Growth And Development Of Agro- Processing Industries In Punjab And Haryana : A Comparative Study

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ABSTRACT

Though the Indian economy is basically an agrarian economy, yet, the management of food grains remains a big issue. Where on the one hand, supply of food grains is decreasing due to some obvious reasons; storage of hitherto produced food grains is also a matter of concern. Estimates reveal that a whopping 9.33 percent of the total production of grains goes into waste at various stages of production. Further, limited storage capacity of public procurement agencies adds fuel to the woes, wherein, the food grains are exposed to moisture/dust in the open. Experts suggest that if this wastage is stopped, it can help feed 1400 million people a month. Strategic development of agro-processing industries in the food grains surplus states can provide a viable answer to the ailing situation. The present study intends to find out which agro industries are best suited for the two states - Punjab and Haryana - the maximum green revolution beneficiary states and also examines the propinquity of agro- processing industries in these two states.

Keywords: Foodgrains, Agro-processing, Development, Propinquity
JEL Classification: R58

SECTION I

INTRODUCTION

The Indian agriculture is under the garb of the cobweb cycle of production. Commodities being seasonal in nature either face the problem of inadequate take off or slackened demand during the season. This topsy-turvy situation has shown its ultimate effect on prices that slide down with a high crop output in one cycle, leading to a decrease in the level of output in the next cycle, which further affects the prices and output in yet another cycle. Not only this, agricultural problems also range from additional pressure on land, lack of irrigation facilities, dearth of investment in research and development in agriculture, inefficient Public Distribution System due to lack of credit, etc. As a result, where on the demand side, the government is providing a superficial remedy like importing foodgrains viz. wheat and pulses, etc. (when we are talking of another green revolution), on the supply side, suicides by farmers and farm

Table 1 : Compounded Growth Rates of Area, Production and Yield
(as per cent per annum with base TE 1981-82=100)

Crop		1980-81 to 1989-90	1990-91 to 1999-2000	2000-01 to 2009-10
Rice	Area	0.4	0.7	-0.03
	Production	3.6	2.0	1.6
	Yield	3.2	1.3	1.6
Wheat	Area	0.5	1.7	1.2
	Production	3.6	3.6	1.9
	Yield	3.1	1.8	0.7
Sugarcane	Area	1.4	-0.1	0.8
	Production	2.7	2.7	0.9
	Yield	1.2	1.1	0.1
Oilseeds	Area	2.5	0.2	2.3
	Production	5.4	1.4	4.8
	Yield	2.5	1.4	3.8

Source: Department of Agriculture & Cooperation

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labourers in different parts of the country manifests itself in the agrarian crisis. As a matter of fact, the green revolution states, which feed the other food starved states, are now experiencing declining agricultural yields (http://www.preservearticles.com/201106067517/crisis-of-indian-agriculture.html accessed on September 15, 2011). Farmers and farm labourers in these states have to resort to over exploitation of both land and water, which lead to mounting farmers' debt. An evidence of declining or stagnant growth in some of the crops can be seen from the Table 1. It is clear from the Table 1 that the last one decade has seen a declining or stagnating growth in major crops. However, keeping in mind the increasing population pressure along with additional purchasing power of the people and increasing per capita income in the country; this stagnation assumes more significance. Even the non-agricultural sectors that are inextricably related to the fortunes of agriculture (by way of forward and backward linkages) are also bearing the brunt. Promotion of agro-processing industries is seen as a panacea to the ailing situation. Agro industries can play a significant role in developing strong linkages of agriculture with industry and other sectors. Different authors have given their own rationale for the development of agro processing industries. Rangarajan (1982) observed a strong degree of association between agriculture and industrial sectors. The study concluded that an addition of one-percent growth in the agricultural sector generates the industrial sector's output to 0.5 percent. Bhattacharya and Mitra (1989) established that the relationship between agriculture and industry depends on the relative growth of income and employment - both in the industrial and services sectors. Bansal (2003) reaffirmed the proposition that development of agro-industries is the only viable option to achieve employment led growth in rural areas. Singh (2011) established that farmers' woes in general and small farmers, in particular, can be eliminated, if state-sponsored/local developmental agencies start organizing contract farming in the interest of small farmers. Establishment of agro-processing industries in rural areas is also seen as a tool that can reduce the migration of people from urban to rural areas (Gurusamy, 1997). Further, the studies (Rao et al., 2006) have shown that persistently high economic growth, coupled with increasing urbanization has given a boost to the demand for high-value food commodities like fruits, vegetables, milk, meat, eggs and fish. Accordingly, the producers are also following the emerging demand patterns, thereby making necessary changes in their production portfolio. This has created tremendous opportunities for the development of agro processing industries in the country. Best suited states for the development of agro-processing industries are those which have an excellent agricultural crops base. Punjab and Haryana are considered to be the most progressive states in terms of agricultural development. Owing to a huge surplus available of diversified agricultural products, there is a vast potential for the development of agro- processing industries in these states through the installation of more units in these principal green revolution beneficiary states. However, the haphazard growth and development of agro-processing industries in these states will not offer any solution to the problem. The present study intends to identify those agro- processing industries that can be developed with tranquility in these states.

