

CHAPTER-6

Results and Discussion

MEAN AND STANDARD DEVIATION-

	Mean	Std. Deviation	Respondents(N)
X1	39.08	7.73	60
X2	7.62	2.68	60
X3	5.12	1.58	60
X4	242.82	96.14	60
X5	5.92	1.87	60
X6	4.18	1.30	60
X7	584.25	131.09	60
X8	208.00	63.72	60
X9	3.22	1.33	60
X10	7.65	1.05	60
X11	2.30	0.81	60
X12	6.98	0.81	60
X13	7.20	0.97	60
X14a	6.30	1.23	60
X14b	5.30	0.98	60
X14c	4.45	1.11	60
X15a	6.23	1.01	60

X15b	6.95	1.00	60
X15c	4.20	0.86	60
Ya	523.17	152.25	60
Yb	13.72	5.51	60
Yc	7.43	3.72	60
Yd	506.27	142.95	60
Ye	7708.33	1836.38	60
Yf	10166.67	1963.62	60
Yg	2525.00	981.29	60

Coefficient of correlation between Amount Disposable To Market(Yc) and 19 exogenous variable(X1-X15c)

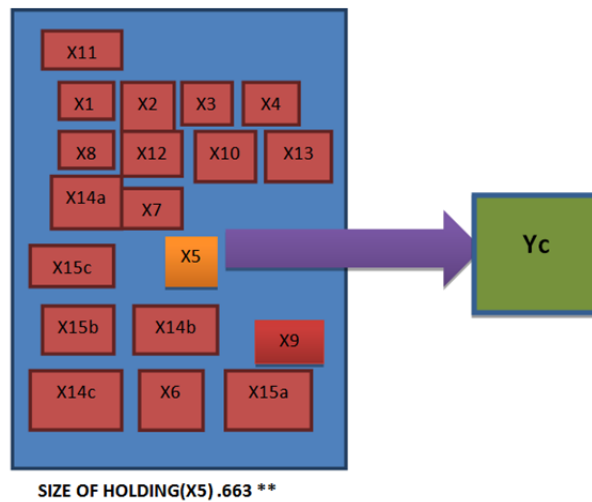
Independent Variable	r Value	REMARKS
Age(x1)	.173	
Education(x2)	-0.088	
Family Size(x3)	-0.135	
Income/FAMILY SIZE (x4)	-0.174	
Size Of Holding(x5)	.663	**
Economical Land (x6)	.184	
Electricity Consumption (x7)	-0.235	
Fuel Consumption (x8)	.199	
Market Interaction (x9)	.042	
Group Interaction (x10)	.156	
Distance Matrix (x11)	-0.128	
Orientation towards competition (x12)	.137	
Market orientation (x13)	-0.128	
Decision matrix Purchase(x14a)	.101	
Decision matrix Bank (x14b)	-0.013	
Decision matrix Enterprise(x14c)	.018	
Idea exchange index Enterprise(x15a)	.090	
Idea exchange index Health(x15b)	.001	
Idea exchange index Education(x15c)	-0.123	

Size of holding offers the resource endowment, the land which extends the scope for multiple cropping in multiple topographical locations. So farmers with higher Disposable to market (Y_c) has rightly contributed to the generation of disposability of market. .

*=.05 per cent level of significance

**=.01 per cent level of significance

Coefficient of correlation between Amount Disposable To Market(Y_c) and 19 exogenous variable(X_1 - X_{15c})



Coefficient of correlation between Total volume yield(Y_a) and 19 exogenous variable(X_1 - X_{15c})

Independent Variable	r Value	REMARKS
Age(x1)	.060	
Education(x2)	-0.050	
Family Size(x3)	-0.103	
Income/FAMILY SIZE(x4)	.092	
Size Of Holding(x5)	.084	

Economical Land (x6)	.022	
Electricity Consumption (x7)	-0.071	
Fuel Consumption (x8)	.013	
Market Interaction (x9)	.079	
Group Interaction (x10)	-0.191	
Distance Matrix (x ₁₁)	.236	
Orientation towards competition (x12)	-0.024	
Market orientation (x13)	-0.196	
Decision matrix Purchase(x14a)	-0.060	
Decision matrix Bank (x14b)	.058	
Decision matrix Enterprise(x14c)	-0.001	
Idea exchange index Enterprise(x15a)	.013	
Idea exchange index Health(x15b)	.270	*
Idea exchange index Education(x15c)	.182	

