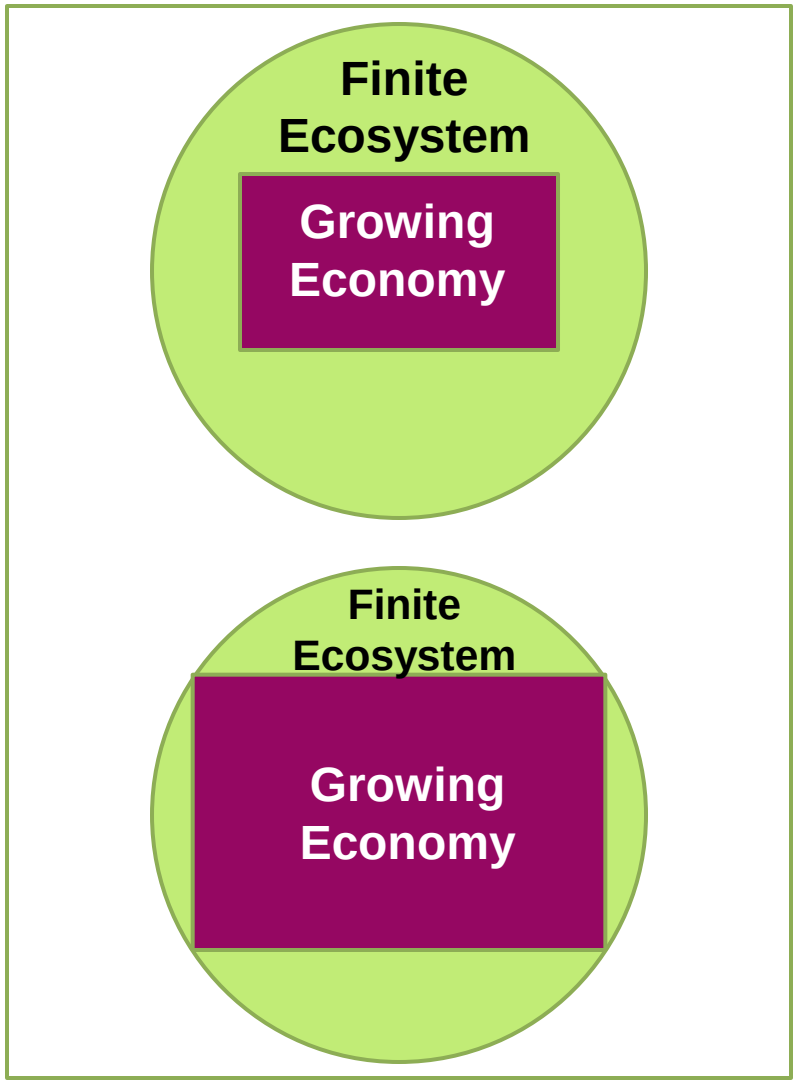
THE ECONOMY DEPENDS ON ECOSYSTEM / BIODIVERSITY



What are we doing now?

→ Valuation

→ Damage assessment

→ Economic instruments:

* compensation
* subsidies
* taxes
* royalties
* fines etc.

- **Innovative Approach: ABS**
- **Overall challenge:**

How to operationalize ABS principles using Economic instruments?

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Biodiversity: Economic Significance Vs Market Failure

- Globally more than 1.3 billion people depend on biodiversity and on basic ecosystem goods and services for their **livelihood** (CBD, 2012)

- Biodiversity goods and ecosystem services are prospected but in an unorganized manner

- Reason: There are **no defined market or economic instruments** for biodiversity and ecosystem services.

Challenges

- In Biodiversity supply, demand and price mechanism do not function properly
- Biodiversity values are **implicit** in general rather than explicit (*often not captured by markets*).
- Property rights of biodiversity are not clearly defined.
- The right in biodiversity / bio-resources is not protected
- Excluding others from using the good is not possible and hence **rights based approach is difficult**.

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- In biodiversity case market failure exists
- Result: **Over-extraction** of bio-resources and **extinction**

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ABS an Emerging Option for Biodiversity Management and Innovative Financing

ABS framework provides guidance for the way in which genetic resources are **accessed**, and **the way benefits are shared between** people or countries using the resources (**users**) and the people or countries that provide them (**providers**).

- **ABS Philosophy is**: Providers of bio-resources are entitled to receive **fair** benefits from the users.
- The negotiation between a provider and a user of resources should be (monetary / non-monetary), based on the **true/actual value** of the resources.

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ABS can:

(i) Enable that biodiversity is managed as **a public good**

(ii) Correct so-called "negative externalities" that hamper biodiversity conservation

(iii) Support biodiversity-based **businesses and ecosystems in a sustainable manner**

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- ABS acts as an ***economic incentive*** in conservation and sustainable use of biodiversity (local community or providers of bio-resources obtain fair share of the benefits attain its production).

