I. Introduction

Agriculture is an important sector of Indian economy as it contributes about 17% to the total GDP and provides employment to over 60% of the population. Indian agriculture has registered impressive growth over last few decades. The foodgrain production has increased from 51 million tonnes (MT) in 1950-51 to 250 MT during 2011-12 highest ever since independence. The production of oilseeds (nine-major oilseed) has also increased from 5 MT to 28 MT during the same period. The rapid growth has helped Indian agriculture mark its presence at global level. India stands among top three in terms of production of various agricultural commodities like paddy, wheat, pulses, groundnut, rapeseeds, fruits, vegetables, sugarcane, tea, jute, cotton, tobacco leaves, etc (GOI, 2008-09). However, on marketing front, Indian agriculture is still facing the problems such as low degree of market integration and connectivity, accessibility of reliable and timely information required by farmers on various issues in agriculture. Also, the agricultural marketing sector is characterized by fragmented supply chain. Huge postharvest losses, multiple market intermediaries; higher transaction cost, lack of awareness and several other socio-economic factors are some of the acute problems being faced by the Indian agriculture.

Agricultural commodities produced have to undergo a series of operations such as harvesting, threshing, winnowing, bagging, transportation, storage, processing and exchange before they reach the market, and as evident from several studies across the country, there are considerable losses in crop output at all these stages. A recent estimate by the Ministry of Food and Civil Supplies, Government of India, puts the total preventable post-harvest losses of food grains at 10 per cent of the total production or about 20 million Mt, which is equivalent to the total food grains produced in Australia annually. In a country where 20 per cent of the population is undernourished, post-harvest losses of 20 million Mt annually is a substantial avoidable waste. According to a World Bank study (1999), post-harvest losses of food grains in India are 7-10 per cent of the total production from farm to market level and 4-5 per cent at market and distribution levels. For the system as a whole, such losses have been worked out to be 11-15 million Mt of food grains annually, which included 3-4 million Mt of wheat and 5-7 million MT of rice. With an average per capita consumption of about 15 kg of food grains per month, these losses would be enough to feed about 70-100 million people, i.e. about 1/3rd of India's poor or the entire

population of the states of the Bihar and Haryana together for about one year. Thus, it is evident that the post-harvest losses have impact at both the micro and macro levels of the economy.

Horticulture, being one of the important sectors of Indian agriculture, plays an important role in the economy of the country. There are several horticulture crops suitable for almost all the agro-climatic zones of the country. Currently horticulture contributes 28 per cent of agricultural GDP. Country has emerged as the world's largest producer of Mango, Banana, Coconut and the second largest producer and exporter of Tea, Coffee, Cashew and Spices. About 39 per cent mango and 23 per cent banana of the world are produced in India. The country has recorded highest productivity (25.4 tonnes/ha) in the case of grapes in the world. Only 2 per cent of horticulture produce is processed, 0.4 per cent is exported and about 20-30 per cent is lost or gets wasted in market chain. Exports of fresh and processed fruits, vegetables, cut flowers, dried flowers have also been picking up. Production of Fruits and Vegetables in India currently pegged at level of 202.68 million tonnes (NHB, 2008), which was planned to be increased to 300 million tonnes by 2012 (GOI, 2002).

Table1.1: Post Harvest Losses in Asia Pacific Region

S No	Country	Estimated Losses (%)
1.	India	40
2.	Indonesia	20-50
3.	Iran	35
4.	Korea	20-50
5.	Pholippines	27-42
6.	Sri Lanka	16-41
7.	Thailand	17-35
8.	Vietnam	20-35

Physical Measures for the Postharvest Management

- Cleaning, grading, waxing for perishables
- Threshing, handling etc. for non-perishables
- Packaging(grading and packing line)
- Storage (Controlled Atmosphere storages, Cold storage, and silos for food grains etc.)
- Transportation (refrigerated vans/wagons etc.)
- Wholesale markets with requisite infrastructural facilities
- Retailing (retail outlets with infrastructure for forward and backward linkages) Processing (Less than 2% of f&v processed in India, as against 65% in USA, Brazil, Philippines, South Africa and 83% in Malaysia. Similarly the extent of value addition is 7 % in India as against 23% in China and 88 % in UK)
- Proper all weather roads, specially designed physical markets, scale of operation and total cool chain management

Policy Measures for Postharvest Management

In the changing scenario of Indian agriculture, with reforms taking place in agricultural marketing, the extension system is likely to undergo changes:

***Knowledge-*:** Apart from the production technologies, the extension worker now, have to get equipped with market information which requires further training for skill up-gradation in the field of agricultural marketing.

Information System*:* Strong network of marketing extension is very much necessary at District/block/Village level to effectively advise farmers on various aspects of marketing, advice on product planning, marketing information, securing market for farmers, advice on improved market practices and advice on post harvest management practices**.**

Public Marketing Extension Network: Marketing Extension Network is required to be formed by integrating the extension network already available with Agriculture Department. Officers of Agriculture, Horticulture and Agricultural Marketing departments should be given training on various aspects of Agricultural Marketing for the purpose of carrying out extension works effectively and efficiently. This will help in minimizing the postharvest losses to a considerable extent.

Enhanced roles of Agricultural Extension personnel in light of Market-led Extension:

- SWOT analysis of the market: Strengths (demand, high market ability, good price etc.), Weaknesses (the reverse of the above), Opportunities (export to other places, appropriate time of selling etc.) and Threats (imports and perishability of the products etc.) need to be analyzed about the markets. Accordingly, the farmers need to be made aware of this analysis for planning of their production and marketing.
- Organization of Farmers' Interest Groups (FIGs) on commodity basis and building their capabilities with regard to management of their farm enterprise.
- Supporting and enhancing the capacities of locally established groups under various schemes / programmes like watershed committees, users groups, SHGs, water users' associations, thrift and credit groups. These groups need to be educated on the importance, utility and benefit of self-help action.
- Enhancing the interactive and communication skills of the farmers to exchange their views with customers and other market forces (middlemen) for getting feedback and gain

the bargaining during direct marketing ex. Rythu Bazaars, Agri-mandi and Uzavar Santhaigal etc.

- Advice on product planning: selection of crops to be grown and varieties suiting the land holding and marketability of produce will be the starting point of agri-enterprise. Extension system plays an important role in providing information in this regard
- Educating the farming community: to treat agriculture as an entrepreneurial activity and accordingly plan various phases of crop production and marketing
- Capacity building of FIGs in terms improved production, post harvest operations, storage and transport and marketing
- Acquiring complete market intelligence regularly on various aspects of markets
- Regular usage of internet facility through computers to get updated on market intelligence
- Publication of agricultural market information in newspapers, radio and Television besides internet
- Organization of study tours of FIGS: to the successful farmers/ FIGs for various operations with similar socio-economic and farming systems as the farmers learn more from each other
- Production of video films of success stories of community specific farmers
- Creation of websites of successful FIGs in the field of agribusiness management with all the information to help other FIGs achieve success

The Major Areas of Extension and Training in Marketing are as follows:

1. Legal Reforms
2. Direct Marketing
3. Group Marketing
4. Contract Farming
5. Grading & Standardization
6. Packaging
7. Storage and Cool Chain
8. Pledge Financing
9. Warehousing
10. Market Infrastructure
11. I.T. in Agricultural Marketing

Poor small-scale producers are in a disadvantageous position to integrate with the modern supply chain. These producers are often the least organized group in the supply chain. Most of them have small-scale operations, use traditional techniques, depend on family labor, and have

little capital to invest. Producers with access to capital, technology and logistics may be best positioned to reap the benefits. As a result of increased competition, poor small-scale producers may feel left out.

Competitiveness of farmers that allow them to capture increased income by generating potentials associated with a number of emerging trends in Indian agriculture, including:

(i) Shifting demand towards high value agriculture and higher quality of produce,

(ii) Greater urban demand, and

(iii) The entry of large corporations into agricultural marketing.

Empowerment of farmers is necessary to make them able to respond positively to these changes in the market pulse through diversification of production, increase in farm productivity, improved product quality and standards, and realization of value addition opportunities. The main contact point for farmers are extension personnel working with directorate of agricultural marketing and officers working in the line department. Adequate knowledge on postharvest management among the office bearers dealing with basic stakeholders is key to improve the supply chain and their by avoiding huge losses that occur in the form of postharvest losses. The Directorate of agricultural marketing and marketing boards are playing strategic role in overcoming the limitations of traditional marketing system by knowledge management and advisory to the different stakeholders like farmers, traders, commission agents and other market functionaries. The emphasis is given to provide critical knowledge and skills to the participants to enhance the agricultural marketing efficiency and also to overcome the problems persisting in the fragmented supply chain.

The purpose of conducting a needs assessment is to validate the hypothetical judgment with actual training needs to ensure that solution addresses the most needed subjects and effectively focuses the appropriate resources, time and effort toward targeted solutions. Training need assessment is to identify the gap between the model situation and the actual situation and the way in which it can be bridged. As the gaps are identified, they are evaluated to determine the manner in which the gaps can be bridged. Some situations will indicate training needs. Some may need non–training solutions (e.g., financial aspects, institutional strengthening, providing the right tools etc.). The results of training needs analysis will highlight the subject wise need to bridge the gap to help in the preparation of training modules and facilitate in the development of skills of extension personnel.

In order to have the foundation to develop the human resources training plan for the agriculture marketing sector, NIAM conducted a survey and Training Need Assessment of officers of directorate of agricultural marketing across the country with the following specific objectives

Objectives of the study

1. To determine the knowledge gaps and training needs of agricultural extension agents
2. To determine whether any training is needed
3. To determine the areas in which training is needed
4. To determine the gap to be bridged
5. To determine desired training outcomes
6. To provide a basis of monitoring and evaluation
7. To assess the training needs vis-à-vis education qualification, experience in the field of agricultural marketing and number of trainings undergone

I. Methodology

The whole country was divided in to four regions i.e. North, East, West and South and the following are the States selected for the study

1. Northern Region : Himachal Pradesh, Uttar Pradesh Haryana and Rajasthan
2. Eastern region : Assam Orissa, Nagaland and Jharkhand
3. Western Region : Madhya Pradesh and Maharashtra
4. Southern Region : Karnataka Tamil Nadu and Andhra Pradesh

Table-2.1 The Region-wise Distribution of Sample Respondents

SN	Regions	No. of Respondents
1.	Northern Region	37
2.	Eastern region	94
3.	Western Region	43
4.	Southern Region	23
	Total	**197**

For assessment of training needs, a model questionnaire was prepared incorporating all the variables relating to the policy issues and knowledge of physical infrastructures. The questionnaire so prepared was pretested for incorporating all possible issues to be addressed for assessing the training needs of the extension personnel. The resultant variables of pretest were incorporated in the final questionnaire and data were collected by mailing the same to different state government officials. Apart from it, the questionnaire was also addressed to the participants in the various training programmes organized across the country and in NIAM campus. The variables were tested on five point Likert scale to know the relative knowledge intensity among the respondents. The information provided by the respondent officers was analyzed using simple averages and percentages.

III. Results and Discussion

Knowledgeable and well-trained people and effective institutions are critical for achieving growth in any of the sectors. More so in the field of agricultural marketing as it is the threshold point where in the economy of the entire farming community is dependent. India's agriculture predominantly characterized by the fragmented supply looses more than 1/3rd of its produce in the form of postharvest losses. The twin solutions to overcome the problems are physical measures and policy measures. The physical measures are in the form of creating adequate infrastructures to prevent the enormous postharvest losses. Lot of emphasis was given to create agricultural marketing infrastructure during 11th five year plan and market infrastructures are found to be inadequate in several parts of the country. The other parts of the solutions to prevent postharvest losses are the policy measures which include policy interventions to maintain the total supply chain. Some of the interventions were initiated after the reforms process started in the agricultural marketing during 2003. These include Direct Marketing, Group Marketing, Contract Farming, Grading & Standardization, Packaging, Storage and Cool Chain, Pledge Financing, Warehousing, Market Infrastructure etc. These initiatives will help in overcoming the problems of fragmented supply chain in the field of agriculture. However, these initiatives also necessitated the capacity building of the personnel involved in implementing the same.

Training is an important process of capacity building of individuals as to improve the performance. Hence, training needs assessment is vital to the training process. It helps to identify present problems and future challenges to be met through training and development. It is required to find out the needs of individual trainee on which professional competencies should be built to carry out the assigned job in the organizations. A training need exists when there is a gap between what is required of a person to perform competently and what he actual knows. A "training needs assessment", or "training needs analysis", is the method of determining if a training need exists and if it does, what training is required to fill the gap. The expectation of knowledge, skills and abilities of officials at different levels is different so their training needs are also different. Training needs assessment has therefore to be for different target groups for exactly knowing what training is required for each group.

In the present study, an attempt was made to ascertain "training needs' of the officers belonging to the State Agricultural Marketing Board and officers from the Directorate of Agricultural marketing. The respondents were divided into four regions namely, North, East, West and South regions and overall analysis was also done with respect to all the variables addressed in the questionnaire.

3.1 Educational Qualification of Sample Respondents in Different Regions:

The results on educational qualification of the respondents across the regions are presented in the Table-3.1. It is reflected from the table that, most of the respondents were having Masters Degree (54.31%) followed by Bachelors Degree (37.56%) and Ph. D holders (3.55%). There were some respondents with matriculates and twelfth class. Across the regions, the same trend was prevalent wherein, most of the officers possessed Masters Degree followed by Bachelors degree. However, six Ph. D holders were found in Northern region and one in Western Region.

Tables-3.1: Educational Qualification of Sample Respondents in Different Regions

Education level	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Matriculation	2	5.41	3	3.19	2	4.65	0	0.00	7	3.55
Post Matriculation	0	0.00	2	2.13		0.00	0	0.00	2	1.02
Bachelors Degree	13	35.14	38	40.43	13	30.23	10	43.48	74	37.56
Masters Degree	16	43.24	51	54.26	27	62.79	13	56.52	107	54.31
Doctoral Degree	6	16.22		0.00	1	2.33	0	0.00	7	3.55
Grand Total	**37**	100.00	**94**	100.00	**43**	100.00	**23**	100.00	**197**	100.00

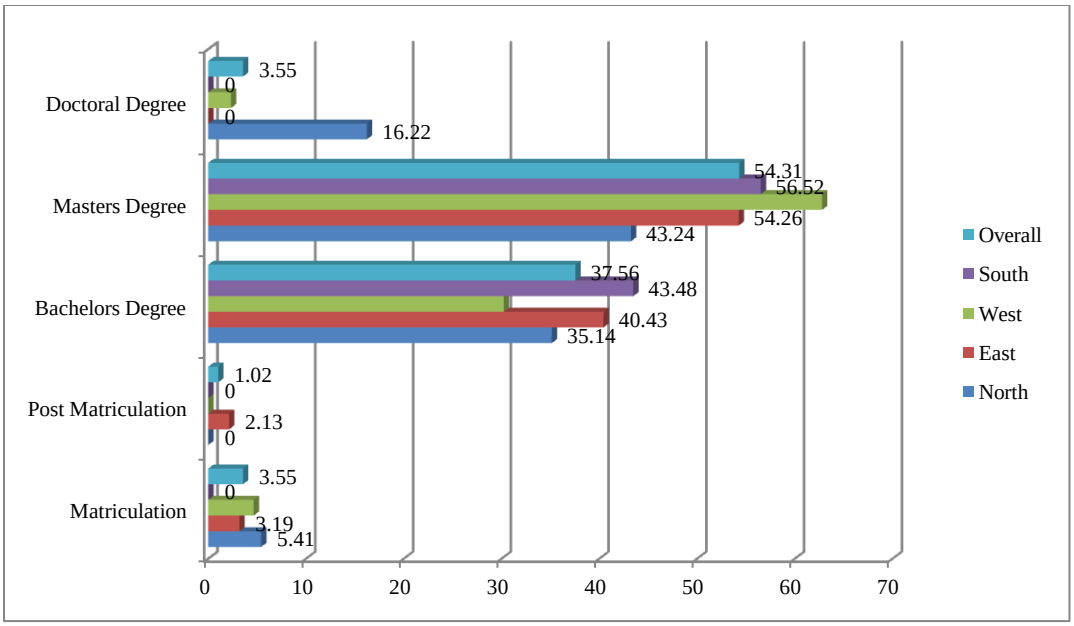

Figure-3.1: Educational Qualification of Sample Respondents in Different Regions

3.2 Awareness of Sample Respondents about Agricultural Marketing Reforms in Different Regions

Awareness of officers regarding all the variables addressed through questionnaire was ascertained using the five point Likert scale, i.e. 0 if unanswered, 1 if knowledge about the issue is nil, 2 if knowledge about the issue is poor, 3 if knowledge about the issue is average, 4 if knowledge about the issue is good and 5 if knowledge about the issue is excellent.

The results on awareness level about agricultural marketing reforms are presented in the Table-3.2. It is apparent from the table that, about six percent of the respondents did not answer for the query. While only one respondent was not aware about the reforms in agricultural marketing and four percent of them were unaware of it. It is pertinent to note that majority of the respondents (47.72%) were having fair knowledge and 14.21 percent of them had an excellent idea about agricultural marketing reforms. However, it is concerning to know that about 27 percent of the officers across the country had a poor knowledge of reforms in agricultural marketing. It is also reflected from the response about the requirement of training, wherein about 50 percent of them said they need a training to know more about reforms. It is surprising to know that, about 24 percent of the respondents were not in a position to answer whether they require training or not. An equal number of respondents opined that training on this issue is not required.

