

## Determinants of Farmers Perception towards Regulated Agricultural Markets in Salem District

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**Abstract:** For the farmer, the strategic function of the marketing system is to offer him a convenient outlet for his produce at remunerative price. There is an important need for the Agri-marketing initiatives to be large and organized. The present market must cover two aspects: marketing system and concrete regulation of the conduct of market. For this purpose regulated agricultural markets have been set up throughout the country. Regulated agricultural markets in India are also known as direct markets which work under district regulated market committees set up by the different state governments to sell the agricultural produce directly from seller/farmer to buyer/trader. There is no middleman in between the market transactions. The present paper tries to explore the perception of farmers with respect to functional performance and physical performance of the regulated agricultural markets. The methodology used is to correlate various variables proposed for the study and to develop a regression model for the study to know the effect of one variable on the other. The concluding results show that although there are some constraints like poor infrastructure facilities in the markets, but there is an overall positive attitude towards these social institutions developed by the farmers. Further much needs to be done by the government to make these markets strongly functional and efficient to attract more number of farmers and traders.

[SHAKEEL-UL-REHMAN, M. SELVARAJ. **Determinants of Farmers Perception towards Regulated Agricultural Markets in Salem District.** *Life Sci J* 2013; 10(2): 2466-2474]. (ISSN: 1097-8135). <http://www.lifesciencesite.com> 342

**Keywords:** Agricultural Produce, Direct Markets, Economy, Regulated Market Committees (RMCs), Regulated Markets (RM), Social Institutions

### 1. Introduction

Agriculture is viable only when it earns good income to a nation. Agricultural produce must be disposed to the final consumer in an efficient way so that a farmer earns maximum returns on his produce timely and again. To strengthen Indian agriculture nation must address not only farm production but also processing, marketing, trade and distribution. We must link farmers to markets (Sivanappan, 2000; Acharaya, 2006; Sorokhaibam and Devi, 2011). Indian economy depends much on agriculture as 60% of the rural people are engaged in agriculture and its associated activities and earn their livelihood from it. So farmers are an important constituent of progress and prosperity of any nation as they are responsible to produce and feed the society, without which society or nation will not survive. It must be given top priority than the other sectors of economy as many industries depend on agricultural production and marketing.

The concern of Indian agriculture is not production but the management of the produce. A lot of agricultural produce gets wasted as there are still poor infrastructure facilities to support the agricultural management after its production (Bhattacharaya, et al., 2005). So the government has taken a lot of initiatives to solve the problem of disposing the agricultural produce. One such kind of initiative which the government has taken is the establishment of regulated agricultural markets in the country (Godara, 2006; Gandhi, 2006). These markets are proving to be an

efficient platform for selling of agricultural produce throughout the country, as there are no intermediaries or middleman between the farmer and the seller/trader in these markets. In India there are presently more than 7556 regulated markets functioning through the country. Out of which Tamilnadu has a total of 292 regulated markets. Salem district is having 13 regulated markets functioning presently.

### 2. Review of Literature

With modernization of existing post-harvest processing, establishment of suitable infrastructural facilities, huge amount of countries exchequer can be saved and further helps in feeding the teeming population in the country (Sivanappan, 2000). (Johnson, 2000) stated that diversification and commercialization of agriculture are often regarded as essential preconditions for rural income growth and poverty reduction. (Vaswani, et al., 2003) in their study concluded that the changing task environment is leading to change in priorities of Indian agriculture in the 21st century. In the emerging scenario, the core concern has to shift from food security to productivity and diversification. In this (Ramkishen, 2004) argued that because of the lack of food processing and storage, the grower is deprived of a good price for his produce during the peak marketing season while the consumer needlessly pay a higher price during lean season.

(Bhattacharaya, et al., 2005) analyzed that marketing of agricultural products is exhibiting many symptoms, which were not prevalent in commodity

selling. Apart from addition of basic uncertainty, production fluctuation and unorganized activities are making it a more uncertain game. So an institutional intervention is therefore necessary to meet these problems. According to (Padel and Foster, 2005) consumer behavior is fashioned selectively to compromise consumers needs. Knowledge is gained by experience and it affects consumers' behavior. Consumer behavior is translated as learnt approach, besides how it is learnt and experienced, is very imperative for marketers. It could be seen that all the respondents opined that markets far away from the farm, over 82% of the respondents opined that higher commission charges was major problem in marketing of papaya. The other problems were lack of availability of market information (79%), storage problem (76%), price fluctuations (37%) and lack of skilled labour for packing (19%) (Shivannavar, 2005). Also (Godara, 2006) described that the positive trend of economic liberalization and associated opening up of Indian economy has significantly reduced the structural rigidities in the system, this trend should be premise of India's future agricultural reform. Agricultural business has come under strong and direct influence of international market. Indian farmers have to produce quality goods to meet the international standards.

