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AN ANALYTICAL STUDY OF AGRICULTURE SECTOR IN HARYANA

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ABSTRACT

Haryana is a small state which is relatively backward area in the farming in comparison to well develop state of Punjab. It made rapid progress in the field of agriculture development since its existence in 1966 and after it has achieved a prestigious position in comparison to other advanced states of the Indian with 1.4% of the total geographical areas of the country. It contributes more than 5% in total food grains production in the country.

Haryana is one of those states which has repeated the benefit of "Green Revolution" and has attained a very high rate of agricultural production. Since 1947 the scope for bringing more area under cultivation that was limited before green revolution. Efforts were intensified towards increasing the yields per unit of area, through an increase in irrigation facilities and cropping intensity. Due to use of farm machinery, chemical fertilizers, irrigation facility and high yielding varieties of seeds required huge credit in agriculture sector in India as well as Haryana. All these efforts resulted in boosting agricultural production. As a result the production of food-grain of the state has increased from 25.92 lakh tones in 1966-67 to 162.41 lakh tones in 2014-15 i.e. more than six time increase over the year 1966-67.

Key word: Price Index, agriculture growth rate, Chemical fertilizers, agricultural production, Green Revolution, crop yields, nutrients, tones, use of machine, food grains, fertilizer consumption etc.

INTRODUCTION

The structural composition of State economy has witnessed significant changes since the formation of Haryana State. Agriculture Sector still continues to occupy a significant position in

State economy, although, the share of this sector in the Gross State Domestic Product is continuously declining (14.1 % in 2014-15). The predominance of Agriculture Sector is also responsible for instability in the growth rate of economy due to fluctuations in agricultural production. Natural calamities and fluctuation in rainfall often cause substantial loss in crop production which eventually results in fluctuation and instability in growth rate of State economy. Moreover, rapidly increasing share of Services Sector (58.9% in 2014-15) is also responsible for decline in the share of Agriculture Sector. The composition of Gross State Domestic Product at constant (1999-2000) prices reveals that the share of Primary Sector which includes Agriculture and Allied Sectors has declined from 32.0 percent during 1999-2000 to 14.10 percent during 2014 -15.

Agriculture continues to occupy a prominent position in State economy. Despite the decline in the share of Agriculture Sector in the Gross State Domestic Product to 14.1 percent in 2014-15 from 21.2 percent in 2006-07, about two third populations (65.12%) of the State still depends upon agriculture for their livelihood. The total area of the State under cultivation has already reached at a saturation level and thus there is hardly any scope to bring more area under cultivation. The agriculture production can only be increased through enhanced cropping intensity, change in cropping pattern, improvement in seeds of high yielding varieties, better cultivation practices and development of post-harvest technology etc. State Government is trying to reorient agriculture through various policy measures for increasing the production.

In Haryana percentage share of total population depends on agriculture is about 65 percent. Thus, it may be said that agriculture is the backbone of Indian economy as well as Haryana economy. So the prosperity of agriculture is the prosperity of entire economy. The Rostow stages theory of growth has observed that, agriculture plays a distinct but multiple and converging role in the transitional process of the "take off" into self-sustained growth.

Objectives of the Study: To study the agriculture performance in Haryana, to analysis the trends of agriculture development, to analysis the effect of modern technique, fertilizer & pesticides use in agriculture sector in Haryana.

The present study is based only on the secondary data that has been collected through various sources as like: Economic survey, CMIE of money and banking, Statistical abstract, Banking Statistical tables, Agriculture reports, NABARD, RBI publications etc. Various statistical tools such as tabulation, percentage, mean analysis, average growth rate, graphs and diagrams have been used for the purpose of analyzing the financial data in present study.

Agricultural Development in Haryana

Haryana is a small state which is relatively backward area in the farming in comparison to well develop state of Punjab. It made rapid progress in the field of agriculture development since its existence in 1966 and after it has achieved a prestigious position in comparison to other advanced states of the Indian with 1.4% of the total geographical areas of the country. It contributes more than 5% in total food grains pull in the country. Due to use of farm machinery, chemical fertilizers, irrigation facility and high yielding varieties of seeds required huge credit in agriculture sector. All these efforts resulted in boosting agricultural production. As a result the production of food-grain of the state has increased from 25.92 lakh tones in 1966-67 to 162.41 lakh tones in 2014-15 i.e. more than six time increase over the year 1966-67. Table no 1 shows that growth rate of agriculture sector and allied activities is fluctuating during the study period.