Tables-3.2: Awareness of Sample Respondents about Agricultural Marketing Reforms in Different Regions

Scales	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Level of Knowledge										
Unanswered	2	5.41	6	6.38	3	6.98	1	4.35	12	6.09
Unaware	1	2.70	0	0.00	0	0.00		0.00	1	0.51
Poor knowledge	2	5.41	5	5.32	0	0.00	1	4.35	8	4.06
Average Knowledge	12	32.43	25	26.60	11	25.58	6	26.09	54	27.41
Good Knowledge	16	43.24	42	44.68	26	60.47	10	43.48	94	47.72
Excellent Knowledge	4	10.81	16	17.02	3	6.98	5	21.74	28	14.21
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	9	24.32	22	23.40	9	20.93	7	30.43	47	23.86
Training Required	21	56.76	54	57.45	23	53.49	7	30.43	105	53.30
Training not Required	7	18.92	18	19.15	11	25.58	9	39.13	45	22.84
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

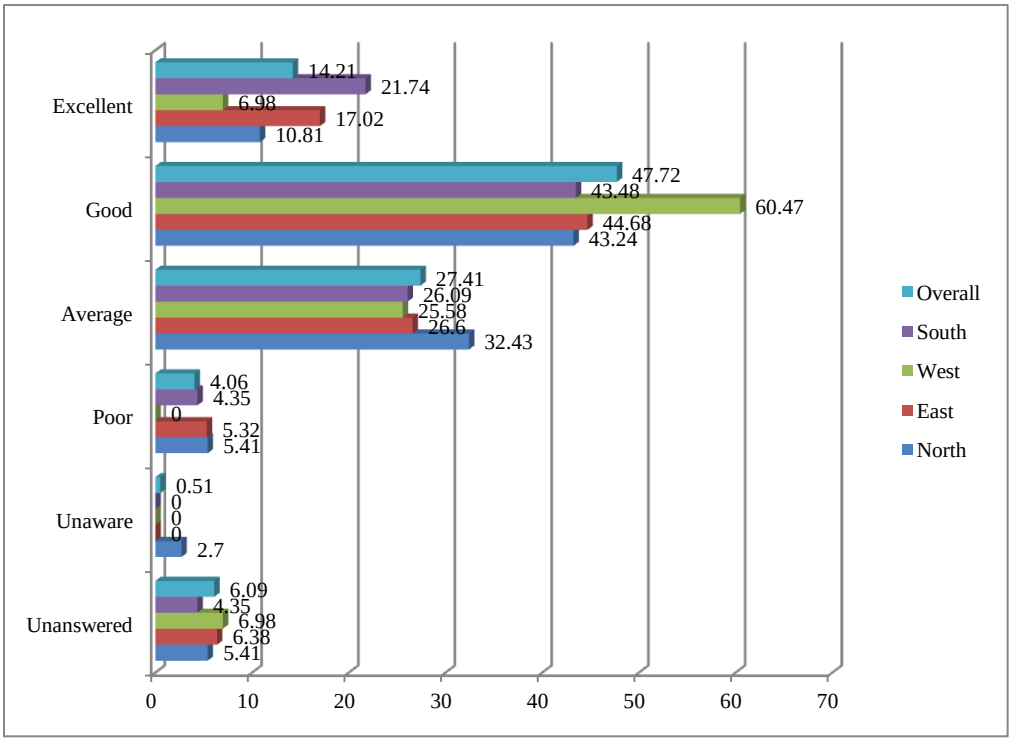

Figure-3.2: Awareness of Sample Respondents about Agricultural Marketing Reforms in Different Regions

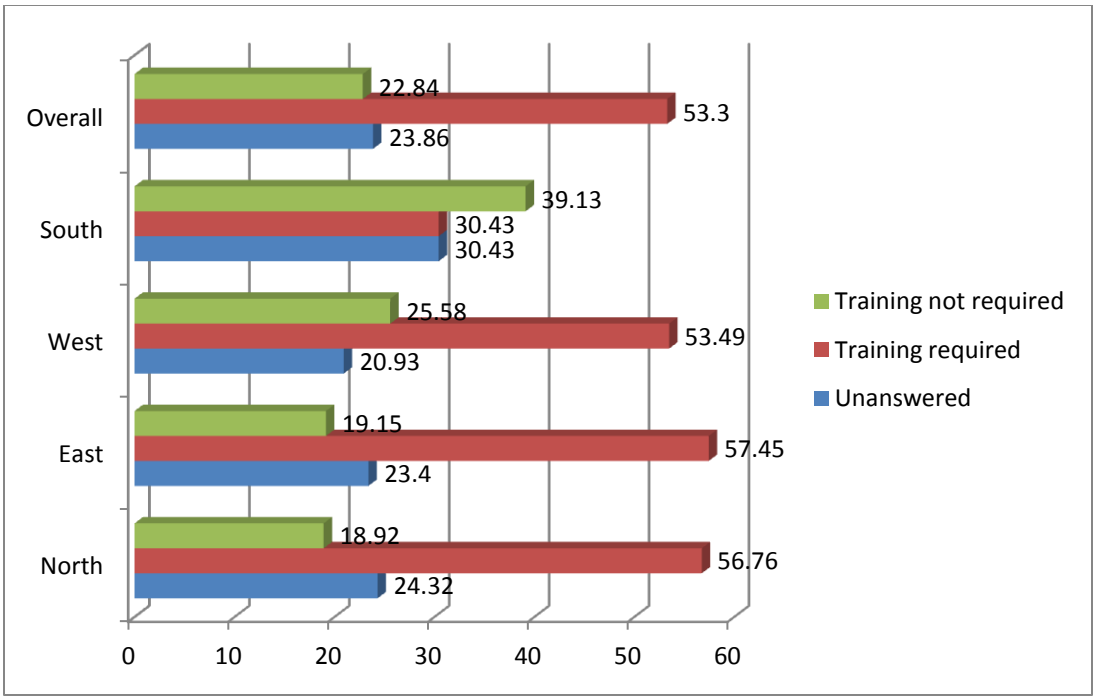

Figure-3.3: Training Requirements of Sample Respondents about Agricultural Marketing Reforms

The above findings revealed that, even after a decade of initiation of the reforms, substantial part of personnel working in the field of agricultural marketing system have poor knowledge about the reforms in agricultural marketing. It is clear from the regional analysis that, major proportion (>50%) of respondents from all the regions except the southern region (39.13%) opined that they require adequate capacity building in this area. The reason being, in some of the eastern States like Orissa and northern States like UP, there is no specialized cadre service meant for agricultural marketing. Often personnel from cooperatives and line department are deputed to work in the APMCs and marketing boards for limited period. Hence, they find very limited time to understand the different facets of agricultural marketing. While in the southern states like Karnataka, they have separate cadre for serving agricultural marketing department. Hence, they will be working throughout their service in the department of agricultural marketing. In spite of having an exclusive cadre of services, the capacity building of the officers is required to update the latest development in the field of agricultural marketing as opined by 40 percent of the respondents in southern region. Agricultural Marketing Reforms aims at providing competitive market environment and to move away from regime of controls to

one of regulation and safeguards to avoid exploitation of farmers. Hence, the apex institutes like National Institute of Agricultural Marketing should be given adequate support for extensive training on agricultural marketing reforms and other issues for the officers of department of agricultural marketing and line departments.

Tables-3.3: Awareness of Sample Respondents about Contract Farming in Different Regions

Scales	North		East		West		South		Overall	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Level of Knowledge										
Unanswered	3	8.11	3	3.19	3	6.98	0	0.00	9	4.57
Unaware	1	2.70	1	1.06	0	0.00	0	0.00	2	1.02
Poor knowledge	5	13.51	13	13.83	0	0.00	0	0.00	8	4.06
Average Knowledge	11	29.73	47	50.00	22	51.16	06	26.09	92	46.70
Good Knowledge	14	37.84	27	28.72	14	32.56	12	57.12	61	30.96
Excellent Knowledge	3	8.11	03	3.19	4	9.30	5	21.74	25	12.69
Grand Total	**37**	100.00	**94**	100.00	**43**	100.00	**23**	100.00	**197**	100.00
Training Required										
Unanswered	10	27.03	24	25.53	11	25.58	7	30.43	52	26.40
Training Required	21	56.76	48	51.06	20	46.51	6	26.09	95	48.22
Training not Required	6	16.22	22	23.40	12	27.91	10	43.48	50	25.38
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

3.3 Awareness of Sample Respondents about Contract Farming in Different Regions:

Contract Farming is one of the prime components of recent reforms in agricultural marketing. The new market realities due to focus on liberalization, privatization and globalization of the post- WTO regime are here to stay, bringing in its wake new opportunities and challenges as well. Agriculture being the key sector of the Indian economy has got to gear up for facing the challenges of LPG. This calls for paradigm shift in its focus and approach.

Contract farming is a vital instrument to address many of the traditional ills affecting the agriculture sector and the farmers, such as fragmentation of holdings, long chain of market intermediaries, ignorance about the requirements of the buyers, low farm mechanization, inadequacy of capital and distress sale and consequent heavy losses to farmers etc. Contract farming is an exciting way of giving the power of scale to the small farmers. Contract farming will pave way for corporate management skill to the agriculture field, providing assured markets

for the produce**,** reducing the transaction costs involved in the value chains of the commodities and of ensuring vertical integration through forward and backward linkages (B.K.Paty).

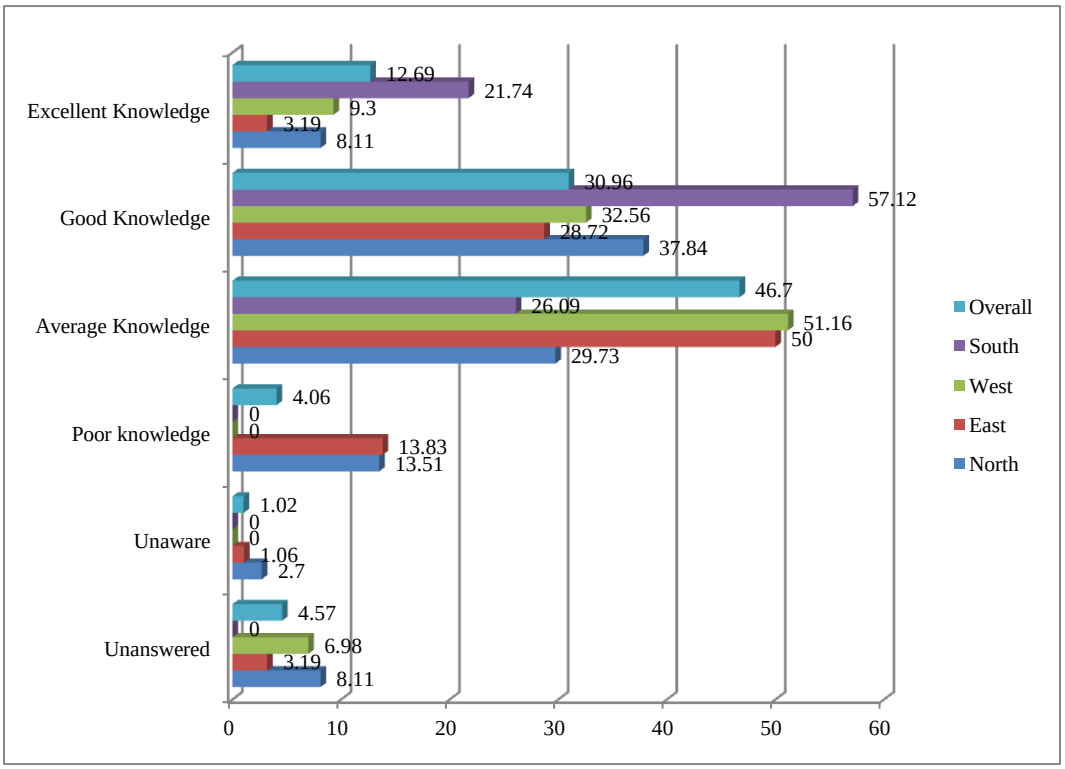

Figure-3.4: Awareness of Sample Respondents about Contract Farming in Different Regions

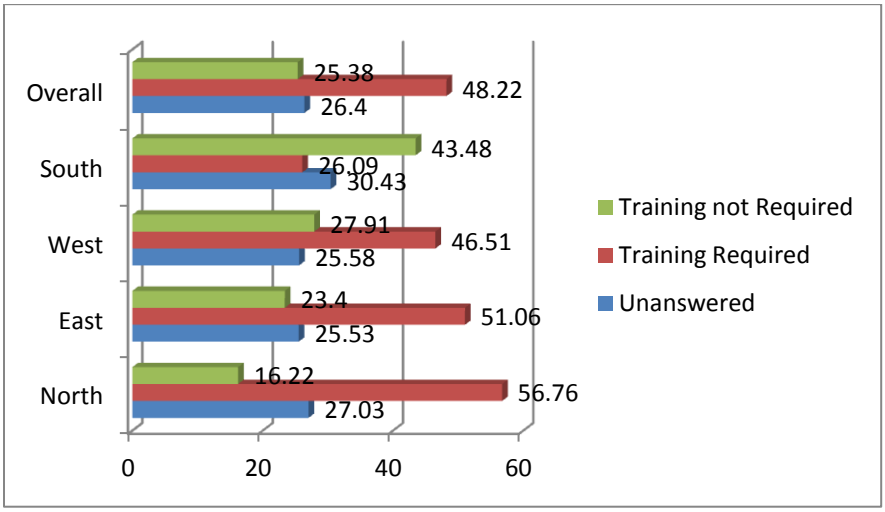

Figure-3.5: Training requirement of Sample Respondents about Contract Farming in Different Regions

In the backdrop of the above facts, an attempt was made to assess the knowledge level of the respondents regarding the various facets of contract farming and the results of the same are depicted in the Table-3.3. It is revealed from the table that, almost all the respondents were aware of contract farming except five percent who were either not knowing the contract farming concept nor were aware of it. However, the degree of awareness varied wherein, about 50 percent of the respondents had a poor knowledge of the concept. While, 31 percent of them had a fair knowledge and 13 percent of them had an excellent knowledge about the contract farming. Thus, it is once again revealed that, the different provisions and contents of contract farming arrangements are not popular among the personnel working in the field of agricultural marketing. Moreover, contract farming is successful in few regions and confined to few crops across the country. The region wise analysis also revealed that the know-how about contract farming was extensive in the southern region followed by northern region, western region and eastern region. In southern region, several models of contract farming arrangements are found to be successful in crops like gherkin baby corn, cotton and vegetables. This trend is observed in the northern regions like Punjab and Uttar Pradesh for basmati rice and for soybean and vegetables in western region. However, the scope for contract farming in the eastern region though exists but limited due to one or two crops.

3.4 Awareness of Sample Respondents about Group Marketing in Different Regions:

Inefficient marketing system has lead to an avoidable waste of around Rs 50127 crores. A major part of this can be saved by introducing scale and technology in agricultural marketing. Milk and eggs marketing are two success stories of role of scale and technology in marketing. The extent to which the farmer-producers will benefit (out of saving of avoidable waste) depends on the group-marketing practices adopted by the farmers. In this sense, farmers' organizations need to be promoted for undertaking marketing activities on behalf of the individual members of the group. Promotion of such organization should be assisted or helped to create basic infrastructure for their effective functioning. Some of the interventions which have really helped the farming community are MAHAGRAPES and MAHAMANGO in Maharashtra, Amalsad and Gadat Cooperatives in Gujarat, ORMAS in Orissa, Self help groups in Kerala and Andhra Pradesh, etc (Singh etal, 2008)

Tables-3.4: Awareness of Sample Respondents about Group Marketing in Different Regions

Scales	North		East		West		South		Overall	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Level of Knowledge										
Unanswered	4	10.81	3	3.19	4	9.30	1	4.35	12	6.09
Unaware	1	2.70	4	4.26	0	0.00	3	13.04	8	4.06
Poor knowledge	6	16.22	10	10.64	2	4.65	3	13.04	21	10.66
Average Knowledge	15	40.54	38	40.43	19	44.19	13	56.52	85	43.15
Good Knowledge	8	21.62	29	30.85	15	34.88	2	8.70	54	27.41
Excellent Knowledge	3	8.11	10	10.64	3	6.98	1	4.35	17	8.63
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	9	24.32	25	26.60	12	27.91	7	30.43	53	26.90
Training Required	25	67.57	48	51.06	21	48.84	11	47.83	105	53.30
Training not Required	3	8.11	21	22.34	10	23.26	5	21.74	39	19.80
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

Keeping in view of the significant contribution of these interventions, an attempt was made to know the awareness level about them among personnel working in the marketing department. The results presented in the table-3.4 showed that, about 10 percent of the respondents were neither aware of it nor were able to answer the question addressed. Majority of the respondents (43.15%) were having average knowledge of group marketing. While, 27.41 percent of respondents had a good knowledge and 8.63 percent of them had an excellent knowledge about group marketing.

An analysis across the region revealed some interesting findings. More than 50 percent of the respondents in southern region had average understanding of the group marketing and 26 percent of them were not even aware of it. While in western and eastern regions the awareness level of the respondents was higher compared to other regions. Even, the northern region fared better than southern region in knowing about group marketing. This might be due to the fact that, there are several successful interventions of group marketing in western and northern region as quoted in the above paragraphs.

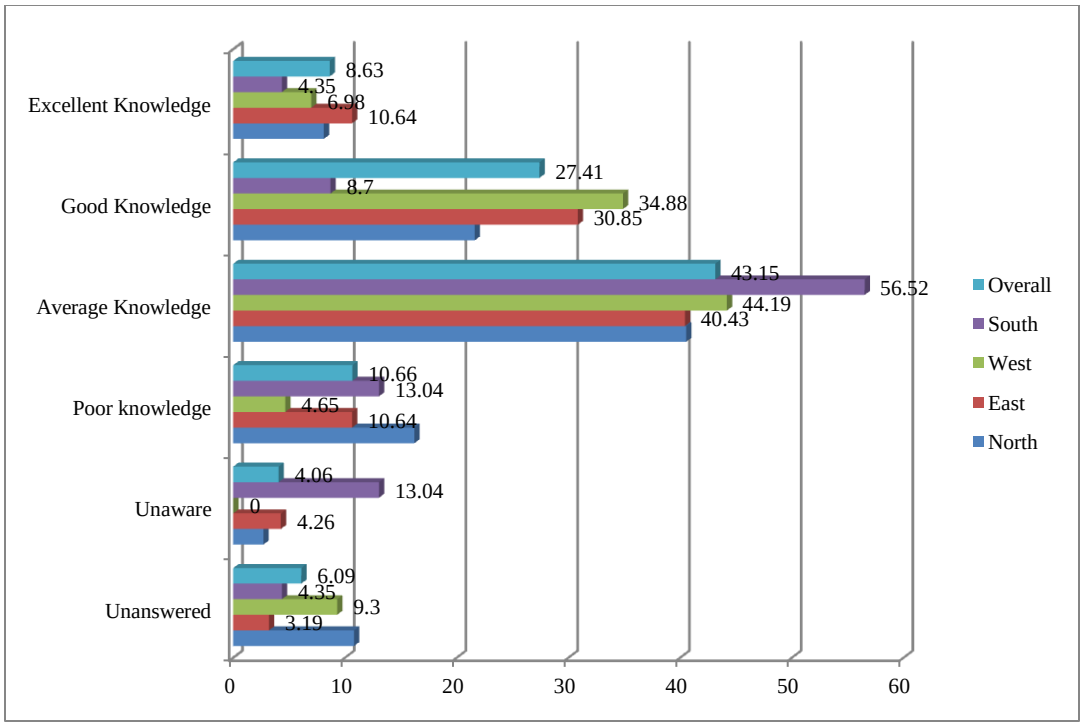

Figure-3.6: Awareness of Sample Respondents about Group Marketing in Different Regions

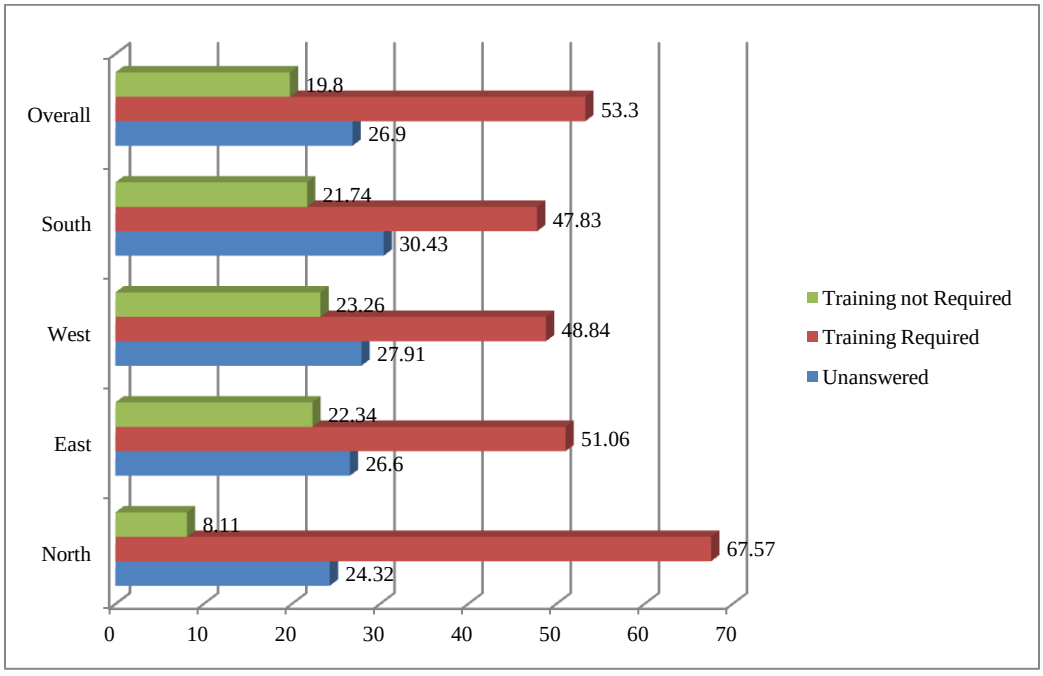

Figure-3.7: Training requirements of Sample Respondents about Group Marketing in Different Regions

Regarding requirement of training programme, only about 20 percent of the respondents said they don't need training in this area, while 26 percent of them were not in a position to say anything about whether they require training or not. About 50 percent of them said training is required to know more about the advantages of group marketing.