(Gandhi, 2006) concluded that studies from India have shown that improvement in market facility increases volume of trade at the market. Similarly, improvement in transport infrastructure is found to result in change in cropping pattern and agricultural productivity. (Hogeland, 2006) suggested that norms which shaped the meaning of collective marketing for most of the twentieth century were outward looking, concerned with the position and performance of cooperatives relative to the rest of the agricultural marketing system. Likewise (Ifeanyi-Obi, 2008) stated that improving sales promotion of Agro-products is an indirect way of improving or encourages more production in farm products. It is therefore recommended that Agro-industries should employ promotional activities in order to boost their sales thereby increasing demand of farm products. Also suggestions on how to improve sales promotion given by the respondents should be applied in conducting sales promotion in order to have successful and profitable sales promotion. The findings of (Mbanasor and Nwankwo, 2007) stated that the poor net marketing margin received by the producer showed the need of efficient marketing system within the enterprise. The producer had the least marketing efficiency of 4.8% as against 15.85% for retailers and 37.35% for wholesalers. If the producers would have been able to manage resources within the marketing system, they would have been in a better position to net more in the marketing of palm oil.

(Pathak, 2009) stated that the contribution of agriculture in growth of a nation is constituted by the growth of the products within the sector itself as well as the agricultural development permits the other sectors to develop by the goods produced in the domestic and international market. (Okwoche, et al., 2010) evaluated that decisions require adequate information on number of things including where, when, how and what price to sell the agricultural produce, the farmer must get awareness and right on time information for selling his produce. (Sahoo, 2010) confirmed that in order to meet the increasing household expenditure; the farmers are attracted to earn extra from agriculture. But infrastructure, credit flow, marketing facilities, provision of insurance, price structure and flow of information does not support them.

The efforts for financial inclusion need to be designed with a vision beyond just the percentage of the country population with access to a bank account or a no frills account; to focus more on how this can enhance the capability and convenience for the un-banked and under-banked, specifically the small and marginal farmers in this case, to enable greater transparency, accountability, efficiency and convenient access to necessary facilities (Pandey 2010). By leveraging on the available technology, payment systems such as mobile-based and card-based can extend the convenience and will revolutionize the transaction environment with the agricultural value chain. The conclusion of the finding similar study conducted by (Ogunleye, et al., 2010) indicated that majority of the cassava farmers had low level of education but are well experienced in cassava production. Personal savings was their major source of finance and that the major source of marketing information for the famers were trader hence, the needs for agricultural extension agents to assist in the area of marketing so that farmers will be encouraged to adopt innovations. Cassava farmers are therefore in great need of assistance in marketing of cassava and its products.

(Sorokhaibam and Devi, 2011) found that state government has taken several steps to improve the conditions of agricultural marketing. The state government should act as a facilitator in marketing. (Feder, et al., 2011) affirmed that agricultural extension plays a leading role among the public services through which governments have traditionally sought to promote agricultural performance. The reasons for public-sector assumption of the role of extension services provider derive from inherent market failures characterizing the agricultural information sector, particularly with respect to multitudes of smallholders. (Begum, 2011) analyzed that agricultural marketing continued to be plagued by many market imperfections such as inadequate infrastructure, lack of scientific

grading system, defective weightiest and so on. The basic objective of regulating the marketing of agricultural products was to bring both producer and buyer/trader closer and to the same level of advantage. (Lashgarara, 2011) found one of the most important factors for agricultural development is marketing of agricultural products. Information, as the most important facilitator and main core of the marketing system, has an effective role in increasing the marketing system efficiency. Today, farmers need access to updated and exact information in order to improve the quality and quantity of the agricultural products marketing. Information and communication technology (ICT), by accelerating the information delivery, have a key role in agricultural products marketing.

(Karahocagil and Ozudogru, 2011) studied the agricultural development cooperatives in Turkey; the results revealed that the member farmers and traders were happy with the agricultural cooperatives, as the cooperatives help the members by disseminating information on various issues like production, input gathering, marketing, processing etc. (Maliwichi, et al., 2011) proposed that performance of agribusinesses depends on management style, capital invested, final product, income generated and employment generated. Policy makers need to formulate policies accordingly for success and sustainability of these strategies. The results of the study by (Chogou and Gandonou, 2012) indicated that many farmers prefer to sell under contract rather than to sell freely in the market because itinerant traders provide them with credit to accompany the contract. How the patterns of the modes of transaction will be altered if farmers are offered an alternative source of credit. Many farmers in RMs of different districts complained about the late payment for their produce (Sharma, 2012).

