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## FACULTY OF ENGINEERING AND TECHNOLOGY

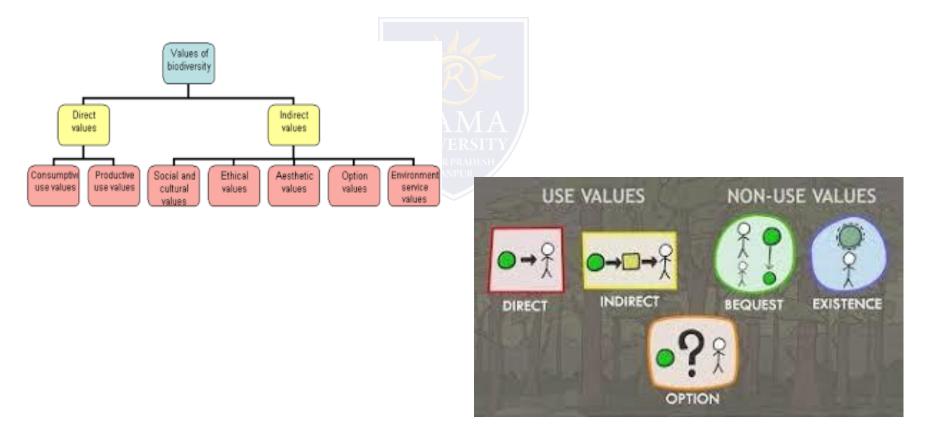
## Lecture- 18 **Biodiversity-Part 2**



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Environmental services from species and ecosystems are essential at global, regional and local levels. Production of oxygen, reducing carbon dioxide, maintaining the water cycle, protecting soil are important services. Biodiversity has both **direct values** and **indirect values**.



<u>Direct values</u> of biodiversity means benefits derived from goods and services which can be used directly. Direct uses include: **Consumptive use and productive use** 

<u>Consumptive value</u> refers to non-market values of resources such as firewood, game meat, etc. Such resources are consumed directly without passing through market.



<u>Productive value</u> refers to market goods or commercial values of products that are commercially harvested for exchange in formal market. They are included in national income like GDP (gross domestic product). E.g., Clothes, agricultural products, etc.

<u>Indirect values</u> refers to all functions or services provided by natural systems that are used indirectly such as bird-watching, etc. It includes **social value, option value, ethical value and aesthetical value**.

<u>Option value</u>: Keeping future possibilities open for biodiversity use is called option value. It is impossible to predict which of our species will be of great use in the future. Thus the preservation of biodiversity must also include traditionally used and/or wild strains already in existence.

<u>Ethical value</u>: Ethical values related to biodiversity conservation are based on the importance of protecting all forms of life. All forms of life have the right to exist on earth.

<u>Aesthetic value</u>: The aesthetic value of biodiversity can be easily understood by us when we experience the beauty of nature such as bird-watching, gardens, parks, etc.





<u>Social value</u>: These are the values associated with the social life, customs, religion and psycho-spiritual aspects of the people. Many plants in India are considered holy and sacred like Tulsi, Peepal, Lotus, etc.