3.5 Awareness of Sample Respondents about Private Markets in Different Regions

An efficient agricultural marketing is essential for the development of the agriculture sector as it provides outlets and incentives for increased production and contributes greatly to the commercialization of subsistence farmers. Worldwide Governments have recognized the importance of liberalized agriculture markets. Agricultural markets are to be developed in private and cooperative sectors and to be provided a level competitive environment vis-à-vis regulated markets; the existing framework of State APMC Acts will have to undergo a change. As per the provisions of model act, in a market area, more than one market can be established by private persons, farmers and consumers.

Tables-3.5: Awareness of Sample Respondents about Private Markets in Different Regions

Scale	North		East		West		South		Overall	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Level of Knowledge										
Unanswered	3	8.11	2	2.13	4	9.30		0.00	9	4.57
Unaware		0.00	6	6.38	2	4.65	1	4.35	9	4.57
Poor knowledge	5	13.51	11	11.70	4	9.30	3	13.04	23	11.68
Average Knowledge	15	40.54	36	38.30	21	48.84	8	34.78	80	40.61
Good Knowledge	10	27.03	30	31.91	11	25.58	8	34.78	59	29.95
Excellent Knowledge	4	10.81	9	9.57	1	2.33	3	13.04	17	8.63
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	2	5.41	8	8.51	3	6.98	8	34.78	21	10.66
Training Required	31	83.78	64	68.09	29	67.44	6	26.09	130	65.99
Training not Required	4	10.81	22	23.40	11	25.58	9	39.13	46	23.35
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

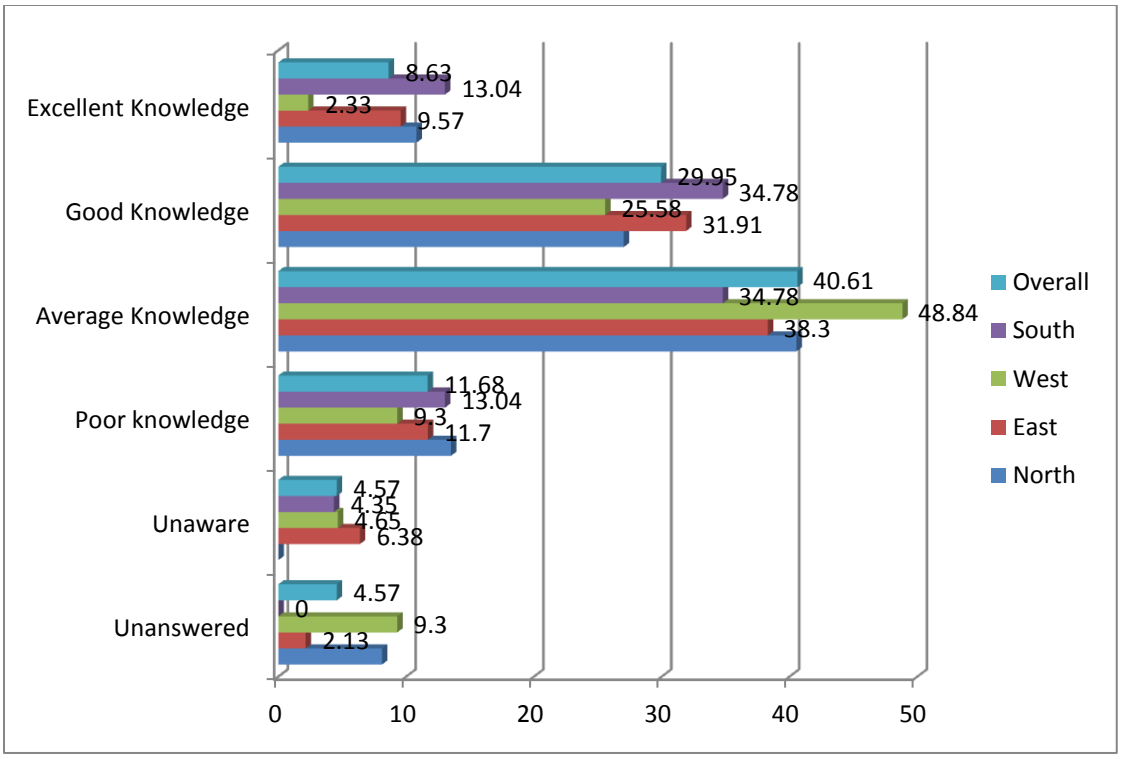

Figure-3.8: Awareness of Sample Respondents about Private Markets in Different Regions

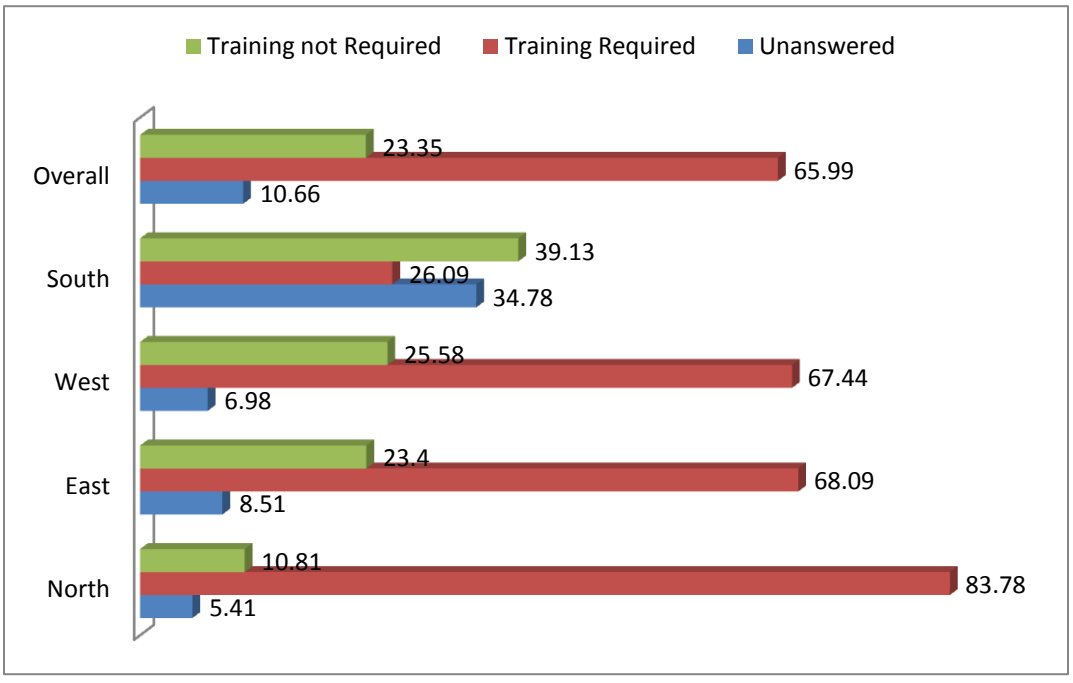

Figure-3.9: Training Requirements of Sample Respondents about Private Markets in Different Regions

The Director/Managing Director/ Prescribed authority may grant license to purchase agricultural produce by establishing private yard or directly from farmers, in one or more market area for:

1. Processing of the notified agricultural produce;
2. Trade of notified agricultural produce of particular specification
3. Export of notified agricultural produce;
4. Grading, packing and transaction in other way by value addition to the notified agricultural produce;

Keeping in view of the importance of private markets, it was felt to assess the level of knowledge among the officers of Directorate of Agricultural Marketing about the private markets. The results of such assessment are presented in the Table-5. It is apparent from the table that, only about eight percent of the respondents were fully aware about the provisions of private markets. Majority of them (40.61%) had an average knowledge and about 30 percent of respondents had a good knowledge of private markets in agriculture. Remaining proportion of the respondents had a poor know-how about the private markets. The region-wise analysis revealed the same trend across the country. However, relatively, higher proportion of respondents from southern and eastern region had a fair idea about the private agricultural markets.

The results of the study revealed that, an intensive capacity building programme is required to make aware the officials about the provisions for setting up of private markets for marketing of agricultural produce. This fact was supported by more than the 65 percent of the respondents saying that training in this area is essential to know more about the different aspects of private markets and help in promoting private markets.

3.6 Awareness of Sample Respondents about Farmers Market in Different Regions:

Farmers' Markets were introduced with a view to eliminate the middlemen and arrange facilities for the farmers to sell their produce directly to the consumers at reasonable rates fixed every day. On account of the scheme, both the farmers and the consumers are benefited. Some examples of these channels are Apni Mandi, Rythu Bazars, and Uzhavar Sandies. These channels

are mostly adopted in sales transactions of agricultural commodities like fruits, vegetables and flowers which are highly perishable. In this channel, the produce move quickly from farmers to consumers due to absence of middlemen. If farmers directly sell their produce to the consumers, it not only saves postharvest losses but also increases farmers' share in the price paid by the consumer. Directorate of Marketing and Inspection under the auspices of Ministry of Agriculture has launched a scheme to encourage setting up of such farmers market. Hence, the personnel working in the marketing department or board should be aware o f these schemes so that more and more such markets can come and reduce postharvest losses and also benefit consumers at the same time. Realizing the importance of farmers market, an attempt was made to know the level of awareness of officers of marketing department was assessed.

Tables-3.6: Awareness of Sample Respondents about Farmers Market in Different Regions

Scales	North		East		West		South		Overall	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Level of Knowledge										
Unanswered	10	27.03	9	9.57	2	4.65		0.00	21	10.66
Unaware	2	5.41	8	8.51		0.00		0.00	10	5.08
Poor knowledge	4	10.81	15	15.96	3	6.98		0.00	22	11.17
Average Knowledge	9	24.32	27	28.72	22	51.16	6	26.09	64	32.49
Good Knowledge	10	27.03	20	21.28	6	13.95	12	52.17	48	24.37
Excellent Knowledge	2	5.41	15	15.96	10	23.26	5	21.74	32	16.24
Grand Total	**37**	100.00	**94**	100.00	**43**	100.00	**23**	100.00	**197**	100.00
Training Required										
Unanswered	12	32.43	10	10.64	17	39.53	4	17.39	43	21.83
Training Required	31	83.78	62	65.96	20	46.51	10	43.48	123	62.44
Training not Required	0	0.00	16	17.02	6	13.95	9	39.13	31	15.74
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

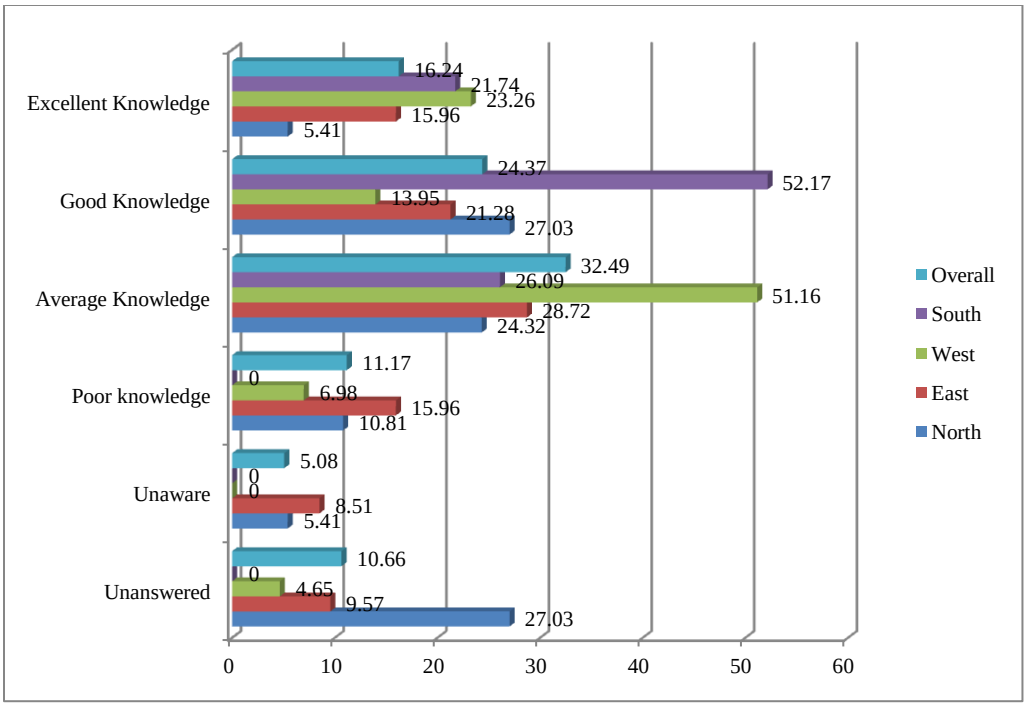

Figure-3.10: Awareness of Sample Respondents about Farmers Market in Different Regions

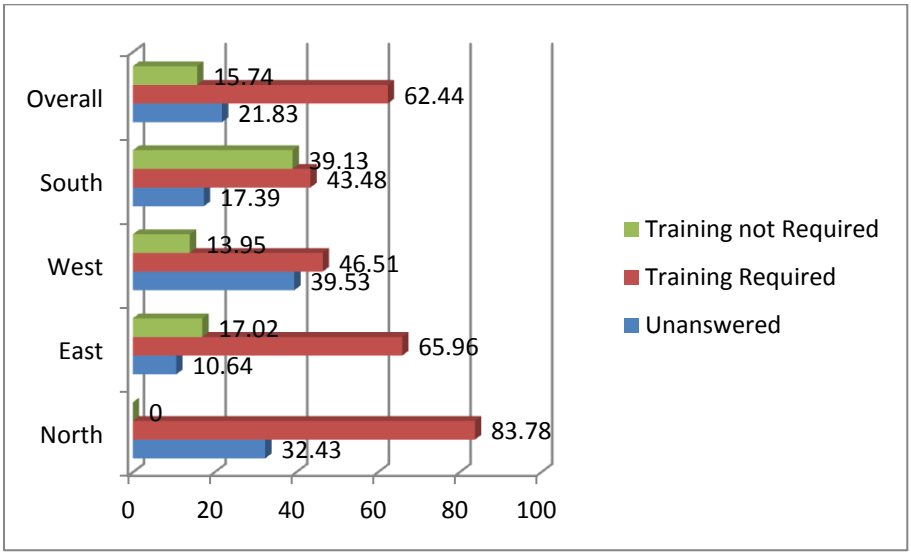

Figure-3.11: Training Requirements of Sample Respondents about Farmers Market in Different Regions

The findings presented in the table-3.6 reflected that, the respondents put together in the category of unanswered, unaware and poor knowledge about private market amounted to 27

percent and thus indicating the scanty awareness about the issue. Only 16 percent of them had holistic understanding of the farmers market and 24 percent of them had a fair knowledge of it. Region-wise analysis revealed that in Southern region more than 70 per cent of the respondents had a fair knowledge about the farmers market. Especially the Rythu Bazaar initiative in Andhra Pradesh and Raitha Santhe in Karnataka are proven to be successful model. Looking into the success of the initiative, Andhra Pradesh government went on to set up a separate wing to look after the farmer's market project. Thus, the officers in southern region knew this concept very well. On the contrary, in the northern region, more than 30 percent of the officers are not at all aware of it, while 10 percent in western region and about 19 percent of the respondents in the eastern region were not aware about the farmers market. Hence, more than 60 percent of the officers demanded that, the details of the concept should be addressed by giving appropriate training to the personnel working in agricultural marketing department.

3.7 Awareness of Sample Respondents about Modern Terminal Markets in Different Regions:

The MTM operates on a Hub-and-Spoke Format wherein the Terminal Market (the hub) would be linked to a number of Collection Centers (the spokes). The spokes would be conveniently located at key production centers to allow easy farmer access. The commodities covered by the markets include fruits, vegetables, flowers, spices and meat products. The Modern Terminal Market will have all sorts of modern infrastructures that are envisaged in the State of Art Complex. They include - Central auction, Transit section, Wholesale block, Exports facility, Sites for Cash & Carry stores, Social infrastructure, sites for cold storage and ripening chambers, sites for processing units, Administrative block, area for banks, grocery shops, input stores, transport companies, repair workshops, petrol pump Laboratory and R&D centre, Post office, police post, fire services, parking for trucks and cars, information center, rest rooms for farmers and drivers, Off-market site infrastructure Collection centers, Extension services Cash & carry stores in city areas etc. Provision of funds for the construction of MTM is with National Horticulture Mission (Bhatnagar and Gummagolmath,2008).