### 3. Need and Objectives of the Study

There is need to know much about the farmers perception on working performance of regulated markets as these are an essential social institutions for upliftment of the poor masses like farmers. The regulated markets have been established for the sole purpose of removing inefficiencies and malpractices from the agricultural marketing in the country. So it is imperative for the society to know the broad picture of functioning of these regulated markets in farmers' point of view. Farmers have a direct relationship and knowhow of these markets that is why the survey was conducted to bring into light the determinants of long term perception which a farmer has developed towards these regulated markets and to know the significant relationship between different variables proposed for the study.

### 4. Methodology

The present study is a survey on perception of

farmers towards regulated agricultural markets in Salem District of Tamilnadu. The study includes a sample of 260 farmers who sell their agricultural produce in the regulated agricultural markets in the study area. The survey was completed in a period 7 months from August 2012 - February 2013. All the 13 regulated markets working in Salem district were selected for the survey. The sample was chosen by convenience sampling method for the ease of the researcher as the total population was unknown. The sample size consists of 20 respondent farmers from each of the 13 regulated markets respectively summing the overall sample to 260. A structured questionnaire was administered through personal interview among the respondent farmers to collect the response as primary data. The secondary sources of data were annual reports of the regulated markets, formal discussion with the regulated market officials, various trade reports, journals and books.

## 5. Results and Discussions

### Sample Profile

The socio-economic and market profile of the respondents is presented in the table 1. Most of the respondents fall in the age group between 31-60 years (about 75%). All the respondents were found to be male. Only 21.9% of the respondents have degree and above educational qualification. Most of the respondents (92.3%) were married. Only 21.5% of the respondents have income above Rs. 0.2 Million. Majority of the respondents have agriculture as main occupation. About 54.6% of the respondents have average 2-3 acres of land. About 86% of the respondents have above 6 years of experience in agriculture. Most of the respondents (90%) use own funds as agricultural investment. More than 57% of the respondents have above 6 years of experience with the regulated markets. Major transport system used by respondents for transporting the produce is van, truck and tractor with trolley. None of the respondents avail pledge loan currently from the market. A considerable amount of respondents (82%) sold their produce in other markets also. Moreover the mean and standard deviations of each variable are also presented in the table 1.

The table 2 depicts the opinion of respondents with respect to functional performance of regulated markets. The results show that there is an overall positive perception of respondents towards these markets, except price stability in the market, reasonable rates of produce, reasonable methods of sale, price awareness and grievance redressal mechanism. The average mean obtained for most of the variables is on the positive side of scale and is above 4, except few variables, which indicates a positive reaction of the respondents towards regulated markets.

Table 1: Demographic and Market Profile of Farmers

Variables	Response- Frequency(Percentage)					M	SD
Age (in years)	Up to 30-29(11.2%)	31-40- 66(25.4%)	41-50-64(24.6%)	51-60-64(24.6%)	Above 60-37(14.2%)	3.05	1.232
Gender	Male-260(100%)		Female-0(0%)			1.00	0.000
Educational Qualification	Illiterate-26(10%)	Below SSC-83(31.9%)	Intermediate-94(36.2%)		Degree and above-57(21.9%)	2.70	0.923
Marital Status	Married-240(92.3%)			Unmarried-20(7.7%)		1.08	0.267
Main Occupation	Farmer-115(44.2%)	Employee-51(19.6%)	Business-76(29.2%)		Others-18(6.9%)	1.99	1.008
Annual income (Million Rs)	Less than 0.10-24(9.2%)	0.1-0.15 -79(30.4%)	0.15-0.20-101(38.8%)		Above 0.20-56(21.5%)	2.73	0.904
Size of land	Up to 1 acre-31(11.9%)	2-3 acres-142(54.6%)	4-5 acres-70(26.9%)		Above 5 acres-17(6.5%)	2.28	0.757
Experience with agriculture	Upto 5 years-35(13.5%)	6-10 years- 106(40.8%)		Above 10 years 119(45.7%)		2.35	0.737
Mode of funds	Own funds-236(90.8%)			Borrowed funds-24(9.2%)		1.10	0.295
Where do you get the funds	Public banks-6(2.3%)	Private banks-9(3.5%)	Others-9(3.5%)		No-236(90.8%)	2.13	0.797
Amount of borrowings (Rs)	Upto 25000-2(0.8%)	26000-50000-12(4.6%)	51000-75000-8(3.1%)	Above 75000 -2(0.8%)	No-236(90.8%)	2.42	0.776
Know about the RM	Word of mouth-105(40.4%)	Radio/Tv-88(33.8%)	Newspaper-50(19.2%)		Others-17(6.5%)	1.92	0.924
Distance of the nearest RM	Upto 2 km-34(13.1%)	3-5 km-65(25.0%)	6-10 km-97(37.3%)		Above 10 km-64(24.6%)	2.73	0.976
Experience with RM	Upto 1 year-3(12%)	2-5 years- 107(41.2%)	6-10 years- 81(31.2%)		Above 10 years-69(26.5%)	2.83	0.835
Method of sale preferred	Secret tender-214(82.3%)		Direct negotiation-46(17.7%)			1.18	0.382
Mode of transport	Bullock cart-42(16.2%)	Two-wheeler-13(5%)	Van and truck-136(52.3%)		Tractor with trolley-69(26.5%)	2.89	0.977
Other preferences	Primary markets -102(39.2%)	Secondary markets-70(26.9%)	Terminal markets-42(16.2%)		No-46(17.7%)	2.12	1.119

