PRACTICAL MANUAL

COURSE NO : ECON-242

TITLE:
AGRICULTURE CO-OPERATION AND FINANCE

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Course No. ECON 242 Semester : IV th (NEW)

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1. Working on Various repayment plans:

The Various repayment plans are explained as :

1. Lumpsum replayment plan / Straight end Repayment plan.
   - In this method, the principle amount of loan is repaid at a time in lumpsum when the loan mature but the intrest amount can be paid in each year.

2. Partial repayment plan / balloon repayment plan.
   - Repayment of the loan can be done partially over the years.
   - In this method, the installment amount can be decreasing as the years pass with excep in the maturity year that is final year.

3. Amortised repayment plan
   - Amortisation means the repayment of the entir loan amount in a series of instalments.
   - There are two types of amortization plan: like a) amortised even repayment plan
     b) amortised decreasing repayment pla

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Ex: Partial repayment plan :

Loan - 10,000

Period - 6 year.

Interest - 12%.

Principal Amount	Interest	Installment	Balance
1000	1200	2200	9000
1000	1080	2080	8000
1000	960	1960	7000
1000	840	1840	6000
1000	720	1720	5000
5000	600	5600	0
10,000	5400	15400	

Loan - 20,000 Rs

Period - 5 year.

Interest - 10%

Principal Amount	Interest	Installment	Balance
2000	2000	4000	18000
2000	1800	3800	16000
2000	1600	3600	14000
2000	1400	3400	12000
12000	1200	3200	0
20,000	8000	28,000	

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Amortised decreasing repayment plan.

- In repayment plan, the principal part remains constant over the entire repayment period, while interest part decrease continuously.
- Hence, annual instalment amount decreases over the years.
- The loan is taken for machinary.
- The machinary does not have much repairs in the initial years of loan payments.
- Therefore, the farmer can repay large amount of instalments in the initial years. by

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Ex. Calculate the amortised even repayment plan

a) loan amount : 15000 Rs.
Period : 5 yr.
interest rate : 10%.

A = Amortised (Rs) annual installment
P = Principle amt (Rs)
n = loan period (yr)
i = annual interest rate in fraction

$$I = P\left(\frac{i}{1-(1+i)^{-n}}\right)$$

$$= 15000\left(\frac{0.10}{1-(1+0.10)^{-5}}\right)$$

$$= 15000\left(\frac{0.10}{1-\left(\frac{1}{1.10}\right)^{5}}\right)$$

$$= 15000\left(\frac{0.10}{0.3791}\right)$$

$$= 15000\,(0.2637)$$

$$= 3955.5$$

yr.	Principle amt	Interest	Instalment	Balance
1	2455	1500	3955.5	12545
2	2701	1254	3955.5	9844
3	2971	984.4	3955.5	6873
4	3268.2	687.3	3955.5	3605
5	3595.5	360	3955.5	9.6
	14990.7	4785.7	19777.5	

B) Calculate amortised even repayment plan loan amt
loan – 100 00 Rs
Peri – 6 yr.
i – 12%.

Soln

$$A = P\frac{i}{\left[1-\frac{1}{(1+i)^{n}}\right]}$$

$$= 10{,}000\left(\frac{0.12}{1-(1+0.12)^{6}}\right)$$

$$= 10{,}000\left(\frac{0.12}{1-\left(\frac{1}{1.12}\right)^{6}}\right)$$

$$= 10{,}000\left(\frac{0.12}{1-(0.5066)}\right)$$

$$= 10{,}000\left(\frac{0.12}{0.244}\right)$$

$$= \underline{\underline{2432}}$$

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Amortised even repayment plan.

- In this method, the annual instalment can remain the same over the entire loan period the principal part of the instalment can increase continuously, while the interest amount can decline gradually.
- This method is always adopted for term loans like farm development, digging of well, construction of godown, dairy, poultry & so on.

The annual amortisation can be calculated by using the following formula.

$$A = P\left(\frac{i}{1-(1+i)^{-n}}\right)$$

Where,

A = Amortised annual installment in Rs.
P = Principle amount borrowed in Rs.
N = Loan period in years
i = Annual interest rate in fraction.

