

E-Practical Manual On

Agricultural Marketing, Trade and Prices

Course Code: AEC 221 Credit Hours: 3 (2+1)

[For B. Sc. (Ag.) Agriculture IVth Semester Students]



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E-Practical Manual on Agricultural Marketing, Trade and Prices

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SYLLABUS

- Plotting and study of demand and supply curves and calculation of elasticities.
- Study of relationship between market arrivals and prices of some selected commodities.
- Computation of marketable and marketed surplus of important commodities.
- Study of price behaviour over time for some selected commodities.
- Construction of index numbers.
- Visit to a local market to study various marketing functions performed by different agencies, identification of marketing channels for selected commodity, collection of data regarding marketing costs, margins and price spread.
- Visit to market institutions NAFED, SWC, CWC, cooperative marketing society, etc. to study their organization and functioning;
- Application of principles of comparative advantage of international trade.

Details of student

Name of Student	
ID. No.	
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Course Instructor

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Chapter 1: To plot demand and supply curves and calculate elasticities.

Exercise 1: Draw the individual demand curves of A, B and C and the market demand curve using the information given below:

Dries (Ds. non unit)	Individual demand schedule					
Price (Rs. per unit)	Individual A	Individual B	Individual C			
40	15	05	0			
20	30	30	1			
16	45	55	1			
8	60	80	2			
4	75	105	3			
2	90	130	4			

Solution:

Exercise 2: Draw the supply curve of commodity A using the information given below:

Price (Rs. per Unit)	80	75	70	65	60	55	50	45	40	35
Quantity supplied	40	35	30	27	24	22	17	12	7	2

Solution:

Exercise 3: Draw demand and supply curves and find out elasticity of demand and supply and market equilibrium.

Price (Rs/Kg)	Market demand (Kg)	Market supply (Kg)
20	50	500
15	120	410
10	190	310
5	250	250
3	350	180
1	500	100

Solution:

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Chapter 2: Study of relationship between market arrivals and prices of some selected commodities.

Exercise 1: Study of relationship between market arrivals and prices of some selected commodities.

Collect the data regarding various market variables for an agricultural commodity with the help of following format given below. Use linear model $Y_t=a+b$ P_t , $(Y indicates arrivals at time t) and <math>P_t$ indicates price at time t) and exponential model $Y = ab^t$ to asses the relationship.:

<u>Format</u>
(a) Name of the agricultural commodity:
(b) Name of the mandi/market:
(c) Stock of the commodity:
(d) Time of arrival of commodity:
(e) Quantity of commodity actually offered for sale:
(f) Time of sale:
(g) Today's Price of commodity (market opening time):
(h) Today's Price of commodity (market peak time):
(i) Today's Price of commodity (market closing time):
(j) Yesterday's price of commodity:
(k) Average monthly price of commodity:
(l) Price of substitute commodity in the market (if any):
(m)Any other relevant information:
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Exercise 2:	Collect the weekly data of price of an agricultural commodity and plot it on the graph.
Solution:	
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Chapter 3: Computation of marketable and marketed surplus of important commodities.

Exercise 1: A farmer has cultivated a crop in 4 Hectare. He received a yield of 20 Qtl/Ha.

	Market price of produce is Rs. 1000/Qtl. He needs 1 Quintals of produce for seed for next sowing season, 10 Quintals for payment to hired labor and 5 Quintals for own household consumption. Due to some urgent requirement of money he sold 3 Quintals more than the marketable surplus. Calculate marketable surplus, marketed surplus and producer's surplus.
Solution:	

	per Ha. He sold 1000 kg to Arhatiya in nearby market at the rate of Rs. 20/kg. He retained 50 kgs for own consumption and 200 kgs for their relatives and 100 kgs for payment to hired labor and remaining to a Ketchup factory at the rate of Rs. 30/Kg. Work out the marketable and marketed surplus and producer's surplus of the farmer.
Solution:	

Exercise 2: A farmer has planted Tomato in 1 Hectare area and obtained a yield of 25 tonnes

Chapter 4: Study of price behaviour over time for some selected commodities.

Exercise 1: Price of an agricultural commodity is given below from 2010-11 to 2022-23. Determine the inter year price behavior from the following data:

Year	Price
2010-11	1200
2011-12	1300
2012-13	1340
2013-14	1280
2014-15	1350
2015-16	1400
2016-17	1350
2017-18	1310
2018-19	1450
2019-20	1510
2020-21	1560
2021-22	1700
2022-23	1950

Solution:

Exercise 2: Price of an agricultural commodity is given below from 2001-02 to 2020-21. Determine the inter year price behavior from the following data:

Year	Price
2000-01	1800
2001-02	1950
2002-03	2010
2003-04	1920
2004-05	2025
2005-06	2100
2006-07	2025
2007-08	1965
2008-09	2175
2009-10	2265
2010-11	2340
2011-12	2550
2012-13	2825
2013-14	3000
2014-15	3255
2015-16	3500
2016-17	3450
2017-18	3550
2018-19	3850
2019-20	3600
2020-21	3700
2021-22	3850
2022-23	4000

Solution:	 	
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• • • • • • • • • • • • • • • • • • • •	 •	

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Chapter 5: Construction of index numbers.