Source: primary data, where M= Mean, SD= Standard Deviation.

Table 2: Opinion of Farmers on Functional Performance of Regulated Markets

Statements	Frequency(Percentage)					M	SD
	SA	A	N	D	SD		
Information availability	60(23%)	197(75.8%)	3(1.2%)	-	-	4.22	0.442
Market accessibility	65(25%)	174(67%)	4(1.5%)	0	17(6.5%)	4.10	0.720
Proper handling	77(29.6%)	158(60.8%)	3(1.2%)	-	-	4.37	0.507
Proper Weighment	77(29.6%)	173(66.5%)	10(3.8%)	-	-	4.26	0.519
Proper Grading	88(33.8%)	139(53.5%)	33(12.7%)	-	-	4.21	0.650
Reasonable market charges	139(53.5%)	117(45%)	4(1.5%)	-	-	4.52	0.531
Proper Lotting	94(36.3%)	160(61.5%)	6(2.3%)	-	-	4.34	0.521
Proper processing time of transaction	126(48.5%)	125(48.1%)	9(3.5%)	-	-	4.45	0.564
Reasonable methods of sale	37(14.2%)	109(41.9%)	60(23.1%)	46(17.7%)	8(3.1%)	3.47	1.037
Price awareness	13(5%)	88(33.8%)	45(17.3%)	99(38.1%)	15(5.8%)	2.94	1.073
Reasonable rates	10(3.8%)	104(40%)	27(10.4%)	104(40%)	15(5.8%)	2.96	1.090
Price stability	37(14.2%)	146(56.2%)	39(15%)	38(14.6%)	-	3.70	0.889
Proper payment procedures	97(37.3%)	158(60.8%)	5(1.9%)	-	-	4.35	0.518
Avoidance of wastage at warehouse	63(24.2%)	179(68.8%)	18(6.9%)	-	-	4.17	0.532
Avoidance of procedural delay	71(27.3%)	175(68.5%)	14(5.4%)	-	-	4.22	0.529
Good interpersonal relationship	65(25%)	178(68.5%)	17(6.5%)	-	-	4.18	0.531
Pledge loan facility	93(35.8%)	144(55.4%)	23(8.8%)	-	-	4.27	0.612
Accidental compensation	68(26.2%)	176(67.7%)	16(6.2%)	-	-	4.20	0.533
Conduction of Training programs	46(17.7%)	187(71.9%)	27(10.4%)	-	-	4.07	0.526
Integrity/honesty in the regulated market	60(23.1%)	192(73.8%)	7(2.7%)	1(0.4%)	-	4.20	0.485
Grievance redressal mechanism	33(12.7%)	136(52.3%)	54(20.8%)	33(12.7%)	4(1.5%)	3.62	0.916

Source: primary data

Note: SA= Strongly Agree, A= Agree, N= Neutral, D= Disagree, SD= Strongly Disagree, M= Mean, SD= Standard Deviation.