Tables-3.7: Awareness of Sample Respondents about Modern Terminal Markets in Different Regions

Scales	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Level of Knowledge										
Unanswered	1	2.70	4	4.26	2	4.65		0.00	7	3.55
Unaware	2	5.41	13	13.83	3	6.98	5	21.74	23	11.68
Poor knowledge	7	18.92	28	29.79	15	34.88	5	21.74	55	27.92
Average Knowledge	14	37.84	32	34.04	14	32.56	9	39.13	69	35.03
Good Knowledge	11	29.73	14	14.89	7	16.28	2	8.70	34	17.26
Excellent Knowledge	2	5.41	3	3.19	2	4.65	2	8.70	9	4.57
Grand Total	**37**	100.00	**94**	100.00	**43**	100.00	**23**	100.00	**197**	100.00
Training Required										
Unanswered	4	10.81	14	14.89	2	4.65	3	13.04	23	11.68
Training Required	30	81.08	71	75.53	30	69.77	15	65.22	146	74.11
Training not Required	3	8.11	9	9.57	11	25.58	5	21.74	28	14.21
Grand Total	**37**	100.00	**94**	100.00	**43**	100.00	**23**	100.00	**197**	100.00

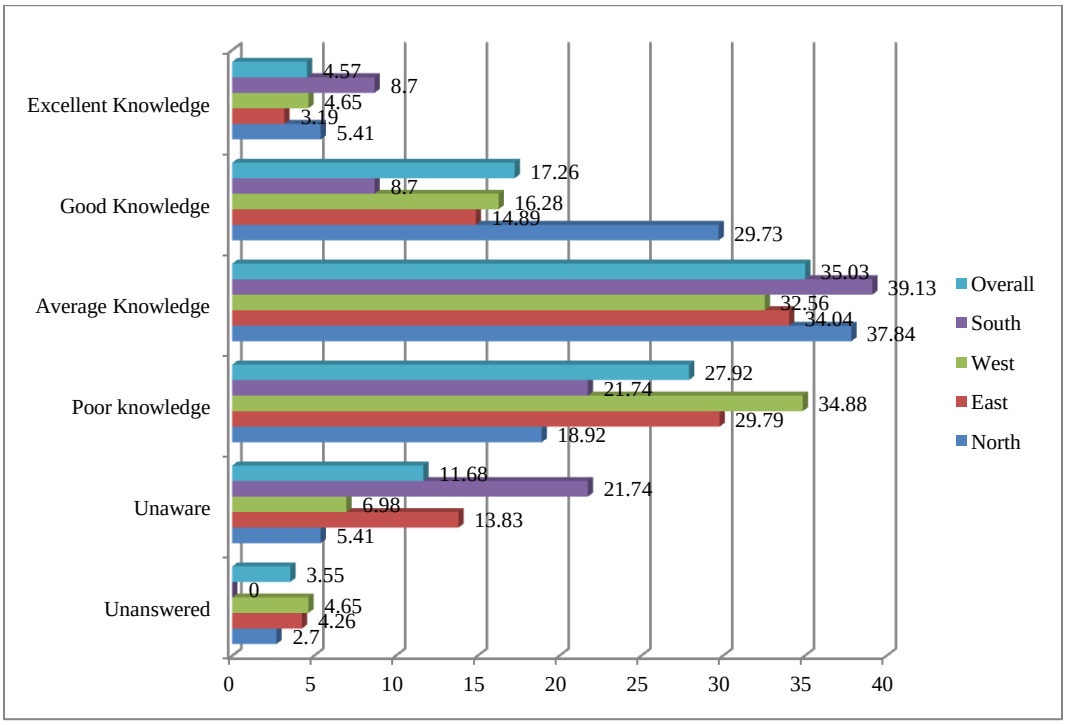

Figure-3.12: Awareness of Sample Respondents about Modern Terminal Markets in Different Regions

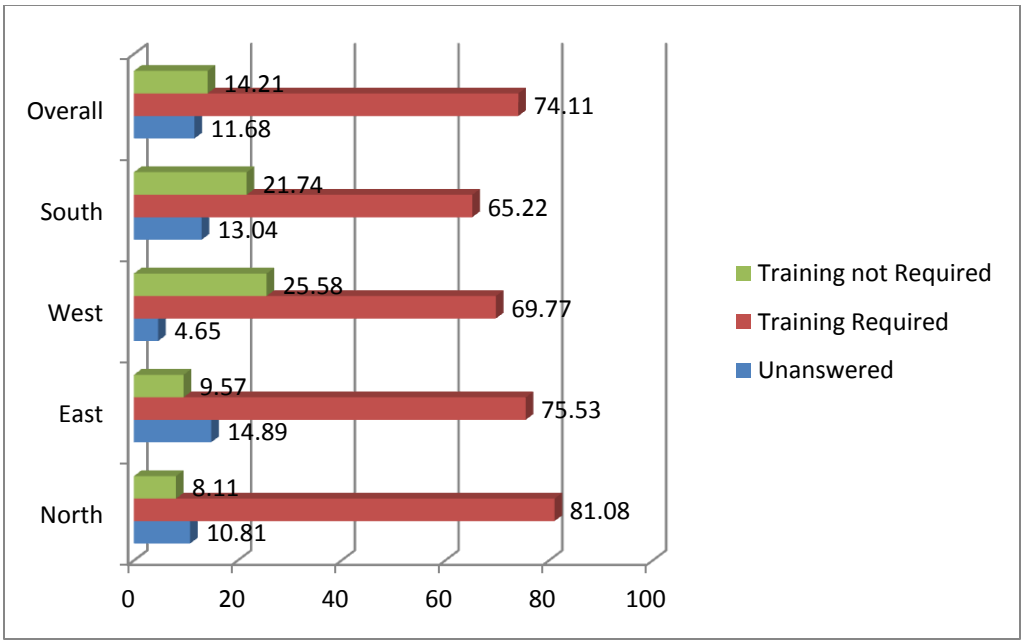

Figure-3.13: Training Requirements of Sample Respondents about Modern Terminal Markets in Different Regions

In the light of the new concept of MTM being promoted by GOI, it is important to know as to what extent officers of Directorate of Agricultural Marketing are aware of it. The results of such assessment have been presented in the Table-3.7. It is reflected from the table that, more than 40 percent of the respondents are not aware of the concept of Modern Terminal Market. Only about five percent of them were fully aware and about 17 percent of them had a fair knowledge of it. About 35 percent of them have heard of the concept and possess average knowledge of the same. The same trend was noticed across the regions wherein about 21 percent of the respondents in southern region are not aware about the concept of MTM and equal number of them had a poor knowledge about it. Hence, about 80 percent of the officers opined that they need to know more about the Modern Terminal Market.

3.8 Awareness of Sample Respondents about Public Private Partnership in Different Regions:

Public Private Partnership is the new buzzword in almost all the sectors of the economy of India. The different motivators for this, inter alia, are the need for mopping up private capital and the managerial efficiency of private sector. The agricultural marketing system of the country

is at a critical juncture. The gradual globalization of agricultural marketing and the attendant challenges reinforce the need for bridging the existing infrastructural gaps in the sector through requisite reforms in the system. Thanks to the concerted efforts of the states and the central Government, the reforms are taking roots in different states portending to enable the agricultural marketing sector to reap the benefits of private participation. The major factors coming up as hindrances for private investment in the sector are low level of awareness about various Government schemes, low return on investment, high degree of risk in the sector due to dependence on weather. Hence, there is a need to create awareness among officers so that they in turn reach the stakeholders regarding various Government Schemes (Paty, 2010).

In the wake of importance of PPP, the level of awareness of officers working in the Directorate of Agricultural Marketing in different States was assessed and the results are presented in the Table-3.8

Tables-3.8: Awareness of Sample Respondents about Public Private Partnership in Different Regions

Scale/Region	North		East		West		South		Overall	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Level of Knowledge										
Unanswered	3	8.11	3	3.19	2	4.65		0.00	8	4.06
Unaware	2	5.41	17	18.09	4	9.30	2	8.70	25	12.69
Poor knowledge	9	24.32	21	22.34	6	13.95	8	34.78	44	22.34
Average Knowledge	10	27.03	31	32.98	21	48.84	8	34.78	70	35.53
Good Knowledge	11	29.73	15	15.96	7	16.28	3	13.04	36	18.27
Excellent Knowledge	2	5.41	7	7.45	3	6.98	2	8.70	14	7.11
Grand Total	**37**	100.00	**94**	100.00	**43**	100.00	**23**	100.00	**197**	100.00
Training Required										
Unanswered	3	8.11	12	12.77	3	6.98	2	8.70	20	10.15
Training Required	32	86.49	65	69.15	35	81.40	14	60.87	146	74.11
Training not Required	2	5.41	17	18.09	5	11.63	7	30.43	31	15.74
Grand Total	**37**	100.00	**94**	100.00	**43**	100.00	**23**	100.00	**197**	100.00

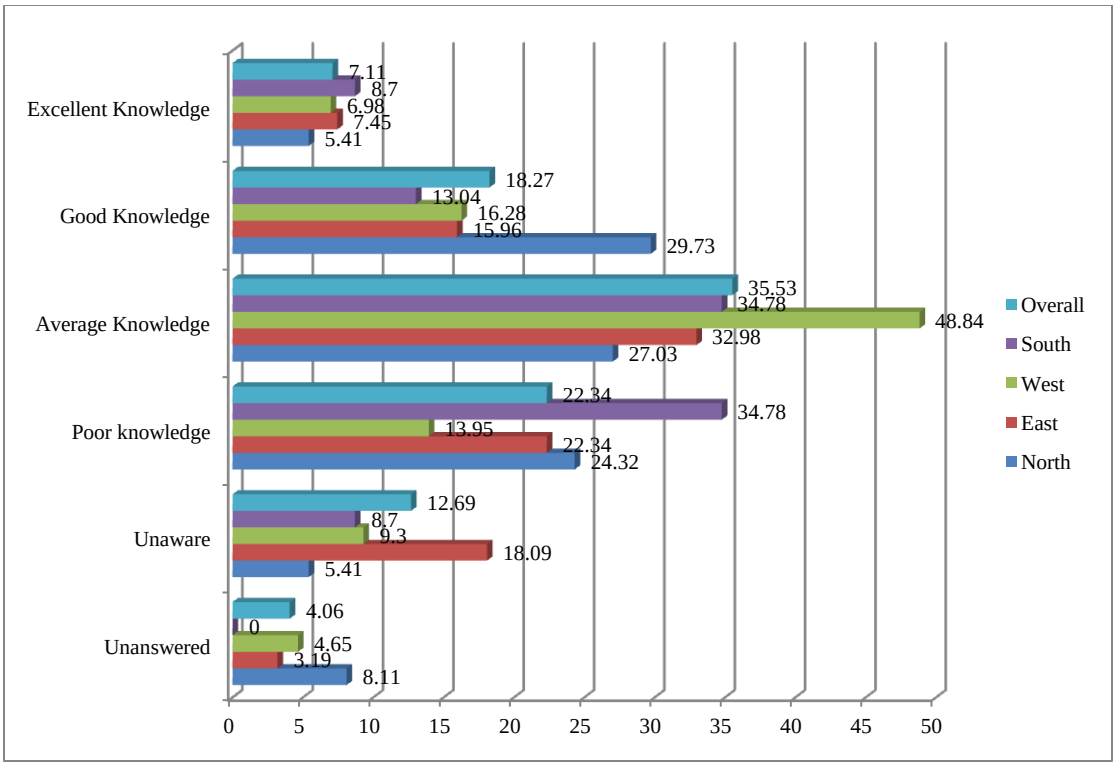

Figure-3.14: Awareness of Sample Respondents about Public Private Partnership in Different Regions

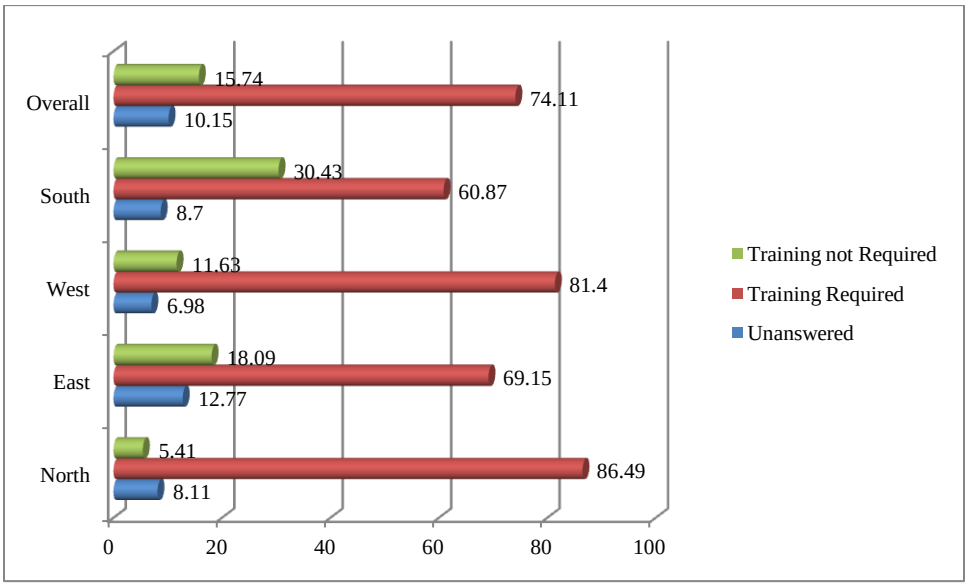

Figure-3.15: Training Requirements of Sample Respondents about Public Private Partnership in Different Regions

It is apparent from the above table that, the trends in the level of awareness about PPP is more or less same as that of other variables studied so far. More than 70 percent of the officers are either unaware or have a poor knowledge as to how PPP works in attracting the private investment in Agricultural Marketing Sector. The trend across the region is also similar to the overall situation. Hardly about 25 percent of the respondents are having full knowledge of PPP. The proportion of respondents having average knowledge of PPP is quite high in Western region (48.84%). It is interesting to note that, despite successful initiatives being implemented in the southern region, about 35 percent of the respondents have poor understanding of PPP. While, in on the contrary very few respondents in Western region (14%) had a poor knowledge of PPP.

Training requirement analysis revealed that about 75 percent of the respondents wanted to know more about the PPP through various capacity building programmes across the regions. More than 80 percent of the respondents in the northern and Northern and Western region were of the opinion that, they require comprehensive training programme to understand the concept of PPP.

3.9 Awareness of Sample Respondents about Market-led Extension in Different Regions:

In the changing scenario of Indian agriculture, with reforms taking place in agricultural marketing, the extension system is likely to undergo changes. Thus, today there is a need to shift from a production oriented extension approach to a marketing oriented extension approach. Apart from the production technologies, the extension worker now, have to get equipped with market information which requires further training for skill up-gradation in the field of agricultural marketing. Marketing Extension Network is required to be formed by integrating the extension network already available with Agriculture Department. Officers of Agriculture, Horticulture and Agricultural Marketing departments will be given training on various aspects of Agricultural Marketing for the purpose of carrying out extension works effectively and efficiently. Whenever, farmers approach for getting solutions on production aspects, under such circumstances, the officers in the line department will be able to convey farmer regarding marketing aspects also.

Tables-3.9: Awareness of Sample Respondents about Market-led Extension in Different Regions

Scale/Region	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Level of Knowledge										
Unanswered	1	2.70	1	1.06	2	4.65	0	0.00	4	2.03
Unaware	2	5.41	0	0.00	3	6.98	0	0.00	5	2.54
Poor knowledge	5	13.51	4	4.26	5	11.63	1	4.35	15	7.61
Average Knowledge	6	16.22	35	37.23	7	16.28	2	8.70	50	25.38
Good Knowledge	20	54.05	41	43.62	23	53.49	12	52.17	96	48.73
Excellent Knowledge	3	8.11	13	13.83	3	6.98	8	34.78	27	13.71
Grand Total	37	100.00	94	100.00	43	100.00	23	100.00	197	100.00
Training Required										
Unanswered	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Training Required	27	72.97	76	80.85	33	76.74	2	8.70	138	70.05
Training not Required	10	27.03	18	19.15	10	23.26	21	91.30	59	29.95
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

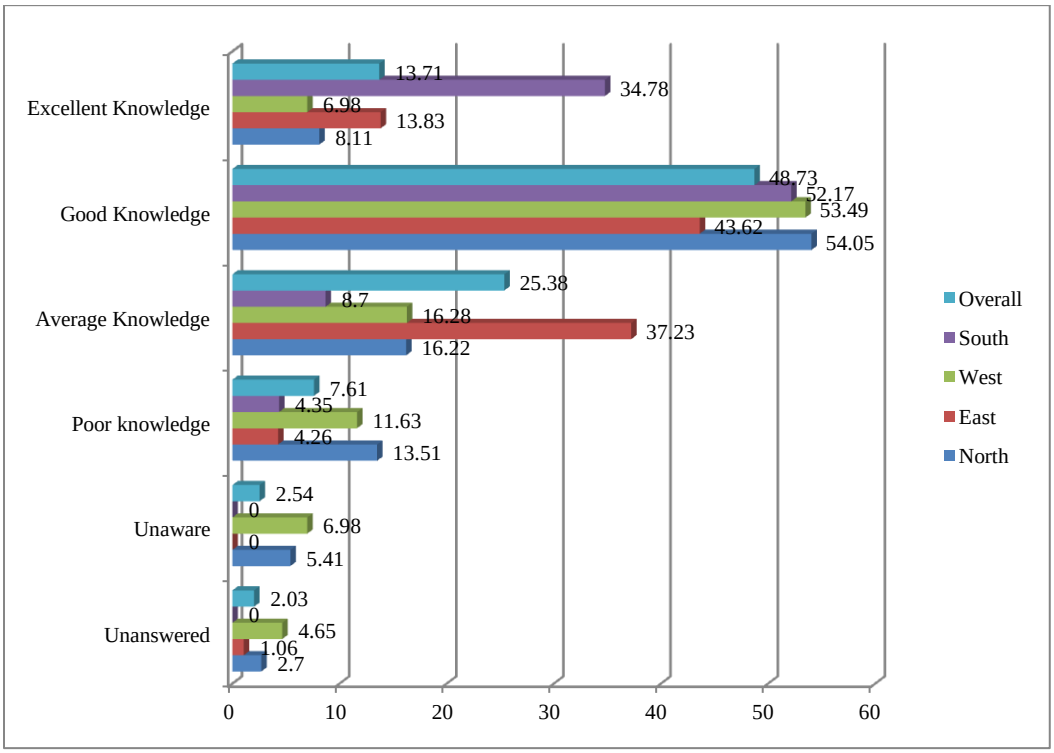

Figure-3.16: Awareness of Sample Respondents about Market-led Extension in Different Regions

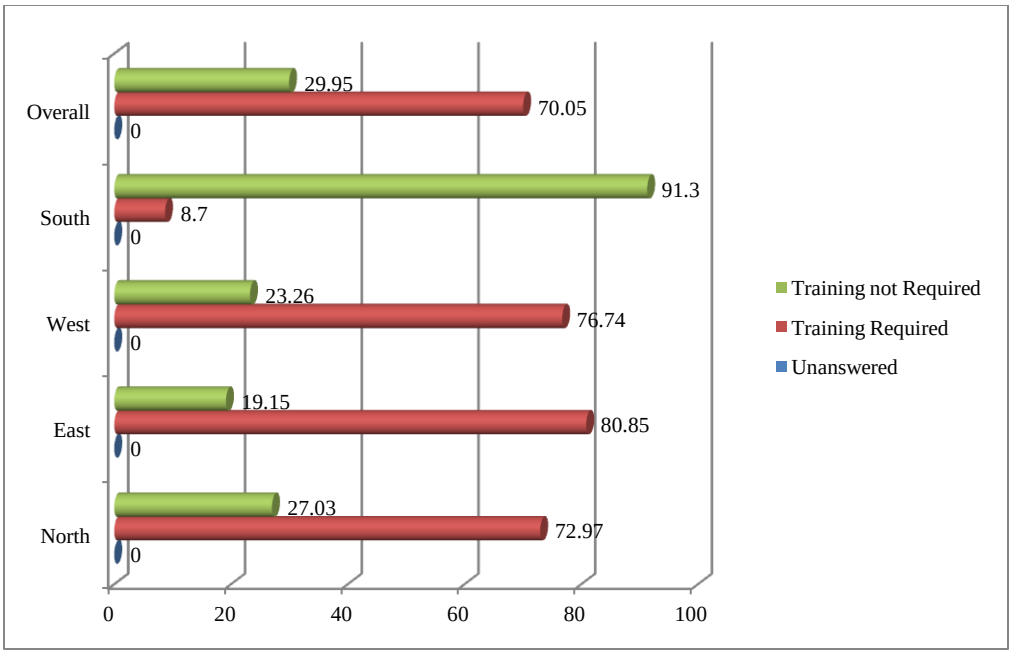

Figure-3.17: Training Requirements of Sample Respondents about Market-led Extension in Different Regions

The results on the level of awareness about Market-led Extension are presented in the Table-3.9. It is interesting to know from the results presented in the table that, more than 60 percent of the personnel working in the department of agricultural marketing and Marketing board are aware about Market-led Extension. Majority of the Directorates and Boards are involved in creation of awareness about various issues of agricultural marketing such as dissemination of market information, weather forecasting, schemes being implemented by the board/directorate, grading and standardization, storage and transportation etc. The main mandate being Market-led extension, the personnel in working in the directorate/board have fair understanding of the concept. However, about 70 percent of the respondents desired to have training to understand more about the Market-led Extension. It also reveals that, respondents are interested in getting the updates about the various issues listed above in the agricultural marketing. Market-led extension being the crucial mandate needs to be strengthened by having the coordination committee in all the States on the lines of government of Karnataka. The committee consists of representatives from all the line department, board and directorate. Once in every month, the coordination committee takes place in which, the development in each sector are discussed openly. This helps in sensitizing the officers of line department about the latest

developments in the agricultural marketing. Such an exercise will help the officers of line department to advice the crop planning to the farmers and there by regulating the supply which will help in minimizing price fluctuations. Also price signals, when to store the produce, when to market and how to take the benefits of government schemes. The above mentioned strategy is essential as farmers approach frequently, the officers in the line department to get solution for problems in production. Along with giving information on production technology, farmers can also be oriented about marketing issues.