OBJECTIVES OF THE STUDY

Specifically, the study aims to fulfill the following objectives:

1) To find out the most dominant, fastest growing and the most competitive agro - processing industries in Punjab.

2) To explore the most dominant, fastest growing and the most competitive agro - processing industries in Haryana.

3) To trace the proximity of agro-processing industries in two highest green revolution beneficiary states.

SECTION II

DATABASE AND METHODOLOGY

Secondary data from various issues of Annual Survey of Industries (ASI) published by the Central Statistical Organization has been used for the study. To study the development of agro-processing industries within the group, disaggregated data at 3 - digit level have been used. Based on NIC–98, 18 agro-processing industries were studied for the year 2007-08. Firstly, the study identified a group of industries that were dominating in these states for the year 2007-08. For studying the growth of agro industries in Punjab and Haryana, compound growth rate of each of the selected indicators was calculated for the period from 1998-99 to 2007-08. Further, the performance of each agro-processing industry in Punjab and Haryana was compared to the same industry in other states of India. The trend in growth was examined by computing the compound growth rate through principle of least squares, using the following formula :

$$\text{Log } Y = \text{Log } a + t\ (\text{Log} b)$$

The data given in ASI reports is on current prices, but for proper comparison, the values are deflated with suitable deflator and expressed in 1993-94 prices. The study has been divided into five sections. Section I is introductory in nature. In the Section II, database and methodology for the present study is discussed. Pattern, performance and scope of the agro-processing industries are identified in the Section III. The concluding remarks follow in the Section IV.

SECTION III
PATTERN, PERFORMANCE AND SCOPE OF AGRO PROCESSING INDUSTRIES IN PUNJAB AND HARYANA

The share of different industries in the factory sector of two selected states, i.e. Punjab and Haryana for the year 2007-08 is presented in the Table 2 and Table 3 respectively.

The Table 2 shows that Spinning, weaving and finishing of textiles industry was at the top, with 26.73 percent contribution to the total output, and 27.19 percent share in the number of workers of the agro– processing sector in Punjab. However, this industry stands second in terms of percent share in the net value added (13.60 percent) and third in terms of the number of units (12.85 percent). Following this industry was the Manufacturing of grain mill products, starches and starch products, and prepared animal feeds industry that contributed as much as 18.34 percent of the total output of the agro-processing sector in the state, with the highest number of units (42.46 percent) and the second highest number of workers (26.71 percent). This industry stands fourth in terms of net value added (6.40 percent). Another industry, i.e. Manufacturing of beverages shared the third slot in terms of output, with 15.68 percent share. Net value added in this industry is the highest (55.75 percent). Together, these three industries contributed 61 percent

Table 2 : Share of Different Industries In The Agro - Processing Industrial Group In The Factory Sector of Punjab: 2007-08