Table 3: Opinion of Farmers on Physical Performance of Regulated Markets

Statements	Frequency(Percentage)					M	SD
	HS	S	N	D	HD		
Display yard facility	27(10.4%)	127(48.8%)	52(20%)	46(17.7%)	8(3.1%)	3.46	0.999
Transaction shed facility	36(13.8%)	185(71.2%)	35(13.5%)	4(1.5%)	-	3.97	0.579
Drying yard facility	18(6.9%)	136(52.3%)	55(21.2%)	44(16.9%)	7(3.8%)	3.44	0.942
Packaging facility	35(13.5%)	91(35%)	33(12.7%)	91(35%)	10(3.8%)	3.19	1.166
Storage facility	59(22.7%)	163(62.7%)	33(12.7%)	5(1.9%)	-	4.06	0.655
Rest room facility	99(38.1%)	72(27.7%)	56(21.5%)	26(10%)	7(2.7%)	3.88	1.109
Notice /display board facility	9(3.5%)	96(36.9%)	65(25%)	75(28.8%)	15(5.8%)	3.03	1.015
Drinking water facility	88(33.8%)	148(56.9%)	22(8.5%)	2(0.8%)	-	4.24	0.631
Toilet and Sanitary facility	91(35%)	106(40.8%)	28(10.8%)	28(10.8%)	7(2.7%)	3.95	1.064
Telephone facility	100(38.5%)	90(34.6%)	39(15%)	25(9.6%)	6(2.3%)	3.97	1.063
First aid facility	100(38.5%)	146(56.2%)	14(5.4%)	-	-	4.33	0.575
Proper road facility	21(8.1%)	44(16.9%)	69(26.5%)	100(38.5%)	26(10%)	2.75	1.103
Transport facility	-	-	64(24.6%)	137(52.7%)	59(22.7%)	2.02	0.689
Parking facility	-	-	81(31.2%)	131(50.4%)	48(18.5%)	2.13	0.694

Source: primary data

Note: HS= Highly Satisfied, S= Satisfied, N= Neutral, D= Dissatisfied, HD= Highly Dissatisfied, M= Mean, SD= Standard Deviation.

Results in the table 3 indicate the opinion of respondents with respect to physical facilities in the regulated markets. Most of the physical facilities partially satisfy the respondents except road facility, transport facility and parking facility which are highly dissatisfying the farmers. The highest mean is obtained by first aid facility (M=4.33: SD=0.575) followed by drinking water facility (M=4.24: SD=0.631) and storage facility (4.06: SD=0.655) in the regulated market. There is an overall positive perception scores for the variables used in the study.

#### Model Used

Linear Multiple Regression model developed for the study is as follows:

The equation developed for the study:  $Y_j = a + b_1X_{1j} + b_2X_{2j} + b_3X_{3j} + b_4X_{4j} + \dots + b_nX_{nj}$ . Where  $Y_j$  is the predicted value of the dependent variable for some unit  $j$ ;  $X_{1j}$ ,  $X_{2j}$ , ...,  $X_{nj}$  are values of independent variables for unit  $j$ ;  $b_1$ ,  $b_2$ , ...,  $b_n$  are the regression coefficients (slope) for the consequent independent variables;  $a$  is the Y-intercept representing the prediction for  $Y$  when all independent variables are set to zero;  $b_1$ ,  $b_2$ ,  $b_3$ , ...,  $b_n$  represent the changes in  $Y$  per unit change in  $X_1$ ,  $X_2$ ,  $X_3$ , ...,  $X_n$  respectively assuming the values of all other variables remain same.

#### Hypotheses

**H0:** There is no relationship between Years of experience with the RM and **H01** (Age), **H02** (Educational qualification), **H03** (Marital Status), **H04** (Main Occupation), **H05** (Annual income), **H06** (Size of land), **H07** (experience with agriculture), **H08** (Know about the regulated markets), **H09** (Distance of the nearest regulated market), **H010** (Method of sale preferred), **H011** (Mode of transport), **H012** (Other preferences of sale), **H013** (Information availability), **H014** (Market accessibility), **H015** (Proper

handling/management of the produce), **H016** (Proper Weighment of the produce), **H017** (Proper Grading of the produce), **H018** (Reasonable market charges), **H019** (Proper Lotting of the produce), **H020** (Proper processing time of transaction), **H021** (Reasonable methods of sale), **H022** (Price awareness), **H023** (Reasonable rates of produce), **H024** (Price stability), **H025** (Proper payment procedures), **H026** (Avoidance of wastage at warehouse), **H027** (Avoidance of procedural delay by the officials), **H028** (Good interpersonal relationship), **H029** (Pledge loan facility), **H030** (Accidental compensation), **H031** (Conduction of Training programs), **H032** (Integrity/honesty in the regulated market), **H033** (Grievance redressal mechanism in the market), **H034** (Marketing yard/display yard facility), **H035** (Transaction shed facility), **H036** (Drying yard facility), **H037** (Packaging facility), **H038** (Storage facility), **H039** (Rest room facility), **H040** (Notice /display board facility), **H041** (Drinking water facility), **H042** (Toilet and Sanitary facility), **H043** (Telephone facility), **H044** (First aid facility), **H045** (Proper road facility), **H046** (Transport facility), **H047** (Parking facility).