Table 1- Growth in GSDP during 11th & 12th Five Year Plans (in %age)

Sector	11th Plan	12^{th} Plan (2012-17)		
	2007-12	2012-13	2013-14	2014-15
Agriculture & Dairying	3.8	-0.8	3.1	-0.5
Forestry & Logging	-2.4	3.0	3.5	3.5
Fishing	12.0	5.2	-5.3	26.6
Agriculture & Allied Sector	3.8	-0.6	3.1	-0.1
Industry Sector	6.4	4.4	4.4	4.6
Services Sector	12.2	7.9	9.4	11.4
Gross State Domestic Product	8.8	5.5	7.0	7.8

Source:- Economic Survey of Haryana 2000 to 2014-15.

Table 2-Growth of GSDP of Haryana at Constant (2004-05) Prices

Year	Over All GSDP	Agriculture and Allied Sector	Industry Sector	Services Sector
2007-08	8.4	-0.1	6.6	13.6
2008-09	8.2	7.2	3.5	11.6
2009-10	11.7	-1.4	11.4	17.0
2010-11	7.4	5.2	5.6	9.2
2011-12	8.0	7.9	4.9	9.8
2012-13	5.5	-0.6	4.4	7.9
2013-14	7.0	3.1	4.4	9.4
2014-15	7.8	-0.1	4.6	11.4
Mean	8.0	2.65	5.68	11.24

Source:- Economic Survey of Haryana 2000 to2014-15.

Table no 2 shows that overall growth of Haryana's economy is calculating 8 percent during the study period while agriculture sector growth rate remain 2.65 percent in the same time period.

Table 3-Changing Sectoral Composition of GSDP in Haryana

Year	Agriculture and Allied Sector	Industry Sector	Services Sector
2006-07	21.3	32.1	46.6
2011-12	16.8	28.7	54.5
2014-15	14.1	27.0	58.9
Mean	17.4	29.27	53.33

Source:- Economic Survey of Haryana 2000 to2014-15.

Table no 3 shows the declining trend of the composition of agriculture (21.3% in 2006-07 to 14.1% in 2014-15) in GDP of Haryana state.

Table 4-Per Capita Income of Haryana

Year	Current Prices	Growth rate	Constant Prices (2004-05)	Growth rate
2007-08	56917	-	47046	-
2008-09	67405	18.43	49780	5.81
2009-10	82037	21.71	55044	10.57
2010-11	93852	14.40	57797	5.00
2011-12	106320	13.28	61716	6.78
2012-13	119833	12.71	64052	3.79
2013-14	133427	11.34	67260	5.00
2014-15	147076	10.23	71493	6.29
Mean	100858.38	12.76	59273.5	5.40

Source:- Economic Survey of Haryana 2000 to2014-15.

Table no 4 shows that during the study period growth rate of per capita income on current prices in Haryana is calculating 12.76 percent and on the constant prices 5.4 percent. Year-wise it shows the fluctuating trends in the same period.

Area under Crops in Haryana

The table 5 shows the gross area sown was 45.99 lakh hectares during 1966-67 and has increased to 62.43 lakh hectares during 2014-15. The agriculture sector in the State is dominated by Paddy-Wheat rotation, causing degradation in soil fertility and further fall in the underground water level. Though, the efforts have been made to break the dominance of the Wheat-Paddy rotation, yet no significant achievement has been made in this regard so far.

Table 5 Area Sown Under Principal Crops in Haryana (in Lakhs)

