JHARKHAND
Rai University
RANCHI

Practical Manual

Course- Agribusiness Management

Course Code- 13A.321

B.Sc. (Hons.) Agriculture Vth Semester

Department of Agriculture

Jharkhand Rai University, Ranchi

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Experiment 1: Study of Agri-input Markets: Seed, fertilizers, Pesticides

Seed

Seed production and its marketing involve a high level of technology and a high standard of proficiency. The seed business is a business of trust. Seed marketing is more complicated and specialized process as compared to other inputs and other agricultural products. Although the Indian seed market is one of the largest, it is almost exclusively supplied by locally produced seeds. Farmers retain seed of major food crops (wheat, rice, sorghum, millet, corn, and pulses) and commercial crops for many years, and the largest volume of seed trade involves local exchanges of established self-pollinating varieties. The use of hybrid seeds is mostly confined to cotton, and to some extent to corn, millet, sunflower, and few vegetables. However, awareness about the high yield and quality of produce from hybrid seeds, attracting farmers to switch over to hybrids is growing. The Indian seed industry is to be dominated by public sector seed companies. However, following the easing of government regulations and the implementation of a new seed policy in 1988, the private sector seed companies have started playing a major role in seed development and marketing. More recently, the government's decision to embrace biotechnology as a means of achieving food security has attracted several leading biotechnology-focused multinational seed companies to India. The composition of the seed industry, by volume of turnover, has reportedly reached a ratio of 60:40 between the private and public sectors. There are number of institutions involved in supply and marketing of quality seeds.

a) **Public Sector Seeds Companies**

Public sector involvement in the seed industry on a national scale began at the beginning of the "green revolution" with the establishment of the National Seed Corporation (NSC) in 1963, which was charged with the responsibility of promoting seed industry development from production through processing, storage and marketing, and establishing a system of quality control. Before that, the Indian seed industry was little developed apart from a small number of private companies dealing with high value vegetable and flower seeds. In the initial years of operation, the NSC concerned itself mainly with foundation seed production and with seed certification after the enactment of Seed Act in 1966. The State Seed Corporations (SSC) were established later with support from the World Bank, initially in

nine states, and later expanded to cover 13 states, for production and handling of seed in their respective states.

The role of public sector seed companies is now mostly confined to certified seeds of high volume, low value segment of high yielding varieties of cereals, pulses, and cotton with a limited presence in the high value hybrid sectors of cotton, cereals, and vegetables. Wheat and paddy seed constitutes a major share of the seeds handled by them. The NSC and SSCs work closely together to coordinate procurement and sales prices as well as variety demand and supply. Their presence is considered necessary by the government to ensure the availability of reasonably priced seeds of major crops throughout the country and to make sure that private sector seed companies do not enjoy and exploit unreasonable market power. The public sector seed companies, however, lag behind in research; they are mostly dependent on public research institutions, under the guidance of Indian Council of Agricultural Research (ICAR) and State Agricultural Universities (SAUs) for their breeder seed requirements.

b) **Private Sector Seed Companies**

Easing of government regulations in the late 1980s spurred enormous development within the seed industry by attracting several foreign seed companies to India. While some of them (like Cargill) entered through joint venture partnerships with Indian seed companies, some others already had a presence in India through affiliate companies (like Hindustan Lever). Currently, some 500 hybrids of field crops and vegetables are being marketed, as truthfully labelled seeds, mostly by private seed companies. The private seed sector now comprises some twenty or so large players (with sales turnover exceeding Rs.200 million), several medium companies (sales turn over between Rs. 200 million and 20 million), and a large number of small, unorganized players (sales turnover less than Rs.20 million) with local presence. The private seed industry is now undergoing a transition following the Indian government's focus on biotechnology research, as a means of increasing agricultural production and also driven by trends in the domestic and world seed market. Intensifying international competition, increasing R&D costs, and the complexity of biotechnology have led to increased consolidation of the Indian seed industry with several of the large and medium companies merging or being taken over by multinational seed companies. Most large multinational seed companies now have their presence in India (either as a joint venture

or with 100 percent equity) with their main focus on biotechnology. These include Monsanto, Bayer Crop Science, Syngenta, Advanta, Hicks-Muse-Tate, Emergent Genetics, Dow Agro, Bioseed Genetics International Inc., Tokita Seed Co, and Nunhems Zaden BV.

c) **Public-Private Sector Cooperation**

Cooperation between private sector seed companies and public research institutes under ICAR, SAUs, and the International Crop Research Institute for Semi-Arid Tropics (ICRISAT), supported by the Consultative Group on International Agricultural Research (CGIAR), is growing. Public sector breeder seeds are available free of charge to private seed companies with no strings attached. The AICT annual workshops provide venues to private sector seed companies to assess what is available with public research institutes.

ICRISAT recently introduced a live-in campus for private sector researchers to use the institutions‟ facilities and expertise. ICRISAT is focusing more on private sector partnerships for funding reasons and also because of private companies‟ effectiveness in getting the research result out to farmers. ICRISAT is currently reviewing its policy of keeping all research in the public domain and is considering licensing/royalties/exclusive rights. Private companies can also fully fund research at SAUs for exclusive rights on the results and/or hire professors as consultants, although the degree of cooperation varies from state to state.

Fertilizers:

The **Indian Fertilizer Industry** is one of the allied sectors of the agricultural sphere. India has emerged as the third largest producer of nitrogenous fertilizers. The Indian government has devised policies conducive to the manufacture and consumption of fertilizers. Numerous committees have been formed by the Indian government to formulate and determine fertilizer policies. The dramatic development of the fertilizer industry and the rise in its production capacity has largely been attributed to the favourable policies. This has resulted in large scale investments in all three sectors viz. public, private and co-operative. At present there are 57 large scale fertilizer units. These manufacture an extensive range of phosphatic, nitrogenous and complex fertilizers. 29 of these 57 units are engaged in the manufacturing of urea, while 13 of them produce Calcium Ammonium Nitrate and Ammonium Sulphate. The remaining 20 fertilizer plants manufacture complex fertilizers and DAP. There are also a number of medium and small scale industries in operation, about 72 of them.

The Department of Fertilizers is responsible for the planning, promotion and development of the Fertilizer industry. It also takes into account the import and distribution of fertilizers and also the financial aspect. There are four main divisions of the department. These include Fertilizer Imports, Movement and Distribution, Finance and Accounts, Fertilizers Projects and Planning and Administration and Vigilance. It makes an assessment of the individual requirements of the states and union territories and then lays out an elaborate supply plan.. Under the administrative control of the Department of Fertilizers, there are 9 public sector undertakings. The cooperative societies count two in number. The private sector has also contributed to the Indian fertilizer industry. Some of the notable Private companies to contribute to the production are Chambal Fertilizers and Chemicals Limited and Tata Chemicals Limited. The private sector produced 44.73% of nitrogenous fertilizers and 62.08 % of phosphate fertilizers in 2006-07. The Indian large size fertilizer units manufacture wide varieties of nitrogenous and phosphate/complex fertilizers. As in 2005-06, these large-scale fertilizer units count 56. In addition to the nitrogenous and phosphatic/complex fertilizers, the large-scale units produce urea and ammonium sulphate as a by-product. The single super phosphate is produced in India by 9 units. Besides, there are 72 small and medium scale fertilizer units. These units operate mainly to produce SSP. With the formulation and implementation of investor friendly policies, large investments poured into the private, public and co-operative sectors and this propelled the growth of the Indian fertilizer industry.

Some of the major fertilizer companies in India (in the public sector) are as follows:

1. Fertilizer Corporation of India Limited (FCIL)
2. Hindustan Fertilizer Corporation Limited (HFC)
3. Pyrites, Phosphates and Chemicals Limited
4. Rashtriya Chemicals and Fertilizers Limited (RCF)
5. National Fertilizers Limited (NFL)
6. Projects and Development India Limited (PDIL)
7. The Fertilizers and Chemicals Travancore Limited (FACT)
8. Madras Fertilizers Limited (MFL).
9. FCI Aravali Gypsum and Minerals India Limited, Jodhpur

Some of the other companies engaged in the production of fertilizers are listed below:

1. Paradeep Phosphates Limited (PPL)
2. Neyveli Lignite Corporation Ltd. (NLC)
3. Hindustan Copper Limited (HCL)
4. Steel Authority of India Limited (SAIL)

Private Companies Producing Fertilizer in India:

1. Khaitan Chemicals and Fertilizers Limited
2. Mangalore Chemicals
3. Nagarjuna Fertilizers
4. Zauri Chambal. 5. BEC Fertilizers
6. Gujarat State Fertilizers and Chemicals Limited.
7. DSCL

Some of the other private companies engaged in the production of fertilizers in India are listed below:

1. The Scientific Fertilizer Co Pvt Ltd
2. Coromandel Fertilizers
3 Deepak Fertilizers and Petrochemicals Corporation Limited
4. Apratim International
5. Aries AgroVet
6. Devidayal Agro Chemicals

Defects in Fertilizer Marketing

i. The number of sale points are still inadequate.

ii. At many sale points, the fertilizers are not stocked at a time when farmers want to purchase. iii) Fertilizers are prone to adulteration and several cases of adulteration have been reported.

iii. When the supply is less than the demand for fertilizers in an area, during a specified season, the dealers charge a price higher than the statutory or normal price.

iv. Farmers in many areas do not have cash to pay for the fertilizers. Short term loan or crop loan from the banks is meant to meet this requirement. But if credit proposals are not processed in time to enable the farmers to buy the fertilizers on credit, the sale of fertilizers gets a set-back in such areas.