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E:

a)

yr	Principle amt	Interest	Installment	Balance
1	1232	1200	2432	8768
2	1380	1052	2432	7388
3	1546	886.5	2432	5842
4	1731	701.04	2432	4111
5	1938	493.32	2432	2172
6	2172	260.6	2432	0.025
	10,000	4593.46	14592	

(6)

(2) Amortised Decreasing plan.

Loan Amt 10,000

Loan period 6 yr

Interest 12%.

yr.	Principle amt.	Interest Amt.	Instalment	Balance
1.	1666.66	1200	2866.66	8333.34
2.	1666.66	1000	2666.66	6666.68
3.	1666.66	800	2466.66	5000.02
4	1666.66	600	2266.66	3333.36
5.	1666.66	400	2066.66	1666.6
6	16,6666	200	1866.66	0
Total	10,000	4,200	14199.96	

Sol

a)

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2. Study of Commercial banks / RRB

AIRCRC (All India Rural Credit Review committee) in 1969 pointed out weaker sections in rural areas, are handicapped in co-operative credit supply, so, GOI (Government of India) appointed one working group under chairman of Shree. M. Narsiham & that group recommended rural based institutional agencies called as RRB.

Finally, RRB came into existence on 2nd Oct 1975

- At present their are 53 RRB's in current. following are RRBs functioning in the country.

Sr. No	Name of RRB	Sponsor Bank
9	Baroda UP Gramin Bank	Bank of Baroda
10	Bihar Gramin Bank	UCO Bank
11	Central MP Gramin Bank	Central Bank of India.
12	chaitanya Godavari Gramin Bank	Andhra Bank.

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E)

a)

RRB [Regional Rural Bank]

> chairmen of RRB → Narsimham

> Establishment → 2nd oct 1975

> current Branches.

There are 64 RRB's in India & amongst those only 56 RRB's Participated in 2018

> RRB's in MH

	List	Head Office
1)	Vidarbha kokan Gramin Bank	Nagpur
2)	MH Gramin Bank	Aurangabad

B)

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RRB Sponsored Banks :-

1. Syndicate Bank in U.P → Moradabad, UP.
2. Gorakpur, UP
3. Malda, WB → United Bank of India
4. Bhiwani, Haryana → Punjab National Bank
   United commercial bank.

Objectives of RRB

1. To develop rural economy
2. To provide credit for agri. & allied activities.
3. To encourage village industry, artisians carpenters, craftmen.
4. To reduce dependence of weaker section on money lenders.
5. To help the poor financially for their consumption needs.
6. To make backward & tribal areas economically better by opening new branches.

Functions of RRB.

1. To grant loan & advances particularly to small & marginal farmers, agril. labourers, co.operative societies, co.farming society & all weaker section.
2. RRB provide Banking facilities like issue of drafts, collection of checks.

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3. RRB act as vital instrument in schemes like IRDP, 20 point economic programme.
4. Operational Area to be covered by each RRB varies from 1 to 2 district
5. Capital structure
a) central government 50 %.
b) state government 15 %.
c) sponsoring bank 35 %.
6. Management :
Management of RRB is in the hand of board of 8 directors, headed by chairman who is an officer of the sponsoring bank, Out of 8 directors 3 are nominees of sponsoring bank, 2 members from state gov. & 3 members from central gov.
- RRB's are sponsored by commercial banks, generally lead bank in dist.
- In some areas, SCB & private commercial banks are allowed to sponsor RRB.

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- Current chairmen of NABARD → Harsh Kumar Bhanwala
- Retired chairmen → Prakash Bakshi
- Establishment → 12th July 1982
- Headquarter → Mumbai

B)

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3. Study of NABARD

NABARD - National Bank for Agriculture and Rural Development.

- CRAFICARD (committee to review Arrangement for Institutional credit for Agriculture and Rural Development)
- The committee recommended the setting up of a national level institution for providing all types of production & investment credit for agriculture & rural development.
- Hence, the NABARD came into existence on 12th July 1982.
- Head quarter of NABARD is situated at Mumbai.
- ARDC (Agricultural Refinance & Development Corporation), ACDRPCC (Agricultural Department & Rural planning & credit cell) of RBI were merged in NABARD with a paid up capital of Rs. 500 crore contributed Government of India and RBI equally.
- Now, with a capital base of Rs. 2000 crore provided by the Gov. of India & RBI.
- It operates through head office in mumbai with 28 regional offices situated in State capitals & 391 district offices at districts.

