



## National Biodiversity Authority

UNEP – GEF – MoEF ABS Project

*on*

*“Strengthening the Implementation of the Biological Diversity Act and Rules with focus on its Access and Benefit Sharing provisions”*

### **Two Days State Level Capacity Building Workshops on**

*ECONOMIC VALUATION OF BIO-RESOURCES FOR  
ACCESS AND BENEFIT SHARING (ABS)*

### **Concept Note**

The project on “Strengthening the Implementation of the Biological Diversity Act and Rules with focus on its Access and Benefit Sharing provisions” deals with assessing and quantifying the economic value of biological resources, using appropriate methodologies to determine benefit sharing, which will help in better implementation of the Biological Diversity Act, and inform national decision makers on prioritizing conservative action. In other words, the project is an attempt towards mainstreaming and strengthening the ABS process in India.

**The identification of bio-resources or genetic resources, with potential for ABS from selected ecosystems, such as forests, wetlands and agriculture, and their valuation (estimation of the real value) is an important task in this project.** The major activities coming under this head, include: (a) Developing standardized economic valuation methods for valuing bio-resources, (b) Organizing three national workshops and five state level workshops on understanding the valuation methodology, and using the same in decision making, (c) Developing a methodology for using the economic valuation in deciding ABS permits, and (d) Developing a data base covering the economic valuation information in finalizing the ABS agreements. The project is implemented in 5 states in India (Andhra Pradesh, West Bengal, Sikkim, Himachal Pradesh and Gujarat) with the collaboration of the State Biodiversity Boards and Biodiversity Management Committees.

Bio-resources / biological resources means: plant, animals and micro-organisms or parts thereof, their genetic material and by-products (excluding value added products) with actual or potential use or value, but not human genetic material (The Biological Diversity Act, 2002). Generally, large quantities of divergent bio-resources are collected or extracted from the ecosystems, which human beings can directly or indirectly use either as food, medicines or biomass. These goods are also involved in research and development (which lead to the innovation of new consumer products) and trade, and act as the basic raw-material or input factor in manufacturing many products.

**Forests:** Apart from the various non-marketed ecosystem services a large number of resources (goods) come from the forests as timber and non-timber forest products. These goods include timber, fuel wood, fodder, non-timber forest products, food (honey, mushrooms, fruit, and other edible plants, game), genetic resources and cultural resources. Most of these resources are used as an unavoidable input factor for manufacturing various value added products, having a huge market potential.

**Wetlands:** Inland and coastal wetlands are the most productive ecosystems and their functions include nutrient cycling and hydrological cycling. The system also has attributes of a diversity of species. Coastal ecosystems can provide goods such as, fish and shellfish, fish meal (animal feed), seaweeds (for food and industrial use), salt, genetic resources and cultural resources. The goods provided by the freshwater ecosystem are fish, genetic resources and cultural resources. Wetland species (animals and plants) have huge economic value and ABS potential.

**Agriculture:** Agricultural biodiversity includes, harvested crop varieties, livestock breeds, fish species and non-domesticated ('wild') resources in fields, forests, rangelands, and in aquatic ecosystems; non-harvested species within production ecosystems that support food provision, including soil micro-biota, pollinators and so on; and non-harvested species in the wider environment that support food production ecosystems (agricultural, pastoral, forest and aquatic ecosystems). The primary goods provided by the agriculture and grassland ecosystems include, food crops, fibre crops, crop genetic resources, other crops (energy, fodder, etc), cultural resources, and livestock (food, hides, fiber). Agricultural products or outputs have a huge market and business potential, and play a significant role in manufacturing different food items and achieving food security.