Industry No.	Industry	Percentage share in			
		Output	Net value added	Number of units	Number of workers
171	Spinning, weaving and finishing of textiles.	26.73	13.60	12.85	27.19
153	Manufacture of grain mill products, starches and starch products, and prepared animal feed.	18.34	6.40	42.46	26.71
155	Manufacture of beverages.	15.68	55.75	2.00	3.75
151	Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats.	10.50	3.00	5.19	5.15
173	Manufacture of knitted and crocheted fabrics and articles.	9.60	7.99	13.14	17.55
210	Manufacture of paper and paper products.	4.89	3.50	6.93	5.10
154	Manufacture of other food products.	3.84	1.74	1.61	3.88
152	Manufacture of dairy products.	2.87	1.31	1.61	1.76
172	Manufacture of other textiles.	2.77	1.90	4.36	4.08
221	Publishing.	2.53	3.13	0.86	0.72
191	Tanning and dressing of leather, manufacture of luggage handbags, saddlery & harnesses.	0.74	0.33	1.06	1.08
181	Manufacture of wearing apparel, except fur apparel.	0.72	0.78	0.62	1.31
192	Manufacture of footwear.	0.37	0.24	1.87	0.74
202	Manufacture of products of wood, cork, straw and plaiting materials.	0.22	0.16	2.52	0.56
222	Printing and service activities related to printing.	0.14	0.14	1.32	0.30
201	Saw milling and planing of wood.	0.04	0.02	1.51	0.08
182	Dressing and dyeing of fur; manufacture of articles of fur.	0.03	0.02	0.08	0.05

Source: Calculated from the Supplement to Annual Survey of Industries - 2007-08 share of the total output of agro-industries in the state in 2007 - 08. However, the bottom three industries of the state i.e. Dressing and dyeing of fur; manufacture of articles of fur, Saw milling and planing of wood, and Printing and service activities related to printing together contributed only 0.21 percent of the total output of the state. Further, in terms of net value added besides Manufacturing of beverages industry, other top industries constituted Spinning, weaving and finishing of textiles (13.60 percent) and Manufacturing of knitted and crocheted fabrics (7.99 percent). Bottom three industries i.e. Dressing and dyeing of fur and printing, saw milling and planing of wood, and service activities related to printing could yield only 0.18 percent share to the net value added. Manufacturing of grain mill products, starches and starch products, and prepared animal feed had the maximum share in the number of units (42.46 percent). It is followed by Manufacture of knitted and crocheted fabrics and articles and Spinning, weaving and finishing of textiles industries, whose respective shares in the total number of units was 13.14 percent and 12.85 percent respectively. These industries also figured in the highest labor oriented industries employing 17.55 percent and 27.19 percent respectively of the total workforce employed in the agro industries. Clearly, the four industries that have dominated the agro-processing group in the factory sector of Punjab are Spinning, weaving and finishing of textiles; Manufacture of grain mill products, starches and starch products and Manufacture of wearing apparel and Manufacture of beverages.

The Table 3 shows that Manufacture of grain mill products, starch and starch products and animal feed industry was at the top with 26.65 percent contribution to the total output, and 19.65 percent share in the number of units of the agro–processing sector in the state. However, this industry stands second in terms of percent share in the net value added (18.15 percent) and fourth in terms of the number of workers (9.58 percent). Following this industry is the Manufacture of wearing apparel, which contributed as much as 22.13 percent of the total output of the agro-

Table 3 : Share of Different Industries In The Agro-processing Industrial Group In The Factory Sector of Haryana: 2007-08

Industry No.	Industry	Percentage share in			
		Output	Net value added	Number of units	Number of workers
153	Manufacture of grain mill products, starches and starch products, and prepared animal feed.	26.65	18.15	19.65	9.58
181	Manufacture of wearing apparel, except fur apparel.	22.13	33.73	16.96	44.47
172	Manufacture of other textiles.	8.22	10.06	9.83	10.43
171	Spinning, weaving and finishing of textiles.	7.28	5.16	17.74	13.80
151	Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats.	6.96	4.55	3.54	1.21
154	Manufacture of other food products.	6.55	5.66	2.02	4.51
152	Manufacture of dairy products.	5.92	1.14	1.07	1.33
155	Manufacture of beverages.	4.52	5.99	1.91	2.18
192	Manufacture of footwear.	3.73	5.07	3.93	5.20
210	Manufacture of paper and paper products.	1.96	3.46	3.03	1.70
191	Tanning and dressing of leather, manufacture of luggage handbags, saddlery & harnesses.	1.59	2.18	1.85	1.42
202	Manufacture of products of wood, cork, straw and plaiting materials.	1.52	1.40	13.36	1.85
173	Manufacture of knitted and crocheted fabrics and articles.	0.87	0.91	0.34	0.78
160	Manufacture of tobacco products.	0.61	0.56	1.07	0.26
221	Publishing.	0.54	0.81	0.51	0.45
222	Printing and service activities related to printing.	0.51	0.82	1.12	0.36
182	Dressing and dyeing of fur; manufacture of articles of fur.	0.34	0.32	0.39	0.39
201	Saw milling and planing of wood.	0.08	0.05	1.68	0.08