Year	Wheat	Paddy	Total/F/ grains	Sugarcane	Cotton (bales)	Oilseeds	Gross Area
1966-67	7.43	1.92	35.20	1.50	1.83	2.12	45.99
1970-71	11.29	2.69	38.68	1.56	1.93	1.43	49.57
1980-81	14.79	4.84	39.63	1.13	3.16	3.11	54.62
1990-91	18.50	6.61	40.79	1.48	4.91	4.89	59.19
2000-01	23.55	10.54	43.40	1.43	5.55	4.14	61.15
2004-05	23.17	10.24	42.18	1.33	6.21	7.15	64.25
2005-06	23.03	10.47	43.11	1.29	5.84	7.36	65.09
2006-07	23.76	10.42	43.48	1.41	5.27	6.22	64.07
2007-08	24.61	10.73	44.77	1.40	4.82	5.11	64.58
2008-09	24.62	12.11	46.21	0.91	4.56	5.28	65.00
2009-10	24.88	12.06	45.41	0.79	5.05	5.23	64.19
2010-11	25.04	12.43	47.00	0.85	4.93	5.15	64.99
2011-12	25.31	12.34	45.81	0.95	6.02	5.46	64.89
2012-13	24.97	12.06	43.02	1.01	5.93	5.68	63.76
2013-14	24.99	12.28	43.57	1.02	5.64	5.49	62.43
2014-15*	24.78	11.83	43.90	1.13	6.38	5.50	62.43
Mean	21.32	9.60	42.89	1.20	4.88	4.96	61.01

Source:- Statistical Abstract of Haryana 2000 to 2011& Economic survey of Haryana 2014-15.
Note : bales= 170 kg. *Provisional data

Land Utilisation

The present table 6 shows that total cropped area in Haryana has increased from 45.99 lakh hectares in 1966-67 to 63.76 lakh hectares in 2012-13. Area sown more than once also has increased from 11.76 lakh hectares to 28.63 lakh hectares in the same time period.

Table 6- Land Utilisation in Haryana (Lakh hectares)

Classification	1966-67	1989-90	2004-05	2009-10	2012-13	Mean
Aria under forest	0.91	0.68	0.44	0.40	0.40	0.57
Land not available for cultivation	4.89	4.17	5.25	5.79	5.42	5.10
Follow Land	2.59	1.75	2.12	1.42	1.03	1.78
Other uncultivable land	1.37	0.83	0.66	0.71	1.01	0.92
Cultivable land	38.19	38.21	38.26	38.08	36.64	37.88
Net Area sown	34.23	35.93	35.98	35.90	35.13	35.43
Area sown more than once	11.76	20.58	28.97	28.01	28.63	23.59
Total cropped area	45.99	56.51	64.25	63.51	63.76	58.80

Source: - Statistical Abstract of Haryana 2000 to 2014-15

Irrigation

The secret of rapid agricultural development in backward country like India is to be found much more in new seeds, fertilizers, pesticides and water supplies. Irrigation is a important factor for the use of these complementary inputs. Without proper irrigation facility cultivation is almost impossible. Irrigation plays a vital role in the agricultural development particularly a state as like Haryana, where rainfall is scanty and inadequate. The state is being served by the excellent network to irrigation facilities, Canals and tube-wells are the main source of irrigation in the state. The status of irrigation facilities available in the state is given in the table 7.

Table 7- Irrigated Area in Haryana (lakh hectares)

Year	Total Cultivated Area	Net Area Irrigated				Irrigation Ratio to total area
		Canals	Well & tube-well	Other	Total	Net
1966-67	34.23	9.91 (76.60)	2.89 (22.40)	0.13 (1)	12.93	0.37
1970-71	35.65	9.52 (62.14)	N.A.	0.05	15.32	0.42
1975-76	36.24	N.A.	N.A.	N.A.	N.A.	N.A.
1980-81	36.02	11.61 (52.29)	9.41 (44.09)	0.06	21.34	0.59
1985-86	36.13	11.91 (52.98)	10.42 (46.35)	0.04	22.48	0.62
1990-91	35.75	13.37 (51.42)	12.48 (48.00)	0.14	26.00	0.72
1995-96	35.86	13.75 (49.81)	13.52 (48.98)	0.32	27.60	0.76
2000-01	35.26	14.76 (49.90)	14.67 (49.59)	0.14	29.58	0.83
2003-04	35.34	13.96 (47.01)	15.61 (52.57)	0.12	29.69	0.84
2004-05	35.28	14.26 (48.27)	15.14 (51.25)	0.14	29.54	0.83
2008-09	35.90	12.74 (44.28)	16.00 (55.61)	0.03	28.77	0.80
2009-10	35.90	12.82 (41.77)	17.83 (58.10)	0.04	30.69	0.85
Mean	35.63	11.55	10.66	0.10	22.83	0.64

Source:- Economic Survey of Haryana 2000 to2012

N.A.- Not Available, Note:- figures in brackets indicate percentage of total.

