



# Fresh vegetables in India

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**Abstract :** This paper focuses on production, export and marketing of vegetables in India. Consumer preferences have also shifted away from cereals and moved towards high-value agricultural produce like vegetables. The vegetable production in India has touched a new height in recent years. India has occupied second position in production of vegetables after China. During the study, it was found that India produced vegetables in huge amount during 2010-11 in comparison to previous year *i.e.* 2009-10. India export vegetables mainly to Asian countries such as Bangladesh, Pakistan, Sri Lanka, Nepal, Philippines etc. and to the European countries. Marketing of vegetables in India is the traditional phenomenon and the various channels support in marketing of vegetables and these channels are playing crucial roll today. India is suffering with some basic constraints and it comes in production and marketing of vegetables.

**Key Words :** Production, Export, Marketing, Constraints, Fresh vegetables

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## INTRODUCTION

The 'green revolution' is one of the great success that country has observed and the country achieved self-sufficiency and a good degree of stability in grain production. India occupies the prime position in the production of vegetable crops and it is universally accepted. The area and production of vegetables in India has been increasing year after year during the post green revolution period and the country is heading towards another revolution in the form of 'golden revolution'. A wide variety of vegetables are grown in India. India now grows nearly seventy (70) different kinds of vegetables like tomato, brinjal, chilli, cauliflower, cabbage, peas, potatoes, onions and few common cucurbits and leafy vegetables (Singh, 2004). Besides, a large number of minor vegetables are also grown in different parts of the country. These minor vegetables possess high export potential and could fetch very high price in many overseas markets. India is the second largest producer of vegetables in the world. The demand of vegetables is increasing day by day and it would be 250 million tones by 2030. Due to advent of hybrid varieties and increasing awareness about nutritional security, vegetable production is getting continuous momentum in our country.

During the 1990s, area under vegetable crops increased by 29 per cent and their production by 42 per cent. The credit for vertical expansion in vegetable production goes to the development of improved vegetable varieties and new management technologies. Many non-traditional vegetables mainly processed and gherkins and others like asparagus, celery, bell pepper, sweet corn, green and lime beans and organically grown vegetables are also being increasingly exported. The present study presents a glimpse and overview of vegetable scenario of India vegetable production, export potential and way of marketing. An attempt has also been made to cover the entire vegetable scenario of India's vegetable production and export during past five years.

Singh *et al.* (2009) found that there has been considerable growth in production of vegetables and potato, tomato, brinjal and onion have emerged as major vegetables in terms of both area and production. The general constraints faced by this sector are the timely delivery, grading packaging, good quality, poor market infrastructure, agro-processing plants, marketing credit, proper pricing, uniform grading and standardization of weights and measures; inadequate and poor dissemination of market information, poor post-harvest handling, low and declining productivity.

Adhiguru and Ramaswamy (2003) identified that one of the weaknesses of the supply chain is that it is a multi-layered marketing channel lacking in infrastructure. Efficient supply chain requires strengthening all the levels of infrastructure such as the inputs delivery, credit, irrigation, improved procurement, minimizing post-harvest losses, cold storage chain, better and efficient processing and marketing techniques, efficient storage, warehouse and also efficient and competitive retailing.

Singh (2004) said that the vegetable production has increased in recent years, occupying an area of 6.07 million hectares and production of 91.3 million tones. Presently, Karnataka, Maharashtra, Gujarat, Andhra Pradesh, Uttar Pradesh and Madhya Pradesh are the leading producing states of hybrid tomatoes. In the wake of globalization of agriculture, nutritional quality of any vegetable or its product has a very crucial role in its sustainable production.

Kumar *et al.* (2004) pointed out that vegetable production has been affected by several production and marketing constraints. Among these most important production constraints are losses from pests, lack of quality seeds and irrigation facilities and high variations in yields. Among the marketing problems, lack of information, price risks, delayed sale and payment and lack of processing facilities and packaging are important.

Singh *et al.* (2004) analyzed that during the last decade, the increase in the area under vegetable crops was 42 per cent, with increased production of 79 per cent. It has been due to development of improved varieties/hybrids and advanced crop management technologies. The technologies impact on the socio-economic status and social equity of farmers, particularly small farmers and has also provided ecological balance.