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E)

a)

STRUCTURE OF NABARD :-

chairman & managing director are 2 major executives.

↓

Board consists other 13 directors.

Of the 13 Directors.

- 2 are experts in rural economics & development
- 3 from co-operative banks
- 3 from commercial banks
- 3 from officials of GOI
- 2 from state government.

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- Thus, NABARD is set up as an apex of development bank with a mandate for facilitating credit flow for promotion & development of agriculture, small-scale industries, cottage & village industries, handicrafts & other rural craft.
- It also has the mandate to support all other allied economic activities in rural areas.
- The activities of NABARD are grouped into three forms of functions.

Credit functions of NABARD

1. Preparation of credit plan
2. finalization of action plan
3. monitoring of credit plan
4. Terms & conditions of credit
5. Refinance facilities.

Development functions of the NABARD.

1. Institutional development
2. Research & development fund
3. Agricultural & rural enterprise incubation fund.
4. Rural promotion fund
5. credit & financial service fund.

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Regulating functions of the NABARD

1. Inspection of RRBs and co-operative Banks.
2. Permission for opening business
3. Authorization for extending assistance.

Current chairman of NABARD

→ 'HARSH KUMAR BHANWALA'

NABARD Schemes

- Farm sector schemes

1. Dairy Entrepreneurship development scheme
2. Capital ~~Em~~ Investment subsidy scheme for commercial production units for organic or biological inputs.
3. Rural Godowns
4. Agriculture marketting & Infrastructure grading standardization
5. Agriclinic & Agribusiness centres schemes
6. Solar Schemes.

- Non-farm sechemes

1. Credit linked capital subsidy scheme
2. weavers package

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E)

a)

Co-operative Credit Structure

- Three tier system [Short and Medium loan]
  - SCB
  - DCCB
  - PACS
- Two tier system [long-term loan]
  - CLDB
  - PLDB

Fig. classification of co-operative credit structure

3)

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4. Study of PACS / DCCB.

Explaination :-

- Co-operative credit structure consists of 2 systems i.e
  a) Three tier system
  b) Two tier system
- Three tier system comprises of 3 levels
  - SCB - State co-operative Bank
  - DCCB - District central co-operative Bank
  - PACS - Primary Agricultural co-operative societies
- Whereas, two tier system comprises of 2 levels
  - CLDB - central land development bank
  - PLDB - primary land development bank.

Functions of SCB

1. SCB is apex bank under 3 tier system of co-operative credit structure
2. It is located at state level
3. Individual, DCCB & PACS are the member of SCB
4. formulate politics, implement policy made by gov., through NABARD
5. SCB ~~de~~ helps state gov. informulating development plans with regards to co-operative institutions.

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6. Act as a banker's bank to DCCB.
7. Act as a link between Gov., NABARD, RBI & DCCB.
8. SCB supervise control & guide the activities of DCCB
9. As like other, commercial bank, SCB perform all normal banking operation.

Functions of DCCB

1. It is located at district level
2. members are PACS, individuals, farming societies, marketting, consumer societies within that area are the members of DCCB.
3. Act as link between SCB & PACS.
4. located at Taluka to district level (area of operation)
5. supervise, control, guide activities of PACS
6. Provide funds to the societies under their control.
7. DCCB perform non-credit function supply of inputs (fertilizer, seed equipments, sugar, kerosene.)

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functions of PACS

1. Located at village level.
2. Provide funds directly to farmers
3. supply of agri. inputs
4. Attract local savings
5. Helps in formulating & implementing agri. development plans
6. Provide equipment & machinery
7. on higher basis.

Functions of CLDB

1. Apex bank under 2-tier system of co-operative credit structure.
2. provide long term loan
3. Provide funds to PLDB
4. Act as a link between PACS and CLDB.

functions of PLDB

1. Area orientation at Taluka & sometimes group of village
2. Provide long term loan directly to farmer for purchasing land, construction of farm building, purchasing big equipments, development of irrign facility, levelling of land.