3.10 Awareness of Sample Respondents about Special Commodity Markets in Different Regions:

By and large, the trading of all kinds of notified commodities grown in the hinter land takes place at Agriculture Produce Market Committees (APMCs) premises. However, some of the agro-climatic regions are specialized and predominant in the production of specific commodities. In some cases over 90 percent of the area is put under a particular commodity. For example seed spices in Western Rajasthan are grown extensively and hardly 5-10 percent of area is meant for other commodities. In view of this, several States have set up commodity specific markets in such areas. By doing so, it becomes easy for total supply chain management for the crop for which the market has been exclusively meant for. It also helps in specialization of trade practices for such commodities. Tinda market, Aonla market and spices market in Rajasthan and tender coconut market in Karnataka are some of the examples for such markets.

In view of the significance of the commodity special markets, it assumes importance in assessing the level of awareness of personnel working on the agricultural marketing. The results of such assessment are given in the Table-3.10. As revealed from the table, more than 35 percent of the respondents were not at all aware about such markets. Only around five percent across the region had an excellent knowledge and 20 percent of them had a fair knowledge of commodity specific markets. Among different regions, 30 percent of respondents in southern region had a good knowledge and equal number of respondents had an excellent knowledge of commodity specific markets. Whereas, knowhow of these markets was very much low in the case of northern and eastern region. Respondents in the Western region fared better as about 23 percent of them had a good understanding about it.

Tables-3.10: Awareness of Sample Respondents about Special Commodity Markets in Different Regions

Scale/Region	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Level of Knowledge										
Unanswered	2	5.41	3	3.19	2	4.65	1	4.35	8	4.06
Unaware	8	21.62	9	9.57	6	13.95	1	4.35	24	12.18
Poor knowledge	6	16.22	24	25.53	4	9.30	1	4.35	40	20.30
Average Knowledge	14	37.84	29	30.85	11	25.58	2	8.70	75	38.07
Good Knowledge	6	16.22	22	23.40	10	23.26	7	30.43	40	20.30
Excellent Knowledge	1	2.70	7	7.45	10	23.26	7	30.43	10	5.08
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	8	21.62	24	25.53	9	20.93	7	30.43	48	24.37
Training Required	27	72.97	56	59.57	28	65.12	10	43.48	121	61.42
Training not Required	2	5.41	14	14.89	6	13.95	6	26.09	28	14.21
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

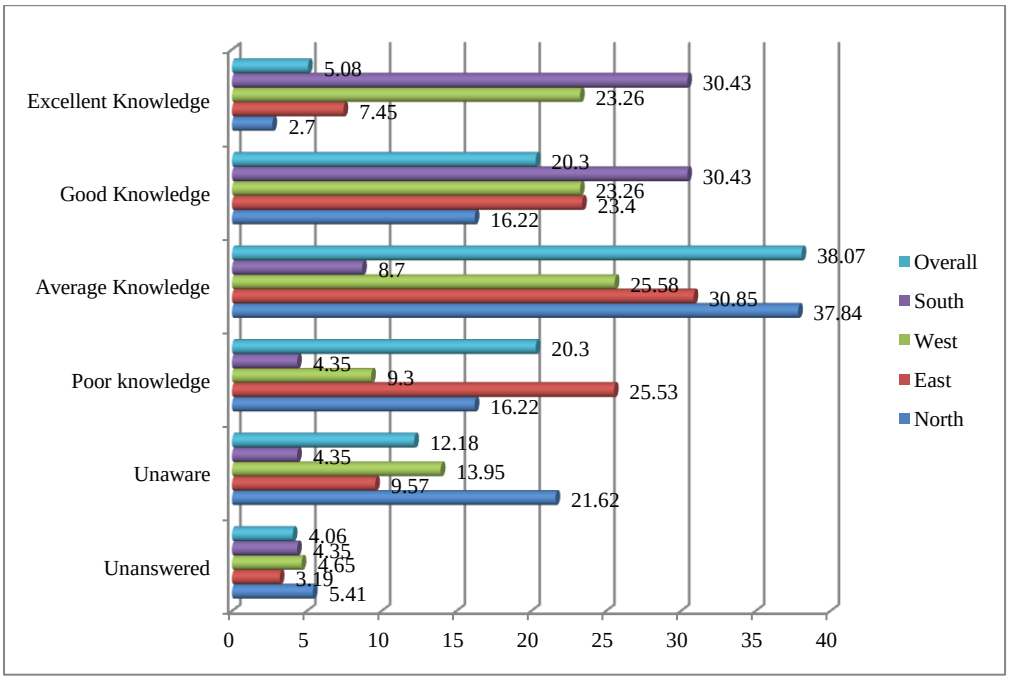

Figure-3.18: Awareness of Sample Respondents about Special Commodity Markets in Different Regions

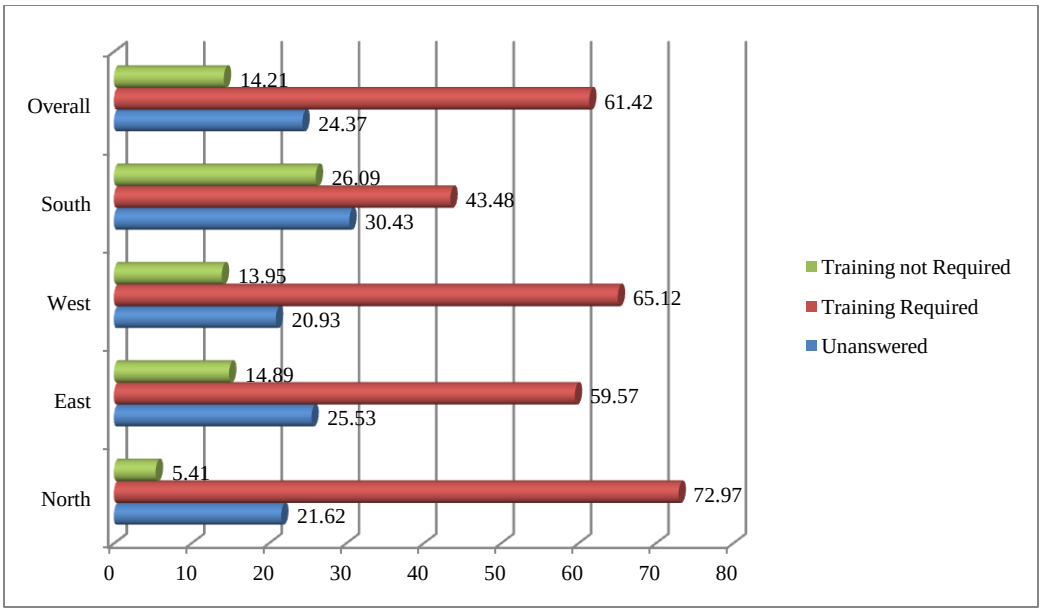

Figure-3.19: Training Requirements of Sample Respondents about Special Commodity Markets in Different Regions

Regarding training requirement, more than 60 percent of the respondents are willing to know more about the commodity specific markets and sizeable proportion of them were not in a position respond anything. The proportion of respondents seeking training was higher in the case of Northern region (72.91%0 followed by Western region (65.12%) and eastern region (59.12%).

3.11 Awareness of Sample Respondents about Market Information System in Different Regions:

The application of Information and Communication Technology (ICT) can play a pivotal role in efficient dissemination of information. The ICT can deliver fast, reliable and accurate information in user-friendly manner for practical utilization by the end user. The information disseminated facilitates farmers decide what and when to plan, how to cultivate, when and how to harvest, what post harvest management practices to follow, when and where to market the produce (USAID). In order to get the desired results from use of ICT for information dissemination in a country where majority of farmers are illiterate, land holdings are small or marginal, level of infrastructure development is very poor in rural area, there is need to assess the information requirement of the farmers. Further, how effectively ICT may be used to deliver the required information to the satisfaction of the user and identifying the suitable model for Indian

farmers is required. To reach the basic stakeholders through ICT, it is imperative for the personnel working in agricultural marketing to know about the different facets of it (Shalendra etal, 2011).

Realizing the importance of ICT, it becomes appropriate to know the level of awareness of the officers working in agricultural marketing. It is apparent from the results presented in the Table-3.11 that, about four percent of the respondents did not answer this query and six percent of them were not at all aware of it. About 35 percent of them had a poor knowledge as to how ICT is working to help the activities in agricultural marketing. Only seven percent across the region had an excellent understanding of the use of ICT, while 34 percent of them had fair knowledge of it. It is interesting to know that, more than 40 percent each in the case of southern and western region had a good knowledge of ICT.

Tables-3.11: Awareness of Sample Respondents about Market Information System in Different Regions

Scales/Regions	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Level of Knowledge										
Unanswered	3	8.11	2	2.13	2	4.65	1	4.35	8	4.06
Unaware	3	8.11	4	4.26	3	6.98	1	4.35	11	5.58
Poor knowledge	2	5.41	17	18.09	5	11.63	5	21.74	29	14.72
Average Knowledge	14	37.84	31	32.98	12	27.91	4	17.39	68	34.52
Good Knowledge	13	35.14	31	32.98	19	44.19	11	47.83	67	34.01
Excellent Knowledge	2	5.41	9	9.57	2	4.65	1	4.35	14	7.11
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	8	21.62	5	5.32	6	13.95	7	30.43	26	13.20
Training Required	25	67.57	71	75.53	25	58.14	10	43.48	131	66.50
Training not Required	4	10.81	18	19.15	12	27.91	6	26.09	40	20.30
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

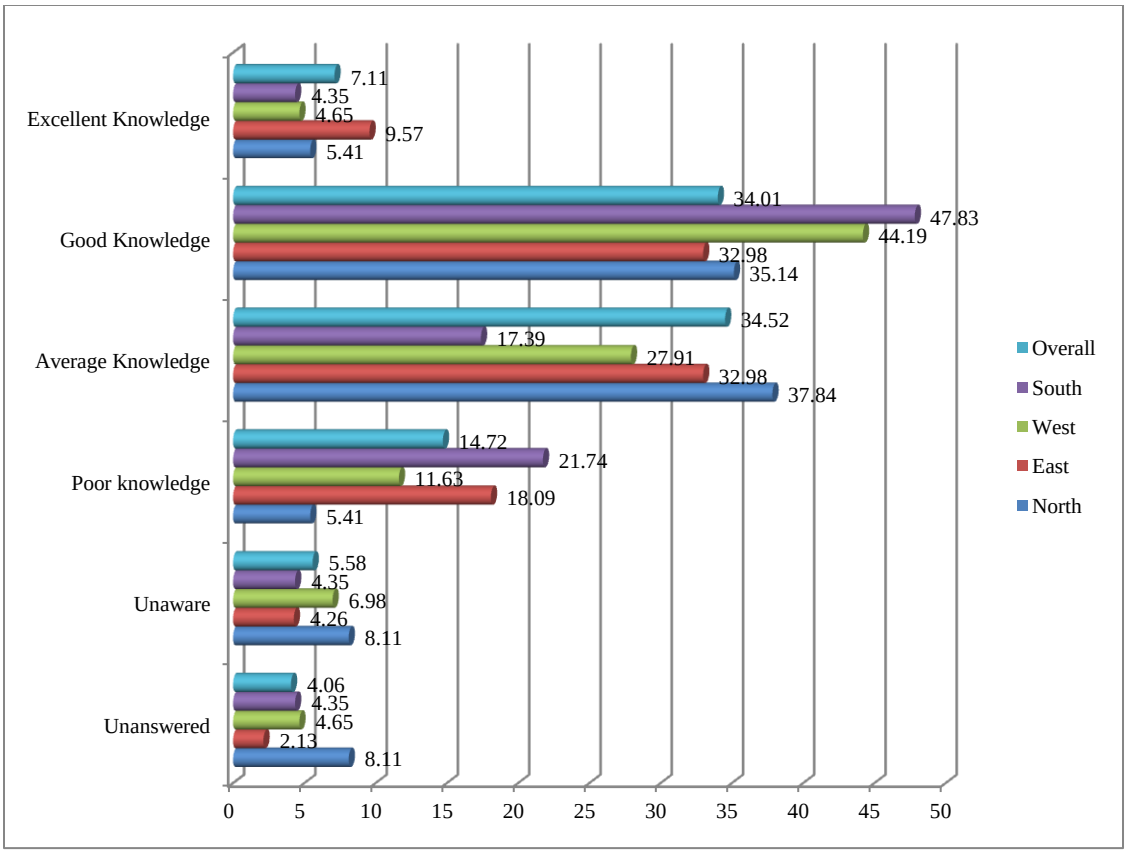

Figure-3.20: Awareness of Sample Respondents about Market Information System in Different Regions

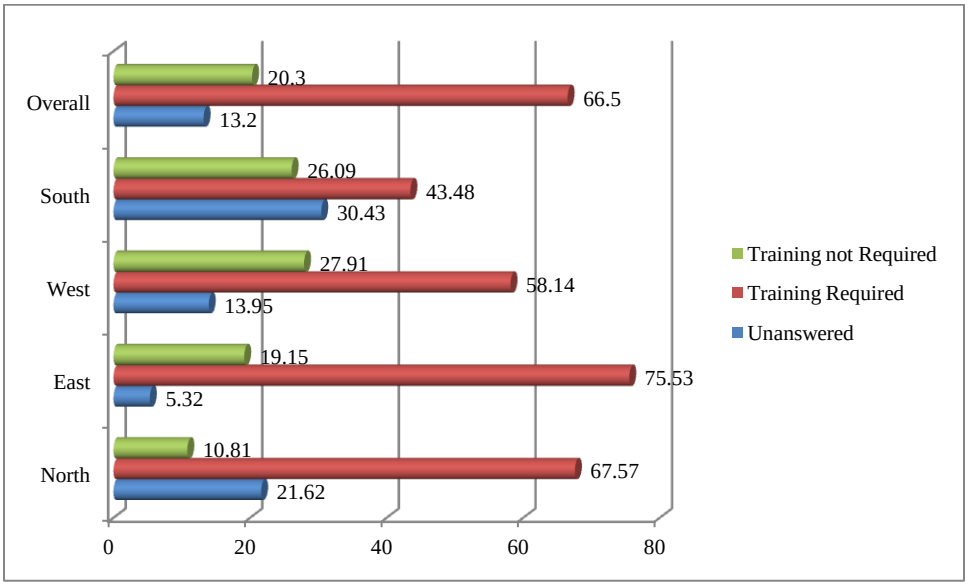

Figure-3.21: Training Requirements of Sample Respondents about Market Information System in Different Regions

It is evident from the fact that, the ICT initiatives being taken up in these regions are proven to be effective and are predominant in most part of the regions. Hence, the marketing personnel working in this region had a better understanding of the ICT initiatives. However, situation in the eastern and northern region is also quite convincing as more than 30 percent of the respondents also knew about ICT very well. Since, GOI is promoting extensively the use of the technology (ICT) in the recent days; the understanding of this concept has become inevitable for the staff working in agricultural marketing.

3.12 Awareness of Sample Respondents about Bureau of Grades and Standards in Different Regions:

Promotion of standardization and grading of agricultural commodities is an important aspect of agricultural marketing. The agricultural commodities are heterogeneous and hence it is very essential to grade these commodities as per standards to command better price either at domestic or international market. Commodity grading and inspection systems differ from commodity to commodity because of wide variations in the nature of the products, production and processing methods, and marketing practices for each commodity. Agricultural commodity graders apply a thorough knowledge of the quality characteristics and grading standards for products in a commodity group. This knowledge is reinforced by familiarity with the production methods and marketing practices pertaining to these products (DMI, 2010).

Grading at farmers level is not taking place as hardly few farmers go for on farm grading. Due to absence of on farm grading, the farmer is not in a position to realize the right price for his produce. In an effort to promote grading and standardization, Directorate of Marketing and Inspection, GOI has been entrusted the work of developing the grades and standards for agricultural commodities. However, due to vide variation in quality, quantity and size of the produce produced in different agro-climatic regions, the harmony of the grades and standards prescribed at national level is not uniform across the regions. Hence, a think tank has suggested having Bureau of Grades and Standards at State level.

Tables-3.12: Awareness of Sample Respondents about Bureau of Grades and Standards in Different Regions

Scales/Regions	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Level of Knowledge										
Unanswered	2	5.41	4	4.26	1	2.33	2	8.70	9	4.57
Unaware	4	10.81	23	24.47	4	9.30		0.00	21	10.66
Poor knowledge	15	40.54	20	21.28	7	16.28	5	21.74	40	20.30
Average Knowledge	13	35.14	38	40.43	19	44.19	13	56.52	76	38.58
Good Knowledge	2	5.41	6	6.38	7	16.28	3	13.04	35	17.77
Excellent Knowledge	1	2.70	3	3.19	5	11.63		0.00	16	8.12
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	8	21.62	14	14.89	7	16.28	5	21.74	34	17.26
Training Required	29	78.38	65	69.15	28	65.12	12	52.17	134	68.02
Training not Required		0.00	15	15.96	8	18.60	6	26.09	29	14.72
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

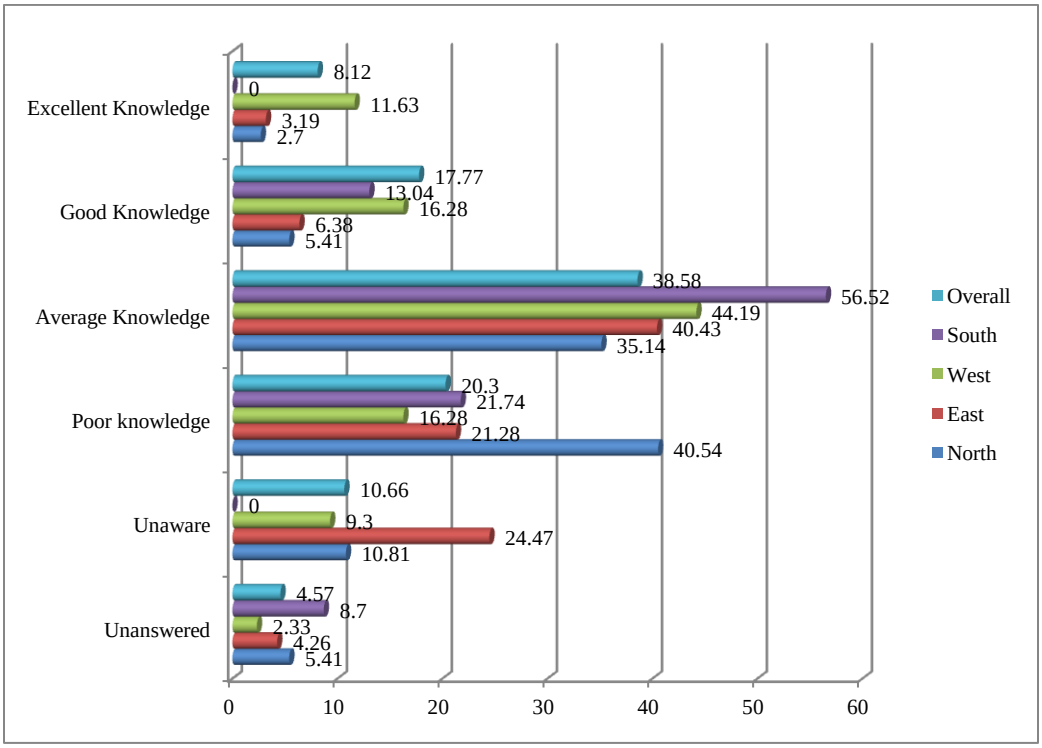

Figure-3.22: Awareness of Sample Respondents about Bureau of Grades and Standards in Different Regions

