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Perception Analysis of Vegetable Experts on Setting Priority for Enhancing Efficiency of Agribusiness and Marketing in Vegetable Sector in India

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ABSTRACT

Agribusiness in terms of linkages in marketing channel, market infrastructure, price stabilization and maintaining liaison between demand and supply is a sine qua non for horticultural crops like vegetables, which are perishable in nature. Poor linkages in the supply chain and poor marketing infrastructure are leading to high and fluctuating consumer prices for vegetables and only a small proportion of the consumer rupee reaches to the farmers. There is substantial wastage, deterioration in quality and frequent mismatch between demand and supply of vegetables spatially and over the time. Research and development (R&D) in agribusiness is needed to be revitalised. An effort was made to identify the priority areas where interventions are required. This study was undertaken by conducting a survey of horticultural and marketing experts in which major problematic areas in agribusiness of vegetable crops were considered. According to 72 per cent respondents inadequacy of infrastructure and cold storage facilities (Rank-1) is among the most problematic areas where intervention should be a priority. The other problematic areas are lengthy marketing channel and unorganised marketing system (Rank-2), inadequate contract farming in vegetables (Rank-3), inadequate small scale production of quality processed vegetable items (Rank-4), and instability in vegetable price leads to food price inflation (Rank-5) etc. Addressing all the problems at one time is difficult. This study throws some light on the policy makers and research managers to identify the way in which future agribusiness R&D should be directed in vegetable sector.

Key words: Vegetables, research priority, agribusiness, marketing

INTRODUCTION

The vegetable marketing system in India operates primarily according to the forces of supply and demand in the private sector. Indian Government intervention is limited to protecting the interests of producers and consumers and promoting organized marketing of vegetable commodities. In the year 2014, there were 7157 regulated markets to which the central government provided assistance in the establishment of infrastructure and in setting up rural warehouses. India is the second largest producer of vegetables in the world. But vegetable production system has not been assimilated in vegetable economy as the marketing structure is unorganised. Small holding vegetable cultivation is not accounted in national GDP. Due to poor marketing system and infrastructure, vegetable producers loose the profit shares of consumers' money. Less research and developmental activities have been done in organised way in vegetable business sector. Issues are many but resources are limited. That is why this study was formulated with the objective to identify the priority areas in vegetable business sector for future intervention.

METHODOLOGY

This study was conducted through online survey. The survey questionnaire had sent purposively to 50 scientists of ICAR institutes, 50 teachers of SAUs and 50 subject matter specialists of KVKs who deal with vegetable crops, for their response. Among them 75 respondents replied from 22 different states representing different agro-climatic regions of the India (Table 1). The questionnaire contained multiple choice type questions related to problems in marketing and business in vegetable sector and the respondents were asked to score each problem in a five point continuum ranging most important (5), important (4), undecided (3), less important (2) and not important (1) as they perceived. The

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total score for each problem was obtained by summing the scores given by 75 respondents and rank of the problems was calculated.

Table 1: Distribution of the respondents from different states of India

State	Number of respondents		
	ICAR institutes	SAU	KVK
Jammu and Kashmir	-	1	1
Himachal Pradesh	-	5	-
Punjab	-	1	-
Haryana	-	1	-
Rajasthan	-	2	1
New Delhi	1	-	-
Uttar Pradesh	15	-	1
West Bengal	2	4	1
Odisha	-	-	1
Chhattisgarh	-	-	1
Gujrat	1	7	2
Maharashtra	1	1	-
Andhra Pradesh	1	3	3
Karnataka	1	2	2
Kerala	-	1	1
Tamil Nadu	2	1	1
Goa	1	-	-
Assam	-	1	1
Arunachal Pradesh	-	-	1
Nagaland	-	-	1
Manipur	-	-	1
Andaman and Nicobar Island	1	-	-
Total	26	30	19