Source: Calculated from Supplement to Annual Survey of Industries - 2007-08 processing sector in the state, with the highest net value added (33.73 percent) and number of workers (44.47 percent). This industry stands third in terms of the number of units (16.96 percent). Share of one of the key industry of the state, i.e. Manufacture of other textiles stood at 8.22 percent in terms of output. Together, these three industries contributed more than half the share (57 percent) of the total output of agro-industries in the state. Another industry which was dominating in terms of the percent share in output was Spinning, weaving and finishing of textiles with 7.28 percent share. Bottom three industries of the state, i.e. Saw milling and planing of wood, Dressing and dyeing of fur; Manufacture of articles of fur and Printing and service activities related to printing together contributed only 0.93 percent of the total output of the state. Further, it can be seen from the Table 3 that the share of Manufacture of wearing apparel industry in net value added to the overall agro-processing group was maximum (33.73 percent) followed by Manufacture of grain mill products, starches and starch products, and prepared animal feed (18.15 percent) and Manufacture of other textiles (10.06 percent) industries. Bottom three industries, i.e. Saw milling and planing of wood, Dressing and dyeing of fur and Printing and service activities related to printing could yield only 1.19 percent to the net value added. Manufacture of grain mill products, starches and starch products, and prepared animal feed had the maximum share in the number of units (19.65 percent) , thus having nearly one-fifth of the total industrial units of the state. It is followed by Spinning, weaving and finishing of textiles and Manufacture of wearing apparel industries, whose respective shares in the total number of units was 17.74 percent and 16.96 percent respectively. These industries also figured in the highest labor oriented industries, employing 13.80 percent and 44.47 percent respectively of the total workforce employed in the agro industries. Manufacture of other textiles industry too gave employment to 10.43 percent of the workers engaged in the agro-processing industries. Joint share of these three industries with respect to employment of workers turns out to be 68.70 percent, signifying the relevance of these three industries with respect to employment generation in the state.

To conclude, three industries that have dominated the agro-processing group in the factory sector of Haryana are Manufacture of grain mill products, starches and starch products, Manufacture of wearing apparel and Manufacture of other textiles.

An inter-comparison of the top five agro-processing industries in the Table 2 and Table 3 brings out that three industries, i.e. Manufacture of grain mill products, starches and starch products, and prepared animal feeds, Spinning,

Table 4 : Growth Rate Of Production Of Agro-processing Industries In The Factory Sector Of Punjab: 1998-99 To 2007-08

S. No.	Industry	Rank
221	Publishing.	79.28
172	Manufacture of other textiles.	30.99
201	Saw milling and planing of wood.	28.96
155	Manufacture of beverages.	18.83
191	Tanning and dressing of leather, manufacture of luggage handbags, saddlery & harnesses.	13.38
210	Manufacture of paper and paper products.	11.13
173	Manufacture of knitted and crocheted fabrics and articles.	9.93
171	Spinning, weaving and finishing of textiles.	6.27
153	Manufacture of grain mill products, starches and starch products, and prepared animal feed.	5.63
222	Printing and service activities related to printing.	5.52
202	Manufacture of products of wood, cork, straw and plaiting materials.	5.42
154	Manufacture of other food products.	3.12
181	Manufacture of wearing apparel, except fur apparel.	2.97
152	Manufacture of dairy products.	1.69
151	Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats.	-1.75
192	Manufacture of footwear.	-7.50
	Overall	**6.53**

Source: Supplement to Annual Survey of Industries, various issues from 1998-99 to 2007-08.

weaving and finishing of textiles and Production, processing and preservation of meat, fish, fruit vegetables, oils and fats are common to both the states. Similarly, bottom three industries in these two states also share the common facet. Distribution of agro-processing industries in Punjab in terms of growth rates of output for the time-period from 1998-99 to 2007-08 is presented in the Table 4. Out of sixteen agro- processing industries, the Publishing industry registered the highest growth rate of 79.28 percent per annum. Manufacture of other textiles (30.99 percent) and Sawing and planing of wood (28.96 percent) were other two high-performing industries of the state.