With the increasing of the total volume of yield, the farmers get the scope to exchange their ideas with others. So farmers with higher volume of yield (Ya) has rightly contributed to the generation of Idea exchange of education. Coefficient of correlation between Amount Consumed(Yb) and 19exogenous variable(X1-X15c)

Independent Variable	r Value	REMARKS
Age(x1)	.149	
Education(x2)	-0.158	
Family Size(x3)	-0.241	*
Income/FAMILY SIZE (x4)	-0.154	
Size Of Holding(x5)	.765	**
Economical Land (x6)	.200	
Electricity Consumption (x7)	-0.189	
Fuel Consumption (x8)	.216	
Market Interaction (x9)	.027	
Group Interaction (x10)	.093	
Distance Matrix (x11)	.000	

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Orientation towards competition (x12)	.112	
Market orientation (x13)	-0.125	
Decision matrix Purchase(x14a)	.023	
Decision matrix Bank (x14b)	.003	
Decision matrix Enterprise(x14c)	-0.031	
Idea exchange index Enterprise(x15a)	.106	
Idea exchange index Health(x15b)	.074	
Idea exchange index Education(x15c)	-0.084	

It is absolutely right that with the amount consumed(Yb) will depend on the on the family size and size of holding.

Coefficient of correlation between Amount disposed of(marketed surplus)(Yd) and 19 exogenous variable(X1-X15c)

Independent Variable	r Value	REMARKS
Age(x1)	.126	
Education(x2)	-0.032	
Family Size(x3)	-0.125	
Income/FAMILY SIZE (x4)	-0.094	
Size Of Holding(x5)	.917	**
Economical Land (x6)	.287	*
Electricity Consumption (x7)	-0.085	
Fuel Consumption (x8)	.282	*
Market Interaction (x9)	.134	
Group Interaction (x10)	.044	
Distance Matrix (x11)	-0.049	
Orientation towards competition (x12)	.135	
Market orientation (x13)	-0.110	
Decision matrix Purchase(x14a)	.158	
Decision matrix Bank (x14b)	-0.047	
Decision matrix Enterprise(x14c)	.109	
Idea exchange index Enterprise(x15a)	.034	

Idea exchange index Health(x15b)	-0.064	
Idea exchange index Education(x15c)	-0.195	

Size of holding, Economical land and fuel consumption effect the disposed amount of yield. So farmers with higher size of holding, economical land and fuel consumption have rightly contributed to the generation of Amount disposed of.

Coefficient of correlation between Cost incurred(Ye) and 19 exogenous variable(X1-X15c)

Independent Variable	r Value	REMARKS
Age(x1)	.038	
Education(x2)	.021	
Family Size(x3)	-0.020	
Income/FAMILY SIZE (x4)	-0.066	
Size Of Holding(x5)	.446	**
Economical Land (x6)	.819	**
Electricity Consumption (x7)	.124	
Fuel Consumption (x8)	.844	**
Market Interaction (x9)	.061	
Group Interaction (x10)	.037	
Distance Matrix (x11)	.050	
Orientation towards competition (x12)	-0.009	
Market orientation (x13)	.097	
Decision matrix Purchase(x14a)	.006	
Decision matrix Bank (x14b)	-0.141	
Decision matrix Enterprise(x14c)	-0.016	
Idea exchange index Enterprise(x15a)	.051	
Idea exchange index Health(x15b)	-0.129	

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Idea exchange index Education(x15c)	-0.071	
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Size of holding, economical land and fuel consumption offers the resource endowment. So farmers with higher these variables have rightly contributed to the generation of Cost Incurred.

