



सत्यमेव जयते

ECONOMIC VALUATION IN ABS PROJECT

National Biodiversity Authority



सर्वे सं रक्षन्ते ।
सर्वे सं सुखन्ते ॥



Structure of the Presentation

1. **Biodiversity/Bio-resources Economic Value (Brief Introduction)**
2. **Market Failure for Biodiversity**
3. **ABS and Valuation**
4. **Valuation Methods (Options)**
5. **Key Concerns**



Biodiversity / Bio-resources and Economic Value

- Biological diversity (biodiversity) represents the variety of life on earth; which includes **species diversity** (numbers and kinds of living organism), **genetic diversity** (genetic variations within species) and **ecosystem diversity** (variety of habitats, biological communities and ecological process).
- Biological resources should be considered as a subset of biodiversity.
- biodiversity is a 'stock' and biological resources are 'flow' (**renewability**)
- Biodiversity is the foundation of life on earth also a **global asset with tremendous economic values to present and future generations.**



- Biological resources act as commercial product ever since humankind starts trading
- Most of the biodiversity values are **implicit** rather than explicit (*often not captured by markets*).
- Recently the species and ecosystem are under threat than before, (due to *human activities*)
- “Decline of biodiversity” becoming a major thrust of environmental policy (**local to global**)
- Initially , Under the umbrella of CBD different nations strengthened their biodiversity management policies (primarily through **institutional and legal initiatives**).
- However, **through market (economic instruments: incentives and disincentives)** too biodiversity can manage efficiently (ABS Project an example)