Three more industries viz. manufacture of beverages (18.83 percent), Tanning and dressing of leather, manufacture of luggage handbags, saddler and harnesses (23.63 percent) and Manufacture of paper and paper products (21.68 percent) registered a double-digit growth rate. On the whole, growth rate during the time period from 1998-99 to 2007-08 in terms of production stood at 6.53 percent. Two industries, i.e. Manufacture of footwear (-7.50 percent) and Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats (-1.75 percent) showed a negative growth. A comparison of the first five dominant industries identified in the Table 4, with fastest growing agro processing industries in the Table 2 clearly reflects that Manufacture of beverages industry is one that can be developed on a war footing in the state.

Similarly, the fastest growing agro processing industries in Haryana in terms of growth rates of production for the time-period from 1998-99 to 2007-08 are presented in the Table 5. Out of eighteen agro- processing industries, Manufacture of knitted and crocheted fabrics and articles industry registered the highest growth rate of 55.34 percent per annum. Publishing (44.20 percent) and Manufacture of wearing apparel (24 percent) were other two high-performing industries in the state. Tanning and dressing of leather, manufacture of luggage handbags, saddler and harnesses (23.63 percent) and Manufacture of dairy products (21.68 percent) registered a growth rate of more than 20 percent per annum. On the whole, growth rate during the time period from 1998-99 to 2007-08 in terms of production stood at 11.21 percent. Only one industry, i.e. Paper and paper products industry (-0.49 percent) showed a negative growth. Thus, growth wise too, the agro-processing industries have achieved a striking performance. A comparison of the Table 5 with Table 3 shows that two industries namely - Manufacture of wearing apparel and Manufacture of dairy products can be developed in a lucid manner in the state.

Table 5 : Growth Rate Of Production Of Agro-processing Industries In The Factory Sector of Haryana: 1998-99 To 2007-08

S. No.	Industry	Rank
173	Manufacture of knitted and crocheted fabrics and articles.	55.34
221	Publishing.	44.20
181	Manufacture of wearing apparel, except fur apparel.	24.00
191	Tanning and dressing of leather, manufacture of luggage handbags, saddlery & harnesses.	23.63
152	Manufacture of dairy products.	21.68
160	Manufacture of tobacco products.	16.16
222	Printing and service activities related to printing.	15.74
202	Manufacture of products of wood, cork, straw and plaiting materials.	15.25
172	Manufacture of other textiles.	14.79
155	Manufacture of beverages.	12.10
153	Manufacture of grain mill products, starches and starch products, and prepared animal feed.	11.84
171	Spinning, weaving and finishing of textiles.	5.42
201	Saw milling and planing of wood.	4.54
151	Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats.	4.50
154	Manufacture of other food products.	4.09
192	Manufacture of footwear.	2.87
210	Manufacture of paper and paper products.	-0.49
	Overall	**11.21**

Source: Supplement to Annual Survey of Industries, various issues from 1998-99 to 2007-08.