Regression Effects when Farmers' Perception is scaled by Years of Experience with RM

In the table 4, forty-eight variables have been correlated effectively. The value of multiple correlation coefficient;  $R$  is 0.808. The table also presents  $R^2$  and  $R^2$  adjusted values. The  $R$  value of the model is 80.8 percent; therefore it indicates a high degree of correlation. The  $R^2$  of the model equals 65.3 percent and  $R^2$  adjusted equals 57.6 percent. This means that 57.6 percent changes in the dependent variable (years of experience with RM) are due to variations in independent variables in the study.

Table 5 portrays that F-test of the model is equal

to 8.494 and is significant at 5 percent level of significance. This confirms the variance is significant between independent factors and dependent variable

(years of experience with RM). The ANOVA table indicates that the regression model predict the outcome variable significantly very well.

Table 4: Model Summary<sup>(b)</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.808 <sup>(a)</sup>	0.653	0.576	0.544	1.964

a. Predictors: (Constant), Parking facility, Grievance redressal mechanism in the market, Size of land, Drying yard facility, Marital Status, Reasonable market charges, Method of sale preferred, Know about the regulated markets, Information availability, Conduction of Training programs, Other preferences of sale, Good interpersonal relationship, Mode of transport, Main Occupation, Avoidance of procedural delay by the officials, Storage facility, Market accessibility, Integrity/honesty in the regulated market, Proper processing time of transaction, Educational Qualification, Pledge loan facility, Proper payment procedures, Accidental compensation, Annual income , Proper weighment of the produce, Years of experience with agriculture, Transaction shed facility, Proper Lotting of the produce, Proper handling/management of the produce, Proper road facility, Price stability, Avoidance of wastage at warehouse, Drinking water facility, Age, Distance of the nearest regulated market, Reasonable methods of sale, First aid facility, Proper Grading of the produce, Packaging facility, Toilet and Sanitary facility, Transport facility, Telephone facility, Notice /display board facility, Marketing yard/display yard facility, Price awareness, Rest room facility, Reasonable rates of produce.

b. Dependent Variable: Years of experience with regulated markets.

Table 5: ANOVA<sup>(b)</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	117.929	47	2.509	8.494	0.000 <sup>(a)</sup>
	Residual	62.625	212	0.295		
	Total	180.554	259			

a. Predictors: (Constant), Parking facility, Grievance redressal mechanism in the market, Size of land, Drying yard facility, Marital Status, Reasonable market charges, Method of sale preferred, Know about the regulated markets, Information availability, Conduction of Training programs, Other preferences of sale, Good interpersonal relationship, Mode of transport, Main Occupation, Avoidance of procedural delay by the officials, Storage facility, Market accessibility, Integrity/honesty in the regulated market, Proper processing time of transaction, Educational Qualification, Pledge loan facility, Proper payment procedures, Accidental compensation, Annual income , Proper weighment of the produce, Years of experience with agriculture, Transaction shed facility, Proper Lotting of the produce, Proper handling/management of the produce, Proper road facility, Price stability, Avoidance of wastage at warehouse, Drinking water facility, Age, Distance of the nearest regulated market, Reasonable methods of sale, First aid facility, Proper Grading of the produce, Packaging facility, Toilet and Sanitary facility, Transport facility, Telephone facility, Notice /display board facility, Marketing yard/display yard facility, Price awareness, Rest room facility, Reasonable rates of produce.

b. Dependent Variable: Years of experience with regulated markets.

Table 6: Coefficients<sup>(a)</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		Null Hypothesis Accepted/ Rejected
	B	Std. Error	Beta			Tolerance	VIF	
1 (Constant)	-4.246	1.452		-2.925	0.004			
Age	0.167	0.044	0.247	3.824	0.000	0.393	2.548	Rejected
Educational Qualification	-0.121	0.049	-0.134	-2.493	0.013	0.568	1.761	Rejected
Marital Status	0.375	0.175	0.120	2.137	0.034	0.521	1.920	Rejected
Main Occupation	-0.164	0.043	-0.198	-3.830	0.000	0.614	1.628	Rejected
Annual income	-0.046	0.053	-0.049	-0.866	0.388	0.504	1.985	Accepted
Size of land	0.182	0.063	0.165	2.906	0.004	0.509	1.966	Rejected
Years of experience with agriculture	0.478	0.073	0.422	6.569	0.000	0.396	2.522	Rejected
Know about the regulated markets	0.095	0.044	0.105	2.139	0.034	0.677	1.478	Rejected
Distance of the nearest	0.235	0.056	0.275	4.174	0.000	0.377	2.653	Rejected