Coefficient of correlation between Market price gained(Yf) and 19 exogenous variable(X1-X15c)

Independent Variable	r Value	REMARKS
Age(x1)	.056	
Education(x2)	-0.011	
Family Size(x3)	-0.072	
Income/FAMILY SIZE (x4)	-0.003	
Size Of Holding(x5)	.477	**
Economical Land (x6)	.742	**
Electricity Consumption (x7)	.149	
Fuel Consumption (x8)	.767	**
Market Interaction (x9)	.117	
Group Interaction (x10)	.070	
Distance Matrix (x11)	.083	
Orientation towards competition (x12)	.017	
Market orientation (x13)	.085	
Decision matrix Purchase(x14a)	.046	
Decision matrix Bank (x14b)	-0.084	
Decision matrix Enterprise(x14c)	-0.045	
Idea exchange index Enterprise(x15a)	.076	
Idea exchange index Health(x15b)	-0.088	
Idea exchange index Education(x15c)	-0.026	

Size of holding, economical land and fuel consumption offers the resource endowment. Which extends the scope for multiple cropping in multiple

topographical locations. So with higher Size of holding, economical land and fuel consumption enables a farmer to gain more market price.

Coefficient of correlation between Net Return(Yg) and 19 exogenous variable(X1-X15c)

Independent Variable	r Value	REMARKS
Age(x1)	-0.051	
Education(x2)	.102	
Family Size(x3)	-0.047	
Income/FAMILY SIZE (x4)	.402	**
Size Of Holding(x5)	.113	
Economical Land (x6)	-0.046	
Electricity Consumption (x7)	.171	
Fuel Consumption (x8)	-0.043	
Market Interaction (x9)	-0.026	
Group Interaction (x10)	.184	
Distance Matrix (x11)	-0.063	
Orientation towards competition (x12)	.137	
Market orientation (x13)	-0.217	
Decision matrix Purchase(x14a)	.192	
Decision matrix Bank (x14b)	.167	
Decision matrix Enterprise(x14c)	-0.126	
Idea exchange index Enterprise(x15a)	-0.156	
Idea exchange index Health(x15b)	-0.021	
Idea exchange index Education(x15c)	.048	

If the farmers' net return will be more the his income/family size will be more.

1. Coefficient of correlation between Total volume yield(Ya) and 19 exogenous variable(X1-X15c), Idea exchange index Health(x15b)=.270*

2. Coefficient of correlation between Amount Consumed(Yb) and 19 exogenous variable(X1-X15c), Family Size(x3)=-0.241*, Size Of Holding(x5)=.765**

3. Coefficient of correlation between Amount disposed of (marketed surplus)(Yd) and 19 exogenous variable(X1-X15c), Size Of Holding(x5)=.917**, Economical Land (x6)=.217*, Fuel Consumption (x8)=.282*

4. Coefficient of correlation between Cost incurred(Ye) and 19 exogenous variable(X1-X15c), Size Of Holding(x5)=.446**, Economical Land (x6)=.819**, Fuel Consumption (x8)=.884**

5. Coefficient of correlation between Market price gained(Yf) and 19 exogenous variable(X1-X15c), Size Of Holding(x5)=.447**, Economical Land (x6)=.742**, Fuel Consumption (x8)=.767**

6. Co-efficient of correlation between Net Return(Yg) and 19 exogenous variable(X1-X15c), Income/FAMILY SIZE (x4)=.402**

FACTOR ANALYSIS

FACTOR	VARIABLES	%OF VARIANCE	CUMULATIVE %	RENAME
1	X6,X8	13.583	13.583	Fuel-economy
2	X14a	21.311	34.894	
3	X7	8.347	43.242	
4	X5	14.141	57.382	
5	X2	6.156	63.538	
6	X11, X14b	6.065	69.603	Geo Decision
7	X14c,x15b	5.055	74.658	Concluding Innovation

8	X12, x15c	4.025	78.682	Entrepreneurial Communication
9	X3, x10	3.793	82.476	Family Group Cohesion
10	X1,X4,X9,X13	6.571	89.047	Market Proficiency

Conclusion.It has been found that FACTOR1: Accommodated x6(economical land) and x8(fuel economy) variables having 15.583 per cent of variance and the can be renamed as FUEL ECONOMY.

LIKE WISE X11(DISTANCE MATRIX) and x 14b (DECISION MATRIX BANK) CAN BE RENAMED AS GEO DECISION.

X14 c (DECISION MATRIX ENTERPRISE), x 15b (IDEA EXCHANGE INDEX HEALTH) CAN BE RENAMED AS CONCLUDING INNOVATION.