Goyal and Gupta (2009) said that the growth of fruits production has been more in India than world production whereas in case of vegetables production it is reverse. Due to lack of post harvest handling and adequate processing facilities about 30 per cent of the total production of fruit and vegetables are lost.

Mittal (2007) found that supply constraints yield gaps and huge logistic costs affect our competitive and comparative advantage in world trade market. The study also identifies the potential states for the vegetables, for which India is globally competitive and has comparative advantage in production.

Ilyas and Goyal (2004) said that post-harvest losses of perishables are more serious in the developing countries like India because of lack of elaborate harvesting equipment, collection centers in major producing areas and poor marketing and transportation facilities.

Attari and Singh (2004) found that nearly, 78 per cent of farmers in India are small and marginal; they have sufficient availability of labour and grow more vegetables than other

farmers. However, these farmers are being exploited in various ways by the middlemen and get low share in consumer's rupees.

Sofi (2004) pointed out that area; production and productivity of several vegetables have increased during the past three decades.

### Objectives :

–To identify the production and marketing of vegetables in India, to identify and analyze the export of vegetables from India and to identify the constraints in export promotion and vegetables marketing of vegetables in India

## MATERIALS AND METHODS

The study is based on secondary information/data. The data has been taken for the study from 2006 to 2011. The secondary has been collected from various published as well as unpublished sources. Present study data on area, production and export of vegetables has been taken from various reports of National Horticulture Database published by the National Horticulture Board (NHB); area, production and yield of principal crops in India from the Directorate of Economics and Statistics and Ministry of Agriculture for national level data. Food and Agricultural Organization is used for the international data on area, production and export of vegetables. Most of the data have been taken from National Horticulture Board (Database-2006, 2008, 2009 2010 and 2011), Ministry of Agriculture, Government of India.

## RESULTS AND DISCUSSION

The results of the above investigation and its further discussion are presented under the following heads:

### Production trends of vegetables :

#### *World production of vegetables :*

World production of vegetables is shown in Table 1. China is the major producing country for producing the vegetables. China had always ranked first in production of vegetables. United States of America (USA) has occupied third position in vegetable production after India. The total production of vegetable was 917563 metric tonne in 2006-07 and production of vegetable has increased 29211 metric tonne in next year *i.e.* 2007-08. The world production of vegetable increased very fast during 2010-11 *i.e.* 101252 metric tonne.

#### *India's production of vegetables :*

There has been a significant growth in area and production of important vegetables in India shown in Table 2. The pattern of growth in production of vegetable in India in Table 3. In 2007-08 the production of vegetable has slightly increased by 13456 metric tonne where the vegetables produced in previous year is 114993 metric tonne and in next year the production of vegetable has gradually increased by

628 metric tonne. It was not good indication of production of vegetable for 2008-09 periods. In crop wise production of vegetables; potato, onion and tomato has gained first, second and third position, respectively and they have 45.79 per cent

share in production among 100 per cent production during 2008-09. During 2010-11, 146554 metric tonne of vegetables were produced while 12816 metric tonne more vegetable were produced in 2009-10 *i.e.* 133738.

World production of vegetables during 2006-07 to 2010-11								Qty. in Metric Tonne	
Country	06-07	Country	07-08	Country	08-09	Country	09-10	Country	10-11
China	434332	China	448983	China	457730	China	457830	China	473062
India	114993	India	125887	India	129077	India	133737	India	146554
USA	36845	USA	38075	USA	36431	USA	37252	USA	352935
Turkey	26290	Turkey	24454	Turkey	27135	Turkey	27163	Turkey	25831
Egypt	16165	Russ Fed	16516	Iran	16173	Egypt	19171	Egypt	19516
Italy	15994	Egypt	16041	Russ Fed	14057	Iran	14974	Iran	18678
Iran	15760	Iran	15993	Egypt	13750	Russ Fed	14349	Italy	13499
Russ. Fed.	15404	Italy	13587	Italy	13686	Italy	13696	Russ Fed	13233
Spain	13356	Spain	12676	Spain	12784	Spain	12621	Spain	12679
Japan	11745	Japan	11938	Japan	12699	Mexico	12100	Mexico	12125
Mexico	11241	Others	222625	Others	232765	Rep Korea	11278	Others	242049
Korea	10965					Others	221293		
Others	200416								
Total	923506		946775		966287		975464		1330161