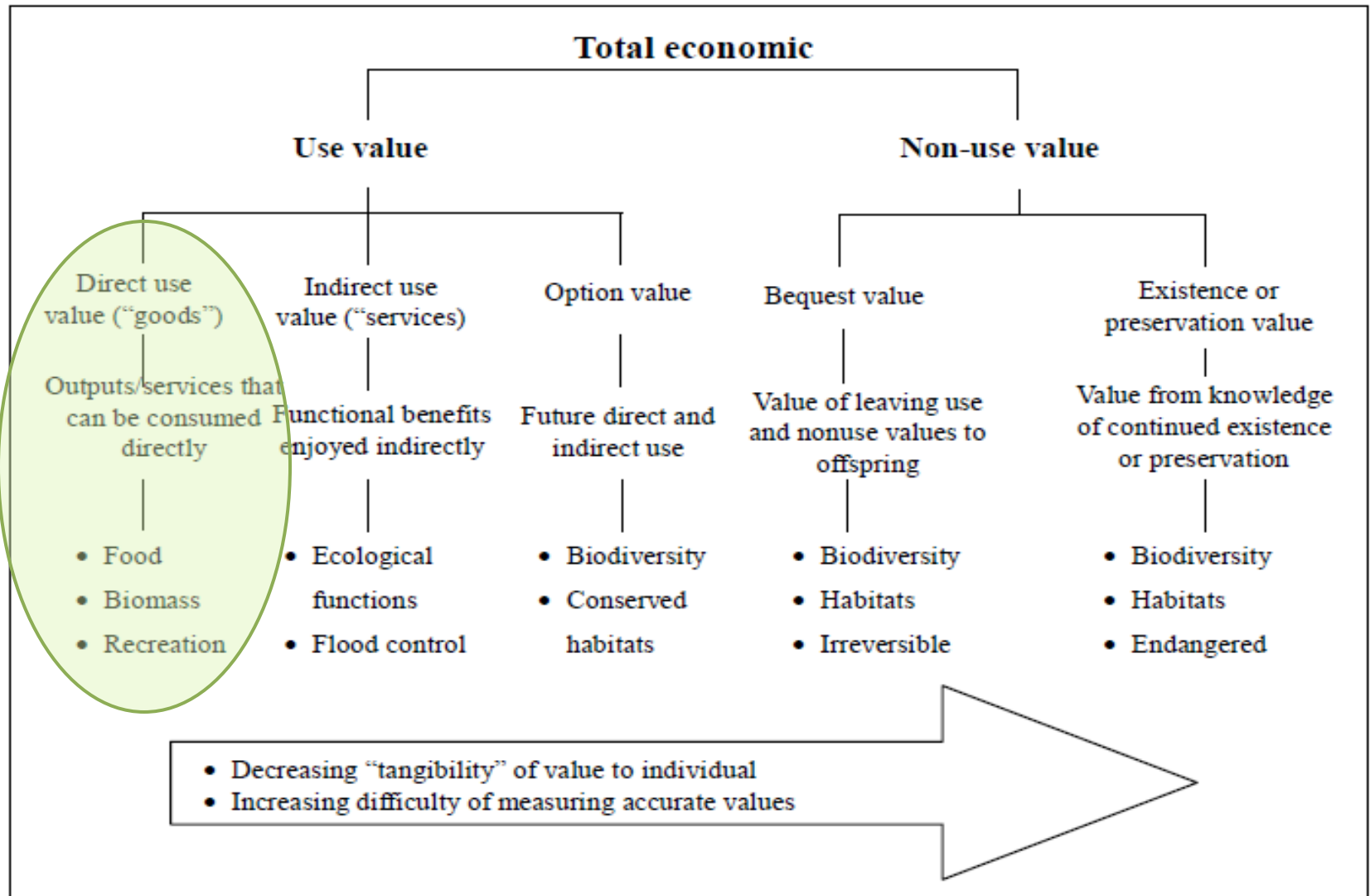


Fig. 1 Total Economic Value of Coastal Resources



Market Failure for Biodiversity

- When we are dealing with NRs (Biodiversity) → Market can fail.
(Supply, demand, price mechanism etc. not function properly)
- Generally market fails, when property rights is not clearly defined.
- If, ones right (in using biodiversity / bio-resources) is not clearly protected, he cannot exclude others from using the good or he cannot protect his right to use the good.



- Everyone “OWNS” the right to **enjoy or receive** biodiversity benefits, but nobody “OWNS” the right to **obtain or possess**.
- Hence it is **impossible** for market to exist in its normal form for bio-resources and market failure conditions exists: **Public good, Common property, Externality, Hidden Information**
- In this circumstances the collection and exchange of bio-resources never lead into a **socially desirable outcome (optimism)**



What happens in our common bio-resources (like NTFP) ?

Each community member (collector) has an incentive to collect as many forest products before someone else collecting the same product.

He has no incentive to preserve the resources, because if he does not collect them someone else will.

His decision to leave the products is not respected by others, because they have as much rights on the products as he does.

So he starts expanding effort (collection). Initially (in short run) the incremental revenue $>$ the incremental costs

Gradually incremental revenue may less than or even 0 than the incremental costs

This violates the standard efficiency conditions in natural resources extraction or management.



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This is exactly happening to our bio-resources

ABS and Valuation

- A very large part of the world's biodiversity exist in the poorer countries.
- These countries least able to finance its conservation and least able to resist the land use changes (development) that threaten biodiversity.
- The CBD constitute two compensating mechanisms:
 1. *The richer world allocating 'new' resources to the financing of conservation in the developing world, in addition to those efforts that they make in their own countries.*
 2. *Ensuring that developing countries gain a more equitable share in the financial and other benefits that the rich world derives from the biodiversity of the poor world.*



- 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 genetic resources are entitled to receive fair benefits from their users.
- Prospecting biological / GRs involves number of actors (local Community to MCCs).
- There is a need to establish appropriate user-provider chain into ABS
- The negotiation between a provider and a user of resources should be in a monetary term: Based on the true value of the resources.



- Unfortunately, the real economic potential (value) of bio-resources is hardly understood (Becomes a fundamental problem in arriving at suitable ABS agreements).
- Generally, the provider (either the local community and indigenous group or the country) obtain a meagre share of the real resource value.
- Hence CBD acknowledges that **"economic valuation of biodiversity and biological resources is an important tool for well-targeted and calibrated economic incentive measures"**.