Pesticides:

- Broadly termed Agrochemicals, these (pesticides) are used in the agriculture sector.
- Pesticides first used in India in 1948 - DDT used for malaria control.
- Agriculture usage of pesticide commenced in 1949 - BHC for locust control
- This industry has a vital role to play in the Indian economy - nearly 30% of potential crop is lost due to insects, weed and rodent attack

Insecticides	**Fungicides**	**Herbicides**	**Weedicides**	**Rodenticides**	**Fumigants**
DDT	Captan	Butachlor	Isoprotanan	Zinc phosphate	Aluminium phosphide
Malathion	Captfol	2,4 - D	Basalin		Methyl bromide
Methyl Parathion	Thiren		Glyphosaic		
Fenthion	Zirem		Paraquat		
DDVP	Carbendazim		Alachor Diuren		
Dimethoate Quinalphos	Cabxim				
Anilophos;	Manlozeb				
Monocrotophos					
Phosphamidon					
Ethion endosulphan					
Fenvalerate,					
Phonate					

- Decline in sales in the last two years was primarily due to lower pest build up (decrease in pest attacks). production was also affected due to erratic rainfall in some states
- Demand expected to pick up in the next few years

User Segments

- Major disparity in crop wise and region wise consumption.
- Consumption tilted towards cash crops, which consume over 60% of the pesticides.
- Among the cash crops, cotton alone accounts for over 45% of its pesticide consumption
- Amongst the non-cash crops, rice accounts for 22% of its pesticide consumption
- Since Andhra Pradesh, Karnataka Gujarat, Punjab and Maharashtra are the major growers of cotton and rice, they account for over 70% of the consumption

Industry

Industry Structure

- Characterised by technical grade manufacturers and formulators
- Over 40 technical compounds manufactured in India by 60 companies
- Top 5 companies account for over 50% of the market, top 13 cater to over 95%.
- The formulation market consists of over 500 formulators
- R&D efforts in India directed towards fine tuning manufacturing process resulting in volume growth and operating margins being healthy
- Sales primarily thorough a distribution network - distributors and dealers

Major Players

- Rallis India - Plants at Derabassi,

  Belapur, Marore, Palghat, Mulund,

  Ambattur and Ankaleshwar
- United Phosphorous - Vapi, Ankleshwar
- Excel India - Roha, Jogeshwari,

Amboli, Bhavnagar

- Novartis - Santa Monica, Kandla
- Bayer - Mumbai, Bangalore
- NOCIL - Mumbai
- Monsanto Chemicals - Lonavala
- Nagarjuna Fertilisers - Kakinada

Experiment 2: Study of Output Markets: Grains, Fruits, Vegetables, Flowers

Food Grain (Wheat)

Marketing channels are **routes through which agricultural products moves 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.

1. Marketing channels for wheat

There are different marketing channels for different agricultural commodities in India.

1) Producer - Consumer (Direct channel)
2) Producer - Village shopkeeper - Wholesaler - Retailer - Consumer
3) Producer - Primary wholesaler - Secondary wholesaler - Retailer – Consumer (Most common channel)
4) Producer - Itinerant Merchant - Wholesaler - Retailer - Consumer
5) Producer - Primary wholesalers - Flour or Dal mills (as the case may be) – Retailers - Consumers.
6) Producer - Government Agency (FCI etc) - Fair price shop Owner – Retailer – Consumer
7) Producer - Co-operative marketing society - Retailer - Consumer
8) Producer - Wholesaler - Retailer - Consumer

2. Marketing Costs, Margins and Price spread

a. Marketing Costs: - Marketing costs are the **actual expenses** incurred in marketing process.

b. Marketing Margins: Marketing margins are the **actual amounts received by the marketing agencies** in the marketing process.

Marketing costs include outlays for **transportation and storage** from point to point as producer moves to market, they include the margins taken out by various wholesale middlemen, and the marketing expenses producers who market their own products, they include the cost of retailing and also the expenses involved in inspection, standardization,

assorting and packaging, in financing and in risk taking and in gathering, dissemination and interpreting market news.

c. <u>Price Spread</u>:- The **difference between the consumer's and the producer's price** is known as price spread.

3. <u>Total cost of marketing</u> :- The total cost, incurred on marketing either in cash or in kind by the producer - seller and of the various intermediaries involved in the sale and purchase of the commodity till the commodity reaches the ultimate consumer, which may be computed as follows –

Table 1 : Per Quintal Marketing cost of wheat

Particulars	Quantity in Qt.	Rate/Qt. Rs.	Total cost(Rs.)
(1**) Cost incurred by the cultivator**			
(1) Transportation charges	100	0.50	50.00
(2) Octroi	100	0.25	25.00
(3) Labour charges for unloading	100	0.25	25.00
	Sub-total	(a)	100.00
(II) **Cost incurred by Wholesaler**			
(1) Cost of gunny bag (Rs. 5 - Rs.4) purchase price minus sale price	100.00	1.00	100.00
(2) Labour charges for filling and stitching	100	0.20/bag	20.00
(3) Weighing charges (Purchase price Rs. 460/qt.)	Rs.46,000 worth of produce	0.25 of the value	115.00
(4) Commission	Rs. 46000	1 % of the value	460.00
(5) Market Fee	Rs. 46000	1.00 % of the value	460.00
6) Labour charges for loading on trucks	100 bags	0.25/bag	25.00
(7) Truck transportation	100 bags	1.50/bag	150.00
(8) Octroi	100 bags	0.25/bag	25.00
(9) Labour charges for unloading from truck	100 bags	0.20/bag	20.00

	Subtotal Rs.	1375.00

Particulars	Quantity in Qt.	Rate/Qt. Rs.	Total cost(Rs.)
(III) Cost incurred by the retailer			
(1) Cost of gunny bags (Rs.400-Rs.300)	100 bags	1.00/bag	100.00
(2) Commission on value of the produce (Purchase price Rs. 485/qt)	Rs. 48500	1% of the value	485.00
(3) Market Fee	Rs. 48500	1 %	485.00
(4) Weighing charges	Rs. 48500	0.4%	194.00
(5) Transport charges	100 bags	0.50/bag	50.00
	Sub total Rs.		1314.00
Total Marketing cost (a+b+c) Rs. 2789.00 per quintal cost of marketing = Rs. 27.89			

Table : 2 Price spread of Wheat

Particulars	Quantity in 100 Qt.	Per Qt. Cost in Rs.	Percentage Share of
(i) Net price received by the cultivator	45900	459.00	89.12
(ii) Marketing cost	2789	27.89	5.42
(iii) Net Marketing Margins (Total for both the traders net profit earned by them after meeting their costs)	2811	28.11	5.45
(iv) Price paid by the consumer	51,500	515.00	100.00

Conclusions:

(1) The total per quintal cost of Marketing of wheat was estimated to Rs.27.89.

(2) Producer's share in consumer's rupee was 89.12 per unit.

Problem:

A cultivator brought 15 quintals of Paddy in 15 bags to the primary wholesale market and incurred following expenses.

(i) Transportation charges @ Rs.2.50/bag

(ii) Octroi @ Rs.0.70/bag

(iii) Unloading charges @ Rs. 1.25/bag

(iv) Commission charges of the agent @ 2 percent

The produce is auctioned and the wholesaler purchased the produce @ Rs. 500/qt. The commission agent made the payment to the farmer.

The wholesaler incurred the following expenses.

(1) Cost of gunny bag Rs. 5/bag.

(2) Sale tax @4 pe rcent of the value of produce

(3) Labour charges for filling and stitching the bags@ Rs.2/bag.

(4) Commission @3 per cent of the value of the produce.

(5) Market fee @Rs. 1 per cent of the value of the produce.

(6) Weighing charges @ Rs.0.60/bag

The wholesaler has taken the produce to secondary market and incurred the following expenses.

(i) Transport charges Rs. 7/bag.

(ii) Octroi @Rs.0.80/bag

(iii) Loading and unloading @Rs.1/bag.

The wholesaler sold the produce to the retailer @Rs. 610/qt. The retailer sold the paddy to the consumer @Rs.750/- qt.

The retailer has made following expenses.

(i) Commission charges @ Rs.2 percent of the value of the produce

(ii) Labour charges @Rs.0.70/bag

(iii) Weighing charges @Rs.0.80/bag

(iv) Market fee 1 per cent of the value of produce

(v) Cost of packing @Rs.10/bag

From the above data calculate the total marketing cost and producer's share in the consumer's rupee.