Source: Compiled by Author, National Horticulture Database 2006, 2008, 2009, 2010 and 2011 National Horticulture Board, Ministry of Agriculture, Government of India

Year	Production in Metric Tonne & area in Hectare		
	Area	Production	Productivity
2006-07	7581	114993	15.16
2007-08	7848	128449	16.36
2008-09	7981	129077	16.17
2009-10	7985	133738	16.74
2010-11	8495	146554	17.25
Total	39890	652811	16.36

Source: Compiled by Author, National Horticulture Database 2009 and 2010, National Horticulture Board, Ministry of Agriculture, Government of India

Crops	Qty in Metric Tonne					
	2006-07	2007-08	2008-09	2009-10	2010-11	Prod. change over 2010-11 to 2009-10
Potato	28600	34658	34391	36577	42339	5762
Onion	10847	13900	13565	12158	15118	2960
Tomato	10055	10303	11149	12433	16826	4393
Brinjal	9453	9678	10378	10563	11896	1333
Cabbage	5584	5910	6870	7281	7949	668
Cauliflower	5538	5777	6532	6569	6745	176
Okra	4070	4179	4528	4803	5784	981
Peas	2402	2491	2916	3029	3517	488
Tapioca	8232	9056	9623	8059	8076	17
Sweet Potato	1067	1094	1120	1094	1047	(-) 47
Total	85847	97047	101071	102566	119297	11731

Source: Compiled & Calculated by Author, National Horticulture Database 2009, National Horticulture Board, Ministry of Agriculture, Government of India

*State-wise production of vegetable :*

Table 4 shows that the West Bengal, Uttar Pradesh, and Bihar are the major vegetables producing states in India. West Bengal, Uttar Pradesh and Bihar play major role in continuous production of vegetables. It is noted that the production of vegetables increased since last two decades. Uttar Pradesh, Gujarat, Bihar, Maharashtra, Assam, Jharkhand, Jammu &

Kashmir, Rajasthan, Tripura, and Goa produced less vegetable in 2008-09 while in previous year these states produced more vegetables. Lakshadweep, Dadra and Nagar Haveli, Chandigarh and Daman and Diu are the lesser producers of vegetables. These states fairly contributed in vegetable production and these states are in very poor condition for producing vegetables. Approximately more than 70 per cent

Table 4 : State-wise production of vegetable during 2006-07 to 2010-11						Quantity in Metric Tonne
State/UT's	2006-07	2007-08	2008-09	2009-10	2010-11	*Production change over 2010-11 to 2009-10
West Bengal	17140.0	22456.8	22704.3	21906.5	26725.5	4819.0
Uttar Pradesh	18190.4	19790.3	18950.1	22435.7	17679.4	(-) 4756.3
Bihar	13612.2	14067.8	13385.7	13906.8	14630.2	723.4
Orissa	8180.3	8214.8	8467.4	8963.6	7790.1	(-) 1173.5
Tamilnadu	7070.4	7975.7	8693.5	7626.7	8279.9	652.2
Gujarat	6062.5	7403.0	6807.1	7255.5	9379.5	2124.0
Karnataka	5478.5	7367.1	7724.9	7082.2	9056.4	1974.2
Maharashtra	6148.0	6454.9	6368.0	6172.6	7504.0	1331.4
Andhra Pradesh	4355.8	4946.3	5267.5	5426.2	11847.6	6421.4
Assam	4449.5	4474.2	2916.7	4569.9	2925.5	(-) 1644.4
Jharkhand	3394.9	3639.7	3637.0	3469.2	4112.4	643.2
Kerala	3234.2	3479.0	3509.4	3518.1	3392.7	(-) 125.4
Haryana	3366.9	3277.1	3893.4	3987.0	4649.3	662.3
Chhattisgarh	2801.9	2934.2	3041.0	3601.1	4248.8	647.7
Madhya Pradesh	2814.0	2919.7	4105.8	3112.6	3698.6	586.0
Punjab	2518.2	2772.1	3410.3	3522.5	3585.8	63.3
Jammu & Kashmir	1247.7	1238.3	1023.6	1374.2	1559.1	184.9
Himachal Pradesh	1150.7	1150.7	1263.9	1390.7	1474.9	84.2
Uttarakhand	995.5	1036.2	1077.6	997.2	1030.9	33.7
Rajasthan	788.3	853.3	736.7	1071.9	885.0	(-) 186.9
Delhi	672.0	595.6	617.4	617.4	496.8	(-) 120.6
Tripura	415.9	423.6	294.7	446.9	532.3	85.4
Meghalaya	345.4	352.5	415.8	415.8	356.5	(-) 59.3
Manipur	91.8	113.7	174.3	221.8	236.5	14.7
Arunachal Pradesh	110.0	110.0	110.0	38.5	38.5	0.0
Sikkim	80.0	95.9	98.0	147.7	120.9	(-) 26.8
Goa	84.3	85.0	57.6	57.8	57.8	0.0
Nagaland	44.6	63.5	78.3	78.3	79.4	1.1
Pondicherry	54.7	54.7	81.0	81.0	80.8	(-) 0.2
Mizoram	31.3	51.9	114.4	179.1	115.6	(-) 63.5
Andaman & Nicobar	32.6	30.8	30.8	41.5	34.5	(-) 7.0
Lakshadweep	14.0	14.1	14.1	14.1	14.1	0.0
Dadra & Nagar Haveli	13.5	4.5	4.5	4.5	5.5	1.0
Chandigarh	1.7	1.7	1.7	1.7	1.7	0.0
Daman & Diu	0.2	0.2	0.2	0.2	0.0	(-) 0.2
Total	114993.3	128448.8	129076.8	133737.6	146554.5	12816.9