regulated market								
Method of sale preferred	0.389	0.105	0.178	3.692	0.000	0.704	1.421	Rejected
Mode of transport	-0.070	0.054	-0.082	-1.282	0.201	0.403	2.481	Accepted
Other preferences	0.006	0.038	0.007	0.149	0.882	0.646	1.548	Accepted
Information availability	-0.024	0.120	-0.013	-0.202	0.840	0.409	2.444	Accepted
Market accessibility	0.113	0.081	0.098	1.396	0.164	0.335	2.986	Accepted
Proper handling	-0.023	0.115	-0.014	-0.197	0.844	0.334	2.996	Accepted
Proper Weighment	-0.105	0.117	-0.065	-0.898	0.370	0.311	3.216	Accepted
Proper Grading of the produce	0.040	0.104	0.031	0.386	0.700	0.248	4.026	Accepted
Reasonable market charges	0.128	0.093	0.081	1.375	0.171	0.467	2.142	Accepted
Proper Lotting	0.056	0.104	0.035	0.537	0.592	0.391	2.558	Accepted
Proper processing time of transaction	-0.213	0.087	-0.144	-2.442	0.015	0.470	2.127	Rejected
Reasonable methods of sale	-0.022	0.073	-0.027	-0.301	0.764	0.199	5.015	Accepted
Price awareness	-0.042	0.081	-0.053	-0.512	0.609	0.150	6.648	Accepted
Reasonable rates	-0.009	0.089	-0.012	-0.100	0.921	0.122	8.216	Accepted
Price stability	0.044	0.059	0.047	0.747	0.456	0.409	2.443	Accepted
Proper payment procedures	0.076	0.094	0.047	0.806	0.421	0.483	2.072	Accepted
Avoidance of wastage at warehouse	-0.039	0.105	-0.025	-0.372	0.710	0.366	2.730	Accepted
Avoidance of procedural delay	0.031	0.102	0.020	0.307	0.759	0.391	2.558	Accepted
Good interpersonal relationship	0.062	0.103	0.039	0.599	0.550	0.382	2.620	Accepted
Pledge loan facility	0.181	0.097	0.133	1.860	0.064	0.320	3.123	Accepted
Accidental compensation	0.020	0.088	0.012	0.223	0.824	0.522	1.916	Accepted
Conduction of Training programs	0.072	0.091	0.045	0.790	0.430	0.504	1.986	Accepted
Integrity/honesty in the regulated market	0.047	0.099	0.028	0.482	0.631	0.499	2.005	Accepted
Grievance redressal mechanism	0.054	0.068	0.060	0.795	0.428	0.292	3.428	Accepted
Display yard facility	0.008	0.076	0.009	0.101	0.920	0.200	5.002	Accepted
Transaction shed facility	0.064	0.088	0.044	0.725	0.469	0.439	2.279	Accepted
Drying yard facility	0.059	0.057	0.067	1.041	0.299	0.394	2.540	Accepted
Packaging facility	0.047	0.078	0.066	0.602	0.548	0.138	7.258	Accepted
Storage facility	0.051	0.071	0.040	0.716	0.475	0.534	1.873	Accepted
Rest room facility	0.003	0.080	0.004	0.034	0.973	0.146	6.869	Accepted
Notice board facility	0.026	0.076	0.031	0.339	0.735	0.191	5.238	Accepted
Drinking water facility	0.199	0.101	0.151	1.963	0.051	0.278	3.595	Accepted
Toilet/Sanitary facility	0.052	0.070	0.066	0.742	0.459	0.205	4.872	Accepted
Telephone facility	0.023	0.070	0.030	0.334	0.739	0.207	4.839	Accepted
First aid facility	0.111	0.111	0.077	1.000	0.318	0.278	3.599	Accepted
Proper road facility	0.018	0.051	0.024	0.349	0.727	0.358	2.795	Accepted
Transport facility	-0.141	0.097	-0.116	-1.449	0.149	0.255	3.919	Accepted
Parking facility	0.045	0.090	0.038	0.504	0.615	0.292	3.426	Accepted

a. Dependent Variable: Years of experience with regulated markets

The variance of inflation factor (VIF) for all independent variables have been checked and not any variable indicates any existence of multicollinearity problem. The regression equation derived from the table 6;  $Y_j = a + b_1X_{1j} + b_2X_{2j} + b_3X_{3j} + b_4X_{4j} + \dots + b_nX_{nj}$  can be finally represented as:

**Years of experience with the RM (Y) =** - 4.246 + 0.167 (Age) - 0.121 (Educational Qualification) + 0.375 (Marital Status) - 0.164 (Main Occupation) - 0.046 (Annual income) + 0.182 (Size of land) + 0.478 (experience with agriculture) + 0.095 (Know about the regulated markets) + 0.235 (Distance of the nearest regulated market) + 0.389 (Method of sale preferred) - 0.070 (Mode of transport) + 0.006

(Other preferences of sale) - 0.024 (Information availability) + 0.113 (Market accessibility) - 0.023 (Proper handling/management of the produce) - 0.105 (Proper Weighment of the produce) + 0.040 (Proper Grading of the produce) + 0.128 (Reasonable market charges) + 0.056 (Proper Lotting of the produce) - 0.213 (Proper processing time of transaction) - 0.022 (Reasonable methods of sale) - 0.042 (Price awareness) - 0.009 (Reasonable rates of produce) + 0.044 (Price stability) + 0.076 (Proper payment procedures) - 0.039 (Avoidance of wastage at warehouse) + 0.031 (Avoidance of procedural delay by the officials) + 0.062 (Good interpersonal relationship) + 0.181 (Pledge loan facility) + 0.020 (Accidental

compensation) + 0.072 (Conduction of Training programs) + 0.047 (Integrity/honesty in the regulated market) + 0.054 (Grievance redressal mechanism in the market) + 0.008 (Marketing yard/display yard facility) + 0.064 (Transaction shed facility) + 0.059 (Drying yard facility) + 0.047 (Packaging facility) + 0.051

(Storage facility) + 0.003 (Rest room facility) + 0.026 (Notice /display board facility) + 0.199 (Drinking water facility) + 0.052 (Toilet and Sanitary facility) + 0.023 (Telephone facility) + 0.111 (First aid facility) + 0.018 (Proper road facility) – 0.141 (Transport facility) + 0.045 (Parking facility).

Table 7: Residuals Statistics<sup>(a)</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.51	4.29	2.83	0.675	260
Residual	-1.422	1.118	0.000	0.492	260
Std. Predicted Value	-1.950	2.155	0.000	1.000	260
Std. Residual	-2.616	2.057	0.000	0.905	260

a. Dependent Variable: Years of experience with regulated markets

Table 7 contains the residual statistics which comprises of unstandardized predicted and residual values along with the standardized predicted and residual values, Standardized values have a mean of 0 and standard deviation of 1, which means that residuals are normally distributed and there are no outliers of important data positions.

## 6. Findings

The various statistical tools used in the study revealed a major impact of different variables towards the opinion of farmers towards the regulated markets. Majority of the respondents feel a positive perception towards regulated markets in Salem district during the period of the study, but there still seems inadequacy of infrastructural facilities in these markets. The farmers are not fully satisfied with price stability in the markets, reasonable rates of produce in the market, reasonable methods of sale, price awareness, grievance redressal mechanism, transport facilities provided by the markets, internal road facilities and parking facility in the markets. These problems must be addressed immediately by the authorities. Moreover the multiple linear regression model used in the study is able to explain the variations in the dependent variable in convincing manner by appropriate independent variables, the major effect of variation is shown by age, education, marital status, occupation, size of land, experience with agriculture, know about the RM, distance of the nearest RM, method of sale preferred and proper processing time of transaction.

## 7. Suggestions and Conclusion

The study is an approach towards bringing awareness to the public about the perception a farmer has developed towards regulated agricultural markets during the years of its operation. It is good to see an overall positive attitude of farmers; the study has modeled the variables necessary to determine a long term experience with the regulated markets. The study is necessary as it reveals the potential to contribute more towards enhancing the performance of these markets in future by strengthening the infrastructural facilities and provision of modern amenities in the regulated markets. The government must also examine its policies and regulations with view to strength the marketing network and ensure that prices are being

determined on competitive basis and markets are being manipulated. Indian agriculture needs further improvement as agriculture continuously remains as a source of livelihood to majority of the population in India. Being a public platform to remove the malpractices of agricultural trade and for the benefit of farmers and traders in the country, these social institutions need more backup from the government side to attract and secure the interests of both the sellers and buyers in the market.

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