STUDY OF OUTPUT MARKET (Fruits- Grape)

A large number of agencies operate in the assembling of grape.

a) Grower

b) Contractor

c) Itinerant merchants

d) Forwarding agents

e) Fruit growing agents/associations

(I) **Distribution**

The commission agent is the pivot of the whole system of fruit distribution. After living the vineyard and before reaching the consumer the fruit has to pass through several agencies such as contractors, commission agents wholesalers and retailers.

(II) Price Spread from consumer to producer - Nasik grapes sold in Mumbai market

Sr. No.	Particulars	Amount (Rs.)	% Share
1.	Net amount received by the grower	21.87	48.6
2.	Transport charges incurred by the grower		
	a) Farm to Nasik and Nasik to Nasik road railway station	0.31	4.2
	b) Railway freight from Nasik road to Mumbai	1.56	
3.	Packing charges incurred by the grower	1.25	2.8

4.	Commission etc. deducted at Mumbai	5.00	11.1
5.	Wholesale price	30.00	33.3
6.	Retailer's profit	15.00	
7.	Price realized by the retailer / paid by the consumer	45.60	100.00

It can be revealed from the Table 1 that the producer's share in consumer rupee in the marketing of grapes in Mumbai market was 48.6 per cent while the retailer's share was observed to the extent of 33.3 per cent of the retail price. The total share of both market agencies accounted to 44.4 percent of the retail price. This show that in marketing of grapes the producers get a less share of consumer rupee.

(III) **Market charges**

1) Commission : It is the remuneration of the commission agent for his services in arranging the sell of the produce.

2) Market fee 3) Transport cost 4) Charity 5) Octroi

6) Miscellaneous expenses

Table :- Percentage share of marketing margins and net price received by the producer in the price paid by consumer's of grapes in different markets.

No.	Market	Consumer's price	Total marketing cost	Traders commission and profit	Net price received by producer
1.	Delhi	100	32.22	22.54	45.24
2.	Bangalore	100	30.46	21.94	47.60
3.	Calcutta	100	33.80	23.18	48.02
4.	Madras	100	33.27	22.75	43.98
5.	Ahmedabad	100	33.67	22.14	44.19
6.	Mumbai	100	32.30	22.60	45.10

It can be revealed from the table that the total marketing cost at different markets range from 30.46 to 33.8 % and commission and profit of traders formed 21.94 to 23.61% of the consumer

price. The net price received by producer at different markets ranged from 43 - 48 % of the consumer's price.

STUDY OF OUTPUT MARKET (Vegetable)

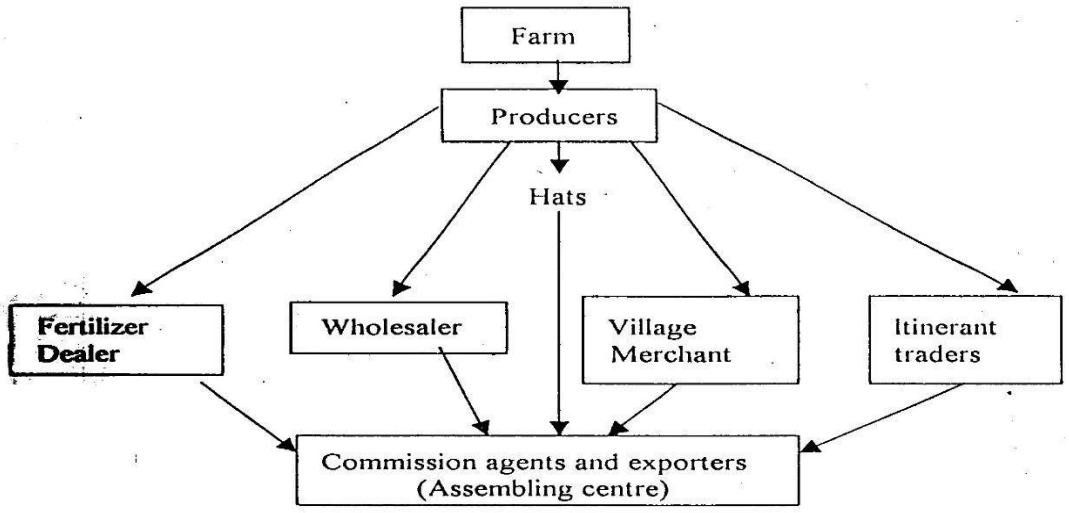
ESTIMATION OF MARKETING COST AND PRICE SPREAD FOR VEGETABLES IN DIFFERENT CHANNELS OF MARKETING

1) **Assembling of the Potatoes** - The large producing centres lie at considerable distance from the consuming markets. It is, therefore, not convenient for the growers and consumers to meet and arrange direct sales.

The potatoes are assembled by the following agencies.

1) Producers 2) Village merchants 3) Itinerant traders 4) Fertilizer dealers 5) Wholesale merchants and commission agents 6) Producer's co-operative societies

Channels of distribution of potatoes:-



Market charges: - The produce of potato exchanges hands at a large number of places before it finally reaches the consumers. Various expenses are incurred from the time the potatoes pass into the municipal limits of a city till they reach the buyers godwon in the market. The market charges fall under the following heads.

1) Commission 2) Market fees 3) Handling charges 4) Charity

5) Railway expenses 6) Octroi and terminal tax 7) Miscellaneous expenses

Haulage: Amount for the cartage of the produce from the market to the railway station is charged by the commission agent is known as haulage.

III) **Price spread from consumers to producers:-**

Potatoes, after leaving the producer's holding, pass through several agencies before they are finally consumed. Everyone through whom the goods pass makes a charge for the services rendered by him. The cost of distribution increases according to the number of times the commodity changes before it reaches the final consumer. It is important to know as to what share of price paid by the consumer is going to the producer and to the various agencies engaged in the distribution of potatoes.

Table 1 **: Spread over of consumer's price**

Sr. No.	Shares	Charges/qtl. (Rs.)	Percentage
1.	Producer's price in the village	290.00	77.39
2.	Cartage and octroi	21.90	5.33
3.	Assembling charges paid by the sellers	14.40	3.18
4.	Seller's margin	8.90	2.03
5.	Price received by sellers	335.20	87.93
6.	Assembling charges by the buyers	1.60	0.53
7.	Wholesaler's margin	10.40	2.82
8.	Retailer's purchase price	347.20	91.28
9.	Retailer's cost of assembling	12.50	3.12
10.	Retailer's margin	21.50	5.60
11.	Retailer's sale price or consumer's price	381.20	100.00

It is evident from the above table that the producer's share in consumer's rupee for the sale of potato is 77.39 % at his village level and 79.42 % in the wholesale market, while that of wholesaler 2.82 % and retailer 5.60 %

Example:- PER QUINTAL COST OF MARKETING AND PRICE SPREAD OF TOMATO

Table 2: Per quintal cost of marketing of Tomato in Mumbai market.

Sr. No.	Item	Cost (in Rs.)	Percentage
1.	**Packing**	52.00	31.74
2.	Transport	90.00	54.95
3.	Commission	12.00	7.32
4.	**Market fee**	3.40	2.08
5.	Hamali	5.60	3.42
6.	Weighing	0.80	0.49
	Total	163.80	100.00

The per quintal cost of marketing of tomato worked out to Rs. 163.80, the transport cost was the major item constituting 54.95 % of the total cost followed by packaging (31.74 %). The commission charges were 7.32 % to the total marketing cost.

Table 3. Price spread in case of vegetables sold in Pune and Mumbai Market

Vegetable	Market	Consumers Price	Marketing Cost	Wholesale Price	Cost & Margin of intermediari-es	Net price realized by producers
1) Tomato	Pune	307.00 (100)	36.17	162.84	144.67	126.17
		420.00	(11.78)	(52.88)	(47.12)	(41.10)
	Mumbai	(100.00)	66.92	163.81	256.19	96.89
			(15.93)	(39.00)	(61.00)	(23.07)
2)	Pune	358.00 (100)	16.31	162.08	195.92	145.77
		360.00	(4.55)	(45.27)	(54.73)	(40.72)
	Mumbai	(100.00)	21.89	128.09	231.91	106.20
			(6.08)	(35.58)	(64.42)	(29.50)
3) Brinjal	Pune	239.00	13.87	154.38	84.62	140.51
			(5.80)	(64.59)	(35.40)	(58.79)

	Mumbai	(100.00) 325.00 (100.00)	29.02 (8.93)	168.06 (51.71)	156.94 (48.29)	139.04 (42.78)
4) Bhendi	Pune Mumbai	386.00 (100.00) 470.00 (100.00)	17.40 (4.51) 36.58 (7.78)	204.49 (52.98) 225.46 (47.97)	185.51 (47.02) 244.54 (52.03)	187.09 (48.47) 188.88 (40.19)

It is revealed from the table that producer's share in consumer's rupee was more in case of all vegetables marketed at Pune than Mumbai Market while the cost and margin of intermediaries was more in Bombay market as compared to that of Pune Market. The wholesale and retail prices of different vegetables sold in Mumbai market were higher to that of Pune market. Marketing cost was also more in Mumbai market as compared to Pune market. This may be due to transportation cost.