Source: Compiled & \*Calculated by Author, National Horticulture Database 2009, National Horticulture Board, Ministry of Agriculture, Government of India

area has been used by the major producing states (West Bengal, UP and Bihar), for production of vegetable during 2006-07 to 2008-09 and it was 17909.1 hectare among whole area in same year.

The vegetables production was less than previous year in these states such as Uttar Pradesh, Orissa, Assam, Kerala, Rajasthan, Delhi, Meghalaya, Sikkim, Pondicherry, Mizoram, Andaman and Nicobar and Daman and Diu and these states had have negative vegetable production growth during 2010-11, while West Bengal, Bihar, Tamil Nadu, Gujarat, Karnataka, Maharashtra, and other 17 states had have positive vegetable production growth 2010-11.

#### Export of vegetables :

Export of vegetable can be seen in Table 5. Due to high production of vegetables crop, India has tremendous export of vegetables. Onion, potato and tomato have outstanding performance in export to the other countries. India exported onions and potato in huge amount during 2006-07 to 2010-11. The export of vegetables has gone at high level and Asian countries and European countries as well as USA are the major importer of vegetables. India exports onions, potato and tomato especially to Asian countries such as Bangladesh, Pakistan, Sri Lanka, Philippines, Singapore, Nepal and China. (Table 7).

Crops/year	Qty. in Metric Tonne				
	2006-07	2007-08	2008-09	2009-10	2010-11
Onion	1378373.1	1008606.4	1670186.2	1664922.4	1163472.6
Potato	89024.5	78450.7	184960.9	94087.9	184276.5
Tomato	33592.9	134845.1	124617.2	105861.6	68183.7
Brinjal	1902.3	338.1	29.3	NA	NA
Peas	1183.5	814.6	2519.4	1270.7	1004.6
Sweet Potato	532.5	346.8	879.1	550.4	769.0
Cauliflower	44.6	70.8	284.6	1674.1	829.8
Cabbage	302.6	301.1	1789.2	847.9	404.9
Total	1504956.0	1223773.6	1985265.9	1869215.0	1418941.1

**Source:** Compiled by Author, National Horticulture Database 2009, National Horticulture Board, Ministry of Agriculture, Government of India (NA= Not Available)

Crops/year	2006-07	2007-08	2008-09	2009-10	2010-11
Onion	91.58	82.41	84.12	89.07	81.99
Potato	5.91	6.41	9.31	5.03	12.98
Tomato	2.23	1.01	0.06	5.66	4.80
Brinjal	0.12	0.02	0.00	-	-
Peas	0.07	0.06	0.12	0.67	0.07
Sweet Potato	0.03	0.02	0.04	0.29	0.05
Cauliflower	0.00	0.00	0.01	0.08	0.05
Cabbage	0.02	0.02	0.09	0.04	0.02

