PRACTICAL MANUAL

on

Forest Economics and marketing

FBS -343 3(2+1)

For

B.Sc. (Foresty) III-year (V Semester)

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2020

Department of Agricultural Economics
College of Agriculture
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Jhansi-284003

Syllabus: Forest economics and marketing FBS -343 3(2+1):

Techno-economic parameters for preparation of projects. Preparation of Bankable projects for various forest products and its value-added products. Identification of marketing channel–Calculation of Price Spread –Identification of Market Structure –Visit to different Markets**.**

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Roll No. .....

Batch .....

Session .....

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CONTENTS

Exercise No. 1

Objective: To find out techno-economic parameters for preparation of projects.

Projects- Project is an investment activity where we spend capital resource to create a productive asset for realising benefits over time. Generally, "Project is an activity on which we spend money in expectation of return which lends itself to planning, financing and implementation as a unit. It also refers to specific activity, with specific starting point and specific end point to achieve a specific objective. It should be measurable in cost and return it must have priorities for area development and reach specific clientele group."

Problem: Prepare a project cycle and discuss about the different phases.

Exercise No. 2

Objective- To calculate the Payback period

Payback period- Another simple method of ranking of project. Under this method, we estimate the total time required to get back the investment on the project. The preference of a particular project is based on the lesser payback period. The payback period of the project is estimated by using following formula.

$$P = I/E$$

Where,

P is the payback period of the project in year,
I is the investment of the project in rupees
E is the annual net cash revenue in rupees.

Problem: Calculate the payback period for Mr. Shubham has Rs. 30,000 excess money and he want to invest it in either rubber wood cultivation or tendu cultivation. The annual cash flow from the rubber wood cultivation and tendu cultivation is Rs. 5000 and Rs. 4000 per year respectively and productive life of the cultivation is 10 years. It is assumed that annual cash flow from each cultivation is constant and no investment is made in subsequent period.

Interpretation:……

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Exercise No. 3

Objective- To calculate Net Present worth or Net Present value.

Net Present worth or Net Present value: The net present worth of the cash flow stream sometimes, referred as net present value (NPV). NPV is helpful for estimation of benefit -cost ratio of the project. The selection criterion of any project depends upon the positive value of the NPW/ NPV, when discounted at the opportunity cost of the capital. This could be satisfactory done, provided there is a correct estimate of opportunity cost of capital. NPV/NPW is an absolute measure, but not relative. The NPW is worked out by the following equation.

$$NPW = P_1/(1+i)^{t}_1 + P_2/(1+i)^{t}_2 + P_3/(1+i)^{t}_3 + \ldots\ldots\ldots\ldots P_n/(1+i)^{t}_n - C$$

Where, P= net cash flow in the year

i = discounting rate expressed in term of per cent

t = time period

c= initial cost of the investment

Problem: Estimate the net present worth for a farmer to invest in bamboo cultivation. The capital cost of the bamboo cultivation is Rs. 100,000. The productive life of the bamboo plantation is 10 years. Farmer also needs to invest some money during the subsequent period as input cost and other expenses. Farmer starts getting income from second year and onward. The discounting rate 12 per cent. The other information is given below:

Year	Cost of inputs and other expenses (Rs.)	Gross income
1	100,000	-
2	5000	25000
3	7000	30000
4	9000	35000
5	10000	40000
6	11000	45000
7	11500	50000
8	12000	55000
9	12500	60000
10	13000	65000

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Exercise No. 4

Objective- To calculate the Benefit Cost Ratio

Problem: Estimate the B-C ratio for a farmer to invest in bamboo cultivation. The capital cost of the bamboo cultivation is Rs. 100,000. The productive life of the bamboo cultivation is 10 years. Farmer also needs to invest some money during the subsequent period as input cost and other expenses. Farmer starts getting income from third year and onward. The discounting rate 12 per cent. The other information is given below:

Year	Cost of inputs and other expenses (Rs.)	Gross income
1	100,000	-
2	5000	-
3	7000	30000
4	9000	35000
5	10000	40000
6	11000	45000
7	11500	50000
8	12000	55000
9	12500	60000
10	13000	65000

Interpretation:…………………………………………………………

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Exercise No. 5

Objective- To calculate the Incremental B-C ratio

Incremental B-C ratio: In incremental B-C ratio, we compare the present worth of incremental cost with present worth of incremental benefit. Based on the rate, the absolute value of the incremental B-C ratio will change. While ranking the project based on the incremental B-C ratio is to choose the project having incremental B-C ratio more than one. The incremental B-C ratio is worked out by the following formula:

$$\text{Incremental B-C Ratio} = \frac{\text{Present worth of incremental gross return}}{\text{Present worth of incremental gross cost}}$$

Problem: Estimate the incremental B-C ratio for a farmer of the water scarce region wants to install water saving technology. Drip on his farm to irrigate pomegranate cultivation. The installation of drip is Rs. 100,000. The average life of drip system is 10 years. The maintenance cost of the drip is Rs. 1000 per year. The discounting rate of the drip system is 5 per cent per year. It is assumed that net income received by the farmer from the pomegranate cultivation under both systems would be same throughout the life of the drip system. The other information of the castor production in given below.