Table 6 : Performance of Different Agro-processing Industries In Punjab And Haryana Vis-à-Vis Other Leading Indian States					
Ind. No.	**Industry**	**State**	**Net value added per unit of invested capital**	**Profit per unit of invested capital**	**% Share in all India production**
151	Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats.	Punjab (VII)	0.16	0.07	4
		Haryana (XII)	0.46	0.22	2
		All India	0.27	0.16	
		Madhya Pradesh	0.41	0.30	18
		Gujarat	0.18	0.09	14
		Tamil Nadu	0.34	0.23	14
		Maharashtra	0.43	0.31	13
		Uttar Pradesh	0.09	0.001	12
152	Manufacture of dairy products.	Punjab (X)	0.41	0.07	4
		Haryana (IX)	0.08	-0.03	5
		All India	0.34	0.10	
		Gujarat	0.35	0.12	18
		Maharashtra	0.50	0.27	18
		Uttar Pradesh	0.36	0.18	14
		Andhra Pradesh	0.25	-0.20	9
		Tamil Nadu	0.11	-0.35	8
153	Manufacture of grain mill products, starches and starch products, and prepared animal feed.	Punjab (II)	0.14	0.03	10
		Haryana (IV)	0.16	0.05	9
		All India	0.23	0.09	
		Andhra Pradesh	0.29	0.12	26
		Maharashtra	0.31	0.16	10
		Uttar Pradesh	0.17	0.06	8
		Gujarat	0.17	0.02	6
		Karnataka	0.39	0.22	5
154	Manufacture of other food products.	Punjab (XII)	0.10	0.04	2
		Haryana (XI)	0.19	0.01	2
		All India	0.14	0.001	
		Maharashtra	0.15	-0.01	23
		Uttar Pradesh	0.02	-0.07	19
		Tamil Nadu	0.20	0.02	10
		Karnataka	0.18	0.05	9
		Gujarat	0.21	0.06	8
155	Manufacture of beverages.	Punjab (I)	3.22	3.08	24
		Haryana (VII)	0.34	0.23	4
		All India	0.71	0.57	24
		Uttar Pradesh	0.74	0.64	19
		Maharashtra	0.23	0.10	13
		Karnataka	0.49	0.31	8
		Tamil Nadu	0.66	0.47	7
		Andhra Pradesh	0.22	0.06	7
160	Manufacture of tobacco products.	Punjab	-	-	-
		Haryana (XIV)	0.25	0.11	1
		All India	1.16	0.89	
		Andhra Pradesh	0.57	0.18	24
		Karnataka	1.63	1.56	19
		Uttar Pradesh	2.95	2.81	17
		Maharashtra	0.69	0.38	8
		West Bengal	0.53	0.30	7
171	Spinning, weaving and finishing of textiles.	Punjab (IV)	0.14	0.04	10
		Haryana (XII)	0.18	-0.07	2
		All India	0.19	0.03	

		Tamil Nadu	0.17	0.03	21
		Gujarat	0.21	0.05	20
		Maharashtra	0.13	-0.02	15
		Rajasthan	0.24	0.07	10
		West Bengal	0.59	0.02	5
172	Manufacture of other textiles.	Punjab (VI)	0.31	0.12	7
		Haryana (IV)	0.28	0.07	13
		All India			
		Uttar Pradesh	0.30	0.09	16
		Tamil Nadu	0.36	0.08	15
		Gujarat	0.17	0.05	14
		Maharashtra	0.27	0.06	11
		Rajasthan	0.29	0.02	7
173	Manufacture of knitted and crocheted fabrics and articles.	Punjab (II)	0.33	0.07	30
		Haryana (VI)	0.27	0.06	2
		All India	0.33	0.09	
		Tamil Nadu	0.36	0.11	53
		Maharashtra	0.31	0.13	7
		Gujarat	0.25	0.15	3
		West Bengal	0.20	0.04	2
		Karnataka	0.02	0.15	1
181	Manufacture of wearing apparel, except fur apparel.	Punjab (IX)	0.56	0.28	1
		Haryana (II)	0.35	0.06	18
		All India	0.50	0.12	
		Karnataka	0.82	0.27	26
		Delhi	0.14	0.58	14
		Tamil Nadu	0.57	0.10	13
		Maharashtra	0.46	0.08	9
		Uttar Pradesh	0.51	0.10	8
182	Dressing and dyeing of fur; manufacture of articles of fur.	Punjab (V)	0.37	0.13	3
		Haryana (III)	0.29	0.09	18
		All India	0.28	0.09	
		Uttar Pradesh	0.14	0.04	45
		Tamil Nadu	11.95	1.27	19
		Uttarakhand	0.48	0.24	14
		Gujarat	0.87	0.35	1
192	Manufacture of footwear.	Punjab (XIII)	0.26	0.02	1
		Haryana (III)	.029	0.08	7
		All India	0.37	0.10	
		Tamil Nadu	0.31	0.001	47
		Uttar Pradesh	0.49	0.20	21
		Delhi	0.33	0.09	5
		Maharashtra	0.87	0.38	4
		West Bengal	0.24	0.04	3
201	Saw milling and planing of wood.	Punjab (XI)	0.45	0.13	2
		Haryana (IX)	0.43	0.08	2
		All India	0.31	0.11	
		Gujarat	0.36	0.14	27
		West Bengal	0.12	0.06	22
		Kerala	0.47	0.12	14
		Tamil Nadu	0.46	0.10	11
		Maharashtra	0.26	0.04	8
202	Manufacture of products of wood, cork, straw and plaiting materials.	Punjab (XII)	0.26	0.07	2
		Haryana (VII)	0.23	0.06	7
		All India	0.27	0.09	