What Methods? (Valuation Tool)

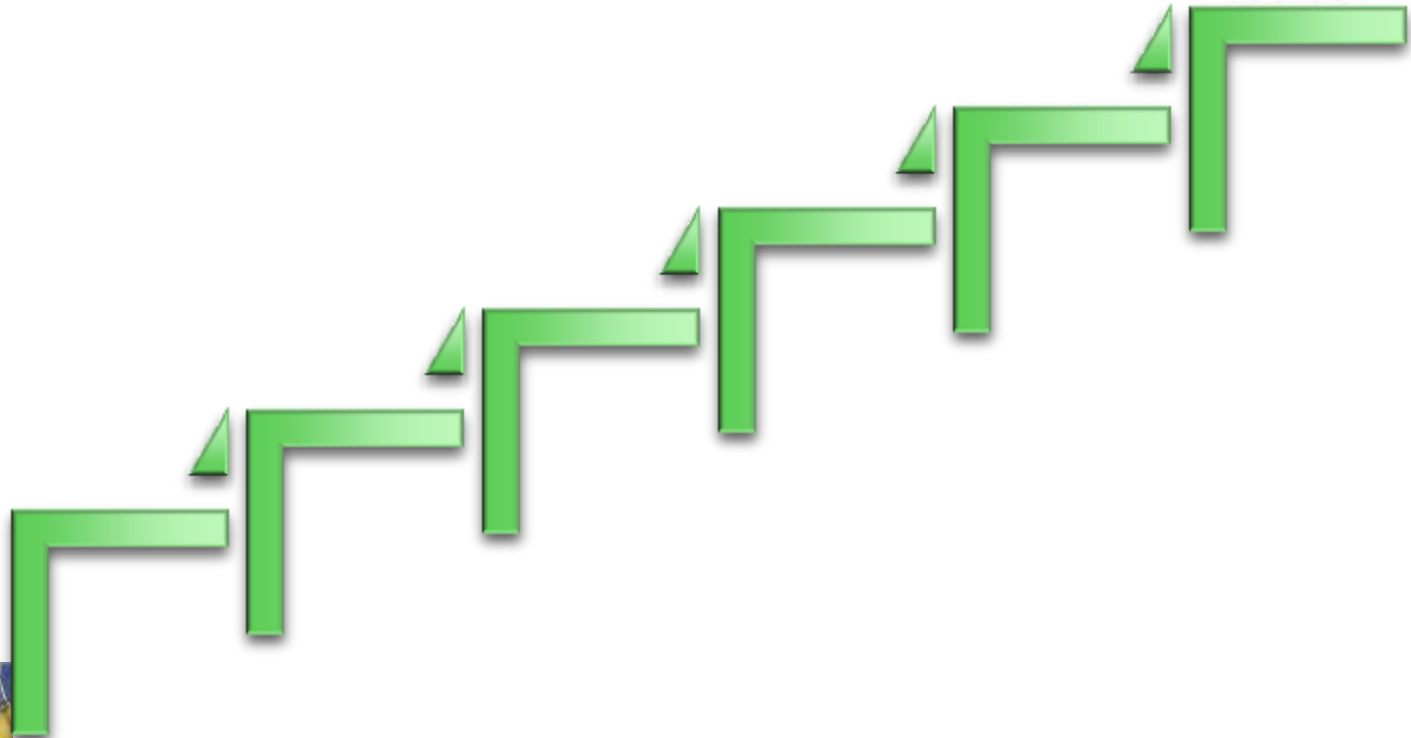
Bio-resources

1. 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
- It establishes market-oriented strategic alliances between producers, processors, distributors, traders, and regulatory and support institutions



Garcinia Cambogia (Input → Output)



2. Providers willingness to accept

Capture the real value of the bio-resources from the collectors
(through a [Contingent Valuation](#) survey)