The table 7 shows that net irrigated area has increased from 12.93 lakh hectares in 1966-67 to 30.69 lakh hectares in 2009-10. Net irrigation area ratio has increased from 0.37 in 1966 -67 to 0.85 in 2009-10. Tube-wells have played major role in the development of irrigation facilities in the state. The other sources such as ponds, tanks and drainage etc. are the major contributor in irrigation. Irrigation by these sources has decreased from 0.13 lakh hectares in 1966-67 to 0.04 lakh hectares in 2009-10. In this period they showed a fluctuating trend.

Fertilizers

India's soul though varied and rich is deficient in nitrogen and phosphorus and this efficiency can be made good by an high use of fertilizers. The possibilities of extensive cultivation are extremely limited because most of the cultivable area in Haryana is already being cultivated. There is no option to increase area but we extend extensive cultivation due to using large quantities of fertilizers to augment our food grain production. Since the production of high yielding varieties, the consumption of chemical fertilizers in the state has increased.

Table 8- Fertilizer consumption in Haryana

Year	Consumption of Fertilizer (Kgs per hectare)
1980-81	42
1990-91	99
1997-98	136
1998-99	133
1999-00	150
2000-01	152
2001-02	156
2002-03	163
2003-04	158
2004-05	174
2005-06	173
2006-07	173
2007-08	187
2008-09	199
2009-10	209
2010-11	209
2011-12	224
2012-13	209
2013-14	212
2014-15 (tentative)	213
Mean	168.55

Source: Economic survey of Haryana 2000 to 2014-15.

The table clearly shows that the consumption of fertilizer in Haryana has increased from 42 kg

per hectare in 1980-81 to 213 kg per hectare in 2014-15. The consumption of fertilizer is fluctuating during the study period. Because consumption of fertilizer depends on irrigation facility an monsoon. During the study period on an average consumption of fertilizer is calculated 168.55 kg. per hectare.

Table 9. The table clearly shows that the consumption of fertilizer in Haryana has increased from 0.13 lakh tones in 1966-67 to 13.53 lakh tones in 2012-13. During the study period on an average consumption of total fertilizer, N, P & K is calculated 7.22, 5.50, 1.56, & 0.16 lakh tones respectively. It shows that consumption of fertilizer is fluctuating during the study period.

Table 9: Fertilizer consumption in Haryana (in Lakh tones)

Year	N	P	K	Total
1966-67	0.13	0.006	0.002	0.13
1970-71	0.61	0.07	0.02	0.70
1975-76	0.86	0.08	0.02	0.97
1980-81	1.87	0.31	0.12	2.31
1985-86	2.96	0.70	0.06	3.72
1990-91	4.43	1.38	0.05	5.86
1995-96	5.87	1.34	0.03	7.24
2000-01	7.14	2.06	0.01	9.30
2005-06	8.47	2.53	0.29	11.29
2009-10	9.62	3.33	0.61	13.56
2010-11	9.74	3.36	0.48	13.58
2012-13	10.24	3.12	0.17	13.53
2013-14	9.51	1.98	0.16	11.65
Mean	5.50	1.56	0.16	7.22

Source: Economic survey of Haryana 2000 to 2014-15.

Plant protection (pesticides)

Intensive cultivation, introduction of high yielding verities of seeds, increased fertilizers consumption, frequent irrigation and changes in cropping pattern have been accompanied by post problems. The consumption of pesticides in Haryana has increased from 273 tones in 1966-67 to 4080 tones in 2013-14. During the study period on an average consumption of pesticides, total area and consumption of pesticides per hector is calculated 4392.29 tones, 76.18 lakh hectares and 5.58 K.g per hector respectively.

Table 10- Consumption of pesticides in Haryana

Year	Quantity (in tones)	Area (lakh hectare)	K.g./per hector
1966-67	273	19.17	1.4
1994-95	5102	73.96	6.9
1995-96	5100	78.80	6.5
1996-97	5045	81.60	6.3
1997-98	5040	87.91	5.7
1998-99	5035	87.94	5.7
1999-00	5030	88.02	5.7
2000-01	5025	87.98	5.7
2003-04	4730	86.05	5.5
2004-05	4700	85.65	5.5
2005-06	4650	84.95	5.5
2007-08	4391	75.55	5.8
2008-09	4288	72.90	5.9
2009-10	4070	71.19	5.7
2010-11	4060	71.10	5.7
2012-13	4050	71.10	5.7
2013-14	4080	71.16	5.73
Mean	4392.29	76.18	5.58

Source: Statistical abstract of Haryana 2000 to 2013-14.