STUDY OF OUTPUT MARKET (Flower)

Flowers are very intimately associated with the social and religious activities in India. In social life, flowers are offered to welcome, to felicities and to greet friends or relatives and guests in functions. Flowers are needed in all the religious ceremonies functions including marriages. Garlands and wreaths are offered on dead bodies of martyrs and very important persons (VIPs) and national heroes as a gratitude for the work done and sacrifice made by them. Flower is a token of love and tenderness. They are wanted due to various attractive colours and fragrance. Flowers are also used for extracting essential oils, which are used in perfumes. Many flowers have medicinal values and hence are used in Ayurveda. In India, large number of flowers are grown in different parts according to soils and climate and also likings and preferences of the people for specific type of flowers. Important flowers are rose, marigold, chrysanthemum, jasmine, lily, tuberose, aster, zinia, carnation, gladiolus, galardia etc. Flowers are tender and hence highly perishable. They are generally used in fresh form but they have very short shelf life. This poses great problems in their marketing, particularly lone distance marketing. Therefore, flower cultivation is concentrated in the hinterland of big cities like Mumbai, Pune, Bangalore, Mysore, Chennai, Calcutta, Delhi etc. But with the development of quick transport vehicles and refrigerated or insulated vans, flowers are transported to distant markets including foreign markets. For successful marketing of flowers,

well-developed markets and well-organised marketing system is necessary. In the marketing of flowers the aspects involved are –

1. Channels of marketing,
2. Costs and margins and price spread and
3. Producer's share in consumer's rupee.

Roses

In Haryana, in the marketing of roses three channels were observed.

Channel I - Producer – Commission agent - Retailer – Consumer (in Delhi market)

Channel II - Producer - Retailer – Consumer

Channel III - Producer - Consumer (Local market)

Since Delhi is a big market, 65% flowers were sold through Channel I and remaining 32% and 3% were sold through Channels II and Channels III. Thus the local market sale was only 3%. Marketing costs, margins and producer's share in consumer's rupee is given below for roses sold after making garlands

Sr. No.	**Particulars**	**Channel I**		**Channel II**	
		Rs/Q.	**%**	**Rs/Q.**	**%**
1.	Producer's share	1465	51.72	1504	53.09
2.	Marketing costs	657	22.91	-	-
3.	Commission charges	99	3.74	622	21.95
4.	Retailer's margin	612	21.61	707	24.94
5.	Consumer's price	2833	100.00	2833	100.00

Price spread of marketing roses in loose form

Sr. No.	**Particulars**	**Channel I**		**Channel II**	
		Rs/Q.	**%**	**Rs/Q.**	**%**
1.	Producer's share	1465	73.08	1504	77.17
2.	Marketing costs	245	12.24	208	18.66

3.	Commission agent's margin	99	4.91	-	-
4.	Retailer's margin	196	9.77	238	12.21
5.	Consumer's price	2005	100.00	1950	100.00

There was increase in value of roses when sod in the form of garlands as shown below: -

A. Price of roses sold in the form of garlands (Rs/Kg.) 2832.50

B. Price of roses sold in loose form (Rs/Kg.) 2005.00

Addition – Rs/Kg. 827.50

Percentage (%) 41.27

Thus, there was increase in the value of roses by 41.27% when sold in the form of garlands.

But the producer's share was reduced from 73% to 52% indicating that the producer was not benefited by increase in value.

Experiment 3: Study of Product market: Retail trading, Commodity trading, value added product

CONCEPT: PRODUCT:

"Product" refers to anything offered by a firm to provide customer satisfaction, tangible or intangible. A product is a bundle of attributes (features, function, benefits and uses). Broadly speaking products fall into two categories: consumer products and business products (also called industrial products and b2b products). B2b means business to business. Consumer products are purchased by the final consumer. Consumer products are classified into four groups based on buying decision, convenience, shopping, special ity and unsought products.

Agro products are basically the consumer products.

Marketing channel:

Product markets is directly linked with marketing channel. Marketing channel, simply speaking, is chain of intermediaries through whom various food/ Agro products /foodgrains / pass from producers to consumers. According to Kohls and Uhl marketing channel is an alternative route of product flows from producers to consumers.

Factors affecting marketing channels:

Marketing channels for agricultural products vary from products to products, lot to lot and time to time. Say marketing channels for fruits are different from those of foodgrain; packaging plays a crucial role in marketing of fruits. Wheats are supplied in the form of wheat and bread. Most eatables are to be cooked and packed properly before they reach the consumers. In India, however, most foodgrains are purchased by the consumers in their form and processed at consumer level.

Lots of products originating at small farms follow different routes or channels from the one originating in large farms. Small farmers generally sell their products to village traders; it may not enter the main market. But large farmers usually sell their products in the main market where it goes to the hands of wholesalers. The produce sold immediately after the harvest usually follows longer channel than the one sold in later months.

With the expansion in transport and communication network, changes in the structure of demand and the development of markets, marketing channels for farm products in India have undergone

considerable changes, both in terms of length and quality. Another point is the level of development of a society or a country determines the final form in which consumers demand the product. Processors play a dominating role in such societies.

Some prevailing practical examples of some day to day used products markets as observed in the fields will clarify the situation:

Marketing of the product cereals: paddy, wheat, cereals.

Marketing channel for various cereals are almost same in India except paddy where the rice millers come into the picture. For pulse crops dal mills come in to the picture. The following diagram gives general marketing channel for general food grains in India.

1. FARMER > CONSUMER
2. FARMER > RETAILER/ VILLAGE TRADER >CONSUMER
3. FARMER> WHOLESALER >RETAILER>CONSUMER
4. FARMER>VILLAGE TRADER >WHOLE SALER>RETAILER > CONSUMER
5. FARMER > COOPERATIVE MARKETING SOCIETY >RETAILER > CONSUMER
6. FARMER > GOVT. AGENCY (FCI ETC. >FAIR PRICE SHOP>CONSUMER
7. FARMER > WHOLESALER > MILLER > RETAILER> CONSUMER.

<u>Marketing of oilseeds:</u>

Marketing of oilseeds are different from those of foodgrains because of extraction of oil from oilseeds is an important function of oilseeds.

1. PRODUCER > CONSUMER WHO DIRECTLY CONSUMES OIL SEEDS / > GETS IT PROCESSED ON CUSTOM BASIS.
2. PRODUCER >VILLAGE TRADER > PROCESSOR> RETAILER > CONSUMER
3. PRODUCER>WHOLE SALER>PROCESSOR>OIL WHOLE SALER> OIL RETAILER > OIL CONSUMER
4. PRODUCER >VILLAGE TRADER >PROCESSOR>OIL CONSUMER
5. PRODUCER >GOVT. AGENCY> PROCESSOR>OIL WHOLE SALER> RETAILER > OIL CONSUMER

Marketing of fruits & vegetables:

Marketing of products like fruits and vegetables vary from commodity to commodity and from producer to producer. In rural and small towns many producers perform the function of retail sellers. Large producers directly sell their products to the whole salers or processing firms. Some of common marketing channels for vegetables and fruits are;

1. PRODUCER > CONSUMER
2. PRODUCER >PRIMARY WHOLE SALER >RETAILERS OR HAWKERS>CONSUMER
3. PRODUCER >PROCESSORS (FOR CONVERSION INTO JUICES,

PRESERVES ETC.)

4. PRODUCERS > PRIMARY WHOLE SALERS >PROCESSORS
5. PRODUCERS >PRIMARY WHOLESALERS > SECONDARY WHOLE SALERS >RETAILERS OR HAWKERS > CONSUMERS.
6. PRODUCERS >LOCAL ASSEMBLERS > PRIMARY WHOLE SALERS> RETAILERS OR HAWKERS >CONSUMERS

Conclusion:

Studies on the product markets for agricultural commodities are practically based on concept of marketing channels which defines the flow of the produce from the producer (farmer) to the consumer. But as the orientation/ commercialization is increasing and the farmers and consumers are located in different parts of different states, different countries the marketing channels that are emerging go across state or even national boundaries. Study of product markets is not static it goes on changing with the change of production, demand, transportation facilities and value additions of the products with the changing pattern of liking of the consumers.

Experiment 4: Study of Financing Institutions: Cooperative, Commercial Banks, RRBs, Agribusiness Finance Limited, NABARD

STUDY OF FINANCING INSTITUTIONS - COOPERATIVE BANKS

Concept:

Financing institutions are the institutions which render supports to the lawfully established bodies / firms/ agencies by way of lending money for carrying out legally accepted viable activities for the welfare of the society. In our country among various types of financing institutions three types are generally well known such as cooperative banks, commercial banks and regional rural banks. These banks accept deposits from public under various deposit schemes against which interest is paid to the depositors and also render financial supports by way of loan, among other activities, to agribusiness activities based on viable schemes and projects within the laws of the land and overall guidance and supervision of RBI. However, each bank has its own financing / lending policy within the ambit of policy guidelines of RBI. Each bank has its own board of directors to run and supervise its own bank.