RESULTS AND DISCUSSION

The value of fruits, vegetables and grains wastage in India is INR 440 billion annually. Fruits and vegetables account for the largest portion of that wastage. Eighteen per cent of India's fruit and vegetable production valued at INR 133 billion is wasted annually (Emerson, 2016) and without improvements in "cold chain" infrastructure, from farm harvest to table, India's food problems will remain vast and are likely to grow and stands number one priority issue (Table 3). A study conducted by National Spot Exchange Limited (NSEL) in December 2010 estimated the need for cold storage capacity of about 61.13 million metric tonnes in the country. The study estimated existing capacity of cold storage at around 23.51 million metric tonnes indicating a gap of about 37 million metric tonnes (National Spot Exchange Ltd., 2010). Beside that the percentage share of gap in pack house is 99.6 per cent, reefer-house 85 per cent, ripening chamber 91 per cent (Table 2) and studies revealed an investment of more than INR 550 billion in cold storage infrastructure is needed by the year 2015-2016 to keep up with growing fruit and vegetable production level in India (Emerson, 2016). The second priority issue is about marketing system of vegetables which is not properly defined and unorganised. Poor efficiency in the marketing channels and inadequate marketing infrastructure are believed to be the cause of not only high and fluctuating consumer prices, but also little of the consumer rupee reaching the farmer (Kaul 1997, Ashturker and Deole 1985). Indian farmers depend heavily on middlemen particularly in fruits and vegetable marketing. The producers and the consumers often get a poor deal and the middlemen control the market, but do not add much value. In case of vegetables, the typical marketing channels found in India are, Grower – Consumer, Grower – Retailer – Consumer, Grower – Growers cooperative – Consumer, Grower – Growers cooperative – Commission Agent – Retailer – Consumer, Grower – Forwarding Agent – Commission Agent – Retailer – Consumer, Grower – Growers Representative – Retailer – Consumer, Grower – Wholesaler – Retailer – Consumer, Grower – Wholesaler – Commission Agent – Retailer in distributing market – Consumer, Grower – Pre harvest Contractor – Commission Agent in assembling market – Commission Agent in distributing market – Retailer – Consumer and Grower – Commission Agent – Wholesaler – Retailer – Consumer. There is a multiplicity of interaction and involvement of large number of market functionaries/intermediaries with consulting interests (Singh and Roy, 2014). Contract farming is the best method to curtail middlemen from the marketing channel. But in vegetable sector, contract farming is very limited (Third priority issue). Biswas *et al.*, 2014 reported that, according to 46 per cent potato growers in West Bengal, input delivery in contract farming is a limitation. According to 74 per cent potato growers, achieving coordination between farm and farmers was very difficult. The fourth priority issue is about popularization of small scale processing industry of vegetables for value addition, which sounds good in theory. Though at household level women do processing of vegetables but it is hardly commercialised and still a very potential area of value addition has remained untouched (Roy *et al.,* 2015 and Kumar & Sharma, 2009). Man made oscillation in vegetable prices leads to food price inflation, which is the fifth priority issue came under study.

This malpractice is very commonly seen in cases of tomato, onion and chilli almost every year. The sixth priority issue is about rejection in export consignment due to not withstanding of international standards. Reports said that there has been large number of cases of rejection of Indian exports in recent years, especially in agricultural products and processed foods. Agriculture and Processed Food Products Export Development Authority (APEDA) stated that over 800 cases had come up in which agricultural products and processed foods shipped from India had been rejected in the last five years.

Maximum cases of rejections had been reported from the member states of the European Union (EU). Since 2008, 763 notifications had been issued by the EU under Rapid Alert System for Food and Feed (RASFF) mostly for rejecting the consignments. The other countries include Taiwan, Japan, China, Indonesia, Malaysia, Thailand, Korea and United Arab Emirates (UAE). Many countries had imposed restrictions on import of peanuts, rice, poultry products, curry leaves, okra, groundnuts and cassia seeds from India for different reasons (rtifoundationofindia.com).

The seventh priority issue is about organic vegetable production which is billion mile away from reality. A study conducted by Jangid *et al.* 2012, reported the main constraints in organic vegetable cultivation were inadequate availability of inputs like vermicompost, biofertilizers and organic manures, lack of skill about improved methods of composting and lack of awareness about the concentration, time and method of biofertilizers application.

Table 2: All India Cold-chain Infrastructure Capacity (Assessment of Status and Gaps)

Types of infrastructure	Infrastructure requirement (A)	Infrastructure created (B)	All India Gap (A-B)	% share of Gap to Required
Pack -house	70,080 nos.	249 nos.	69,831 nos.	99.6%
Reefer vehicles	61,826 nos.	9,000 nos.	52,826 nos.	85%
Ripening Chamber	9,131 nos.	812 nos.	8319 nos.	91%

Table 3: Percent distribution of the respondents categorized priority parameters from most important to not important

Parameters	Most Important (5)	Important (4)	Undecided (3)	Less Important (2)	Not Important (1)	Rank	t	sig
Cold storage inadequacy and meagre storage infrastructure causes post harvest losses.	72	24	3	0	1	1	1.662	.101
Lengthy marketing channel and unorganised marketing system of vegetables results less profit share to the producers.	52	35	9	4	0	2	.640	.524
Contract farming in vegetable production is very limited left the sector unstructured.	41	39	16	3	1	3	.105	.916
Popularization of small scale processing industry of vegetables for value addition lies in theory.	44	37	12	5	1	4	-.081	.936
Man made oscillation in vegetable prices leads to food price inflation.	41	41	9	5	3	5	.262	.794
Rejection in export consignment due to not withstanding of international standards.	39	41	12	5	3	6	1.147	.256
Commercial organic vegetable production is billion mile away from reality.	31	25	17	11	16	7	.299	.766

CONCLUSION

Seven issues have been ranked accordingly for future intervention in vegetable business and marketing in India. Researchers, policy makers, marketing personnel and other stakeholders may work accordingly to address these issues. Resources of intervention should be allocated according to the priority rank came under the study. Vegetable is a sunrise industry in India . It is very important to economise the sector and make the marketing and vegetable production sustainable.

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