The table 10 shows that pesticides consumption in the state has increased from 273 tones in 1966-67 to its highest level of 5102 tones in 1994-95 but after that it start to decline due to its adverse effects of human being and it come down 4080 tones in 2013-14. Similarly, its consumption in kilogram per hectare has been increasing from 1.4 kg/hectare to 6.9 kg/ per hectare in 1994-95, but after that it start to decline and come down 5.7 kg/per hectare in 2013-14.

Table 11- Procurement and MSP in the State Haryana

Year	Wheat Procured Lakh Tones	MSP of Wheat in Rs	Paddy Procured Lakh Tones	MSP of Paddy in Rs		Bajra Procured Lakh Tones	MSP of Bajra in Rs
				Common	Grade-A		
2005-06	45.29	640	23.56	570	600	0.05	525
2006-07	22.30	650+50*	20.47	580+40*	610+40*	-	540
2007-08	33.50	750+100*	17.85	645+100*	675+100*	1.23	600
2008-09	52.37	1000	18.22	850+50*	880+50*	3.10	840
2009-10	69.24	1080	23.36	950+50*	980+50*	0.77	840
2010-11	63.47	1100	24.82	1000	1030	0.74	880
2011-12	69.28	1120+50*	29.66	1080	1110	0.18	980
2012-13	87.16	1285	38.53	1250	1280	-	1175
2013-14	58.56	1350	35.87	1310	1345	-	1250
2014-15	65.08	1400	29.67	1360	1400	-	1250

Source: Economic survey of Haryana 2000 to 2014-15.

*it shows the subsidy provided by Govt.

Mechanization of Farming and Farm Equipment's

In the strategy of agricultural development mechanization of farm operation is an essential aspect along with the high yielding varieties of seeds, use of these in organic manures and pesticides etc. Double or triple cropping on a large scale is not possible without the use of modern technology on farms and irrigation facility. Mechanization of farming involves in use of tractors, threshers and tube-wells. Full mechanization of equipment in Haryana has not been attained and it is not possible due to decreasing landholding and lack of farm mechanization policy. Detail regarding farm equipment's of the state is presented in table 12.

Table 12- Agricultural Machinery and Equipment's in Haryana

Sr. no.	Name of equipment	1989-90	2003-04	% change
1	Plough (total)	624333 (91)	274250 (40)	-56.07
	(a) wooden	450991 (66)	121377 (18)	-73.00
	(b) Iran	173362 (25)	152873 (22)	-11.80
2	Tractors	165648 (24)	254020 (37)	53.34
3	Tube-wells & pumps	418622 (61)	548233 (80)	30.96
4	Thresher /combine harvesters	2383 (0.35)	9181 (1.34)	285.27
5	Sugar cane crusher	6019 (0.88)	2777 (0.41)	-53.86

Source: Statistical Abstract of Haryana 2006-07.

The table 13 clearly shows that the use of tractor in Haryana has increased from 4803 in 1966-67 to 262236 in 2011-12. Use of tractor has increased more than 55 times after green revaluation. It shows the advancement in Haryana agriculture.

Table 13-Number of Tractor in Haryana

Year	Number of Tractor	% age change
1966-67	4803	-
1970-71	12312	2.56
1975-76	25451	2.07
1980-81	52689	2.07
1985-86	83120	1.58
1990-91	130246	1.57
1995-96	162030	1.24

2000-01	209613	1.29
2005-06	246914	1.18
2009-10	259030	1.05
2010-11	262236	1.01
2012-13	270230	1.03
2013-14	271729	1.01
Mean	153108	1.47

Source: Statistical abstract of Haryana 2000 to 2013-14.

Agricultural Production

There is a remarkable hike in the production of major food-grain crops like wheat and rice since the partician of Haryana in 1966. The state achieved a record production 169.44 lakh tones of food grain in 2013-14. It happened due to maximum use of fertilizer, increased in irrigation facility, high use of pesticides and modern equipment in agriculture sector in India as well as Haryana after the green revolution. Achievements made in this regard depicted in table 14.