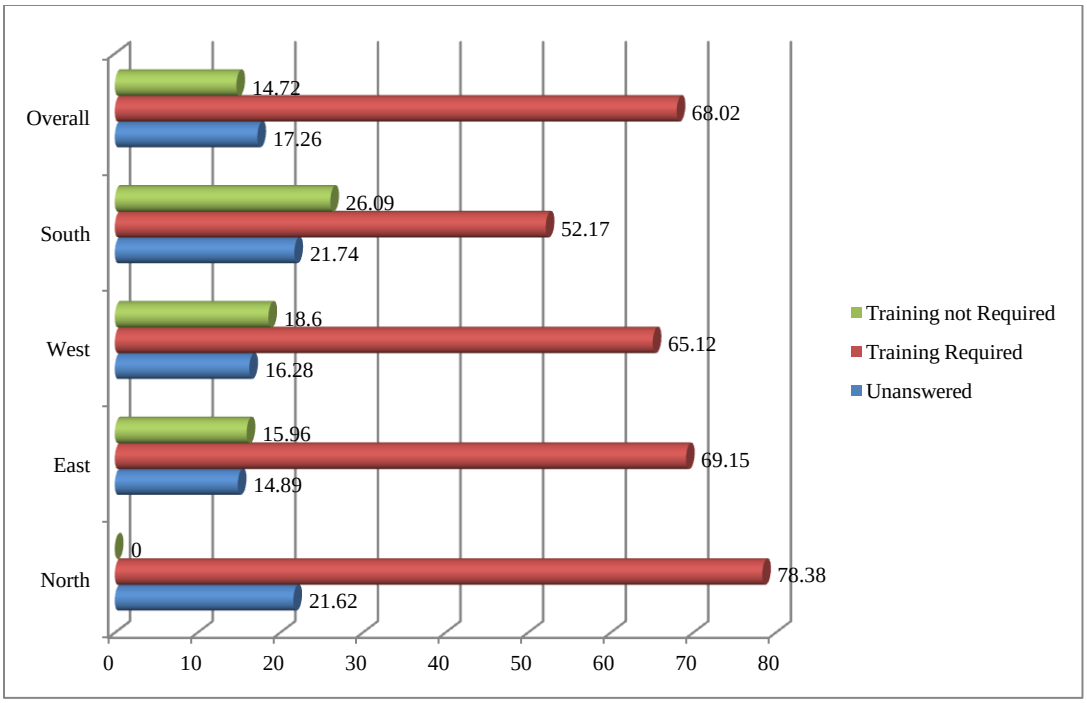

Figure-3.23: Training Requirements of Sample Respondents about Bureau of Grades and Standards in Different Regions

In view of above facts, the query relating to Bureau of Grades and Standards was addressed to the respondents and the results of the same are presented in the Table-3.12. As reflected from the results presented in the table that, 4.57 percent of the respondents did not answer for this query and about 11 percent of them are not aware of this issue. About 20 percent of them have very poor knowledge. Majority of the respondents (38.58%) were having average knowledge of the same. Only 8.12 percent of them were fully aware about Bureau of Grades and Standards. Across the regions, only in western region about 11.63 percent were fully aware and 16.28 percent of them had a fair understanding about the concept. While in rest of the regions, the level of awareness was more or less very poor. The same is reflected in willingness to have training programme to know about it wherein about 68 percent of officers showed inclination to have capacity building programmes in this area. It is also concerning to know that about 17 percent of the respondents were unable to express anything about Bureau of Grades and Standards. This proportion is surprisingly highest in the case of southern region.

3.13 Awareness of Sample Respondents about Food Safety and Quality Standards in Different Regions:

Food safety is now one of the most urgent issues that confront both Asia as a region and the international community as a whole. Consumers are becoming increasingly concerned over food quality and safety arising from the globalization of trade in food, intensive agriculture, environmental pollution and natural and manmade disasters. Such concerns have now been articulated via higher quality and safety standards required by markets, with producers under immense pressure to meet such standards in their efforts to build consumers' confidence. For the developing countries in Asia, quality and safety management systems, product certification and standardization regarding food safety and quality are still in their infancy and need immediate attention. Governments should provide the legal framework and platform to facilitate the implementation of food quality and safety management systems. In view of it, GOI has set up **The Food Safety and Standards Authority of India (FSSAI)** under Food Safety and Standards Act, 2006 which consolidates various acts & orders that have hitherto handled food related issues in various Ministries and Departments.

Tables-3.13: Awareness of Sample Respondents about Food Safety and Standards in Different Regions

Scales/Region	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Level of Knowledge										
Unanswered	1	2.70	7	7.45	1	2.33	2	8.70	11	5.58
Unaware	9	24.32	13	13.83	4	9.30	3	13.04	29	14.72
Poor knowledge	4	10.81	34	36.17	15	34.88	12	52.17	65	32.99
Average Knowledge	13	35.14	27	28.72	19	44.19	5	21.74	64	32.49
Good Knowledge	8	21.62	11	11.70	2	4.65	1	4.35	22	11.17
Excellent Knowledge	2	5.41	2	2.13	2	4.65		0.00	6	3.05
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	8	21.62	22	23.40	7	16.28	5	21.74	42	21.32
Training Required	27	72.97	62	65.96	35	81.40	15	65.22	139	70.56
Training not Required	2	5.41	10	10.64	1	2.33	3	13.04	16	8.12
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

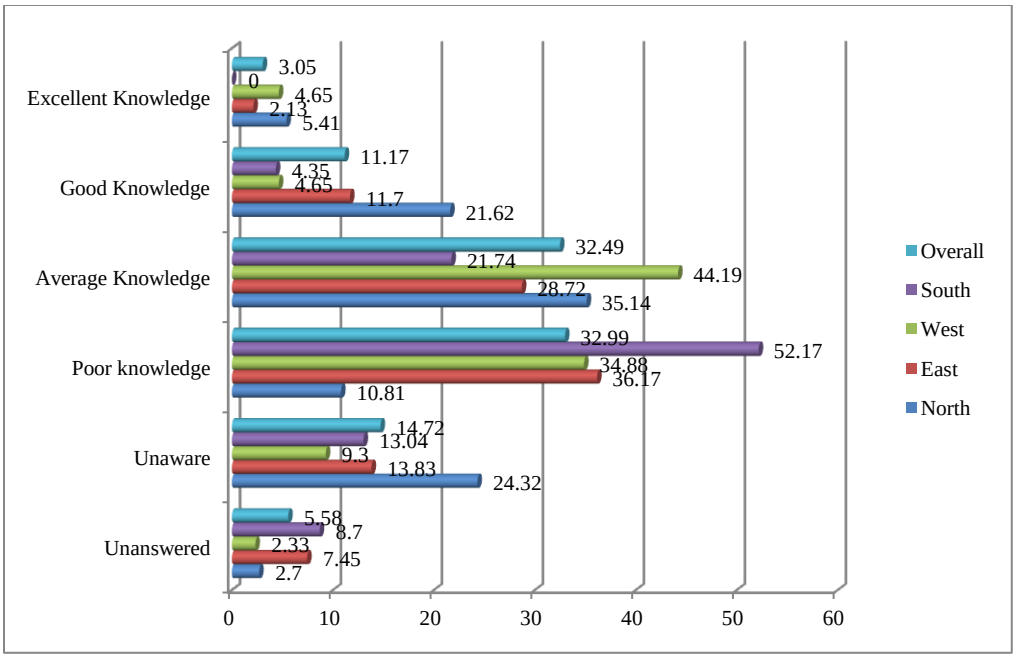

Figure-3.24: Awareness of Sample Respondents about Food Safety and Standards in Different Regions

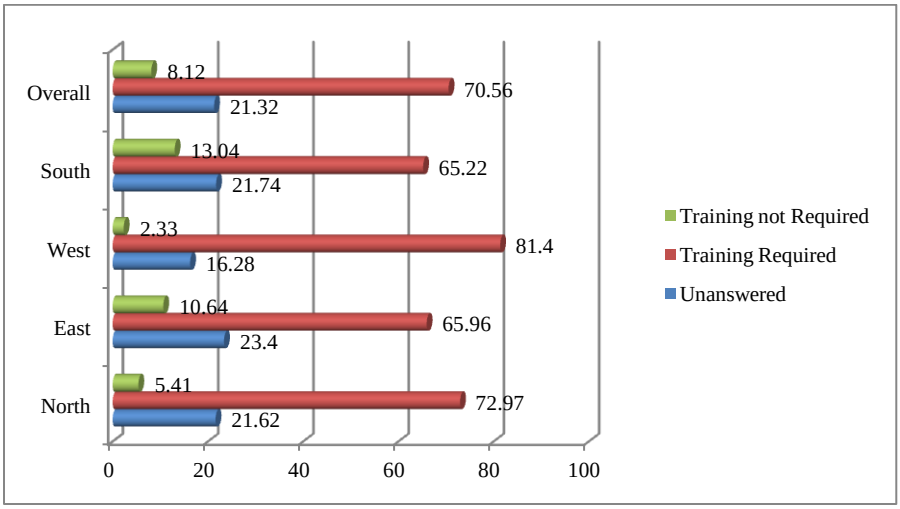

Figure-3.25: Training Requirements of Sample Respondents about Food Safety and Standards in Different Regions

FSSAI has been created for laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption. Keeping in view of importance of food safety and quality standards and an authority being set up, it was essential to ascertain the level of knowledge about it among officers working in agricultural marketing. The results of such analysis are presented in the Table-3.13. It is apparent from the results presented in the table that,

more than 30 percent of the respondents across the region were not knowing and an equal number of participant had a poor knowledge about the issue of food safety and quality standards. Only about three percent of the respondents were fully aware of the issue and 11 percent of them had fair understanding of the issues in food safety and quality standards.

The same trend was noticed across the region wherein more than 50 percent in southern region, more than 30 percent in eastern and western region were not even aware about the issue. However, northern region fared better than other regions in terms of know how about food safety and quality standards. Obviously more than 70 percent of the respondents across the region opined that the need to know more about this issue through capacity building programmes. A substantial portion of respondents (21.32%) could not answer for this query. The capacity building programmes are very much required for personnel working the marketing extension division as they frequently come in contact with all the stakeholders in the supply chain.

3.14 Awareness of Sample Respondents about Warehouse Receipt System in Different Regions:

Warehouse Receipts, negotiable instruments backed by the underlying commodities, are an integral part of the marketing and financial systems of most industrial countries. The overall efficiency of these markets, particularly in the agribusiness sector, is greatly enhanced when producers and commercial entities can convert inventories of agricultural raw materials or intermediary or finished products into a readily tradable device. Since Warehouse Receipts are negotiable instruments, they can be traded, sold, swapped, used as collateral to support borrowing, or accepted for delivery against a derivative instrument such as a futures contract. Warehouse Receipts provide farmers with an instrument that allows them to extend the sales period of modestly perishable products well beyond the harvesting season. When delivering the product to an accredited warehouse, the farmer obtains a Warehouse Receipt that can be used as collateral for short-term borrowing to obtain working capital. That way, the farmer does not need to sell the product immediately to ease cash constraints. Of course, this option will be attractive only if the farmer expects that seasonal price increases will make it worthwhile to store the product and sell it later (GOI, 2006).

Tables-3.14: Awareness of Sample Respondents about Warehouse Receipt System in Different Regions

Sclaes/Regions	North		East		West		South		Overall	
	No.	%	No.	%	No.	%	No.	%	No.	%
Level of Knowledge										
Unanswered	1	2.70	5	5.32	2	4.65	2	8.70	10	5.08
Unaware	1	2.70	16	17.02	8	18.60	1	4.35	26	13.20
Poor knowledge	7	18.92	22	23.40	7	16.28	2	8.70	38	19.29
Average Knowledge	7	18.92	23	24.47	13	30.23	4	17.39	47	23.86
Good Knowledge	15	40.54	24	25.53	11	25.58	6	26.09	56	28.43
Excellent Knowledge	6	16.22	4	4.26	2	4.65	8	34.78	20	10.15
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	5	13.51	24	25.53	7	16.28	4	17.39	40	20.30
Training Required	31	83.78	51	54.26	28	65.12	12	52.17	122	61.93
Training not Required	1	2.70	19	20.21	8	18.60	7	30.43	35	17.77
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

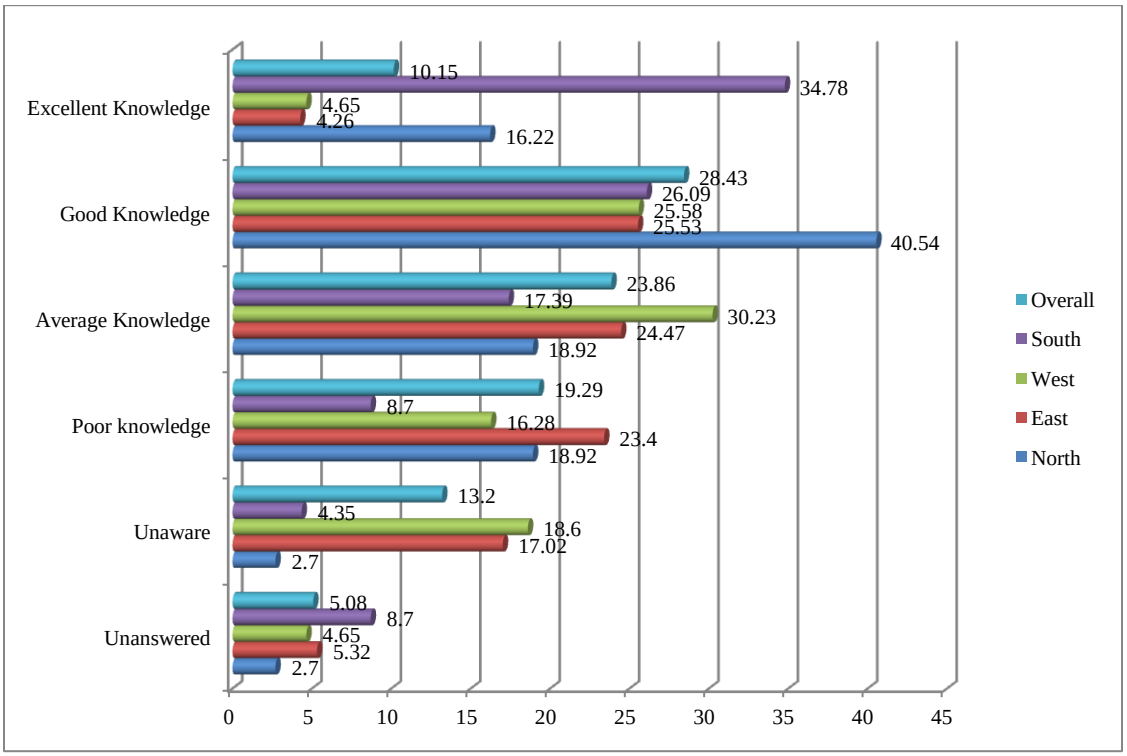

Figure-3.26: Awareness of Sample Respondents about Warehouse Receipt System in Different Regions

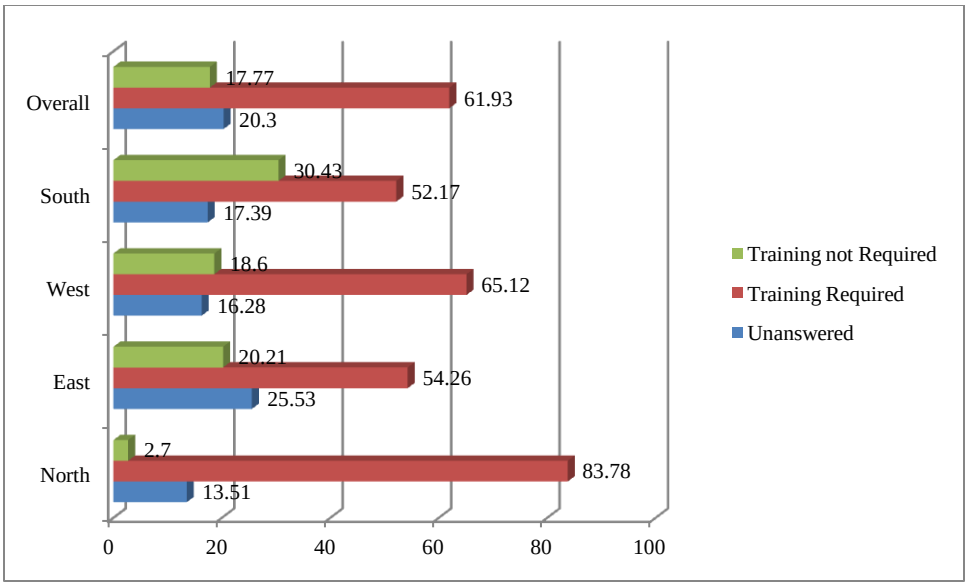

Figure-3.27 Training Requirements of Sample Respondents about Warehouse Receipt System in Different Regions

In order to avoid glut in the sale of agricultural commodities, storage at warehouses cold be an effective mechanism. This necessitates knowing about it by the officers working in agricultural marketing. This fact was also assessed and the results of the same are depicted in the Table-3.14. The trends of results presented in the table revealed that, only about 10 percent of the respondents were aware about the warehouse receipt and 28 percent of them had a good knowledge of the same. Whereas, about 13 percent of the respondents were unaware and 19 percent of them had a poor understanding of how ware receipt system works. Northern and southern regions faired better in understanding the ware receipt system. While in eastern and western region, very few of them had an excellent knowledge about the same. The analysis of requirement of training revealed that more than 80 percent in the northern region desired to know about the different aspects of warehouse receipt system followed by 65 percent in the case of western region. In all about 62 percent of them wanted training programmes to know more about warehouse receipt. WDRA has been mandated to promote orderly growth of warehousing business. Hence, with the help of WDRA, capacity building programmes can be conducted for the benefit of officers working in agricultural marketing.

3.15 Awareness of Sample Respondents about Good Agricultural Practices in Different Regions

In India, agricultural practices are highly localized occupations and display a lot of variability in cultural practices and varietal preferences across regions. Further, with the opening up of the world market, there is a flow of trade in the agricultural products. It is, therefore, necessary to define and assign certain common minimum standards to facilitate trade in these products and to win the confidence of the consumers within the country and outside. Such standards envisaging focused approach for implementing good agricultural practices, traceability etc. through appropriate infrastructure, record keeping and monitoring to reap the benefits of export or niche markets.

The issue of Good Agricultural Practices is production oriented concept and thus it is more relevant to the personnel working in the line department. However, the aspects like postharvest management, traceability, packaging, etc. are part of marketing. Hence, the officers working for agricultural marketing are required to know about GAP. Worldwide, there are several GAPs like Global-GAP, Euro-GAP, US-GAP, India-GAP etc. In order to explore export market, farmers in our country need to follow either of the International Standards as mentioned above.