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Exercise No. 05

Study of self help Groups (SHGs)

SHG :-

It is small voluntary association of poor people specially from same social economic background.

They come together for the purpose of solving their common problems through self help and mutual help.

Self help group promotes small savings among its members savings are with bank account of nearest commercial bank or RRB or co-operative banks.

- SHG having 15-20 members
- NGO, social worker, health worker, village level workers govt dept helps to farmulate the SHG.

Objectives of SHG :-

1) They act as forum for the members to provide space and support to each other.
2) To create group feeling among the members.
3) To enhance the confidance and capability of members.

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4) To develop the collective decision making among the members.

5) To encourage the habit of saving

6) To motivate the members for social responsibilities particularly related to development.

Indicator of good SHG.

1) Homogeneous membership :
All the members should be same on socio. economic background.

2) No discrimination :-
No any discrimination among the members based on caste, religion, political part.

3) small membership
members number should be in betn. 15 to 20.

4) Regular attendance
Regularity in attendance for weekly or monthly meeting held by SHG members.

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5) Transperancy in functioning :

6) Thrift :

Habit of thrift among the members.

SHG bank linkage programme < (1992) by the gov.

models.

1) members $\xrightarrow[\text{(Kept)}]{\text{Saving}}$ SHG $\longrightarrow$ Bank

identified member & provide loans.

2) member $\longrightarrow$ SHG $\longrightarrow$ Bank (does not identified members)

identified needed people

3) member $\longrightarrow$ SHG — Bank

NGO's (guidance to SHG) $\rightarrow$ (not intrested in financial decision)

4) member $\longrightarrow$ SHG — NGO $\longrightarrow$ Bank

SHG depend on NGO.

(NGO involved in financial decision)

5) Man $\longrightarrow$ SHG $\longrightarrow$ Bank $\longrightarrow$ Govt.

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Exercise No. 06.

Study of farmer service society (FSC)

FSS (farmer service society)

The societies are well organized & registered co-operative bodies.

→ PACS has limitations for rural areas so NCA, it is observed that

felt need of separate societies for meeting the urgent need of weaker section like small farmer, marginal farmer, Agricultural labour, Rural artisans & fss where established in 1971.

~~Foundatio~~ functions of FSS

1) To supply all type of loan i.e short, medium, long term loan to weaker section.
2) To provide required input and technical guidance for development of agriculture.
3) To encourage off side business of agriculture like sericulture, dairy, fishery, poultry etc.
4) To develop or improvements in agril market.
5) To collect the deposit & small savings.

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Exercise No. 7

Estimation of credit limits under KISAN CREDIT CARD (KCC)

Introduction :

- RBI along with national bank for agriculture & rural development (NSBSRD) initiated the conception of kisan credit cards (KCC) in 1988-99. In order to assist agriculturist to have easily accessible cash credit facilities.
- The scheme has gained popularity & its implementation has been taken up 27 co. operative Bank & 196 RRB's throughout the country.
- KCC has received wide acceptability amongst bankers & farmers.

* Objectives of KCC

- post - harvest expenses.
- produce marketing loan
- consumption requirement of farmer household
- To meet the short term credit requirement for cultivation of crops.
- working capital for maintainance of farm assest & activities allied to agriculture, like dairy animals.

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Salient features of KCC :-

- farmers to be provided with a KCC & a passbook of card - cum passbook.
- Limit on the basis of operational land holding cropping pattern & scale of finance.
- Limit for entire production credit card need for full year plus ancillary activities related to the crop production.
- Card valid for 3 years subject to annual review.
- withdrawals through slips/ cheques accompanied by card & passbook.
- Each drawal to be repaid within 12 months.
- security, margins, rate of interest etc. as per RBI norms.
- KCC loans for notified crop covered under RKBY.

Eligibility of KCC.

- All farmers - individuals joint borrowers who are owner cultivators.
- self - help groups of tenant farmers.

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- individual farmer will be issued with repays debit cards.
- The farmer should not be a defaulter to any of the financial institutions.

How KCC scheme works.

KCC are issued to the farmers on the basis of their holding & other criteria such as timely payment of past credit.