Calculated by Author

Vegetables	Countries
Brinjal	Canada, Netherland, Bahrain, Bangladesh, UK, Italy, Kuwait, Nepal, Belgium, France, Georgia, Germany, Hong Kong
Cauliflower	Saudi Arabia, Canada, Maldives, UAE, Qatar, Hong Kong
Onion	Bangladesh, Malaysia, UAE, Sri Lanka, Pakistan, Philippines, Singapore, Nepal, Kuwait, Bahrain, Mauritius, Qatar, Saudi Arabia
Peas	Saudi Arabia, UAE, USA, Bangladesh, Nepal, Kuwait, Oman, Qatar
Tomato	Pakistan, UAE, Bangladesh, Nepal, Maldives, Oman, Saudi Arabia, Kuwait, China
Potato	Pakistan, Nepal, Sri Lanka, UAE, Seychelles, Mauritius, Maldives, Singapore
Sweet Potato	UAE, Maldives, Nepal, Saudi Arabia, Israel, Australia, Bahrain, Canada, France, New Zealand, Oman, Kuwait, USA

Compiled by Author

*Marketing of vegetables in India:*

Through different research studies for disposal of vegetables from producers to consumer fourteen (14) marketing channels have been identified by Kumar *et al.* (2004), (Fig. 1).

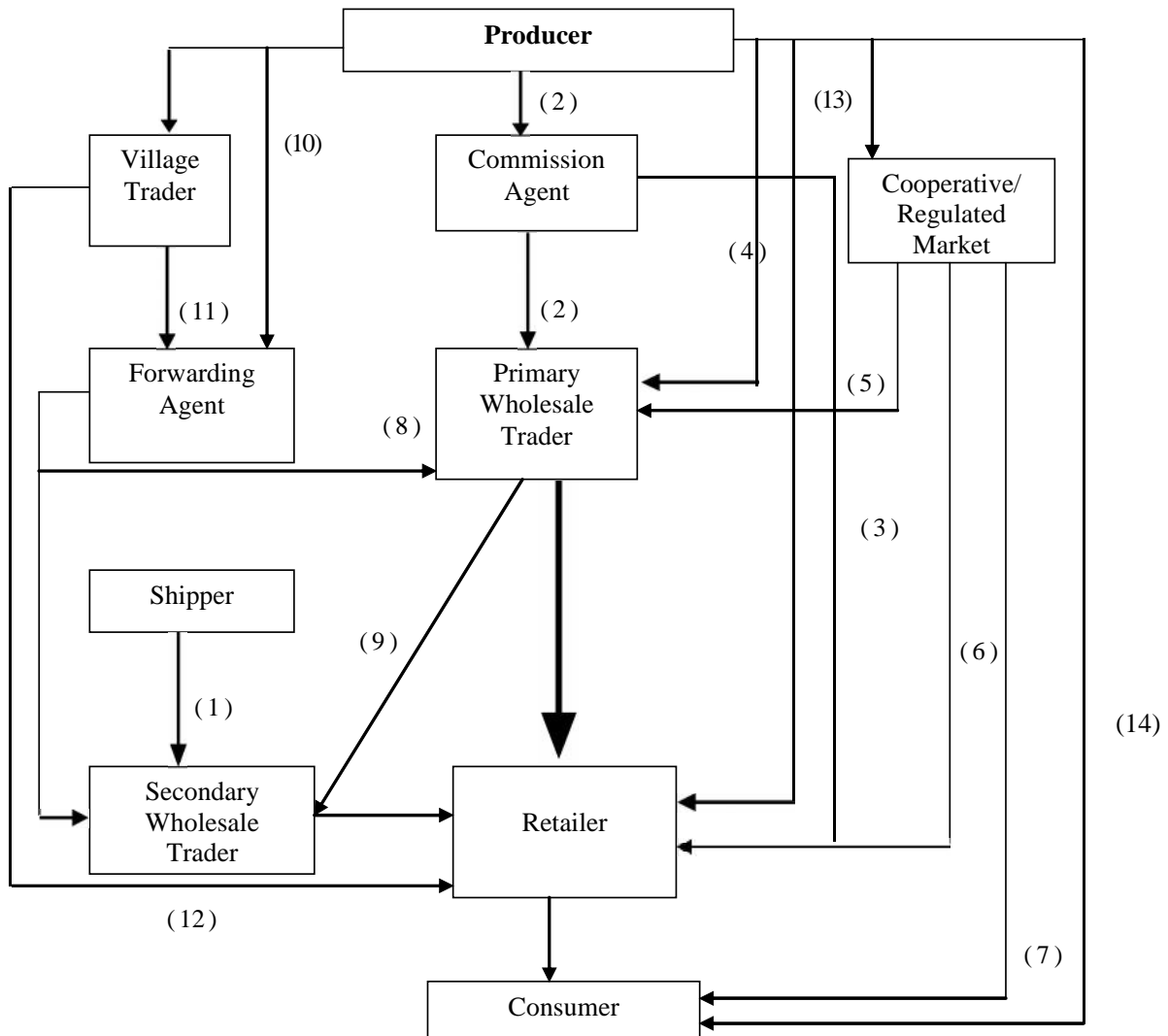
When we look to the channel (1) involving the shipper was important for distance markets. Channels (1) to (3), (10) and (11) involved commission agents who usually bought on behalf of the wholesalers. Channels (12), (13) and (14) were found more prevalent where production was consumed locally and were least important because they served only the limited local markets. The information on the relative shares of different channels in the total marketed surplus was scarce and scattered.