Tables-3.15: Awareness of Sample Respondents about Good Agricultural Practices in Different Regions

Scales/Regions	North		East		West		South		Overall	
	No.	%	No.	%	No.		No.	%	No.	%
Level of Knowledge										
Unanswered	2	5.41	7	7.45	2	4.65	0	0.00	11	5.58
Unaware	3	8.11	6	6.38		0.00	2	8.70	11	5.58
Poor knowledge	4	10.81	16	17.02	5	11.63	3	13.04	28	14.21
Average Knowledge	11	29.73	35	37.23	16	37.21	4	17.39	66	33.50
Good Knowledge	12	32.43	27	28.72	12	27.91	4	17.39	55	27.92
Excellent Knowledge	5	13.51	3	3.19	8	18.60	10	43.48	26	13.20
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	11	29.73	27	28.72	8	18.60	9	39.13	55	27.92
Training Required	22	59.46	48	51.06	25	58.14	8	34.78	103	52.28
Training not Required	4	10.81	19	20.21	10	23.26	6	26.09	39	19.80
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

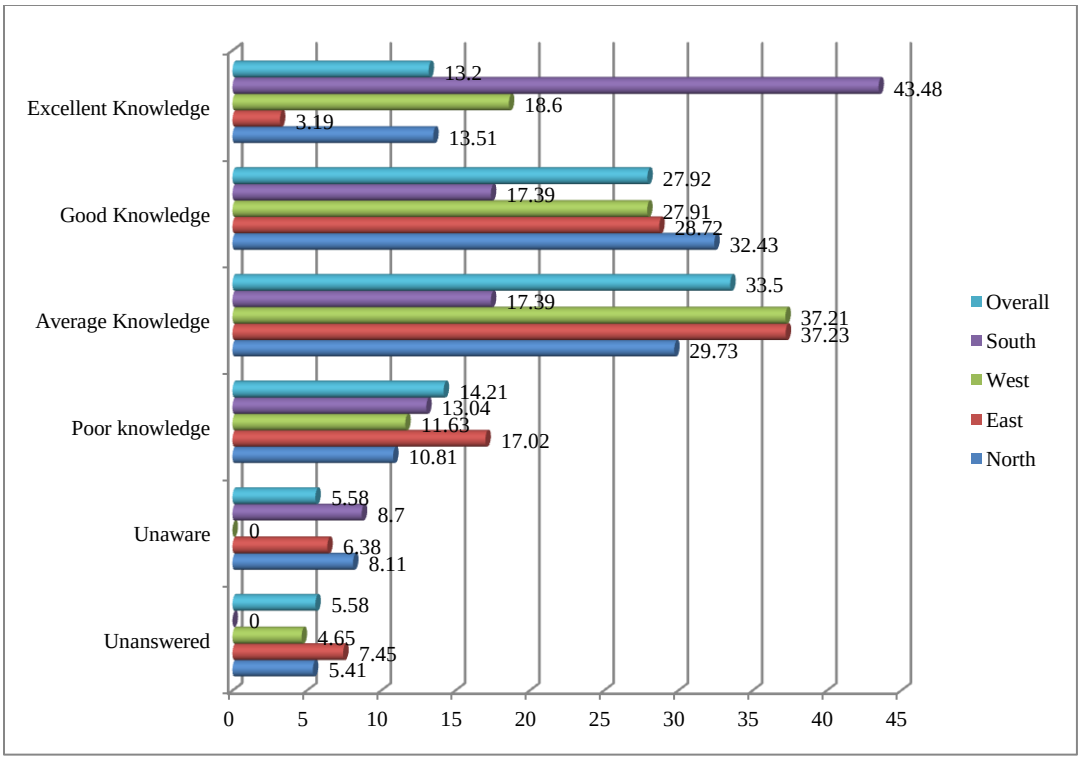

Figure-3.28: Awareness of Sample Respondents about Good Agricultural Practices in Different Regions

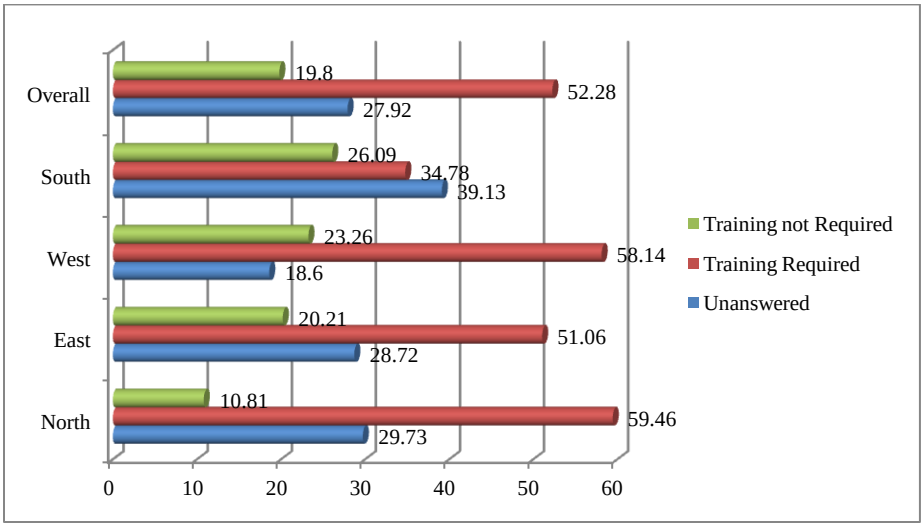

Figure-3.29: Training Requirements of Sample Respondents about Good Agricultural Practices in Different Regions

In this connection, the level of know how of marketing personnel was assessed. It is revealed from the results presented in theTable-3.15 that, about 13 percent of the respondents had an excellent knowledge of GAP and it is encouraging that about 33 percent of them had a

good understanding of GAP. Region-wise analysis revealed that, major proportion of respondents in southern region had thorough knowledge of GAP followed by western region (18.60%). In almost all the regions, good knowledge and average knowledge of GAP was observed for nearly 30 percent each of the respondents except southern region (17.39%). Average idea of the concept was known to around 33 percent of the respondents on overall basis.

The training requirement analysis revealed that, more than 50 percent of the officers desired to have training across the region. The same trend was noticed in all the regions except, southern region wherein only 35 percent of the respondents said that they want training to understand the concept of GAP.

3.16 Awareness of Sample Respondents about Modern Agricultural Marketing Infrastructures in Different Regions

Marketing infrastructure includes all those facilities and amenities needed for the smooth conduct of marketing in the economy. The infrastructural facilities in development are as necessary as foundations of a building. The existence of adequate marketing infrastructure are important not only for the performance of various marketing functions and expansion of the size of the markets but also for the transfer of appropriate price signals leading to improved marketing efficiency. The availability of different infrastructures affects the choice of technology to be adopted, reduces the cost of transportation, produces powerful impetus to production and also affects income distribution in favour of small and marginal farmers by raising their access to the market. The agriculture sector needs heavy investment for creation of basic infrastructures necessary for the overall economic development.

In a developing country like India, marketing infrastructures play a pivotal role in fostering and sustaining the tempo of rural and economic development. Marketing is as critical to better performance in agriculture as farming itself. Though the role of infrastructure is the key element of any development programme, yet their role in distribution and marketing is the supreme. (M.S.Jairath, 2010).

Tables-3.16: Awareness of Sample Respondents about Modern Agricultural Marketing Infrastructures in Different Regions

Scales/Regions	North		East		West		South		Overall	
	No.	%	No.	%	No.		No.	%	No.	%
Level of Knowledge										
Unanswered		0.00	4	4.26	2	4.65	0	0.00	6	3.05
Unaware	3	8.11	7	7.45	4	9.30	1	4.35	15	7.61
Poor knowledge	8	21.62	16	17.02	3	6.98	1	4.35	28	14.21
Average Knowledge	14	37.84	35	37.23	19	44.19	2	8.70	70	35.53
Good Knowledge	10	27.03	26	27.66	11	25.58	11	47.83	58	29.44
Excellent Knowledge	2	5.41	6	6.38	4	9.30	8	34.78	20	10.15
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	3	8.11	10	10.64	8	18.60	6	26.09	27	13.71
Training Required	31	83.78	68	72.34	29	67.44	12	52.17	140	71.07
Training not Required	3	8.11	16	17.02	6	13.95	5	21.74	30	15.23
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

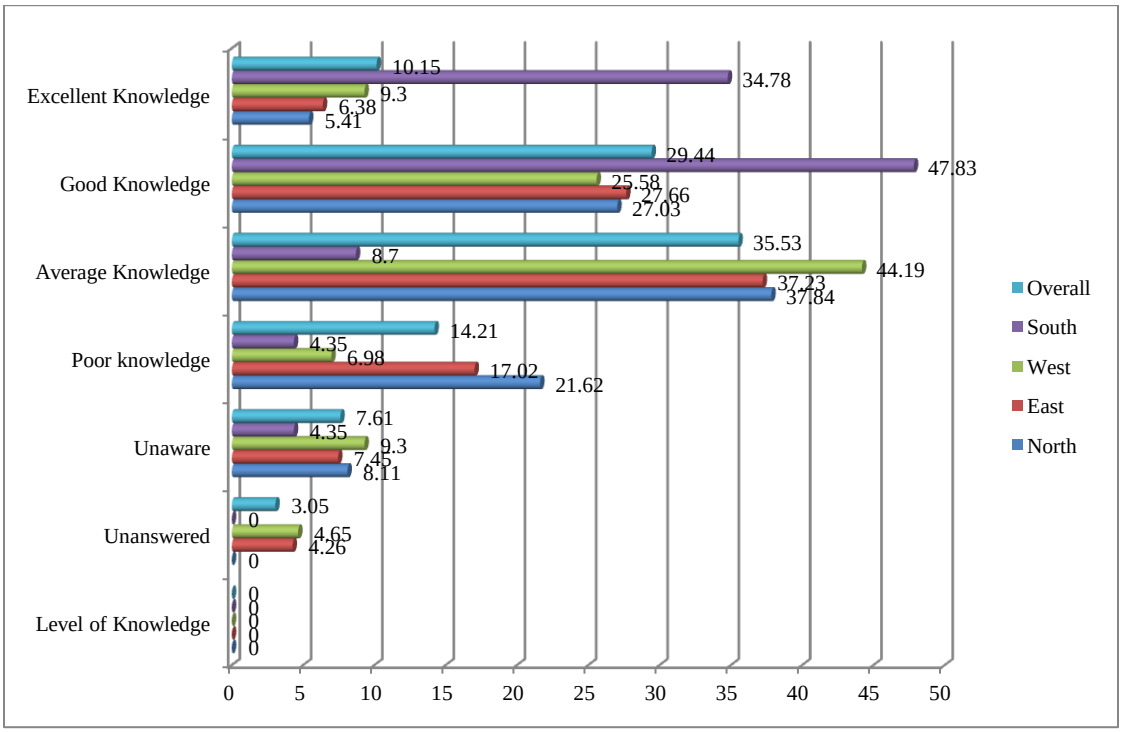

Figure-3.30: Awareness of Sample Respondents about Modern Agricultural Marketing Infrastructures in Different Regions

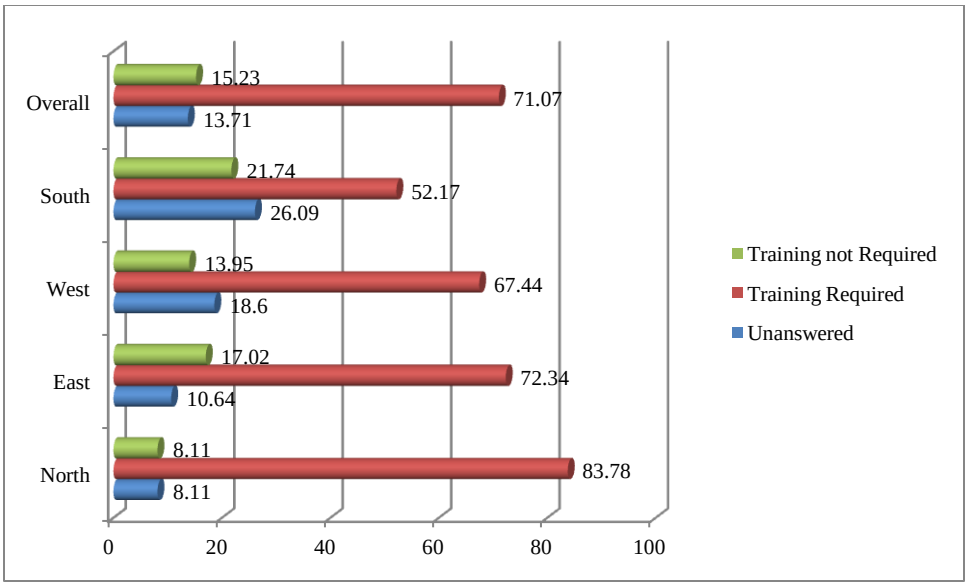

Figure-3.31: Training Requirements of Sample Respondents about Modern Agricultural Marketing Infrastructures in Different Regions

Status of different agricultural marketing infrastructures, their geographical spread in the different states of India and also the policy measures for strengthening of these infrastructural facilities are crucial. In this regard, it was felt necessary to assess the understanding of different market infrastructure among the officers working in agricultural marketing. Responses were sought and the results are presented in the Table-3.16. A view of the results from the table revealed that, about 10 percent of the respondents had an excellent understanding about the markets infrastructures. About 30 percent of the respondents across the region had a fair knowledge of markets infrastructures, while 35.53 percent of them possessed average knowledge about the same.

Region-wise analysis revealed that, the majority of the respondents in the southern region (47.83%) had a good knowledge of market infrastructure, while in rest of the regions about 25-27 percent of the respondents fall in this category. Despite fair number of respondents having knowledge of market infrastructure, the training need assessment revealed that more than 70 percent of the respondents wanted to know more about the market infrastructures especially northern and eastern region (83.78% and 72.34% each).

3.17 Awareness of Sample Respondents about Cool Chain and Postharvest Management in Different Regions:

The post harvest management of fruit and vegetables in most developing countries in the region is far from satisfactory. The major constraints include inefficient handling and transportation; poor technologies for storage, processing, and packaging; involvement of too many diverse actors; and poor infrastructure. Linking operations and actors involved more closely and systematically, modernizing marketing infrastructure and technologies, capacity building of individual actors, and strengthening the policy/institutional settings for better marketing. The concerted efforts of all, including the private and public sectors are required to alleviate these constraints. Fruits and vegetables being soft and delicate, are more prone to damage and spoilage during handling and storage. Due to their high perishability, the postharvest management required is also high. Postharvest management is energy intensive. It starts right from harvesting, field handling, transportation to pack house, pre-cooling and subsequent storage. Cold chains are essential component of horticultural postharvest infrastructure. It ensures maintenance of freshness of produce for extended period of storage.

Tables-17: Awareness of Sample Respondents about Cool Chain and Postharvest Management in Different Regions

Level of Knowledge	North		East		West		South		Overall	
	No.	%	No.	%	No.		No.	%	No.	%
Unanswered	2	5.41	6	6.38	2	4.65	0	0.00	10	5.08
Unaware	5	13.51	20	21.28	8	18.60	2	8.70	35	17.77
Poor knowledge	7	18.92	19	20.21	10	23.26	3	13.04	39	19.80
Average Knowledge	12	32.43	30	31.91	16	37.21	5	21.74	63	31.98
Good Knowledge	7	18.92	15	15.96	4	9.30	7	30.43	33	16.75
Excellent Knowledge	4	10.81	4	4.26	3	6.98	6	26.09	17	8.63
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**
Training Required										
Unanswered	5	13.51	7	7.45	3	6.98	6	26.09	21	10.66
Training Required	27	72.97	72	76.60	35	81.40	12	52.17	146	74.11
Training not Required	5	13.51	15	15.96	5	11.63	5	21.74	30	15.23
Grand Total	**37**	**100.00**	**94**	**100.00**	**43**	**100.00**	**23**	**100.00**	**197**	**100.00**

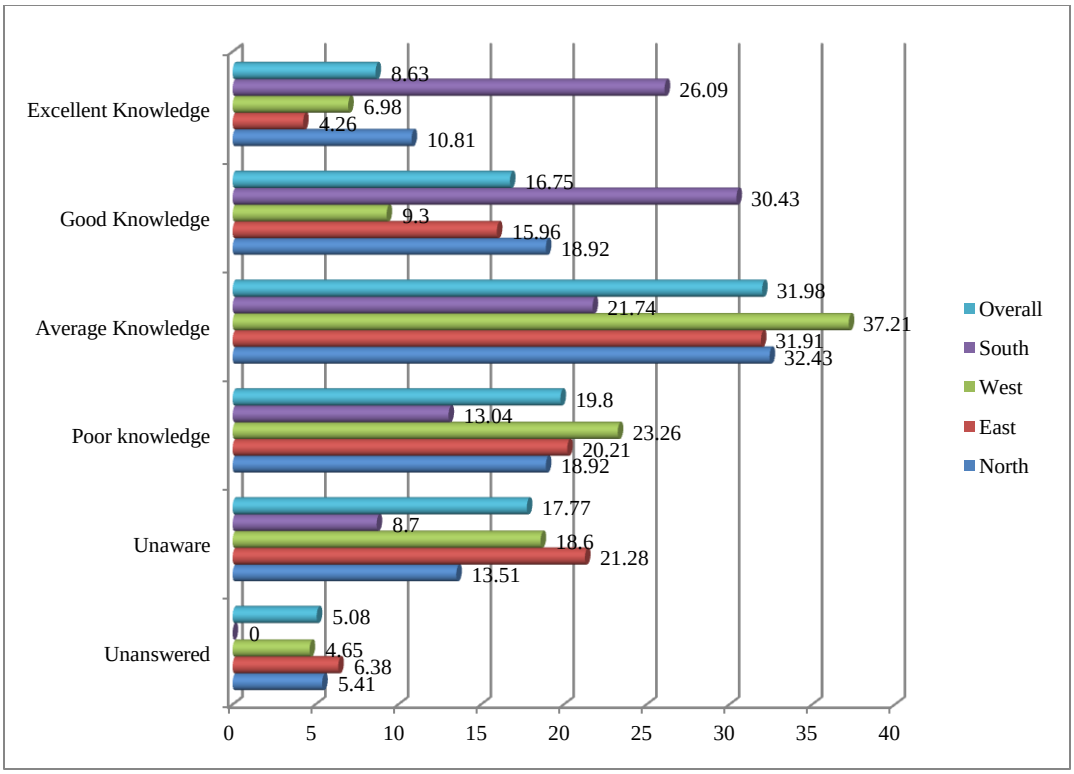

Figure-3.32: Awareness of Sample Respondents about Cool Chain and Postharvest Management in Different Regions

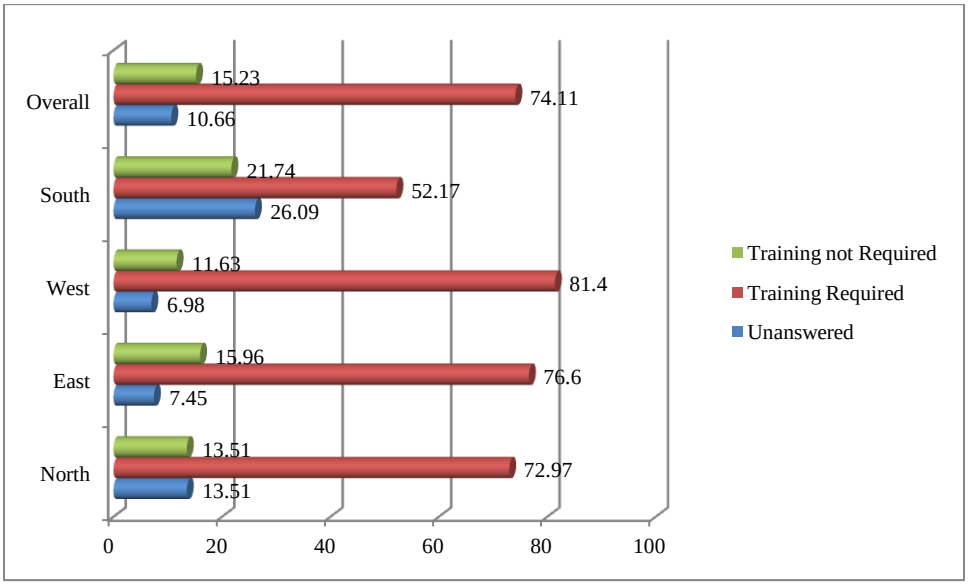

Figure-3.33: Training Requirement of Sample Respondents about Cool Chain and Postharvest Management in Different Regions

It is apparent from the results presented in the table3.17 that, about 20 percent of the respondents had a poor knowledge and 18 percent of them did not know about cool chain management. While, about 32 percent of them said they have average knowledge about the cool chain and postharvest issues. Only 8.63 percent of the respondents had an excellent understanding and 16.75 percent of them had a fair knowledge of cool chain and postharvest issues. Region-wise analysis revealed that, most of the respondents from eastern region and western region had a poor knowledge about this issue. It is quite encouraging in the case of southern region that about 50 percent (26.09 with excellent knowledge and 30.43 with good knowledge) of the respondents had a good understanding of cool chain and postharvest issues. This might be due to the initiatives taken in the region for putting in place the postharvest infrastructures. Especially, in Andhra Pradesh, it is learnt that cold chain is extensively used for storing red chilies and fruits and vegetables.