- under KCC scheme, the loan amount is disturbed in cash through drawings made via withdrawls slips accompanied by KCC - cum passbook.
- cheque books are also issued to literate KCC holders enjoying KCC limit of ₹50000 & above.

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Rate of interest for KCC

Sr. NO	Bank name	Interest Rate
1)	SBI	11.30 - 1330.
2)	ICICI Bank	9.70 - 12
3)	Axis Bank	9.90 - 13.65.
4)	Indian Bank Rupay.	9.70 - 11.70
5)	~~India~~ Allahabad Bank Rupay	7
6)	Bank of Baroda	7 - 11.65.

* Intrest & other charges KCC.

- The intrest rates on kisan credit cards varies from Bank to bank & also on borrowing limits.
- Generally 9% per annum interest rate is charged for KCC & borrowing limit upto 3 lakh.
- However, ventral government provides intrest subvention to the financing institutions.
- Apart from that there are some overhead costs for borrowing under KCC.

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Delivery channels.

1) Through branch
2) Using cheque facility
3) Through ATM
4) Through ultra small branches
5) Through post available with input dealers.

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Benefits of KCC scheme

- simplifies disbuesement proceduees
- Remove rigidity regarding cash & kind
- No need to apply for a loan for every crop.
- Helps by on cash- avail discount from dealers.
- credit facility for 3 years no. need for seasonal income.
- maximum credit limit based on Agril. income.
- Repayment only after harvest
- Rate of interest is applicable to agriculture advance.
- security, margin & decomentation norms as applicable to agril. advance.
- Acess to adequate & timely credit to farmer.
- flexibility to draw cash & by inputs.

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Exercise No. 08.

Techno. Economic parameters majors.

1) Undiscounted measures of project work.

a) Ranking by inspection
b) Pay - back period
c) proceeds per unit of outlay
d) Anual proceeds rupee outlay.

2) Discounted measures.

a) Net present worth (NPV / NPW)
b) Internal rate of return (IRR)
c) Benefit cost ratio
d) profitability index.

3) Discounted measures.

a) NPV / NPW

The most straight forward discounted measures of project worth is the net present worth. This is simply the present worth of the incremental net profit or incremental cash flow stream.

$$\text{Net present worth} = \frac{\Sigma B_t}{(1+i)^n} - \frac{\Sigma C_t}{(1+i)^n}.$$

B_t = Benefit in each year
C_t = cost in each year
n = No. of years
P = interest rate
$t \rightarrow 1, 2 \cdots n$

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2) B : C ratio

The second discount measures of project worth is the benifit - cost Ratio.

This is the ratio obtained when the present worth of the gross benefit steeam is divided by the present worth of the gross cost steeam.

$$B : C = \frac{\frac{Bt}{(1+i)^n}}{\frac{Ct}{(1+i)^n}}$$

Q. calculate NPV/NPW, B:C ratio with following data.
Discount rate is 10%.

1	2	3	4	5	6
No. of yr.	Total cost.	Total return benefit.	Discount factor	Discount cost	Discoun benefi
1	17	5	0.909	15.45	4.545
2	12.50	8	0.826	10.32	6.608
3	13.00	11	0.751	9.763.	8.261
4	5	15	0.684	3.42	10.26.
5	5	15	0.621	3.10	9.315
6	17	10	0.564	9.583	5.64
7	5	15	0.513	2.565	7.695
8	5	15	0.466	2.33	6.99
9	5	15	0.4242	2.121	6.363
10	5.	15	0.3952.	1.94	5.78
				60.602	71.457

Discount factor

$$= \frac{1}{(1+i)^t}$$

1) for 1st yr $= \frac{1}{(1+0.1)^1} = \frac{1}{1.1} = 0.909.$

2) for 2nd yr $= \frac{1}{(1.1)^2} = 0.826.$

3) for 3rd yr $= \frac{1}{(1.1)^3} = 0.751.$

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4) for 4th yr $= \frac{1}{(1.1)^4} = 3.42$

5) for 5th yr $= \frac{1}{(1.1)^5} = 3.105$

6) for 6th yr $= \frac{1}{(1.1)^6} = 9.588$

7) for 7th yr $= \frac{1}{(1.1)^7} = 2.565$

8) for 8th yr $= \frac{1}{(1.1)^8} = 2.33$

9) for 9th yr $= \frac{1}{(1.1)^9} = 2.121$

10) for 10th yr $= \frac{1}{(1.1)^{10}} = 1.94$.