		West Bengal	0.31	0.13	21
		Maharashtra	0.34	0.13	12
		Tamil Nadu	0.35	0.14	9
		Gujarat	0.28	0.12	8
		Karnataka	0.83	0.55	8
210	Manufacture of paper and paper products.	Punjab (VII)	0.16	0.06	6
		Haryana (XIII)	0.43	0.15	2
		All India	0.20	0.08	
		Tamil Nadu	0.29	0.10	14
		Maharashtra	0.28	0.13	14
		Gujarat	0.15	0.04	13
		Uttar Pradesh	0.12	0.001	12
		Andhra Pradesh	0.13	0.05	11
221	Publishing	Punjab (VI)	1.36	1.18	8
		Haryana (XI)	0.30	-0.12	1
		All India	0.60	0.29	
		Maharashtra	0.35	0.07	22
		Karnataka	2.09	1.51	12
		Andhra Pradesh	0.44	0.28	10
		Uttar Pradesh	0.21	0.04	9
		Kerala	1.07	0.64	9
222	Printing and service activities related to printing.	Punjab (XV)	0.51	0.24	1
		Haryana (XI)	0.30	0.10	2
		All India	0.35	0.12	
		Maharashtra	0.38	0.16	30
		Tamil Nadu	0.32	0.08	16
		Delhi	0.40	0.13	12
		Karnataka	0.31	0.10	10
		Uttar Pradesh	0.29	0.07	9

Figures in parentheses indicate the ranking of state in All India production.

Source: Annual Survey of Industries, 2007-08

After comparing the fastest growing agro-industries with dominant industries in Punjab and Haryana separately, the researcher tried to find out if the fastest-growing and laggard industries in these two states share some proximity or not. A comparison of five fastest growing agro-industries in Tables 4 and 5 depict that two industries - namely Publishing and Tanning and dressing of leather, manufacture of luggage handbags, saddlery & harnesses are common. Similarly, a comparison of the bottom five agro-industries in these two states revealed that three agro-industries i.e. Manufacture of food products, Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats and Manufacture of footwear were common. Thus, it may be summed up in general that there is inconsistency in the development of agro - processing industries by the state governments.

The Table 6 compares the performance of agro-processing industries of Punjab and Haryana with the agro-processing industries in other states for the year 2007-08. First of all, five leading states (on the basis of production) in each agro-processing industry were identified and then compared with the position of Punjab, Haryana as well as the average industry performance at the All India level. The Top five industries were thus identified and ranked in descending order of comparative advantage for both Punjab and Haryana, and the same data is presented in the Tables 7 and 8. The Table 7 shows that two agro industries i.e. Manufacture of beverages and Printing and service activities related to printing industry in Punjab topped the list in terms of both net value added per unit of invested capital and profit per unit of invested capital vis – a – vis other leading states. Furthermore, the product dominance of beverages industry is ranked first. Three industries namely Manufacture of dairy products, Manufacture of other textiles and Manufacture of knitted and crocheted fabrics net value added per unit of invested capital is awarded the second rank. The profitability of these industries is also consistent.

The Table 8 shows that in the Manufacture of paper and paper products industry, Haryana tops in terms of both net

Table 7: Punjab's Rank Among Indian States On The Basis Of Net Value Added, Profit, Growth And Product Dominance: 2007-08					
Ind. No.	Industry	Net* Value Added	Profit*	Growth**	Product* Dominance
155	Manufacture of beverages.	1	1	4	1
222	Printing and service activities related to printing.	1	1	10	15
152	Manufacture of dairy products.	2	4	14	10
172	Manufacture of other textiles.	2	1	2	6
173	Manufacture of knitted and crocheted fabrics and articles.	2	5	7	2