- ***Economic valuation of biodiversity and biological resources is an important tool for well-targeted and calibrated economic incentive measures (CBD).***

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Valuation of Biodiversity and Ecosystems

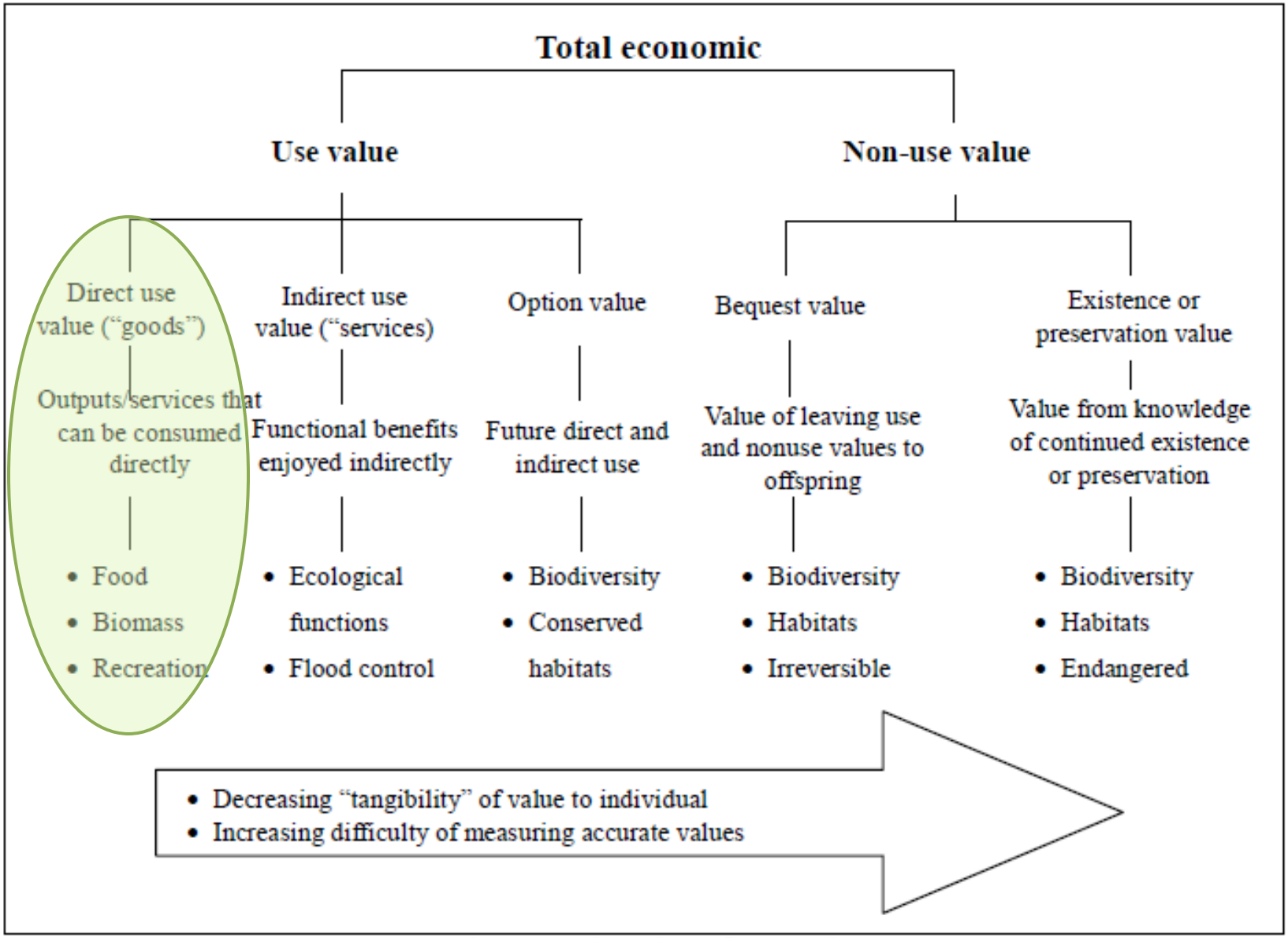

Fig. 1 Total Economic Value of Coastal Resources

Methods

Ecosystems

- Market prices
- Replacement costs
- Damage cost avoided
- Production function
- Hedonic price
- Travel cost and
- Contingent valuation.

Bio-resources

Value Chain and Production Function Analysis

- Value chain refers to coordinated relationships between actors who are involved directly and indirectly in a **productive activity**, with the aim of taking a product from **supplier** → manufacturer → wholesaler → retailer → consumer

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Bio-product Value Addition

Based on actual market value

Based on notional value

Therefore ……

- Biodiversity conservation, management and sustainable use is critical for **stable economic development**.
- Biodiversity Economics need to studied and understood well
- Economic incentive is an option **ABS is an emerging principle**.
- Understanding the **real/true** value of bio-resources is a **pre-requisite** for **benefit sharing and ABS agreements.**

Photo set1: Various animal species

Photos from biskitz4chez 2004, and A.M. Okeyo, ILRI

- The market for bio-resources is highly imperfect or inefficient, hence not able to fix the **equilibrium price.**
- The existing price for bio-resources at forest gate or any other collection point is not the true VALUE
- Valuation is an important **policy tool:** to fix benefit sharing and signing ABS agreements
- ABS is an internal financial source and incentive mechanism for preserving biodiversity.
- Reliable database is a **challenge** and accuracy of the value is always **debatable.**
- NBA is currently working on methodology for bio-resources valuation.

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Thank You

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