X12 (ORIENTATION TOWARDS COMPETITION),xb 15c(IDEA EXCHANGE INDEX EDUCATION) CAN BE RENAMED AS ENTREPRENEURIAL COMMUNICATION.

X₃(family size), X₁₀ (group interaction)can be renamed as family group cohesion.

X1(age), x4(income/family size),x9(market interaction),x13(market orientation) can be renamed as market proficiency.

Stepwise Regression:

Retention of significant causal variables at the last step-

Step

Result and Discussion

Variable	R ² %	Adjusted R ² %	Std. Error of the estimate
X15b X11	12.9	9.8	144.60

Its estimated that the two causal variable Distance Matrix(x11) and Idea exchange index Health(x15b) have exerted the heights functional impact on Total volume of yield. Thses two variables together have explained 12.9% of variance in Total volume of yield.

R²=28.1%

X1,X2,X3,X4,X5,X6,X7,X8,X9,X10
X11,X12,X13,X14a,X14b,X14c,
X15a,X15b,X15c
X11, X15b

R²=12.9%, 18th STEP RETAINED VARIABLES

X11=DISTANCE MATRIX

X15b=Idea Exchange Index Health

REVELATION: Through step wise regression, it has been found that only two variables have been retained in the last stage (X11, X15b). So the level of idea exchange index health for accessing innovations and the distance far from the critical utility centre together has contributed 12.9per cent of variance in yield, while 19 causal variables together contributed 28.1per cent of variance.

Stepwise Regression

Retention of significant causal variables at the last step-

Step

Variable	R ² %	Adjusted R ² %	Std. Error of the estimate
X5	60.7	59.3	3.516
X15b			

Its estimated that the two causal variable Size of holding(x5) and Idea excgange index Health(x15b) have exerted the heights functional impact onAmount Consumed. Thses two variables together have explained 60.7% of variance in Amount Consumed.

R²=74.0%

X1,X2,X3,X4,X5,X6,X7,X8,X9,X10
X11,X12,X13,X14a,X14b,X14c,
X15a,X15b,X15c
X5, X15b

R²=61%, 18th STEP RETAINED VARIABLES

X5=SIZE OF HOLDING X15b=Idea Exchange Index Health

REVELATION: Through step wise regression, it has been found that only two variables have been retained in the last stage (X5, X15b). So the level of idea exchange index health for accessing innovations and the SIZE OF HOLDING far from the critical utility centre together has contributed 61per

cent of variance in yield, while 19 causal variables together contributed 74per cent of variance.

Stepwise Regression :

Retention of significant causal variables at the last step-
Step

Variable	R ² %	Adjusted R ² %	Std. Error of the estimate
X5 X7	47.7	45.9	2.738

Its estimated that the two causal variable Size of holding(x5) and Electricity consumption(x7) have exerted the heights functional impact on amount disposable to market. These two variables together have explained 47.7% of variance in amount disposable to market.

$R^2=62.5\%$

X1,X2,X3,X4,X5,X6,X7,X8,X9,X10
X11,X12,X13,X14a,X14b,X14c,
X15a,X15b,X15c
X5, X7

$R^2=47.7\%$, **18th STEP RETAINED VARIABLES**

X5=SIZE OF HOLDING

X7=ELECTRICITY CONSUMPTION

REVELATION: Through step wise regression, it has been found that only two variables have been retained in the last stage (X5, X7). So the level of

ELECTRICITY CONSUMPTION and the SIZE OF HOLDING far from the critical utility centre together has contributed 47.7per cent of variance in yield, while 19 causal variables together contributed 62.5per cent of variance.

Stepwise Regression :

Retention of significant causal variables at the last step-
Step

Variable	R ² %	Adjusted R ² %	Std. Error of the estimate
X11 X14b	85.4	84.8	55.663

Its estimated that the two causal variable Distance matrix(x11) and Decision matrix Bank (x14b) have exerted the heights functional impact on amount disposed of. These two variables together have explained 85.4% of variance in Amount disposed of.