∴ Discount cost =

∴ Discount factor × Total cost

1m (2 × 2)

1) for 1st yr = 0.909 × 17 = 15.45
2) for 2nd yr = 0.826 × 12.50 = 10.32
3) for 3rd yr = 0.751 × 13 = 9.763.
4) for 4th yr = 0.684 × 5 = 3.42
5) for 5th yr = 0.621 × 5 = 3.105.
6) for 6th yr = 0.564 × 17 = 9.588
7) for 7th yr = 0.513 × 5 = 2.565
8) for 8th yr = 0.466 × 5 = 2.33
9) for 9th yr = 0.4242 × 5 = 2.121
10) for 10th yr = 0.3952 × 5 = 1.94.

Discounted benefit.

Discounted factor × Total return

∴ NPV = Σ discounted benifit − Σ discounted cost

= 71.457 − 60.60

= 10.857

∴ B:C ratio

$= \frac{\Sigma \text{ discounted benefit}}{\Sigma \text{ discounted cost}}$

$= \frac{71.457}{60.60}$

= 1.179.

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Q2) Calculate NPV/NPW, BC ratio, with following data.

Discount rate 12%

No of yr	2 Total cost	3 Total return benefit	4 Discount factor	4×2 Discount cost	3×4 Discount benefit
1	17	5	0.892	15.164	4.46
2	12.50	8	0.797	9.9625	6.376
3	13	11	0.7122	9.2586	7.834
4	5	15	0.6355	3.1775	9.532
5	5	15	0.5674	2.837	8.511
6	17	10	0.5065	8.6122	5.066
7	5	15	0.4523	2.2615	6.7845
8	5	15	0.4038	2.019	6.057
9	5	15	0.3606	1.803	5.409
10	5	15	0.3219	1.6095	1.6095
				56.7048	61.639

Discounted factor $= \frac{1}{(1+r)^t}$

NPV = Σ discounted benefit − Σ discounted cost

= 61.639 − 56.7048

= 4.935

B)

BC ratio $= \frac{\Sigma \text{ discounted benefit}}{\Sigma \text{ discounted cost}} = \frac{61.639}{56.7048}$

So

= 1.087

Exercise No. 09

Agricultural projects – evaluation project phases.

Projects

It is an investment activity meant for providing the returns for specific clientele group for specific activity. Specific objective & specific area development. It should facilitate analysis in planning financing implementation, monitoring controlling & evaluation.

Phases in project cycle

The important phases in project cycle are :

- Concentration conception or identification
- formulation or identification
- Appraisal or analysis
- implementation
- monitoring & evaluation

Project is considered as a cycle because each phase not only grows out of the preceding one, but leads into the subsequent phase & it is a self renewing cycle. so that new projects come out of the old ones in a continuous manner.

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1) Conception or identification of the project:

In Agril. project, cost are easier to identify them benefits because the expenditure pattern is easily visualized.

- Project cost : These include the value of the resources in maintaining & operating the projects.
- Associated costs : cost that are incured to produce immediate products and services of the project for use.
- Primary costs or Direct cost

These include costs incurred in construction maintainance & execution of the projects

- indirect cost or secondary cost
- Real costs & nominal costs
- social costs.

3) Appraisal or analysis :

Appraisal should take place before the implementation of the project. it is done independently be specialists, in the appraisal stage, it is important to know whether the project is technically feasible according to the data available

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The technical data for assesing the feasibility of the project should be consistent with the information available in the office or the sanctioning authority or elsewhere. marginal aspects ~~usin~~ play a key role in the project appraisal project become abortive due to the failure to consider marginal aspects.

Implementation :-

This is the most crucial phase of the project cycle. The secrete of successfull implementation depend upon the extent of relism put into the plans deacon before hand, it is often not uncommon to notice our plans getting derived from the reality.

project implementation can be divided into three diff^n periods viz. investment period, development period & full production period.

implementing Agency should ensure that the beneficiaries do continue to receive benefit during the entire life span of the project.