A study has been conducted by Indian Institute of Horticulture Research (IIHR) 1989, in Karnataka, Andhra Pradesh and Tamil Nadu indicated the dominance of

commission agents in vegetable marketing system. In Karnataka about 92 per cent and in Andhra Pradesh about 62 per cent farmers and Tamil Nadu sold vegetables through commission agent. 22.6 per cent farmers sold their output to the wholesales in market and 15.4 per cent sold to the retailers at the farm gate in Andhra Pradesh. In Tamil Nadu, 21 per cent farmers sold their vegetables through pre-harvest contracts (all farmers growing cabbage and carrot), and one-tenth sold to retailers (all farmers growing cauliflower). Only 3 per cent of the farmers made pre-harvest contracts, mostly for cabbage and cauliflower, and 5 per cent (mostly for lady's finger) sold their vegetables (output) to retailers in Karnataka. Kumar, *et al.* (2004).

**Constraints in vegetables production and marketing :**

Table 8 the main problem comes in the production of



Source: Kumar *et al.* (2004)

**Fig. 1: Marketing channels for vegetables in India**

vegetables; vegetables losses due to insect pest incidence, non availability of quality seeds, inadequate irrigation facilities, high variations in yield, lack of suitable specific varieties etc., some study said that due to lack of soil-testing facilities, shortage of skilled labour, and non availability of capital to purchase farm inputs. This is very interesting that about 25-30 per cent of vegetables damaged or lost due to insufficient post-harvest handling/ post harvest management. The high volume and perishability of vegetables posed several problems in their marketing. Lack of market intelligence, price risks, delayed sale and payment, lack of processing and high cost of packaging materials etc. were the other marketing constraints of vegetables. In India, about 90-98 per cent of vegetables were found to be sold and used afresh, except roots and tubers of which a considerable proportion was

saved for seed (Subramanian and Gajanana, 2000).

### Government initiatives :

#### *Eleventh five year plan :*

Horticulture sector has rapid strides during the X Plan period and had emerged as an engine of growth for diversification in agriculture through increasing productivity, providing nutritional security, increasing exports and contributing to national and regional economies. However, there are some grey areas, which need to be addressed during XI Plan period. The strategy during the XI Plan will be to provide dynamism to the sector by consolidating the gains made during the Tenth Plan, and implement programmes which would ensure holistic development of horticulture sector. In this context, it would be necessary to give focused attention