However, most of our ecosystems (forests, rivers, estuaries, oceans, etc) are common properties. Hence, the goods from these sources experience market failure or distortion, and the current market price at their collection point does not represent their real or true value or price but only an exchange rate that is too arbitrarily assessed or fixed. In other words, due to the market imperfections, ecosystem goods are 'under-priced'. In the case of ecosystem goods, particularly those obtained from common property, the demand, supply and price mechanisms do not function effectively as they do in the case of other commodities. Providers/sellers and buyers have limited knowledge and information about both the "price" and "value" of a product. Normally, information is disclosed by both the parties (sellers and buyers). In the exchange, the users of ecosystem goods / bio-resources (the companies or their representatives) have better knowledge about their significance and value than the providers. However, the providers (local communities) are being exploited (obtaining only a meagre price), by the traders and companies, who make substantial profits from the business.

In this context, the valuation of biodiversity/ecosystem goods is a fundamental step towards determining the real value of bio-resources, and operationalizing the "Access and Benefit Sharing (ABS)", one of the objectives of the Convention on Biological Diversity (CBD) as well as the Biological Diversity Act of India.

Different methods has drafted for bio-resources valuation, which includes: (a) Value Chain Analysis, (b) The "Maximum Willingness to Pay" Approach, (c) Application of the Appropriate Economic Instruments: (tax, cess, charges, royalty etc.), (d) Minimum Support Price for Bio-resources and (e) Collectors' Willingness to Accept and Minimum Livelihood. However, the experts proposed that "value chain analysis" of bio-resources based product is more appropriate in identifying the real value of bio-resources. Further it is significant to develop case specific and / or separate formulas for valuing bio-resources based on its nature, availability, potential uses etc. (see the following table)

**Value Chain Analysis:** Many value added products are derived from bio-resources. Value addition for bio-resources (raw) and bio-resources based products occurs either through transaction costs or / and processing / manufacturing costs. Generally, the markets for bio-resources at their collection point are highly uncertain. A number of unexpected factors play a role at this stage, which makes for market imperfections. Transaction costs are the costs of particular bio-resources' movement from their collection point to the company gate, and occur through transportation charges and brokers or dealers' profits.

## Development of Methodology for Valuing Bio-resources

*Methods Derived from the Expert Committee Meeting (13<sup>th</sup> July 2013)*

	Category of Bio-resources	Possible Methodological Approach	Payment Detail
A	Bio Pharmaceuticals (modern drugs)	Scarcity Rent (SR), Information Rent (IR) - share a proportion attributable to the product.	Initial payment + payment at the time of product development + payment at marketing stage.
	(Population status, Rare Endangered and Threatening (RET), Abundant, Endemic)	Endemic Rent (ER)	Monetary + Non- Monetary (for endemic and RET)
B	Bio-technology (Seed / Agriculture Related), Land races, Microbes,	Information Rent (IR) - share a proportion attributable to the product.	Initial payment + payment at the time of product development + payment at marketing stage  Monetary + Non- Monetary (for endemic and RET)
C	Crop protection products	Information Rent (IR) - share a proportion attributable to the product.	One time
D	Botanicals (AYUSH)	Based on the proportion of Net Present Value (NPV) of the profit x the contribution of input to the out put	One time
E	Nutraceuticals / Personal Products cosmetics	Based on the proportion of NPV of the profit x the contribution of input to the out put	One time
F	Academia / R&D (non-commercial scientific research)	Onetime fee + renegotiation change in intent	One time

Further, certain bio-resources are basic raw-materials for manufacturing final consumer products. Many other products (inputs) and knowledge/skill (research and development) also contribute to the manufacturing the final product. Hence, the processing / manufacturing costs at different stages are significant. Through an amortised (remunerated) pricing technique, one can estimate the real price of bio-resources. The ABS concern is whether the price spread and the value addition in bio-resources transaction and manufacturing is reasonable or not, and if not, what are the abnormalities in, and how will it bounce back to the communities or providers of the bio-resources.

The purpose of the workshop is to create awareness and capacity building among the key biodiversity stakeholders/managers about the:

1. ABS potential bio-resources in the state
2. Bio-prospecting and its socio-economic significance
3. Current senior of bio-resources transaction and the trend of underpricing
4. Need for identifying “real/true value” of the bio-resources
5. Methods for bio-resources valuation and
6. How benefit sharing (implementation of ABS) act as an incentive to community in conservation and sustainable use of biological resources.