Exercise 1: Calculate the index numbers using the data given below:

Year	Price
2011	10
2012	12
2013	13
2014	15
2015	17
2016	15
2017	14
2018	16
2019	17
2020	18

Solution:

Exercise 2: Calculate the index numbers for commodity X and Y using the data given below by taking:

- (i) 2012 as base year
- (ii) 2019 as base year
- (iii) 2020 as base year

Year	Price of X	Price of Y
2011	10	55
2012	12	57
2013	13	60
2014	15	65
2015	17	68
2016	15	73
2017	14	70
2018	16	68
2019	17	65
2020	18	73

Solution:	
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Chapter 6: Visit to a local market to study various marketing functions performed by different agencies, identification of marketing channels for selected commodity, collection of data regarding marketing costs, margins and price spread.

Exercise 1: Visit to a local market and collect the data regarding marketing function performed by the marketing agencies.

1.	Name of the agency:
2.	
3.	Area of operation:
4.	Marketing function performed:
5.	Number of employees:
6.	Year of establishment:
7.	Commodities handled:
8.	Fixed costs involved in performing marketing function:
	(a)
	(b)
	(c)
	(d)
	(e)
	(f)
9.	Variable costs involved in performing marketing function:
	(a)
	(b)
	(c)
	(d)
	(e)
	(f)
8.	Facilities provided by the agency to farmers:
	(a)
	(b)
	(c)

	(d)
	(f)
9.	Number of farmers availing their facility per day:
10.	Source of income for the agency:
	(a)
	(b)
	(c)
11	Constraints faced by the agency in performing marketing function:
	(a)
	(b)
	(c)
	(d)
	(e)
	(f)
12.	Type of government support required by the marketing agency for easy performance
	of marketing function:
	(a)
	(b)
	(c)
	(d)
	(e)
	(f)
13.	Constraints faced by farmers in availing market facilities:
	(a)
	(a) (b)
	(b)
	(b)
	(b)

E-Practical Manual on Agricultural Finance and Cooperation 14. Number of competitors in the market: 15. Additional information:

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Exercise 2: Identification of marketing channels for Mustard in Banda district of Uttar Pradesh. Collect the information from the stakeholders involved in different marketing channels of mustard

1. Producer

Crop production and use:

F F							
Name of the crop	Area	Crop yield	Self consumption	Seed	Wages kind	in	Others
Mustard							
Where does	the farmer sel	his produce	?				•
a) Mandi	b) Local marl			d) Private tr	aders		
e) Millers	f) Others(spe	cify)					
Additional in	formation:						
					• • • • • • • • • • • • • • • • • • • •		
					• • • • • • • • • • • • • • • • • • • •		
2. Middlen	nan 1:						
3. Middlen	nan 2:						

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4. Middleman 3:
5. Middleman 4:
6. Consumer:

Exercise 3: Collection of data regarding marketing cost and marketing margin.

A. Producer

(i) Crop production and use:

Name of the crop	Area	Crop yield	Self consumption	Seed	Wages in kind	Others

a) Mandi	b) Local market	c) village trader	d)	Private	trader
e) Millers	f) Others(specify)				

(iii) Selling price of farmer:

(iv) Marketing cost incurred by Producer:

(ii) Where does the farmer sell his produce?

S. No.	Particulars	Amount (Rs. /Qt.)	Total Cost
(a)	Production cost		
(b)	Sale Price		
(c)	Cleaning		
(d)	Packing		
(e)	Weighing		
(f)	Loading & unloading		
(g)	Transportation		
(h)	Others		

B.	Middlen	nan 1 (Name):
	(i)	Purchase price:
	(ii)	Sold to:
	(iii)	Selling price:

Cost incurred:

S. No.	Particulars	Amount (Rs. /Qt.)	Total Cost
(a)	Godown rent		
(b)	Storage cost		
(c)	Loading & unloading		
(d)	Weighing		
(e)	Electricity		

(f)	Labour	
(g)	Transportation	
(h)	Bags & package	
(i)	Licence charge	
(j)	Miscellaneous	

C.	Middlen	nan 2 (Name):
	(i)	Purchase price:
	(ii)	Sold to:
	(iii)	Selling price:

Cost incurred:

S. No.	Particulars	Amount (Rs. /Qt.)	Total Cost
(a)	Godown rent		
(b)	Storage cost		
(c)	Loading & unloading		
(d)	Weighing		
(e)	Electricity		
(f)	Labour		
(g)	Transportation		
(h)	Bags & package		
(i)	Licence charge		
(j)	Miscellaneous		

	U)	Wildertaileoub	
D.	Middlem	nan 3 (Name):	
	(i)	Purchase price:	
	(ii)	Sold to:	
	(iii)	Selling price:	

Cost incurred:

S. No.	Particulars	Amount (Rs. /Qt.)	Total Cost
(a)	Godown rent		
(b)	Storage cost		
(c)	Loading & unloading		
(d)	Weighing		
(e)	Electricity		
(f)	Labour		
(g)	Transportation		
(h)	Bags & package		
(i)	Licence charge		
(j)	Miscellaneous		

(i)	Purchase price:		
(ii)	Sold to:		
(iii)	Selling price:		
st incu			
No.	Particulars	Amount (Rs. /Qt.)	Total Cost
(a)	Godown rent	(2307 (20)	
(b)	Storage cost		
(c)	Loading & unloading		
(d)	Weighing		
(e)	Electricity		
(f)	Labour		
(g)	Transportation		
	Bags & package		
h)	Dags & package		
(i) (j)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to:		
(iv)	Licence charge Miscellaneous man 5 (Name): Purchase price:		
(i) (j) Middle (iv) (v) (vi) st incur	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price:	······································	
Middle (iv) (vi) (st incur No.	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: rred: Particulars		Total Cost
Middle (iv) (vi) st incur No.	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: rred: Particulars Godown rent	······································	Total Cost
(i) (j) (vi) (vi) (vi) (a) (a) (b)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: rred: Particulars Godown rent Storage cost	······································	Total Cost
(i) (j) (v) (vi) (vi) (st incur No. (a) (b) (c)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: rred: Particulars Godown rent Storage cost Loading & unloading	······································	Total Cost
(i) (j) Middle (iv) (vi) st incur No. (a) (b) (c)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: rred: Particulars Godown rent Storage cost Loading & unloading Weighing	······································	Total Cost
(i) (j) (v) (vi) (vi) (st incur) (b) (c) (d) (e)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: rred: Particulars Godown rent Storage cost Loading & unloading Weighing Electricity	······································	Total Cost
(i) (j) (v) (vi) (vi) (st incur No. (a) (b) (c) (d) (e) (f)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: rred: Particulars Godown rent Storage cost Loading & unloading Weighing Electricity Labour	······································	Total Cost
(i) (j) (v) (vi) (vi) (st incur No. (a) (b) (c) (d) (e) (f) (g)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: Particulars Godown rent Storage cost Loading & unloading Weighing Electricity Labour Transportation	······································	Total Cost
(i) (j) (v) (vi) (vi) (st incur No. (a) (b) (c) (d) (e) (f) (g) (h)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: Particulars Godown rent Storage cost Loading & unloading Weighing Electricity Labour Transportation Bags & package	······································	Total Cost
(i) (j) (v) (vi) (vi) (st incur No. (a) (b) (c) (d) (e) (f) (g)	Licence charge Miscellaneous man 5 (Name): Purchase price: Sold to: Selling price: Particulars Godown rent Storage cost Loading & unloading Weighing Electricity Labour Transportation	······································	Total Cost

Exercise 4: Calculation of total marketing cost, absolute marketing margin, marketing efficiency and producer's share in consumer's rupee a commodity which weighs 10 Quintals.

A.	Farmer
	(a) Selling price: Rs. 800/Quintal
	(b) Marketing cost: Rs. 500
B.	Village trader
	(a) Purchase price: Rs. 800/Quintal
	(b) Loading & unloading charge: Rs. 200
	(c) Transportation cost: Rs. 500
	(d) Sale price: Rs. 1200/Quintal
C.	Wholesaler
	(a) Purchase price: Rs. 1200/Quintal
	(b) Loading & unloading charge: Rs. 150
	(c) Transportation cost: Rs. 100
	(d) Sale price: Rs. 1500/Quintal
D.	Retailer
	(a) Purchase price: Rs. 1500/Quintal
	(b) Unloading charge: Rs. 200
	(c) Sale price: Rs. 1700/Quintal
E.	Consumer
	(a) Purchase price: Rs. 1700/Quintal
Solution	on:

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Exercise 5: Calculation of marketing cost, absolute marketing margin, marketing efficiency and producer's share in consumer's rupee.