**Table 8 : Major constraints in production and marketing of vegetables in India**

Sr. No. Production constraints	Sr. No. Marketing constraints
<b>Infrastructure</b>	<b>Infrastructure</b>
Non-availability of good quality seeds	Lack of rural roads
Inadequate irrigation	Lack of cold storage facilities
Lack of soil testing facilities	Lack of refrigerated transport vans
Lack of extension staff and technical guidance	Inadequate space
	Inadequate processing capacity
	Poor market intelligence
<b>Technological</b>	<b>Technological</b>
Loss due to insect pest incidence	Lack of mechanical grading and packaging
High yield variability	Lack of post-harvest management and processing technologies
Lack of suitable varieties	
Non-availability of effective fungicides to control rot diseases	<b>Economic</b>
Inadequate and unbalanced manuring	Costly transportation
Non-availability of effective fungicides to control rot diseases	High cost of packaging
	High price risks (post-harvest losses)
<b>Economic</b>	<b>Administrative</b>
Shortage of skilled labour	Faulty weighing mechanism and price discounting
Lack of bank facilities	Delayed sale and payments
High cost of production	Lack of market information and regulation
Shortage of capital to purchase farm inputs	Lack of forward trading
<b>Education</b>	
Lack of information on weather and technical know-how	

**Table 9 : Proposed outlay for national vegetable development programme**

Sr. No.	Item	Outlay (Rs. in Crores)
1.	Promote nutritionally important oriented vegetables	200.0
2.	Saturation of area under F <sub>1</sub> hybrids	300.0
3.	Promotion of off season vegetable production technologies	200.0
4.	Promote kitchen gardening in urban areas	200.0
5.	Promotion of indigenous vegetables	200.0
6.	Expansion of area under processing varieties around processing units	300.0
	Total	1400.0

**Source:** Report of Working Group on Horticulture, Plantation Crops and Organic Farming for the XI Five Year Plan (2007-12), Government of India, Planning Commission, 2007

to enhancing productivity through regionally differentiated area specific technological interventions.

Vegetable contributing a major share in ensuring food and nutritional security of population however, no meaningful programme have been launched on vegetables in recent times. Vegetables are even excluded from the recently launched National Horticulture Board. The following aspects of vegetable crops need to take on priority.

- Saturation of area with F<sub>1</sub> hybrids
- Promoting leafy vegetables for nutrition particularly in villages and tribal areas
- Promoting kitchen gardening
- Focus on crop having short supply
- Promotion of technologies for round the year production of crops like onion

*List of schemes administered by National Horticulture Board:*

- Development of commercial horticulture through production and post harvest management of horticulture crops
- Capital investment subsidy scheme for construction/ expansion/ modernization of cold storages/storages of horticulture produce
- Technology development and transfer for promotion of horticulture
- Market information service for horticulture crops
- Horticulture promotion service

*National vegetable development programme :*

National Horticulture Board has been providing more budgets for development of programme Table 9 shows the budget which has been issued .

### Conclusion :

After lots of discussions it is concluded that India is world second largest producer of vegetables. The creation of sound infrastructure of vegetable research in India has helped to increased production of vegetables. The various achievements made in the development of several varieties of vegetables, techniques, spread of some vegetables round of the year availability are some of striking features of vegetable research in India. There has been considerable growth in production of vegetables and potato, tomato, brinjal and onion have emerged as major vegetables in terms of both area and production. Studies have shown that growth in vegetables production has been increased since 2006. This indicates increasing role of research for enhancing productivity, quality and value addition. Export of vegetables during 2006-07 to 2010-11, has increased in terms of both quantities. The studies exist that there is a considerable scope in export of vegetables. Besides, study further suggests that instead of depending on the export of onion and potato alone, it is necessity vegetable export considerable other vegetables. India export vegetable

to mostly Asian countries such as Bangladesh, Pakistan, Nepal, Sri Lanka, Afghanistan, Bahrain, Philippines and United States of Emirates etc.

India's vegetable production has been affected by several production and marketing constraints. Among these important production constraints were losses from pests, lack of quality seeds and irrigation facilities and high variations in yields. Under the marketing problems these aspects came such as lack of information, price risks, delayed sale and payment. About half of the vegetable production is contributed by the eastern states of West Bengal, Bihar and Orissa, which have inadequate rural infrastructure but marketing constraints are a big issues. One thing would be addressed these constraints and improving marketing efficiency through a better infrastructure and institutional reforms would go a long way in increasing vegetable production in the country. Today in many states of India, they are using traditional marketing channel for distributing the vegetables. Finally, the future is bright of vegetable in upcoming days and for achieving the best growth and export of vegetable, there should have new initiatives and research.

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