Source: *Computed from Table 6

**Computed from Table 4

Table 8 : Haryana's Rank Among Indian States On The Basis Of Net Value Added, Profit, Growth And Product Dominance: 2007-08					
Ind. No.	Industry	Net* Value Added	Profit*	Growth**	Product* Dominance
210	Manufacture of paper and paper products.	1	1	17	7
151	Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats.	1	4	14	12
154	Manufacture of other food products.	3	4	15	12
173	Manufacture of knitted and crocheted fabrics and articles.	4	4	1	2
201	Saw milling and planing of wood.	4	6	13	11

Source: *Computed from Table 6

**Computed from Table 5

value added per unit of invested capital and profit per unit of invested capital vis – a – vis other leading states. Furthermore, in Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats industry, net value added per unit of invested capital is highest in comparison to other leading states. However, the rank of the state lagged behind in both these agro industries in terms of growth. In Manufacture of other food products industry, the state of Haryana achieved the second and the fourth rank respectively in terms of net value added per unit of invested capital and profit per unit of invested capital. Similarly, in Manufacture of knitted and crocheted fabrics and articles and Spinning, weaving and finishing of textiles industry, Haryana's rank in terms of net value added per unit of invested capital is fourth vis-à-vis other Indian states. Interestingly, in case of Manufacture of knitted and crocheted fabrics and articles industry, growth and product dominance were ranked first and second respectively.

From the above discussion, it clearly emerges that from Punjab's perspective, Manufacture of beverages industry has performed well in the parameters taken up for this study (when top five industries in each list developed above are compared). Another industry of Punjab, i.e. Manufacture of knitted and crocheted fabrics appeared in the lists of dominant as well as most competitive industries. Similarly, Manufacture of other textiles industry manifests itself in the list of fastest-growing and the most competitive industries of Punjab.

Likewise, for Haryana, no industry could figure in all the lists i.e. dominating, fastest-growing and most competitive. Manufacture of wearing apparel industry was able to slot itself in the list of dominant and fastest-growing industries. Similarly, Manufacture of knitted and crocheted fabrics and articles industry emerged in the fastest growing and most competitive industries list. Another industry i.e. Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats appeared in the list of dominant and most competitive industries of Haryana. An inter-comparison of apex agro industries of Punjab and Haryana brings out that Manufacture of knitted and crocheted fabrics and articles industry is conducive for development in both the states commonly. Further, the results indicate that there is a low correlation between the dominant, fastest-growing and competitive agro-processing industries in both Punjab as well as Haryana. It calls for a drastic intervention by the state governments to strategically develop these agro processing industries in this era of competition that could face the test of time.

SECTION IV

CONCLUSION

The present study made an effort to compare the performance of agro-processing industries in Punjab and Haryana states that can be developed in consensus to the available conditions. Results have shown that some agro industries have bright prospects of their development, while others have equally bleak prospects of further development in both the states. However, no straight mechanical conclusions could be drawn. On the basis of our own informed judgment as well as the available evidences, we can say with some confidence that Manufacture of beverages, Manufacture of knitted and crocheted fabrics and articles, Manufacture of other textiles, Manufacture of dairy products, Manufacture of grain mill products, starches and starch products, and prepared animal feed have a good scope of development in Punjab. However, the directionless development of agro-processing industries in Punjab needs to be customized. The situation for Haryana is also not different. Manufacture of knitted and crocheted fabrics and articles, Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats, Manufacture of wearing apparel, except fur apparel, Manufacture of dairy products and Manufacture of grain mill products, starches and starch products industries have got a good scope of development. But there is an impractical development of agro-processing industries that needs to be validated. The Government can go a long way in providing relief from such an itinerant escalation. Governments of both the states need to extend incentives like sale tax exemption, cheap and regular electricity supply and concessions to the priority list agro-processing industries, irrespective of the area of their location. Further, owing to a high level of production of fruits and vegetables in both the states, there is a wide possibility of their processing. In addition to this, the requirement of small and medium-scale processing equipments in their processing makes them more viable. Not only this, it will help a long way in reducing losses to producers on account of market idiosyncrasies. To create generic demand in case of processed food items, education of the people is very essential. Education must be given by the government regarding the use of various processed food items that are hygienically prepared and packed. Another way to create demand is to conduct research on the behavioral tastes. This will help to develop products best suited to the people's tastes and preferences. Thus, a major effort is required from the state governments of both the states to provide critical infrastructure in order to bring a new revolution, which is agro-industrial centric in nature.

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