A farmer Mr. Binda, goes to a mandi with 800 bags of wheat, weighing 50 kg each. He takes the produce to a commission agent Mr. Naval. Commission agent makes following payments on behalf of Mr. Binda:

- (i) Payment to truck driver for transporting the wheat = Rs. 4 per bag
- (ii) Octroi charges = Rs.1 per bag
- (iii)To labourers for unloading the bags from truck = Rs. 2 per bag

The produce is auctioned and a wholesaler Mr. Pramod purchases the produce at a price of Rs. 1100 per quintal. Mr. Naval makes the payment to Mr. Binda after deducting the expenses on payments (i), (ii) and (iii) mentioned above. Mr. Pramod incurs the following expenses:

- (i) Cost of the gunny bags = Rs. 20 per bag
- (ii) Sales tax = Rs. 8,800
- (iii) Labour charges for filling and stitching of bags = Rs. 1600
- (iv) Commission = Rs. 4,400
- (v) Market fee to the market = Rs. 6,600
- (vi) Weighing charges = Rs. 2,200

Mr. Pramod transports this wheat to the secondary wholesale market in another district through railways and incurs the following expenses;

- (i) Cartage to station at originating station = Rs. 2 per bag
- (ii) Railway freight for the whole lot = Rs. 3000
- (iii) Loading and unloading charges = Rs. 2 per bag
- (iv) Cartage at destination station = Rs. 2 per bag

The wheat is sold to a retailer Mr. Tausif through his commission agent Mr. Aakash @ Rs. 1200 per quintal. The empty gunny bags are purchased by the Mr. Tausif @ Rs. 16 per bag. Mr. Aakash collects the following amounts from Mr. Tausif:

- (i) Commission = 1.25 per cent of the value of the produce
- (ii) Labour charges for unloading = Rs. 2 per bag
- (iii) Weighing charges = 0.30 per cent of the value of the produce.

Mr. Tausif takes the produce to his shop in his own truck and sells it to consumers at Rs. 1400 per quintal. The empty bags are disposed of by him at Rs. 15 per bag in the market. Calculate producer's price, producers' share in consumers' rupee, absolute margin of the wholesaler and retailer; and marketing costs incurred by producer, wholesaler and retailer.

Soluti	on:	 																	

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Chapter 7: Visit to market institutions – NAFED, SWC, CWC, cooperative marketing society, etc. to study their organization and functioning

Exercise 1: Visit to NAFED to know the activities, functions of the institution.

1.	Name of the Institution:
2.	Location:
3.	Address:
	Area of operation:
	Year of establishment:
	Commodities being handled:
7.	Functions
	(a)
	(b)
	(c)
	(d)
	(e)
8.	Objectives
•	(a)
	(b)
	(c)
	(d)
	(e)
0	Source of funds:
10.	Facilities provided to stakeholders:
11	D. 1 CD: /
11.	Board of Directors:
	(a)
	(b)
	(c)
	(d)

(e)
12. Member societies:
(a)
(b)
(c)
(d)
(e)
13. Conditions of getting membership by societies:
(a)
(b)
(c)
(d)
(e)
14. Steps in getting membership:
(a)
(b)
(c)
(d)
(e)
(f)
(g)
(h)
(i)
(j)
15. Any additional information
13. Any additional information

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Exercise 2: Visit to CWC or SWC to know their activities, functioning, etc.. Name of the Warehousing Corporation: 2. Organizational set-up: (a) (b) (c) (d) 3. Objectives: (a) (b) (c) (d) (e) 4. Functions of the corporation: (a) (b) (c) (d) (e) Storage methods: Commodities stored at present: Capacity utilization of the warehouse & Percentage of utilization of the warehouse: 7. Methods of staking: Storage pest control measures followed:

 10. Storage loss:
 11. Storage charges:

•	Draw layout of the warehouse structure:
•	
•	
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13. Difficulties faced in providing warehouse facilities to farmers	and agricultural input traders
14. Warehouse management:	
	••••••••

Chapter 8: Application of principle of comparative advantage of international trade.

Exercise 1:	There are two countries A and B. Both produce Good P and Good Q. Cost of production per unit of P and Q for country A is Rs. 3 and Rs. 6, respectively. While, cost of production of single unit each of P and Q for country B is Rs. 12 and Rs. 9, respectively. Explain which country has the comparative advantage in the production of P and that of Q and how?
Solution:	
•••••	

Exercise 2.	produce one unit of P and 8 man hours to produce one unit of Q. USA requires 5 man hours and 10 man hours to produce one unit each of P and Q. What is the opportunity cost for India and USA? Explain which country has the comparative advantage in the production of P and that of Q and how?
Solution:	
• • • • • • • • • • • • • • • • • • • •	

Exercise 2: India and USA produce two commodities P and Q. India requires 4 man hours to

Solution:

Exercise 3: India takes 4 hours to make bread and 12 hours to prepare jelly. China takes one

hour to make bread and 5 hours to prepare jelly. What is the opportunity cost for India and China? Apply principle of comparative advantage in this case and explain