R²=89.1%

X1,X2,X3,X4,X5,X6,X7,X8,X9,X10
X11,X12,X13,X14a,X14b,X14c,
X15a,X15b,X15c
X11, X14b

R²=85.4%, **18th STEP RETAINED VARIABLES**

X11=DISTANCE MATRIX

X14b=DECISION MATRIX BANK

REVELATION: Through step wise regression, it has been found that only two variables have been retained in the last stage (X11, X14b). So the level of DECISION MATRIX BANK for accessing innovations and the DISTANCE far from the critical utility centre together has contributed 85.4per cent of variance in yield, while 19 causal variables together contributed 89.1per cent of variance.

Stepwise Regression:

Retention of significant causal variables at the last step-Step

Variable	R ² %	Adjusted R ² %	Std. Error of the estimate
X4 X5 X8	76.7	75.5	909.48

Its estimated that the two causal variable FAMILY INCOME/FAMILY SIZE(x4) and SIZE OF HOLDING(x5) and FUEL CONSUMPTION(x8) have exerted the heights functional impact on cost incurred. These two variables together have explained 76.7% of variance in Cost incurred.

$R^2=81.8\%$

X1,X2,X3,X4,X5,X6,X7,X8,X9,X10
X11,X12,X13,X14a,X14b,X14c,
X15a,X15b,X15c
X5, X4,X8

$R^2=76.7\%$, **17th STEP RETAINED VARIABLES**

X5=SIZE OF HOLDING , X4=FAMILY INCOME/FAMILY SIZE

X8=FUEL CONSUMPTION

REVELATION: Through step wise regression, it has been found that only two variables have been retained in the last stage (X5, X4, X8). So the level of FAMILY INCOME/FAMILY SIZE for accessing innovations and FUEL CONSUMPTION and the SIZE OF HOLDING far from the critical utility centre together has contributed 76.7per cent of variance in yield, while 19 causal variables together contributed 81.8per cent of variance.

Stepwise Regression :

Retention of significant causal variables at the last step-

Step

Variable	R ² %	Adjusted R ² %	Std. Error of the estimate
X4 X5 X8	68.2	66.5	1136.22

Its estimated that the two causal variable FAMILY INCOME/FAMILY SIZE(x4) and SIZE OF HOLDING(x5) and FUEL CONSUMPTION(x8) have exerted the heights functional impact Market price gained. These two variables together have explained 68.2% of variance in Market price gained. R²=76.3%

X1,X2,X3,X4,X5,X6,X7,X8,X9,X10
X11,X12,X13,X14a,X14b,X14c,
X15a,X15b,X15c
X5, X4,X8

R²=68.2%, **17th STEP RETAINED VARIABLES**
 X5=SIZE OF HOLDING , X4=FAMILY INCOME/FAMILY SIZE
 X8=FUEL CONSUMPTION

REVELATION: Through step wise regression, it has been found that only two variables have been retained in the last stage (X5, X4,X8). So the level of FAMILY INCOME/FAMILY SIZE for accessing innovations and FUEL CONSUMPTION and the SIZE OF HOLDING far from the critical utility centre together has contributed 68.2per cent of variance in yield, while 19 causal variables together contributed 76.3per cent of variance.

Stepwise Regression:

Retention of significant causal variables at the last step-

Step

Variable	R ² %	Adjusted R ² %	Std. Error of the estimate
X7 X4 X14a	25.5	21.5	869.415

Its estimated that the two causal variable Electricity consumption(x7) and Family income/Family size(x4) and Decision matrix Purchase(X14a) have exerted the heights functional impact Net Return. These two variables together have explained 25.5% of variance in Net Return.

R²=35.9%

X1,X2,X3,X4,X5,X6,X7,X8,X9,X10 X11,X12,X13,X14a,X14b,X14c, X15a,X15b,X15c X7, X4,X14a
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R²=25.5%, **17th STEP RETAINED VARIABLES**