The training need analysis revealed that more than 50 percent of the respondents in the southern region who have an average understanding inclined to know more about the postharvest issues. The proportion was still higher i.e. more than 70 percent in other region expressed their willingness to understand more about the postharvest issues. On overall basis also more than 70 percent of the respondents wanted capacity building for cool chain and postharvest management.

IV. Summary and Policy Implications

Introduction

Agriculture is an important sector of Indian economy as it contributes about 17% to the total GDP and provides employment to over 60% of the population. Indian agriculture has registered impressive growth over last few decades. India stands among top three in terms of production of various agricultural commodities like paddy, wheat, pulses, groundnut, rapeseeds, fruits, vegetables, sugarcane, tea, jute, cotton, tobacco leaves, etc (GOI, 2008-09). The agricultural marketing sector is characterized by huge postharvest losses, multiple market intermediaries; higher transaction cost, lack of awareness and several other socio-economic factors are some of the acute problems being faced by the Indian agriculture.

Agricultural commodities produced on the farm fields have to undergo a series of operations such as harvesting, threshing, winnowing, bagging, transportation, storage, processing and exchange before they reach the consumer, and there are appreciable losses in crop output at all these stages. A recent estimate by the Ministry of Food and Civil Supplies, Government of India, puts the total preventable post-harvest losses of food grains at 10 per cent. Production of Fruits and Vegetables in India currently pegged at level of 202.68 million tonnes (NHB, 2008), which was planned to increased to 300 million tonnes by 2012 (GOI, 2002). In the case of Horticulture crops, about 20-30 per cent is lost or gets wasted in market chain. Exports of fresh and processed fruits, vegetables, cut flowers, dried flowers have also been picking up.

Physical aspects for postharvest management

- Cleaning, grading, waxing for perishables
- Threshing, handling etc. for non-perishables
- Packaging(grading and packing line)
- Storage (Controlled Atmosphere storages, Cold storage, and silos for food grains etc.)
- Transportation (refrigerated vans/wagons etc.)
- Wholesale markets with requisite infrastructural facilities

Policy issues for postharvest management

In the changing scenario of Indian agriculture, with reforms taking place in agricultural marketing, the extension system is likely to undergo changes:

The major areas of extension and training in marketing are as follows:

12. Legal Reforms
13. Direct Marketing
14. Group Marketing
15. Contract Farming
16. Grading & Standardization
17. Packaging

18. Storage and Cool Chain
19. Pledge Financing
20. Warehousing
21. Market Infrastructure
22. I.T. in Agricultural Marketing

The purpose of conducting a needs assessment is to validate the hypothetical judgment with actual training needs to ensure that solution addresses the most needed subjects and effectively focuses the appropriate resources, time and effort toward targeted solutions. Training need assessment is to identify the gap between the model situation and the actual situation and the way in which it can be bridged. As the gaps are identified, they are evaluated to determine the manner in which the gaps can be bridged. Some situations will indicate training needs. Some may need non–training solutions (e.g., financial aspects, institutional strengthening, providing the right tools etc.).

In order to have the foundation to develop the human resources training plan for the agriculture marketing sector, NIAM conducted a survey and Training Need Assessment of officers of directorate of agricultural marketing across the country with the following specific objectives

Objectives of the study

8. To determine the knowledge gaps and training needs of agricultural extension agents
9. To determine whether any training is needed
10. To determine the areas in which training is needed
11. To determine the gap to be bridged
12. To determine desired training outcomes
13. To provide a basis of monitoring and evaluation
14. To assess the training needs vis-à-vis education qualification, experience in the field of agricultural marketing and number of trainings undergone

The whole country was divided in to four regions i.e. North, East, West and South. Two states in each of the region were selected. Following are the States selected for the study

5. Northern Region : Himachal Pradesh, Uttar Pradesh Haryana and Rajasthan
6. Eastern region : Assam Orissa, Nagaland and Jharkhand
7. Western Region : Madhya Pradesh and Maharashtra
8. Southern Region : Karnataka Tamil Nadu and Andhra Pradesh

The region-wise distribution of sample respondents is as under

SN	Regions	No. of Respondents
1.	Northern Region	37
2.	Eastern region	94
3.	Western Region	43
4.	Southern Region	23
	Total	**197**

For assessment of training needs, a questionnaire was prepared and pretested. The resultant variables of pretest were incorporated in the final questionnaire and data were collected by sending the same to different state government officials. Apart from it, the questionnaire was also addressed to the participants in the various training programmes organized across the country and in NIAM campus. The information provided by the respondent officers was analyzed using simple averages and percentages.

Findings of the Study:

In the present study, an attempt was made to ascertain "training needs' of the officers belonging to the State agricultural Marketing Board and officers from the Directorate of Agricultural marketing. The respondents were divided into four regions namely, North, East, West and South regions and overall analysis was also done with respect to all the variables addressed in the questionnaire. The assessment was done using the five point Likert Scale i.e. 0 point scale of unanswered response, point 1 scale for not knowing the issue, 2 point scale for poor knowledge of the issue, 3 point scale for average know how of the issue, 4 point scale for good knowledge of the issue and 5 point scale for excellent knowledge.

Educational Qualification of Sample Respondents in Different Regions:

Most of the respondents were having Masters Degree (54.31%) followed by Bachelors Degree (37.56%) and Ph. D holders (3.55%). There were some matriculates and twelfth class. Across the regions, the same trend was prevalent wherein, most of the officers possessed Masters Degree followed by Bachelors degree. However, Ph. D holders were found only in Northern region and Western Region.

Awareness of Sample Respondents about Agricultural Marketing Reforms in Different Regions

Only one respondent was not aware about the reforms in agricultural marketing and four percent of them were unaware of it. However, it is pertinent to note that majority of the respondents (47.72%) were having fair knowledge and 14.21 percent of them had an excellent idea about agricultural marketing reforms. But it is concerning to know that about 27 percent of the officers across the country had a poor knowledge of reforms in agricultural marketing. It is also reflected from the response about the requirement of training, wherein about 50 percent of them said they need a training to know more about reforms. It is surprising to know that, about 24 percent of the respondents were not in a position to answer whether they require training or not. An equal number of respondents opined that training on this issue is not required.

Awareness of Sample Respondents about Agricultural Marketing Reforms in Different Regions

All the sample respondents studied were aware of contract farming except five percent who were either not knowing the contract farming concept nor were aware of it. However, the degree of awareness varied wherein, about 50 percent of the respondents had a poor knowledge of the concept. While, 31 percent of them had a fair knowledge and 13 percent of them had an excellent knowledge about the contract farming. The region wise analysis also revealed that the know-how about contract farming was extensive in the southern region followed by northern region, western region and eastern region.

Awareness of Sample Respondents about Group Marketing in Different Regions:

About 10 percent of the sample respondents were neither aware of it nor able to answer the question addressed. Majority of the respondents (43.15%) were having average knowledge of group marketing. While, 27.41 percent of respondents had a good knowledge and 8.63 percent of them had an excellent knowledge about group marketing. An analysis across the region revealed some interesting findings. More than 50 percent of the respondents in southern region average understanding of the group marketing and 26 percent of them were not even aware of it. While in western and eastern regions the awareness level of the respondents was higher compared to other regions. Only about 20 percent of the

respondents said they don't need training on this issue. About 50 percent of them said training is required to know more about the intervention i.e. group marketing.

Awareness of Sample Respondents about Private Markets in Different Regions

It is apparent from the study that, only about eight percent of the respondents were fully aware about the provisions of private markets. Majority of them (40.61%) had an average knowledge and about 30 percent of respondents had a good knowledge of private markets in agriculture. Remaining proportion of the respondents had a poor know-how about the private markets. The region-wise analysis revealed the same trend across the country. However, relatively, higher proportion of respondents from southern and eastern region had a fair idea about the private agricultural markets. More than the 65 percent of the respondents saying that training in this area is essential to know more about the different aspects of private markets and help in promoting private markets.

Awareness of Sample Respondents about Farmers Market in Different Regions:

The findings of the study revealed that, only 16 percent of them had holistic understanding of the farmers market and 24 percent of them had a fair knowledge of it. Region-wise analysis revealed that in Southern region more than 70 per cent of the respondents had a fair knowledge about the farmers market. Especially the Rythu Bazaar initiative in Andhra Pradesh and Raitha Santhe in Karnataka are proven to be successful model. On the contrary, in the northern region, more than 30 percent of the officers are not at all aware of it, while 10 percent in western region and about 19 percent of the respondents in the eastern region were not aware about the farmers market. In view of it more than more than 60 percent of the officers demanded that, the details of the concept should be addressed by giving appropriate training to the personnel working in agricultural marketing department.

Awareness of Sample Respondents about Modern Terminal Markets in Different Regions:

More than 40 percent of the respondents are not aware of the concept of Modern Terminal Market. Only about five percent of them were fully aware and about 17 percent of them had a fair knowledge of it. About 35 percent of them have heard of the concept and

possess average knowledge of the same. The same trend was noticed across the regions wherein about 21 percent of the respondents in southern region are not aware about the concept of MTM and equal number of them had a poor knowledge about it. Hence, about 80 percent of the officers opined that they need to know more about the Modern Terminal Market.

Awareness of Sample Respondents about Public Private Partnership in Different Regions:

More than 70 percent of the officers are either unaware or have a poor knowledge as to how PPP works in attracting the private investment in Agricultural Marketing Sector. The trend across the region is also similar to the overall situation. Hardly about 25 percent of the respondents are having full knowledge of PPP. It is interesting to note that, despite successful initiatives being implemented in the southern region, about 35 percent of the respondents have poor understanding of PPP. While, in Western region 14 percent of the respondents had a poor knowledge of PPP. Training requirement analysis revealed that about 75 percent of the respondents wanted to know more about the PPP through various capacity building programmes across the regions.

Awareness of Sample Respondents about Market-led Extension in Different Regions:

The study revealed that, more than 60 percent of the personnel working in the department of agricultural marketing and Marketing board are aware about Market-led Extension. However, about 70 percent of the respondents desired to have training to understand more about the Market-led Extension.

Awareness of Sample Respondents about Special Commodity Markets in Different Regions:

As revealed from the study, more than 35 percent of the respondents were not at all aware about such markets. Only around five percent across the region had an excellent knowledge and 20 percent of them had a fair knowledge of commodity specific markets. Among different regions, 30 percent of respondents in southern region had a good knowledge and equal number of respondents had an excellent knowledge of commodity specific markets. Whereas, knowhow of these markets was very much low in the case of northern and eastern region. Respondents in the Western region fared better as about 23

percent of them had a good understanding about it. More than 60 percent of the respondents are willing to know more about the commodity specific markets through training.

Awareness of Sample Respondents about Market Information System in Different Regions:

About four percent of the respondents did not answer this query and six percent of them were not at all aware of it. About 35 percent of them had a poor knowledge as to how ICT is working to help the activities in agricultural marketing. Only seven percent across the region had an excellent understanding of the use of ICT, while 34 percent of them had fair knowledge of it. It is encouraging to know that, more than 40 percent each in the case of southern and western region had a good knowledge of ICT.

Awareness of Sample Respondents about Bureau of Grades and Standards in Different Regions:

As reflected from the study, about 20 percent of them have very poor knowledge. Majority of the respondents (38.58%) were having average knowledge of the same. Only 8.12 percent of them were fully aware about Bureau of Grades and Standards. Across the regions, only in western region about 11.63 percent were fully aware and 16.28 percent of them had a fair understanding about the concept. While in rest of the regions, the level of awareness was more or less very poor. The same is reflected in willingness to have training programme to know about it wherein about 68 percent of officers showed inclination to have capacity building programmes in this area.

Awareness of Sample Respondents about Food Safety and Quality Standards in Different Regions:

It is apparent from the results of the study that, more than 30 percent of the respondents across the region did not know and an equal number of participants had a poor knowledge about the issue of food safety and quality standards. Only about three percent of the respondents were fully aware of the issue and 11 percent of them had fair understanding of the issues in food safety and quality standards. The same trend was noticed across the region wherein more than 50 percent in southern region, more than 30 percent in eastern and western region were not even aware about the issue. However, northern region faired better than other regions in terms of know how about food safety and quality standards. Obviously

more than 70 percent of the respondents across the region opined that the need to know more about this issue through capacity building programmes.

Awareness of Sample Respondents about Warehouse Receipt System in Different Regions:

The trends of results revealed that, only about 10 percent of the respondents were aware about the warehouse receipt and 28 percent of them had a good knowledge of the same. Whereas, about 13 percent of the respondents were unaware and 19 percent of them had a poor understanding of how ware receipt system works. Northern and southern regions faired better in understanding the ware receipt system. While eastern and western region, very few of them had an excellent knowledge about the same. In all about 62 percent of them wanted training programmes to know more about warehouse receipt.

Awareness of Sample Respondents about Good Agricultural Practices in Different Regions

The results presented study reflected that, about 13 percent of the respondents had an excellent knowledge of GAP and it is encouraging that about 33 percent of them had a good understanding of GAP. Region-wise analysis revealed that, major proportion of respondents in southern region had thorough knowledge of GAP followed by western region (18.60%). In almost all the regions, good knowledge and average knowledge of GAP was observed for nearly 30 percent each of the respondents except southern region (17.39%). Average idea of the concept was known to around 33 percent of the respondents on overall basis. The training requirement analysis revealed that, more than 50 percent of the officers desired to have training across the region.

Awareness of Sample Respondents about Modern Agricultural Marketing Infrastructures in Different Regions

About 10 percent of the respondents had an excellent understanding about the markets infrastructures. While, 30 percent of the respondents across the region had a fair knowledge of markets infrastructures and 35.53 percent of them possessed average knowledge about the same. Region-wise analysis revealed that, the majority of the respondents in the southern region (47.83%) had a good knowledge of market infrastructure, while in rest of the regions about 25-27 percent of the respondents fall in this category. The

training need assessment revealed that more than 70 percent of the respondents wanted to know more about the market infrastructures.

Awareness of Sample Respondents about Cool Chain and Postharvest Management in Different Regions:

It is apparent from the results of the study that, about 20 percent of the respondents had a poor knowledge and 18 percent of them did not know about cool chain management. While, about 32 percent of them said they have average knowledge about the cool chain and postharvest issues. Only 8.63 percent of the respondents had an excellent understanding and 16.75 percent of them had a fair knowledge of cool chain and postharvest issues. Region-wise analysis revealed that, most of the respondents from eastern region and western region had a poor knowledge about this issue. It is quite encouraging in the case of southern region that about 50 percent (26.09 with excellent knowledge and 30.43 with good knowledge) of the respondents had a good understanding of cool chain and postharvest issues. The training need analysis revealed that more than 70 percent of the respondents wanted capacity building for cool chain and postharvest management.

Policy Implications:

1. As revealed from the findings of the study, except few issues of supply chain in agricultural commodities, majority of the respondents either had a poor knowledge or were having average knowledge of most of the issues. Hence, there is a need to upgrade the knowledge of officers about the latest issues in agricultural Marketing by developing an appropriate capsule of short duration and follow up programmes to make it more effective.
2. As reflected from the findings of the study that, the solutions for postharvest losses are inadequate in terms of knowledge as well as initiatives being taken up by different State governments for creation of infrastructure due to over emphasis on production extension. The postharvest losses can be minimized by having complimenting Strategy of both the hardware part and software part. Policy part can be through capacity building programmes for both marketing personnel and officers working in the line department. The infrastructure part will help in attaining higher

returns to the farmers and at the same time consumers will get a quality produce at a reasonable price.

3. As observed by the researcher, in some of the States personnel from Cooperative department are deputed to work in the Directorate of Agricultural Marketing. This ad-hoc arrangement leads to disinterest among the officers so deputed to know the latest issues in marketing. Hence, a separate cadre of services on the line of Government of Karnataka can be created and thus make sure the personnel continue to work in the same department.
4. Majority of the States though have specialized 'Training Institutes' for imparting capacity building programmes in the field of agricultural marketing but lack in coordination. West Bengal, Karnataka and Haryana are some of the States which are active in capacity building programmes in agricultural marketing. NIAM being an apex institute has taken an initiative with West Bengal State Marketing Board by having an MOU for capacity building programmes on various issues in agricultural marketing. In a similar way, the training institutes located in the other states can also have such arrangements. It is also recommended that, each States should have such arrangement and also have specialized training institute for capacity building of the personnel working in the field of agricultural marketing.
5. The results of the study uncovered several knowledge gaps among the officers of Directorate of Agricultural Marketing and among personnel working in the State agricultural Marketing boards. These knowledge gaps relating to postharvest losses needs to be addressed on war footing manner. Ministry of Agriculture, Government of India has earmarked the funds for capacity building under various schemes. The State governments should utilize such opportunity to train their personnel on various issues of agricultural marketing.
6. In an effort to promote grading and standardization, developing the grades and standards for agricultural commodities will help in having proper supply chain management. However, due to vide variation in quality, quantity and size of the produce produced in different agro-climatic regions, the harmony of the grades and standards prescribed at national level is not uniform across the regions. Hence, a

think tank has suggested having Bureau of Grades and Standards at State level. This will ensure specific training needs in different regions about grades and standards.

7. A full training need analysis using workshop approach should be taken up by the Apex Institutes like NIAM in order to understand the training needs of the different personnel working in the various departments. The present study is a bird's eye view of the training need analysis. Hence, it is recommended that workshops involving all officers at the headquarters of different states can be organized and assess the training needs so that the specific course capsules can be addressed based on the outcome of need assessment.
8. The issues in agricultural marketing such as Contract Farming, Group Marketing, Modern Terminal Market, Private Wholesale Markets, Public Private Partnership, Direct Marketing etc. needs to be popularized by conducting the Training and Awareness Programmes on massive scale on the lines of Market Infrastructure Scheme and Rural Godown Schemes. Encouragement of these initiatives will help in total supply chain management.

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