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Monitoring

monitoring is the timely collection & analysis of data on the progress of a project, with the objectives of identifying constraints which impede successfull implementation. This is highly desirable, particularly when project fail, to be completed as per time schedule or in or the process of attaining the set goals, it is imperative to get the feedback on the problems feed so that effective measures can be taken up to plug the deficiencies which hamper the speedy implementation. monitoring has to be done continously to offset various shortcoming that crop up from time to time with regard to various aspects of implementation.

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Evaluation :-

This is the last phase of the project cycle. it is not confined to the completed project. evaluation can be several times during the life of a project. in the evaluation process, it is important to see, how far the objectives may be analysed & appropriate soln to such failure aswered. evolution process is completed in three phases. They are mid-course evaluation, concurrent evaluation & ex-post evaluation.

evaluation is done by the agency ~~af~~ other than the implementating one. like financing bank a sponsoring agency or Government.

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Exercise No. 10

Credit Requirement for cultivation of Different crops.

Cultivator invest in his farm either from his own saving or he has to borrow from other financing agencies. private agencies do not ask for many documents while giving loan but their interest rate is high. institutional credit is the main source of credit to the cultivator.

Co-operated & commercial Banks provides various kinds of credit to cultivator.

Information needed for assessment of credit requirement.

1) per hactare physical input requirement with their market price
2) per ha. yield obtained (main + by product) with their sale price.

Approaches of credit assesment.

Generally therefore two main approaches for assesment of credit requirement

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A) percent proportion to gross value of the produce.

In this approaches 33% or $\frac{1}{3}$rd of the value of main produce + by produce should be considered as a credit requirement

A) percent proportion to gross value of the produce.

In this approaches 33% or 1/3rd of the value of main produce + by produce should be considered as a credit requirement.

B) percent proportion of a Actual input cost as per recommended level.

Required credit = 50% of labour cost + input cost $\times \frac{75}{100}$

Example

Credit requirement by input & labour cost method involve following steps.

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1) calculate individual input cost & make a addition of total input costs (don't consider labour cost)
2) Calculate total labour cost
3) calculate 50 % of total labour cost.
4) make a addition of total input cost + 50 % of total labour cost.
5) calculate 75% of 4th points.

Calculate credit requirement by income & labour method.

Credit requirement

① input labour cost method.
② Income method.

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Q. 1

Sr. No	Item	Unit	quantity		Rate/unit		Amount
1)	Seed	Kg	9	X	90	=	810
2)	Fertilizer						
	N	Kg	80		10.87		869.6
	P		40		23.12		925.8
	K		40		7.73		309
3)	Manures	Tons	03	X	1000		3000
4)	Plant protection	Lt/lit					5315.4
5)	Irrigation	nos	02		160		320
	Total input cost =					Total cost	7735.4
6)	Hired labour						
	Male		59		80	=	4720
	Female		121		50		6050
7)	Bullock Pair	nos	25		150		3750
8)	Total labour cost					Total =>	14,520

Rent of total labour cost $\frac{14520}{2} = 7260$

Total cost + 50% labour cost 7735.6 + 7260 = 14995.6

75% of total = 11246.7

Total gross produce => Total main P + T. By prod

Income method.

a) Total main produce

b) Total by produce

1) Total main produce (q/r) 30qt × 800 = 24000

Total by produce 7.5 tonn × 1200 = 9000

Gross 33,000.

∴ Take 33% of total income = $\frac{33000 \times 33}{100}$ = 10,890

(allocate =)

1. Seed
2. Fertilizer
3. Manure
4. Plant protection
5. Irrigation
6. Hired labour
   - Male
   - Female
7. Bullock pair
8. Income -
   - Main produce (q/r)
   - By produce

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Sr. NO	Item	Unit	quantity	Rate/unit	Amount
1)	Seed		10	100	1000
2)	fertilizer				
	N		85	10.87	923.95
	P		45	23.12	1040.4
	K		43	7.73	332.39
3)	manures		02	1000	2000
4)	Plant protection		—	—	1200
5)	Irrigation		03	120	360
					6830.94