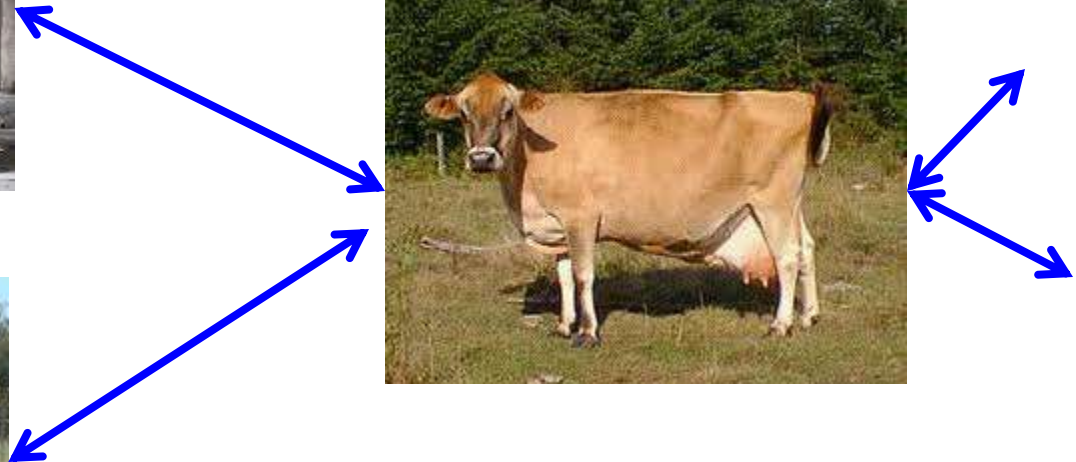
3. Empirical Estimation

(Opportunity cost of collection, risk element costs, scarcity values
knowledge aspects, etc.)

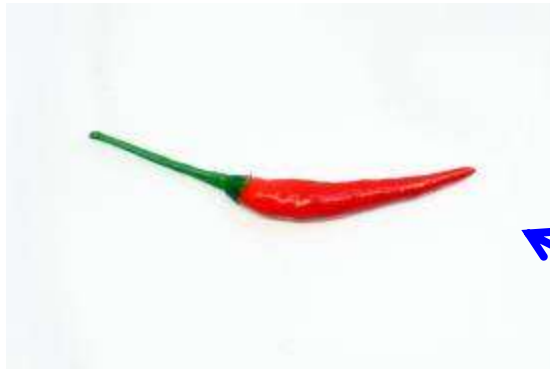


Genetic Resources

Cross Breed



Transgenic Plants



Traditional Knowledge

Traditional Healer has knowledge on:

- Identifying various resources derived from flora and fauna having medicinal value (herbs / medicinal plants and animals organs)
- Availability and location of a particular plant or animal (having medicinal value).
- How to collect or harvest those resources.
- Combinations of each ingredient needed for preparing a medicine curing a particular diseases
- Methods of use of each medicine.
- Other supporting / supplementary knowledge

What is significant to us for valuation in conservation perspective?



Key Concerns

- Economic Valuation is a **difficult task**.
- Accuracy of the value is always **debatable**.
- However we (I) don't have any option.
- Valuation of bio-resources is an **important component** / task in our ABS project (backbone)
- The real / true value is the criteria for benefit sharing and signing ABS agreement
- At this project we are not valuing the biodiversity or ecosystem (This exercises is not the valuation of non-marketed services of biodiversity).
- We want to value the goods (bio-resources / products) which are entering to the market and using for the different production process.
- Eg: It is not a valuation of mangrove site, but identifying the real value of bio-resources coming out from mangrove forest (fish, medicinal plants,)



- In normal case the market or market mechanism will fix the **equilibrium price**.
- But in bio-resources (including GR and TK) case market is different.
- Bio-products are generally considered the free gifts of nature (manufactured by nature with its unique and intrinsic ability) and is a **public good**.
- The market for bio-resources is **highly imperfect** or inefficient.
- The existing price at forest gate or any collection point is **not the VALUE**. (**Value is > that**)
- **WHAT IS THAT VALUE ?**
- **HOW TO ESTIMATE IT ?**



- We must estimate value for selected bio-resources in our project states for policy decision (not for a theoretical exercise but a practical/empirical exercises) .
- Accuracy always **difficult**, but we **cant ignore**
- Because it is for an important **policy decision**: fixing the benefit sharing criteria and signing ABS agreements - which is accepted by the entire globe under the CBD for preserving our precious biodiversity.