Particulars	Conventional methods	Drip irrigation
Input cost	15000	7500
Output	-	-
Yield (qt/ha)	12	15
Market price (Rs./ q)	12000	12000

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Exercise No. 6

Objective- To calculate Internal rate of return (IRR)

Internal rate of return (IRR): The internal rate of return (IRR) is also known as marginal efficiency of capital or yield on investment. The IRR provide the knowledge of actual rate of return from different projects. In incremental rate of return, we choose discounting rate at which the present value of the net cash flow is just equal to zero or NPW=0. For the estimation or IRR we take an arbitrary discount rate and estimate the NPW. The positive NPW value of the project indicates that IRR is still higher and next assumed arbitrary IRR value must be comparatively higher than the initial level. This process is continued until NPW become negative.

$$IRR = [\text{lower discounting rate}] + [\text{Difference between two discounting rate}]^{*}$$

$$[\underline{\text{Present worth of cash flow at the lower discounting rate}}]$$

Absolute difference between present worth of cash flow at two discounting rate

Problem: Estimate the Internal rate of return for a farmer wants to invest in lemon grass cultivation. The capital cost of the lemon grass cultivation is Rs. 150,000. The productive life of the lemon grass is 4 years. Farmer also needs to invest some money during the subsequent period as input cost and other expenses. Farmer starts getting income after six months. The discounting rate 10 per cent. The other information is given below:

Year	Cost of inputs and other expenses (Rs.)	Gross income (Rs.)
1	150000	200000
2	50000	355000
3	35000	400000
4	40000	400000

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Exercise No. 7

Objective: To calculate Profitability Index

Profitability Index: Profitability index (PI) defined as the ratio of net present values of the cash flow to the initial capital requirement. Assuming that all the capital expenditure is incurred in the starting year of the project, the profitability index is estimated by the using following formula.

$$PI = \frac{NPV}{C_0} = 1/C_0 \; E^{n}_{1=0} \; \frac{cr}{(1+i)^n}$$

$$PI = \frac{\text{Net present value of cash flow}}{\text{Original amounts of investment}}$$

Here, PI is Profitability index
NPV= net present value
C_0 =Initial capital cost
Cr= total capital requirement
i= discounting rate
n= time

Problem: Estimate the profitability index for a farmer who invested Rs. 100000 in a bamboo cultivation. If the productive life of the bamboo cultivation is 10 years. It is assumed that all the investment is made during the first year and no investment is required during productive life of the cultivation. The discount rate of the project is 20 per cent. The other information is given below:

Years	Investments (Rs.)	Cash flow (Rs.)
1	100000	-
2	-	-
3	-	30000
4	-	35000
5	-	40000
6	-	45000
7	-	50000
8	-	55000
9	-	60000
10	-	65000

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Exercise No. 8

Objective: To prepare a bankable project on bamboo based agroforesty.

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Exercise No. 9

Objective: To prepare a bankable project on poplar based agroforesty.

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Exercise No. 10

Objective: To prepare a bankable project on any value-added forest product.

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Exercise No. 11

Objective: To identify the marketing channels for selected forest product.

Marketing channels: Marketing channels are routes through which agricultural products move from producers to consumers. The length of the channel varies from commodity to commodity, depending on the quantity to be moved, the form of consumer demand and degree of regional specialization in production.

Problem: Collect the information involved in different marketing channels for some commodities:

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Producer / Primary collector ……

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Consumer:

Exercise No. 12

Objective: To calculate the price spread and producer share in consumer rupees in given marketing channel.

Price Spread: Price spread can be defined as the difference between the price paid by the consumer and price paid by the producer. It involves various costs incurred by various intermediaries and their margins such as packaging costs, transport costs, storage costs, processing costs, capital costs etc. it has inverse relationship between price spread and marketing efficiency.

Producer's share in consumer rupee: It is the price received by the grower expressed as percentage of the retail price. It is calculated as Ps = (Pf / Pc) * 100

Where, Ps = Grower's share in consumer rupee

Pf = Producer's price

Pc = Consumer/Retail price

Problem: Computation of price spread of non timber forest product.

Marketing channel:

Producer–Small trader–Big trader—Processor — Consumer.

