



Capacity Building for Entrepreneurship Centered Around Trees Outside Forests

Module 2: Tree plantation and Cultivation
Lecture 4: Focused session on commercial plantations

Introduction



Definition: Artificially establishment of tree species considered as actually or potentially commercial under current local, national and international market conditions.

Importance of Economics in Plantation:

- Appraise the problems of demand and supply of natural resources
- Device ways and means of managing the forest resources and constraints.
- To explain and predict the future economic trends
- To enhance planning and development
- Analyze impact of cultural operations, ecology, environmental conservation
- Influence management practices relevant to human practices
- Management of natural resources on scientific lines
- Recommendation and judgments for the well being of society

Pre-requisites for commercial plantation



- Investment opportunities.
- Land allotments to different purpose (Agriculture, tree plantation, human settlement etc.)
- Determine cost and benefit of effective land use.
- Extent of employment and income generation.
- Tree species suitable for protection of land.
- Alternative energy sources to be identified to reduce pressure on forest.
- Determine economic rotation.
- Factors determining the pricing policy of plantation produces.
- Determination of national policies relevant for commercial plantation, including subsidies, export policies etc.
- Analysis of people's participation.

Features of enterprises involved in commercial plantation

- Long term investment.
- Identify input, output, and manufacturing units.
- Variation in quality from the same species in the same place.
- Multiple uses of the species.
- Tolerant species.
- Variation in quantum of output.

Valuation:

- It is the process of estimating the value of something. In the same way, value of the commercial plantation as to be conducted of both tangible and intangible benefits produced.

Price determination

- Determining price under various condition considering the demand and supply in general.