Cooperative banks are established and empowered to function by the state within the purview of state cooperative act and rules within the overall administrative guidelines and control of reserve bank of India. Each state has its own cooperative bank in the name and style, say west Bengal state cooperative bank. Functions and activities of state cooperative banks are supervised by a board constituted as per provisions of the act and guidelines of reserve bank of India. The acceptance of deposit and lending to the eligible person(s), bodies are guided by the RBI guidelines issued from time to time. Cooperative bank is authorized to accept deposits from the public under different schemes of deposits say, savings bank account, current account, and fixed deposit. Bank has different types of lending schemes to cooperative credit societies, individuals for productive purposes. Cooperative banks play important role of financing farmers and the cooperative societies under various schemes and procedures. The bank plays very important role to help the small and marginal farmers in case of fund for agricultural purposes.

Important feature of lending by cooperative bank:

Important feature of lending by cooperative bank is that it primarily deals with indirect lending. Indirect lending means the bank lends to the cooperative credit societies formed and registered under state cooperative act for specific purpose. In turn the societies relend to the members of the societies formed for specific purposes mentioned in the bye laws. Important feature of cooperative societies is that the societies are to borrow from the cooperative bank and relend to the members of societies. To become a member a person is to pay membership fee and is to purchase share of the society; the share determines the borrowing limit of the member which maybe 10 times of the share purchased by the member. Say if one purchase share of Rs. 100, he can borrow Rs. 1000 from the society. The amount of lending is calculated by the bank on the basis of the share purchased by the member supported by the scheme of utilization of farmers. The limit fixed by the bank on the basis of share, scheme of utilization of fund and the repayment schedule is called credit limit for that farmer. Societies are to maintain three important registers - membership register, share register and land register. Membership register maintains names of members, share register maintains share held by each member and the land register maintains land owned by each member.

Cooperative banks also lend for business purposes but within the overall control and supervision of cooperative credit societies of which the borrower must be a member. The society takes the responsibility of determining the limit of such loan on the basis of scheme and borrowing power based on share purchased by the borrower. Cooperative bank largely relies on the society in respect of sanctioning of loan, its utilization and repayment in time. It deserves mention that such cooperative society is also administered and managed by managing committee/ board of directors who approves the credit limit for each member / society desirous of availing of loan/ credit from cooperative bank. While the bank sanctions loans and also supervises the loan sanctioned. The supervision, utilization and repayment are also the joint responsibility of the society and the bank.

For availing of loan from cooperative bank each society is to submit to the cooperative bank a statement called credit limit statement (CLS) stating therein the names of applicants, their area of cultivation based on land register, share held by each member and the amount of recommended loan approved by the board / managing committee of each society. Such CLS is signed by the applicant *i.e.*, member and approved by the committee in a meeting of the committee / board. Such CLS is prepared for each season / for a year based on cropping pattern. A credit limit for the whole

year is also sanctioned on the basis of schemes and such a pattern of sanction of credit limit for the whole year for different purposes to a particular farmer is called kisan credit card (KCC). Apart from availing of credit for cultivation of crops farmers can also have loan for say, pump set, sprayer, power tiller and for other agricultural implements/ activities etc. based on viable schemes and projects. Such loans are sanctioned to farmers /Agri business purposes individually under direct lending pattern with the approval of the managing committee / board of directors of the concerned cooperative credit society.

Conclusion:

Cooperative banks lend to other legally formed cooperative societies say, marketing societies, consumers' societies, Agro Service Centers, producers' societies etc. For the purpose of carrying out approved technically feasible and economically viable agricultural business activities within the norms of bank and bye laws of that particular society. In case of such individual loan for economic activities the borrower is to prepare viable scheme stating there in the source of fund, owner's capital, scheme for deployment of fund, business projection, risks, return on investment, marketability, surplus, profitability, repayment of loan in time. For all such loans the borrower is to submit projected accounts of business prepared by auditors and audited accounts for previous minimum three years on the basis of which bank sanctions the credit limit. Such limit/ loan may be for short term or medium term / long-term depending on viability, lending and repayment norm of bank and accounting procedure for which sanction letter is issued by bank stating detail of sanction. The borrowers have to follow and comply with the terms of sanction and execute documents with the bank for availing of the loan as per sanction terms.

STUDY OF FINANCING INSTITUTIONS - COMMERCIAL BANKS

Concept:

Commercial banks are generally of two types: public sector banks and private sector banks. All the types of banks are established under the provisions of relevant acts. The banks are supervised by reserve bank of India within the provisions of banking regulations act,1949 amended from time to time. Public sector banks are also called nationalized banks. The biggest bank in India is state bank of India in terms of both business and number of branches.

Functions of all types of public sector and private sector banks are almost of same nature – acceptance of deposits from public on different types of deposit schemes against payment of interest on deposits at varying rates under the main schemes of savings bank scheme, fixed deposit schemes , recurring deposits schemes which are selected by the customers and also current account which bears no interest because of nature of its transactions / handling (deposit and withdrawal) by the customer– for frequent transactions - such current account is generally used by the businessmen for convenience of frequent transactions.

For agribusiness purposes the commercial banks are very useful. As discussed earlier the business establishments / firms/ farms can be of any type – proprietorship/ partnership/ companies/ societies as registered with the concerned authorities. The agribusiness units can open deposit account with the bank on submission of required documents and complying with required formalities of which submission of KYC (know your customer) documents is a must and vital. Business units can also avail credit facilities (loan) from banks on submission of viable project/ proposal for any type of Agri-business. For availing of credit facilities, the business unit has to submit the following documents:

1. Application form duly filled in with KYC documents: if it is under KCC (Kisan Credit Card), scheme is to be submitted.
2. Enclosing registration certificate: proprietorship/ partnership/ society – any acceptable society / cooperative society/ company/ NGO/ SHG:
3. Project/ proposal for loan:
4. Past performance if already functioning with 3/ 4 years' financial performance (audited balance sheet)
5. If new unit, only the projected performance with economic viability report for 3 years.
6. projected financial performance for 3 years.
7. In case of security GOI guidelines have to be followed.

Commercial banks sanction loans in the form of short-term loan for cultivation of crops – under normal lending policy and also based on KCC (Kisan Credit Card) scheme where in production plan for the year based on cropping pattern project/ scheme has to be submitted. Repayment is scheduled synchronizing with harvesting of crops.

For other loans for Agri machineries / long term / project / mid / Agro-Service Center / long term loan is sanctioned stipulating repayment in years in keeping with generation of surplus out of the project. The accounting of loan by bank is maintained in the form of term loan / cash credit wherein the interest is charged as per RBI guidelines for priority sector advances (as defined by RBI such loans for agricultural purposes are categorized as priority sector advance).The rate of interest on priority sector advances is lower than that of other purposes. Viability of such project is an essential credential for quality of credit assessment and disbursal.

STUDY OF FINANCING INSTITUTIONS - REGIONAL RURAL BANKS (RRBs)

Concept:

Regional rural banks (RRBs)are categorized as public sector banks /commercial banks. The banks were established under the provisions of regional rural banks act, 1975. The banks are supervised by reserve bank of India within the provisions of banking regulations act,1949 amended from time to time. RRBs are also called govt. Sponsored banks. The banks are sponsored by the lead banks of the districts of the country. Under lead bank scheme of GOI/ RBI the commercial banks having a greater number of branches and business as well in a particular district have to sponsor and supervise such banks. Share capital of the bank is contributed by GOI 50%, state govt. 15% and lead bank 35%. Sponsor banks have to render support in respect of supervision, monitoring, inspection, manpower planning, business plan and training facilities and also in respect of disciplinary procedure.

RRBs with the amendments of RRBs act can participate in almost all types of activities including clearing / remittance of fund to certain limits.

Initially RRBs were set up district-wise, subsequently RRBs have been merged state-wise or merging covering some districts together as per people convenience.

FUNCTIONS:

RRBs have been set up with the prime objective of serving the rural areas/ rural economy. RRBs are primarily to serve the rural areas both in respect of deposits and advances functions are almost of same nature – acceptance of deposits from public on different types of deposit schemes against payment of interest on deposits at varying rates under the main schemes of savings bank scheme, fixed deposit schemes , recurring deposits schemes which are selected by the customers and also

current account which bears no interest because of nature of its transactions / handling (deposit and withdrawal) by the customer– for frequent transactions-such current account is generally used by the businessmen for convenience of frequent transactions. Sponsor banks have been assigned the responsibilities of supervising the functioning of each bank sponsored by them. Initially 4/5 officers including chairman of the bank were deputed by the sponsor banks to each RRB. Now with the passage of time only chairman and general manager are deputed by the sponsor bank.