Table 14- Agriculture production under major crops in Haryana (lakh tones)

Year	Wheat	Paddy	Total F/ grains	Oilseeds	Cotton Bales)	Sugarcane
1966-67	10.59	2.23	25.92	0.92	2.88	51.00
1970-71	23.42	4.60	47.71	0.99	3.73	70.70
1980-81	34.90	12.59	60.36	1.88	6.43	46.00
1990-91	64.36	18.34	95.59	6.38	11.55	78.00
2000-01	96.69	26.95	132.95	5.63	13.83	81.70
2004-05	90.43	30.10	130.57	8.36	20.75	82.30
2005-06	88.53	31.94	130.06	8.30	15.02	83.10
2006-07	100.59	33.71	147.59	8.37	18.05	96.51
2007-08	102.36	36.13	152.94	6.17	18.82	88.50
2008-09	105.40	33.01	161.78	9.11	18.62	52.60
2009-10	104.88	36.28	153.46	8.62	19.19	57.07
2010-11	115.78	34.65	165.68	9.65	17.47	60.42
2011-12	131.19	37.57	183.70	7.58	26.16	69.53
2012-13	111.17	39.41	161.50	9.68	23.78	75.00
2013-14	118.00	39.98	169.44	8.99	20.17	75.00
2014-15*	113.99	37.53	162.41	10.02	18.76	84.18
Mean	89.52	28.44	130.10	6.92	15.95	71.98

Source: Economic Survey of Haryana 2000 to 2014-15.

Note : one bale= 170kg.

*Provisional Data.

The table 15 clearly explains the comparative analysis of average yield per hectare production of wheat and rice in Haryana as well as India. It shows that production of wheat and rice in Haryana

per hectare is highest in comparison to India in whole study period. It shows the advancement of Haryana in food grains production in comparisation to other state. It also shows the high contribution of Haryana (Haryana gives 5 percent of total food grain in whole country production) in the production of food grain in India and advancement of Haryana in adaptation of fertilizer, pesticides and new technology.

Table 15- Average Yield of Wheat and Rice in Haryana and India (kgs. per hectare)

Year	Haryana		India	
	Wheat	Rice	Wheat	Rice
1990-91	3479	2775	2281	1740
1995-96	3697	2225	2483	1797
2000-01	4106	2557	2708	1901
2004-05	3901	2939	2718	2026
2005-06	3844	3051	2619	2102
2006-07	4232	3238	2708	2131
2007-08	4158	3361	2785	2203
2008-09	4614	2724	2907	2178
2009-10	4215	3008	2839	2125
2010-11	4624	2788	2988	2239
2011-12	5183	3044	3177	2393
2012-13	4452	3268	3118	2462
2013-14	4722	3256	NA	NA
2014-15*	4600	3172	-	-
Mean	4273.36	2957.57	2777.58	2108.08

Sources:- Economic Survey of Haryana 2000 to2014-15. *Provisional data.

The Haryana State Agricultural Marketing Board continued its effects to provide improved and easily accessible market facilities for sale of produce of the farmers in a regulated manner. At the time or creation of this board in 1969, there were only 50 regulated markets and 60 sub yards in the state during 1969-70 the board, has 106 regulated markets and 178 sub yards in 2010-11 which spread over the state as is depicted in the table 16.

Table 16- Position of Regulated Market in Haryana

Unit	1969-70	2005-06	2009-10	2010-11
Regulated Market	50	106	106	106
Sub yard	60	178	178	178
Average no of village served per regulated market	135	64	64	64
Average area served per regulated market (sq. kms)	884	417	417	417

Source: Statistical Abstract of Haryana 2000-12

Warehousing in Haryana

In Haryana there are three main agencies having highest storage capacity viz., the Food Corporation of India, state warehousing and Hafed out of these the highest storage capacity is the food corporation of India (FCI) followed by state warehousing corporation and Hafed. The storage capacity of various agencies in Haryana is explained to the Table 17.