6)	Hired labour			
	male	55	85	4675
	female	120	60	7200
	Bullock Pair	20	150	3000
				14,875

7)	main Produce	35 qt	10 kg	35000
		5 tonn	1300 tonn	6500
				6850

	Quantity	unit	
Total main Produce	35 qt	10	35000
Total by Produce	5 tonn	1300	6500
			41500

$\therefore$ 33% of total income $= \frac{41500 \times 33}{100}$

$= 13695$

(a)

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I st year

P+I = AI

AI − I = P

① 100 − 12
10,000 − ?
I = 12,00

② 12,00 + 1000
AI = 22,00

③ 10,000 − 1000
B = 9000

II nd year

100 − 12
9,000 − ?
I = 1080

III rd yr.

100 − 12
8,000 − ?
960

IV th

100 − 12
7000 − ?
840

V th

100 − 12
6000 − ?
640

VI th.

100 − 12
5000 − ?
600

10,000 − ?
100 − 12

9 100 − 12
9000 − ?
1080

Repayment plan.

Partial repayment plan.
Loan − 10,000 I = 12%
Period − 6 yrs

10,000

P	I	AI	B
1000	12,00	22,00	9,000
1000	10,80	20,80	8,000
1000	960	19,60	7,000.
1000	840	18,40	6,000
1000	720	17,20	5,000
5000	600	5600	0
10,000	5400	15400.	

Amortized ~~even~~ decreasing repayment plan.

Loan Amnt :- 10,000.

Period :- 6 yr

Interest :- 12%.

P	I	A.I	B
1666.66	1200	2866.66	8333.34.
1666.66	1000	2666.66.	6666.68.
1666.66	800	2466.66.	5000.02.
1666.66	600.	2266.66.	3333.36.
1666.66	400	2066.66.	1666.7
1666.66	200	1866.66	0.
10,0000	4200.		

Principle amount remains same

Interest rate decrease gradually

Installment also decreases

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$$AI = I = P \qquad \frac{25000}{10} = 2500.$$

Amortized even repayment plan.

$L = 15000$ $\qquad I = 10\% \qquad \frac{10}{100} = \underline{\underline{0.1}}$

$P = 5yr.$

P	I	AI	B	
2458.8	1500 ~~2500~~	3958.8	12541.2	
		3958.8		
		3958.8		
		3958.8		
		3958.8.		

$$A = \frac{Pi}{\left[1 - \frac{1}{(1+i)^n}\right]} \qquad \boxed{10 \text{ to } 5}$$

$$= \frac{15000\,(0.1)}{\left[1 - \frac{1}{(1+0.1)^{10}}\right]} \qquad \frac{1500}{\left[1 - \frac{1}{(1.1)^5}\right]}$$

$$= \frac{\cancel{15000}\ 1500}{\left[\cancel{1 - \frac{1}{(10\log 0.1)}}\right]} \qquad \frac{1500}{\left[1 - \frac{1}{1.61}\right]}$$

$$= \frac{\cancel{1500}}{\left[\cancel{1 - \frac{1}{0.41392}}\right]} \qquad \left[\frac{1500}{1 - 0.6211}\right]$$

$$\frac{1500}{0.3789} = \underline{\underline{3958}}$$

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Repayment Plan.

(1) Partial Repayment plan.

- Installment amount can be decreasing except in final year.
- High principle value in last year.

(2) Amortized decreasing

- Principle value - same
  Intrest rate - Decreases.
- ∴ Installment - Decreases

(3) Amortized even.

$$A = \frac{Pi}{\left[1 - \frac{1}{(1+i)^n}\right]}$$

Intrest rate decreases
Principal value Increasing
Installment constant

NPV B:C ratio.

Discount factor $= \frac{1}{(1+r)^t}$

Discount cost = Discount factor × Total cost

Discount benefit = Discount factor × Total return

NPV = Σ Discount benefit − Σ dis. cost.

B:C $= \frac{\Sigma \text{ Dis. benefit}}{\Sigma \text{ dis. cost.}}$

Input method

50 % of Labour input cost

75 % of [input cost + 50% Labour input]

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