For agribusiness purposes the regional rural banks are very useful. As discussed earlier the business establishments / firms/ farms can be of any type –proprietorship/ partnership/ companies/ societies as registered with the concerned authorities. The agribusiness units can open deposit account with the bank on submission of required documents and complying with required formalities of which submission of KYC (know your customer) documents is a must and vital. Business units can also avail credit facilities (loan) from banks on submission of viable project/ proposal for any type of Agri business. For availing of credit facilities, the business unit has to submit the following documents:

1. APPLICATION FORM DULY FILLED IN WITH KYC DOCUMENTS:
2. ENCLOSING REGISTRATION CERTIFICATE: PROPRIETORSHIP/ PARTNERSHIP/ SOCIETY – ANY ACCEPTABLE SOCIETY / COOPERATIVE SOCIETY/ COMPANY/ NGO/ SHG:
3. PROJECT/ PROPOSAL FOR LOAN:
4. PAST PERFORMANCE IF ALREADY FUNCTIONING WITH 3/ 4 YEARS' FINANCIAL PERFORMANCE (AUDITED BALANCE SHEET)
5. IF NEW UNIT, ONLY THE PROJECTED PERFORMANCE WITH ECONOMIC VIABLITY REPORT FOR 3 YEARS.
6. PROJECTED FINANCIAL PERFORMANCE FOR 3 YEARS.
7. IN CASE OF SECURITY GOI GUIDELINES HAVETO BE FOLLOWED.

RRBs like commercial banks sanction loans in the form of short-term loan for cultivation of crops and other agricultural activities – repayment synchronizing with harvesting of crops and under

KCC. Limits for sanction of loans by RRBs under different schemes including small scale industries and purposes are restricted to certain limits. For other loans for Agri machineries / long term / project / mid / Agro service center / long term loan is sanctioned stipulating repayment in years in keeping with generation of surplus out of the project.

The accounting of loan by bank is maintained in the form of term loan / cash credit wherein the interest is charged as per RBI guidelines for priority sector advances (as defined by RBI such loans for agricultural purposes are categorized as priority sector advance).The rate of interest on priority sector advances is lower than that of other purposes. It is lower than commercial banks as per RBI guidelines. Viability of such projects is the criterion for quality of credit. RRBs lend credit supports to small borrowers of the sectors like agriculture, small / village industries animal husbandry, fisheries and small business etc.

STUDY OF FINANCING INSTITUTIONS - AGRIBUSINESS FINANCE LTD.

CONCEPT:

Agribusiness Finance Ltd. Is a private limited company registered under companies act, 1956 (amended in 2013). It is a Non-Govt. Company and it provides fund for sustainable agricultural activities, Agri MSME (Micro, Small and Medium Enterprises) and retail loans. Such company is addendum to other companies / Govt. Institutions / banks. It supports for Sustainable Agribusiness Financing Programme (SAFP).

Apart from this there is agricultural finance corporation also registered and authorized by government of India to extend financial support for Agri business and production agriculture.

FUNCTION:

The company provides credit for agribusiness projects engaged in the production, harvest, processing and marketing of crops, poultry, livestock and fishery as well as other agricultural plantation projects. Eligible borrowers are business entities duly registered with government. eligible loan purposes are for Agri related project development, expansion, acquisition of fixed assets, capital expenditure and working capital, agricultural production on loan, permanent working capital, fruits and vegetables, and high value commercial crop production. Other purposes are farm integration and diversification, plantation projects, agricultural trading, manufacturing

and distribution of farm machinery. Equipment and suppliers, acquisition and development of land as Agri project site and other Agri related businesses.

FINANCE: Finance is provided to agribusiness units based of techno economic feasibility and roi of the proposal / project in order to pay back the borrowed fund in time.it is very important that prior to extending credit support to the agribusiness units the financier has to study the viability of the project in keeping with prevailing market study and various economic , social and also political factors that influence the implementation at every stage of the project, marketability of the product in relation to socio economic factors , other relevant factors, existing government policy and probable policy that may come into force in near future. Procedural details like application, viability of schemes, project appraisal, disbursement, supervision and recovery remain as are practiced by banking system.

STUDY OF FINANCING INSTITUTION –NABARD

CONCEPT: NABARD – established on 12 July, 1982 by act of parliament for financing agriculture and rural sector. Its full form is national bank for agriculture and rural development. It was formed by government of India to provide basically financial support for leading to rural development. Because it is a bank its regulatory authority was reserve bank of India. it is now fully Govt. of in Agri cultural activities, industrial activities and infrastructural development India owned. Though it is a bank it does not deal with other banking activities of accepting deposits and other activities as RRBs, cooperative banks and commercial banks are doing. It renders support through RRBs, cooperative banks and commercial banks of the country based on various schemes and projects of agriculture, industrial and infrastructural development activities. It also supports for some scheme based urban development. It deals with indirect lending through other eligible banks like RRBs, cooperative banks and commercial banks. It does not lend directly to the entrepreneurs.

As a development bank it enjoys the skills to provide and regulate the credit and other facilities like the formulation, supervision of schemes, projects for agriculture, industrial and socio-economic development activities. NABARD does not lend directly to any individual, it sanctions loan to bank like RRBs, cooperative banks, other commercial banks against application sanctioned by banks. To avail of loan person/ society/ firm/ agribusiness entrepreneurs / SHG is to approach

bank with viable schemes. Bank is to sanction loan against which bank will approach NABARD for refinance against sanction.

NABARD provides refinance to the financing institutions like cooperative banks, RRBs and other commercial banks. Let us understand the concept of the word "refinance". Simply speaking refinance means to finance again. It means to finance the banks up to certain percentage of the amount of finance (loan) disbursed by the bank to the beneficiaries.

Mechanism (example of refinance):

Say an amount of loan Rs. 1 crore has been disbursed by a bank to the beneficiary (beneficiaries) based on viable schemes. The concerned bank in order to replenish / make good of the fund *i.e.*, Rs. 1 crore lent may approach NABARD as per procedure to refinance (sanction loan to the bank) up to certain percentage around 75%, 90% of the lent amount as per NABARD guideline against very low rate of interest. Such refinanced amount availed by the bank is to be repaid by the bank in time to NABARD irrespective of whether the borrower has paid back to the financing bank. To avail refinance facility is the decision / option of the financing bank. Financing bank considering its fund base may or may not avail of the refinance facility. Reason is, if the borrower does not repay in time the bank will suffer for shortage of fund lent and interest paid to the NABARD for the refinance availed from NABARD. This is an important area where the refinance facility works.

Schemes under NABARD:

Refinance, long term loan, RIDF (Rural Infrastructure Development Fund), LTIF (Long term Irrigation Fund), PMAY-G (Pradhan Mantri Awas Yojona—Green), area development schemes – Atyodaya Yojona, NRLM (National Rural Livelihood Mission), Dairy Entrepreneurship Development Schemes.

agriculture, Agri clinic and Agri business development centers schemes, new agriculture marketing infrastructure, assistance for infrastructure development, NIDA (National Irrigation Development Authority), warehouse infrastructure, Antodaya, National Rural Livelihood Mission, National Livestock Mission, Dairy Entrepreneurship Development Scheme, Rural Go down Schemes. New schemes are developed from time-to-time rate of interest very low 4.5—8.35 (it varies) for Antodaya national rural livelihood mission it is very low.

Experiment 5: Preparations of Projects and Feasibility of reports for Agribusiness Entrepreneur

The conception of the Project in Agribusiness:

The method of determining the exact scope of a project begins with the conception of an industrial project. Project creation typically begins with the expression of a need or a potential that will support the company's interests and ends with the formulation of one or more tentative solutions that will, theoretically, meet the company's requirements as originally proposed.

Stages of Project Conceptualization in Agribusiness: The basic conceptualization of a project ranges in complexity depending on the scope of the project and the company's particular review and acceptance procedures. The company's planning approach can necessitate the development of programs that cover several projects. The overall initiative should then come first, followed by the actual unique projects.

The following tasks are included in the conceptual stage:

1. The definition of a necessity or an incentive that affects the company's interests.
2. Production of a range of provisional options capable of achieving the initial criteria.
3. Identifying alternative(s) that can meet the criteria in terms and conditions that are appealing to the business.

Analysis of Feasibility in Agribusiness:

A feasibility analysis is an empirical instrument used during the project design phase that demonstrates how a company will function under a certain set of assumptions. These assumptions cover the project's infrastructure (facilities, types of machinery, production process, and so on) as well as its financial aspects (capital needs, volume, cost of goods, wages, etc.).

What is a Feasibility Analysis in Agribusiness?

A feasibility report, as the name suggests, is an examination of an idea's effectiveness. The feasibility study attempts to address the critical question, "Should anyone go ahead with the planned project idea?" The study's activities are all aimed toward addressing this issue.