Price data for different channels:

	Producer selling price / Small trader purchasing price Rs./Kg	Small trader selling price / big trader purchasing price Rs./Kg	Big trader selling price / Processor purchasing price Rs./Kg	Processor selling price / Consumer purchasing price Rs./Kg
Kalmegh	15	17	20	24
Gulancha	17	22	25	30
Bel	22	25	27	30
Berala	15	16	18	21
Bahera	17	19	21	23
Haritaki	14	16	21	22
Kantikari	16	17	20	24
Gum	23	27	30	33
Kuchila Seed	15	18	21	23
Nisinda	15	17	22	24
Rasna	17	22	25	28
Nata Seed	24	30	33	35
Rahitak	19	24	27	33
Chawli Root	15	16	21	25
Maida Chhali	17	19	21	23
Bhui Kumra	14	16	21	22
Shyamalata	16	17	20	24
Ban Halud	23	27	30	33
Nisath	15	18	21	23
Ban Tulsi	15	17	22	24

Interpretation: ……

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Exercise No. 13

Problem: To compute price spread and Primary Collector shares in consumer rupee in given marketing channel.

Marketing Channel: Primary collector → Private shop → Industries

Price data for different channels:

NTFP	Primary collector selling price / Private shop purchasing price Rs./Kg	Private shop selling price / Industrial purchasing price Rs./Kg	Industrial selling price / Consumer purchasing price Rs./Kg
Acacia concinna	15	17	20
Canarium strictum	17	22	25
Wax	22	25	27
Honey	15	16	18
Callicarpa tomentosa	17	19	21
Cyclea peltata	14	16	21
Demodium gangeticum	16	17	20
Hemidesmus indicus	23	27	30
Holostemman adakodien	15	18	21
Myristica dactyoides	15	17	22
Piper nigrum	17	22	25
Pseudarthria viscid	24	30	33
Rauvolfia serpentina	19	24	27
Sida rhombifolia	15	16	21
Solanum torvum	17	19	21
Strobilanthus ciliates	14	16	21

Interpretation……

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Exercise No. 14

Objective: To identify the market structures in Jhansi district.

Market structure: Market structure refers to the nature and degree of competition in the market for goods and services. The structures of market for both goods market and service (factor) market are determined by the nature of competition prevailing in a particular market.

Problem: Identification of prevailing market structure in around Jhansi district and write down the role and function.

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Exercise No. 15

Objective: To visit local market for studying various marketing functions.

Problem: Collect the following information and prepare a report

1. Name of the Institute:……
2. Location……
3. Area of operation……...
4. Year of establishment and organizational pattern……...

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5. Notified commodities and notified area……...

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6. Functions and Objectives of the market……

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7. Constitution of market committee……

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8. Source of funds to run the committee……...

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9. What are the facilities provided in the local market to farmers in terms of storage, grading, finance and others?.....

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10. Is commercial grading facility provided for grading the farmer's produce?.....

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11. Do the farmers make use of the commercial grading facility?.....

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12. How traders are selected to operate within the market yard……

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13. Is storage facilities provided to farmers to store the produce till they get expected price.

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14. What are the special schemes in operation to help the farmers……

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15. What is the percentage of utilization of regulated market by the farmers in the locality?

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16. What are the difficulties faced in providing facilities to serve the farmers in marketing their produce……....

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17. What help do you expect from the government to help the farmers in a better way to market their produce……...……

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18. Contact five farmers visiting the market and elicit their response on facilities provided, problems faced in marketing through regulated markets……..……...

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19. Any other information……..……

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Exercise No. 16

Objective: To visit regulated market for studying various functions.

Problem: Collect the following information and prepare a report

1. Name of the Institute:……..……
2. Location…….……
3. Area of operation……..……...
4. Year of establishment and organizational pattern……..……...

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5. Notified commodities and notified area…….……..

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6. Functions and Objectives of the market……..……

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7. Constitution of market committee……...……..……

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8. Source of funds to run the committee……..……....

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9. What are the facilities provided in the local market to farmers in terms of storage, grading, finance and others?.....……..……
10. Is commercial grading facility provided for grading the farmer's produce?.....

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11. Do the farmers make use of the commercial grading facility?.....

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12. How traders are selected to operate within the market yard……..……....

    ……..……....
13. Is storage facilities provided to farmers to store the produce till they get expected price……..

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14. What are the special schemes in operation to help the farmers…….....

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15. What is the percentage of utilization of regulated market by the farmers in the locality?

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16. What are the difficulties faced in providing facilities to serve the farmers in marketing their produce……

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17. What help do you expect from the government to help the farmers in a better way to market their produce……

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18. Contact five farmers visiting the market and elicit their response on facilities provided, problems faced in marketing through regulated markets……..

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19. Any other information……

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