X7=ELECTRICITY CONSUMPTIO, X4=FAMILY INCOME/FAMILY SIZE

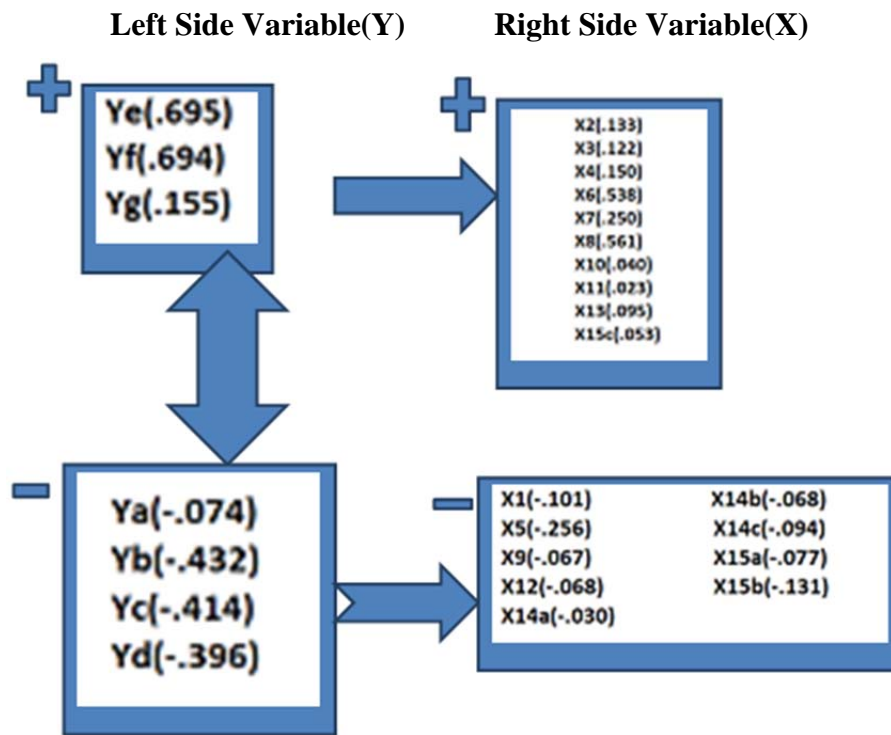
X14a=DECISION MATRIX PURCHASE

REVELATION: Through step wise regression, it has been found that only two variables have been retained in the last stage (X7, X4,X14a). So the level of FAMILY INCOME/FAMILY SIZE for accessing innovations and ELECTRICITY CONSUMPTION and the DECISION MATRIX PURCHASE far from the critical utility centre together has contributed 25.5per cent of variance in yield, while 19 causal variables together contributed 35.9per cent of variance.

Canonical Correlation Analysis is generally followed where the number of dependent variables is more than one. In Canonical Correlation Analysis there have been two sets of variables. One left side (dependent variables) and right side (independent variable) .

Here it has been found that the left side variables have also been sub-grouped based on symbols that are carrying “+” or” _”. It has been that the following variables and formed 1st group of dependent variables (Ye, Yf, Yg) has systematically selected independent variables from the right side set of variables (X2, X3, X4, X6, X7, X8, X10, X11).

So it can be inferred that the following group of dependent variables while moving together and having interaction with other set of Y variables independent, bearing (-) symbol, they are systematically selected following independent variables.



CONCLUSION: India is one of the highest producers of vegetable in the world. But so far as value addition to vegetable crops it is occupying of bleak position. The new age vegetable enterprise in India is focusing are focusing on value addition, high value vegetable production, organic vegetable production, marketable vegetable enterprise, promotional vegetable consumption. The National Food Security Mission is ushering the programme on increasing the infrastructure on vegetable storage subsequent marketability and its down the line consumption. The present study has nicely analysed the inter action of two sets of variables through Canonical Correlation Analysis in order to formulate a micro level strategy. It is found

that Cost Incurred(Y_e), Market Price Gained (Y_f) and Net Return(Y_g) are moving together. This is good enough to generate a micro level policy implication cost incurred (Y_c) and market price gained accrued to by accessing better market price. The other sub grouping of predicted characteristics show that total yield(Y_a), amount consumed (Y_b), disposable to market(Y_c), amount disposed of (Y_d) are moving together. This will focus that the total volume of vegetable should be augmented and at the same time disposability of the consignment may be increase by packaging, value addition. The entire level of vegetable entrepreneurship has been reticulated with the 19 exogenous variables. It is reasonable enough to conclude that both the aspects of production and disposability of vegetable can only be predicted through a score of well selected institutional, managerial, ecological, and personal characteristics of the respondents thriving with the operating social ecology.