Feasibility Types in Agribusiness:

The following are the different forms of feasibility:

Feasibility from a technological standpoint in Agribusiness:

This section examines the project's engineering viability, including structural, civil, and other related engineering aspects required by the design. The personnel's technological skills, as well as the expected technology to be used in the project, are taken into consideration. **Organizational Feasibility in Agribusiness:**

To assess managerial viability, core elements include demonstrated management capacity and availability, employee engagement, and dedication. This section reflects on the project's management and operational framework, ensuring that the proponent's structure fits the submittal's definition and is well-suited to the form of activity being performed.

Feasibility of Economic in Agribusiness:

Which is concerned with the project's potential to achieve economic benefits. A benefit-cost analysis (comparing the cost of other approaches to the same or similar problem in the manner proposed by the project to the cost of other approaches to the same or similar problem) is required. To promote a clear framework for assessment, the tangible and intangible dimensions of a project should be converted into economic terms. And if a proposal is not for profit, it must be financially viable.

Financial Feasibilities in Agribusiness:

It's important to differentiate between financial and economic viability. Financial viability refers to the project organization's willingness to collect the necessary funds to carry out the planned

project. The viability, soundness, origins, and implementations of these project funds may be a roadblock in these circumstances.

Cultural Feasibilities in Agribusiness:

The continuity of the planned project with the project's cultural environment is referred to as cultural viability. Religious convictions, for example, can affect what a person is willing to do or not do.

Social Feasibility in Agribusiness:

Social feasibility is concerned with the impact that a planned project could have on the social structure in the project area. Certain types of workers may be in short supply or scarce due to the social arrangement of the environment.

Safety Feasibility in Agribusiness:

Another significant consideration to consider in project design is safety feasibility. The term "safety viability" refers to an assessment of whether a proposal can be initiated and run safely with minimum environmental impact. Unfortunately, environmental risk assessment is often overlooked in large-scale programs.

Political Feasibility in Agribusiness:

A new project's course is often dictated by political considerations. This is especially relevant for high-profile initiatives that may require substantial government intervention and political repercussions. Political obligation, for example, can be a pillar of funding for a project regardless of its merits.

Environmental Feasibility in Agribusiness:

Sometimes a project's downfall attributable to prolonged approval procedures and outright resistance from those claiming environmental issues. This is an area that should be given serious consideration in the early stages of a project. Concern must be expressed, and steps must be taken

to resolve any and all environmental issues that have been posted or that could be raised in the future.

Business Feasibility in Agribusiness:

This is not the same as Economic Feasibility. The competition requires an investigation to determine the possible effects of market growth, competitive practices, and available market share. Competitors' potential strategic practices, whether local, state, global, or international, must be evaluated for early contingency financing and impacts on operational costs during the project's start-up, ramp-up, and commercial start-up stages.

Experiment 6: Appraisal/evaluation techniques of identifying viable project- Non-discounting techniques

CONCEPT:

The traditional methods or non-discounting methods include payback period and accounting rate of return. The discounted cash flow method includes the NPVmethod, profitability index method and IRR. A non-discounting method of capital budgeting does not explicitly consider the time value of money, in other words each rupee earned in the future is assumed to have the same value as each rupee that was invested many years earlier. The pay back method is one of the techniques used in capital budgeting thatdoes not consider the time value of money. Two types of budgeting will be considered operational budgeting and capital budgeting. We will consider capital budgeting.

Capital budgeting is a process used by companies for evaluating ranking potential. Capital budgeting or investments that are significant in amount.

Payback period method:

This method refers to the period in which the proposal will generate cash to recover the initial investment made, it purely emphasizes on the cash inflow, economic, life of the project and the investment made the project, with no consideration of time value of money. Through this method selection of a proposal is based on the earning capacity of the project. With simple calculation, selection or reaction of the project can be done, with results that will help gage the risk involved. However, as the method so based on thumb rule, it does not consider the importance of time value of money and so the elegant dimensions of profitability. Payback period simply computes the number of years it will take to for an investment to return CAS equal to the amount invested.

If an investment of amount of Rs. 100,000 is made and it generates cash of Rs. 50,000 for two years followed by 10,000 per year for four additional years its payback is two years (Rs.50,000 + Rs. 50000). If another investment of Rs. 100,000 generates cash of Rs. 20,000 per year for two years and then provides cash of rs.40,000 per year for six additional years its pay back is approximately 3.5 years (20000+20000+40000 + 0.5 times 40,000).

As we see in the examples payback only answers one question, how long before the cash invested is returned.

The accounting rate of return or return on investment are two more examples of methods used in capital budgeting that does not involve discounting future cash amounts.

In capital budgeting the internal rate of return is also the interest rate that results in an investment.

EXAMPLE:

	PROJECT A	PROJECT B
• Cost (Rs.)	1,00,000	1,00,000
Expected cash flow		
• Year 1	50,000	1,00,000
• Year 2	50,000	5,000
• Year 3	1,10,000	5,000
• Year 4	none	none
• Total	2,10,000	1, 10,000
• Payback	2 years	1 year

- Payback period of project B is shorter than A, but project A provides higher returns. Hence project A is superior to project B.
- Payback period = Cash outlay (investment)/ Annual Cash Inflow.

Experiment 7: Case Study of Agri-based Industries

Case study, as the name suggests, is a field study practically to see how an industry / unit functions be it an Agro-based industry or other units functioning with some purposes and objectives.

Case study is a practical study covering the relevant areas of activities of any type of business enterprises. Case study is undertaken to uphold, to bring to the people the success of the industry in order to attract for encouraging the spirit with which such industry / business is carried on and to attract investor to invest for betterment. The lapses and lacunae are also brought to light for rectification and remedies.

In course of undertaking case study, the following areas are taken into consideration:

1. Introduction: identification of the Agro-based industry in a particular area clearly stating its name, location, registration the details of the activities –its industrial activities if it is an industry / it is a business, purpose for which it is established and the function it is carrying out, contribution to the economy of the locality where it is established, may be rural area, urban area. All these preliminary issues have to be studied.
2. Objective: Study in relation to objective say, why this industry has been set up;
    - To become an agri-business entrepreneur
    - To manufacture value added products from Agro products.
    - To earn livelihood.
    - To cater to the need of the locality and to sell the products to urban areas and also to export.
    - To provide employment to the local skilled and unskilled persons / labour.
3. Methodology: Two types of data in respect of the functioning of Agro-based industry are to be collected in two ways;

A) Primary data: Data are to be collected through interaction directly with the relevant authority of the unit in respect of functioning of the industry through a structured questionnaire covering different aspects like production, marketing, sale, availability of raw materials, sources of fund, sale, demand potentials, income, expenses, barriers in functioning and operation, management.

B) Secondary data: secondary data are generally the published data; such data are to be collected from published documents say from balance sheet of the industry, annual report, journal, articles, in respect of that particular industry.

4. Vision of the industry / enterprise: say some inspirational statement of idealistic emotional future and goal of the industry.

5. Mission: important assignment for the overall success to be achieved by the industry.

6. Data analysis and interpretation: Data so collected are to be analyzed systematically. Both types of data – primary and secondary are to analyzed separately. Data are to be analyzed for each area of functioning say, area of production, raw materials, demand, marketing, sale, earning, barriers, management etc.Whatever data have been collected from primary and secondary sources. These data are to be interpreted item wise. So far as financial analysis is concerned the important areas like cost of production and other relevantcosts and total ROI have to be calculated to understand thefinancial health of the industrial unit.

7. Conclusion: on the basis of results of interpretation of the performance data overall summary is written stating there in the achievement, success, failure of the unit identifying the causes of success, failure and remedial measures of failure , if any.

VERMICOMPOST

Concept:

A marginal farmer in a village near diamond harbor having no source of income from agricultural practices thought of producing vermicompost at his own uncultivable land. He thought of utilizing the uncultivated lands near his dwelling house.

He got practical training on techniques of preparation of vermicompost at government training center.

The marginal farmer being motivated visited vermicompost pits/ sites and saw for himself the stages of preparation. Also thought of the requirement of fund.

Fund requirement: the farmer was at a loss as to how to arrange fund. He approached branch of regional rural bank for financial assistance. He prepared a modest scheme for preparation of ten pits comprising of materials like brick, small sheds, FYM, earth worms etc.

Technical issues: each pit was of 6x3x3 cft., 10 separate pits were constructed. As per his verbal declaration during first year there were 2-3 cycles of production and subsequently 5-6 cycles were produced. According to him cost of production of compost is around RS. 2. 00 per kg. And it sells at RS. 6-10 per kg. Worm sales at about Rs. 300-400 per kg. Which is very profitable.

No specific written record of investment and return / sale could be maintained by him. As per his verbal discussion it could be learnt that he has made arrangement to seal it to some farms / firms.

Observation:

The farmer, as told by him an amount of Rs. 50, 000 was availed of as loan. Out of the loan he spent towards the construction of 10 pits. He spent around Rs. 15,000 from his own source. Initially he and his wife could work, very little amount spent towards hired labour. Now with the increase of works and business he deployed two labours.