Table 17- Storage capacity of different agencies in Haryana (lakh tones)

Agencies	1989-90	2004-05	2009-10	2010-11	% increase / Decrease
1. Food Corporation of India a. Owned b. Agricultural Refinanced Development Corporation	11.94 6.62 5.32	9.86 7.43 2.43	11.00	10.86	-17.42 12.23 -54.32
2. State warehousing corporation	3.66	8.88	11.89	9.85	142.62
3. Hafed	2.75	9.98	25.21	24.86	262.90
4. Food & Supply Development	1.66	1.68	2.98	2.50	1.20
5. Central Warehousing corporation	1.06	3.48	4.75	3.64	228.30
6. A.R.D.C. (with H.W.C)	2.25	2.33	-	-	3.55
7. Other (Marketing Board)	3.78	5.11	4.26	4.24	35.18
Total	23.62	41.52	61.63	57.37	75.78

Source: Statistical Abstract of Haryana 2000-12

Table 18-Average Storage Capacity and its Utilization in Lakh Tones

Year	Average storage Capacity	Average Utilization	Utilization percentage	No. of Warehouses
2005-06	14.85	8.51	57	105
2006-07	13.90	8.38	60	105
2007-08	13.97	9.69	69	105
2008-09	14.68	12.20	83	106
2009-10	16.92	15.45	91	107
2010-11	16.16	14.97	93	107
2011-12	16.72	16.45	98	107
2012-13	18.88	19.67	104	108
2013-14	17.91	16.04	90	109
2014-15*	16.98	12.87	76	110

Sources:- Economic Survey of Haryana 2000 to 2014-15. *Upto 12/2014

Production

The index number of production as a whole, showed a rising trend. The growth in output came about as a result of increase in area under crops as well as increase in productivity per unit of

area. Table no 19 depict that during the study period on an average index number of cultivated area, yield and production calculated 118.87, 187.83 & 236.31 in Haryana respectively.

Table 19- Index Number of Agriculture in Haryana (million tones)

Year	Area	Yield	Production
1996-97	115.85	161.23	220.21
1997-98	117.09	138.95	188.23
1998-99	121.62	145.23	202.83
1999-00	115.99	159.72	219.68
2000-01	116.32	161.53	222.73
2001-02	119.16	153.80	220.71
2002-03	112.46	191.16	214.98
2003-04	119.21	200.88	239.47
2004-05	120.57	201.55	243.01
2005-06	121.09	202.88	244.71
2006-07	119.61	216.91	259.45
2007-08	119.16	215.28	256.53
2008-09	121.02	225.23	271.76
2009-10	120.30	217.36	261.48
2010-11	123.57	225.68	278.87
Mean	118.87	187.83	236.31

Sources:- Economic Survey of Haryana 2000 to 2012.Note: (Base: Triennium ending (1981-82=100)

Table 20-Wholesale Price Index of 20 Selected Agriculture Commodities in Haryana

Year	Index Base year 180-81= 100
2009-10	878.6
2010-11	979.7
2011-12	1065.7
2012-13	1143.1
2013-14	1220.9
Mean	1057.6

Source:- Economic Survey of Haryana 2014-15.

Table no 20 found that wholesale price index of 20 selected agriculture commodities in Haryana calculated 1057.6.

Table 21- Consumer Price Index (Rural) in Haryana (Base year 180-81= 100)

Year	Food Index	General Index
2008-09	416	405
2009-10	491	460
2010-11	537	496
2011-12	586	537
2012-13	638	580
2013-14	682	620
Mean	558.33	516.33

Source:- Economic Survey of Haryana 2014-15.

Table no 21 found that consumer price index in rural Haryana for food index and general index is calculated 558.33 & 516.33 respectively.

Conclusion:

The agriculture development and rural development are highly inter-related. Agriculture has been considered as a crucial sector to generate major proportion of employment and food grain. Productive job opportunities are to be created in rural areas through development of agriculture, irrigation facilities, adoption of new machine and equipment, use of fertilizer and pesticide, development of rural infrastructure and promotion of village and cottage industries for rural development by providing cheaper bank loan.

In the rural areas most of the households are illiterate and tradition bound. Due to this difficulty there is uncertainty about farm production owing to dependence on rainfall and weather conditions. All of these factors many of the low-income households are not in a position to borrow at a higher rate of interest, the risk involved and the cost of servicing such a large number of small loans in remote and far-flung villages would necessitate the credit agencies to keep themselves at an arm's length.

In the rural areas most of poorer sections, do not have adequate assets base to improve their productivity and income. The first task of any credit institutions is therefore, to assist these target groups to acquire and build up their land and non-land based assets.

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