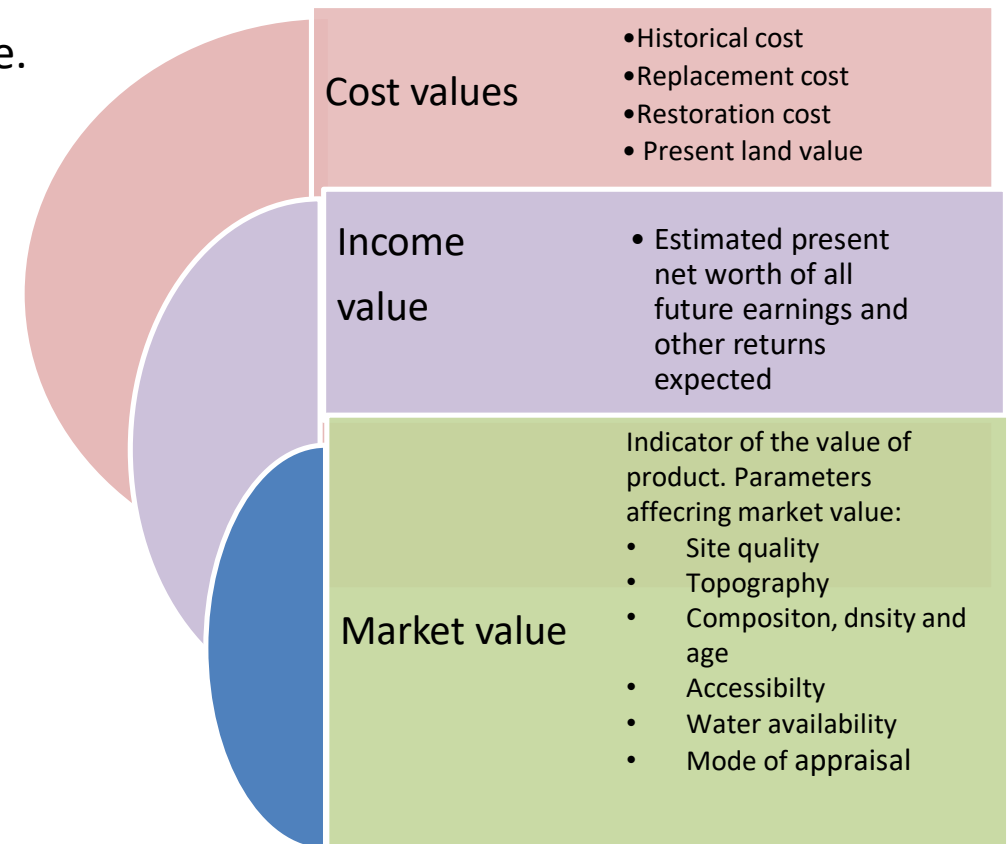


Fig: Basis for valuation

Market demand	Tree
Gum	<i>Sterculia urens</i>
	<i>Acacia senegal</i>
	<i>Butea monosperma</i>
	<i>Pterocarpus marsupium</i>
Dye	<i>Pterocarpus santalinus</i>
	<i>Mallotus philippensis</i>
	<i>Punica granatum</i>
	<i>Rubia cordifolia</i>
Fiber	<i>Hardwickia binnata</i>
	<i>Bauhinia vahlii</i>
	<i>Ficus bengzlensis</i>
	<i>Pandanus sp.</i>
Tan	<i>Termenelia bellerica</i>
	<i>Shorea robusta</i>
	<i>Trmenelia myrobalan</i>
	<i>Annogeissus latifolia</i>
Essential oils	<i>Santalum album</i>
	<i>Eucalyptus globules</i>
	<i>Cinnamom spp.</i>
	<i>Cedrus deodara</i>

Market demand	Tree
Resin and oleo resins	<i>Pinus rexburhii</i>
	<i>Diptericapus turbinatus</i>
	<i>Canariym strictum</i>
	<i>Hopes</i>
Paper and pulp	<i>Eucalyptus</i>
	<i>Leucaena leucocephala</i>
	<i>Popullus</i>
	<i>Bamboo</i>
Timber	<i>Tectotona grandis</i>
	<i>Swietenia macrophylla</i>
	<i>Dipterocarpus macrocapus</i>
	<i>Cedrus deodara</i>
Medicine	<i>Azadirachta indica</i>
	<i>Terminalia chebula</i>
	<i>Aegle maemelos</i>
	<i>Emblica officinalis</i>
Ply	<i>Alnus nepalensis</i>
	<i>Juglans sp.</i>
	<i>Dalbergia sisso</i>
	<i>Quercus sp.</i>





Poplar

- A very fast-growing tree, having ability to provide high-quality wood within a relatively short period (2.5 to 4 year) in the era demands for timber and wood-based products are growing.
- States like Punjab, Haryana and Uttar Pradesh have witnessed successful poplar cultivation venture. It contributed significantly to rural livelihoods and environmental sustainability.
- At current market rate, profit expected is approx. Rs. 1,4 to 2 lakh/acre/year.

Melia dubia

- A highly profitable tree species. Particularly, in Andhra pradesh, Telangana, and Tamilnadu witnessed successful plantation.
- High demand fro furniture making, construction and packaging industries due to strength: weight ratio.

Teak

- A renowned tree species for its exceptional quality timber.
- Plantation predominantly, found in Karnataka, Kerala, and Tamil Nadu as it provides lucrative opportunities for investors seeking long term returns.
- Apart from commercially value contributes to biodiversity conservation, water shed management and carbon sequestration

Sandal Wood

- It is special in Indian cultural and economic landscape for its aromatic heartwood and essential oil.
- The market value makes of its essential oil and heartwood makes it a profitable investment option.
- States like Karnataka, Tamil Nadu and Karnataka have witnessed successful cultivation often integrated with other tree species for for optimal land utilization and income generation.
- Farmers are earning Rs. 2 Cr. By planting 350 sandal wood on one acre.



Agar wood

- Agar wood is known in the market for its essential oil.
- The biggest challenge for its commercial value is formation of resin inside the tree. It is difficult to develop natural resin to make it cost effective. Wounds are made intentionally using drills and machines. By planting 700 trees in one acre, it can generate Rs.9Cr. after 10 yrs.

Coconut

- A coconut tree is capable of producing 35 coconuts and a healthy one can even produce 75 as well.
- It takes 6-10 yrs. to produce first fruit and 15 fruits to reach peak of producing fruits. Tamil Nadu, Kerala, Karnataka, Odisha, West Bengal and Andhra Pradesh suitable for plantation.
- After planting 150 coconut trees/acre a farmer can obtain a net profit of R. 104900.

Moringa

- A fast and easily grown tree species without any specific demand of weather. Cultivation done for pods and leaves per acre is between 12-20 tons.
- Leaves cost Rs.20-25/kg and one can achieve net profit worth Rs.145400 from 1 acre.

Eucalyptus

- It is a rapid growing tree which is drought tolerant as well as has diverse applications.
- Extensively used in paper and pulp, construction, aromatherapy, fuel-wood and pharmaceutical.
- Successful cultivation witnessed in Karnataka, Tamil Nadu and Andhra Pradesh.

Challenges to commercial plantation



Challenges in commercial plantation varies in tree species. Following are some common challenges which can be applied depending on the tree species:

- High initial investment.
- Long gestation period.
- Illegal harvesting.
- Pest and disease managment.
- Marketing and processing
- Quality control.
- Knowledge and expertise.