For sale of products, he need not go outside, the products are sold in situ.

His innocently and happily disclosed that out of the income he maintains a five-member family and cost towards education of two children.

Repayment of bank loan is also up to date. He was thinking to increase the loan with the bank for expansion of business in the left-out areas of land.

Inference:

Because no document was available with him no further study of appraisal of the project could be done. But however, it was convinced that the project was running profitably (with convincing surplus.)

Experiment 8: Trend and growth rate of prices of agricultural commodities

Food and agricultural commodity prices in India are primarily determined by domestic demand and growth. To keep the price rise in check, factors like production, changes in input price, trend in market price are to be controlled. As the supply and demand for commodities change, the price of the commodity will also change. Production depends largely on nature, the price, therefore, largely depends on nature although efforts are made to keep the production at higher level. Trend of prices Agri commodities becau8se of relevant factors are not in general predictable although Govt. Efforts are there to provide minimum support prices to the farmers. It deserves mention that there is significant improvement of trend of prices of commodities, say, industrial commodities, other than agricultural commodities.

The key factors include the supply and demand of the commodity, currency movements, geopolitical situations, government policies and economic growth, Mother Nature, favorable weather, transportation and storage costs, the bottom line –change in govt. Policy.

The elasticity of demand for most of the agricultural products is so low that a small change in supply with demand remaining constant influences the price of that commodity.

Trend of price and growth rate of prices of Agri commodities can be said to be fluctuating because of various factors discussed.

Instead of study of individual prices of different Agro commodities, a significant study based on wholesale price index (WPI) (2011-12, =100), WPI for food grains, cereals, wheat and paddy show that prices have increased by 1.40 percent, 5.05 percent, 8.39 percent and 4.78 percent in 2018 over 2017. But these ratios are variable depending on the factors stated above.

India is having largest area under rice crop for which separate data have been presented.

For cereals, meat, fish, and vegetables oil growth rates are around half the rates in previous decade as studied by FAO.

As examples, trends of growth rates of prices of main cereal crops are studied as follows:

Wheat: **(In Rs./Quintal).**

Year	Cost of production	MSP
2012-13	1066	1350
2013-14	1109	1400
2014-15	1147	1450
2015-16	1163	1525
2016-17	1203	1625

Paddy: **(In Rs./Quintal)**

Year	Cost of production	MSP
2012-13	1152	1250
2013-14	1234	1310
2014-15	1267	1360
2015-16	1324	1410
2016-17	1378	1470

It is evident from the study of two main cereal crops that the growth rate of MSP in times of cost of production of both wheat and paddy are very low;

Year	WHEAT	PADDY
2012-13	1.26	1.08
2013-14	1.26	1.06
2014-15	1.26	1.07
2015-16	1.31	1.06
2016-17	1.35	1.06

Experiment 9: Net present worth technique for selection of viable project

The Net Present Worth (NPW) technique, also known as Net Present Value (NPV), is one of the most widely used methods in project appraisal and investment decision-making. It helps in assessing the viability and profitability of a project by determining the present value of all future cash inflows and outflows.

Definition: Net Present Worth (NPW) is the difference between the present value of cash inflows and the present value of cash outflows over a period of time.

$$\mathbf{NPW=\sum(R_t/(1+i)^t)-C_0}$$

Where:

- R_t = Net cash inflow at time t
- i = Discount rate (opportunity cost of capital)
- t = Time period
- C_0 = Initial investment cost

Objective of NPW Method: To determine whether the present value of returns from a project exceeds the investment cost. This helps in selecting the most economically feasible project.

Steps in NPW Technique:

1. Estimate the initial investment cost of the project.
2. Forecast the expected annual cash inflows and outflows over the life of the project.
3. Choose an appropriate discount rate, generally the minimum required rate of return or cost of capital.
4. Calculate the present value (PV) of each year's cash flow using the discount factor.
5. Compute the NPW by subtracting the present value of outflows from the present value of inflows.
6. Make the decision based on NPW value.

Decision Rule:

- If NPW > 0 → Project is financially viable and should be accepted.
- If NPW < 0 → Project is not viable and should be rejected.
- If NPW = 0 → Project may be considered marginal, accept only if strategic or social benefits are significant.

Use in Comparing Projects: When comparing multiple projects:

- Choose the project with the highest positive NPW.
- In mutually exclusive projects, the one with the maximum NPW gives the greatest return in present value terms.

Advantages of NPW Technique:

- Considers time value of money.
- Takes into account all cash flows during the life of the project.
- Offers a quantitative measure of profitability.
- Useful for ranking projects when resources are limited.

Limitations:

- Requires an accurate estimate of future cash flows, which can be difficult.
- Sensitive to the discount rate chosen.
- May not consider non-financial factors like social impact or environmental effects.

Example:

TABLE 41.2 Estimation of NPW for Two Projects (Hypothetical).

Sericulture (one ha)						Mango Orchard (one ha)					
Year	Costs (in Rs.)	Returns (in Rs.)	Net income (in Rs.)	Discount factor at 12%	NPW (in Rs.)	Year	Costs (in Rs.)	Returns (in Rs.)	Net income (in Rs.)	Discount factor at 12%	NPW (in Rs.)
1.	38,900	—	-38,900	0.8929	-34,733.81	At the end of 6th year	25,000	—	-25,000	0.507	-12,675
2.	9,239	28,475	19,236	0.7972	15,334.94	" 7th year	4,250	10,260	6,010	0.452	2,716.52
3.	10,575	32,550	21,975	0.7118	15,641.81	" 8th year	4,792	12,550	7,758	0.404	3,134.23
4.	11,952	35,610	23,658	0.6355	15,034.66	" 9th year	5,368	14,530	9,162	0.361	3,307.48
5.	12,858	39,802	26,944	0.5674	15,288.03	" 10th year	5,975	16,275	10,300	0.322	3,316.60
				NPW	26,565.63	" 11th year	6,456	19,396	12,940	0.287	3,713.78
						" 12th year	7,187	21,470	14,283	0.257	3,670.73
										NPW	7,184.34

Experiment 10: Internal rate of return (IRR)

In the computation of Internal Rate of Return (IRR), the time value of money is accounted. The method of working IRR provides the knowledge of actual rate of return from different projects. Thus IRR is known as ‘marginal efficiency’ of capital or yield on the investment. It is the discount rate at which the present values of the net cash flows are just equal to zero, i.e. NPW = zero. IRR must be found out by trial and error with some approximation.

IRR = (lower discount rate) + (Difference between the two discount rates) *(Present worth of the cash flow at the lower discount rate/Absolute difference between the present worths of the cash flow at the two discount rates)

Example:

TABLE 41.4 Estimation of IRR for Sericulture (One Hectare) (Hypothetical).

Year	Costs (in Rs.)	Gross income (in Rs.)	Net income (in Rs.)	Discount factor (40%)	Net present worth (in Rs.)	Discount factor (43%)	Net present worth (in Rs.)
1.	38,900	–	-38,900	0.7143	-27,786.27	0.6993	–27,202.77
2.	9,239	28,475	19,236	0.5102	9,814.21	0.48902	9,406.4
3.	10,575	32,550	21,975	0.3644	8,007.69	0.3419	7,513.25
4.	11,952	35,610	23,658	0.2603	6,158,17	0.2391	5,656.62
5.	12,858	39,802	26,944	0.1859	5,008.89	0.1672	4,505.04
			52,913		1,202.69		–121.46

N.B: The entire lifespan of mango orchard should be considered for working out IRR. For want of data we considered here only for seven years for illustration purpose.

$$IRR = 40 + 3\left[\frac{1202.69}{1,202.69 + 121.46}\right]$$

$= 40 + 3(0.9083)$

$= 40 + 2.7249$

$= 42.7249\%$

$= 42.7\%$

TABLE 41.5 Estimation of IRR for Mango Orchard (One Hectare) (Hypothetical).

Year (in Rs.)	Costs (in Rs.)	Gross income (in Rs.)	Net income (in Rs.)	Discount factor (25%)	Net present worth (in Rs.)	Discount factor (30%)	Net present worth (in Rs.)
End of 6th year	25,000	-	-25,000	0.262	-6,550	0.207	-5,175.00
End of 7th year	4,250	10,260	6,010	0.21	1,262.01	0.159	955.59
End of 8th year	4,792	12,550	7,758	0.168	1,303.30	0.123	954.23
End of 9th year	5,368	14,530	9,162	0.134	1,227.71	0.094	861.23
End of 10th year	5,975	16,275	10,300	0.107	1,102.10	0.073	751.90
End of 11th year	6,456	19,396	12,940	0.086	1,112.84	0.056	724.64
End of 12th year	7,187	21,470	14,283	0.069	985.53	0.043	614.17
			35,453		443.49		-313.24

$$\text{IRR} = 25 + 5\left[\frac{443.49}{443.49 + 313.24}\right]$$

$$= 25 + 5(0.586)$$

$$= 25 + 2.93$$

$$= 27.93\%$$