



ISSN Print: 2664-844X  
 ISSN Online: 2664-8458  
 NAAS Rating (2026): 4.97  
 IJAFA 2026; 8(7): 181-188  
[www.agriculturaljournals.com](http://www.agriculturaljournals.com)  
 Received: 19-04-2026  
 Accepted: 23-05-2026

**RA Makwana**  
 Department of Agriculture  
 Economics, College of  
 Agriculture, Junagadh  
 Agricultural University,  
 Junagadh, Gujarat, India

**NJ Ardeshta**  
 Department of Agriculture  
 Economics, College of  
 Agriculture, Junagadh  
 Agricultural University,  
 Junagadh, Gujarat, India

## Economic status of agro-based industries in India and Gujarat

**RA Makwana and NJ Ardeshta**

DOI: <https://www.doi.org/10.33545/2664844X.2026.v8.i7c.1661>

### Abstract

Agro-based industries play a crucial role in solidification of the linkage between agriculture and industrial development which contributes significantly to economic growth, employment generation and value addition. This study examines the economic status, average performance and growth dynamics of Agro-based industries in India and Gujarat over the study period from 2012–13 to 2022–23 by using the time series data from the Annual Survey of Industries. The industries were classified according to NIC (2008) codes and the compound annual growth rates of different indicators viz. number of factories in operation, employment, net income, net profit, gross value added and total output were estimated by using an exponential function. The results highlight a dual pattern in which the food processing and beverage industries emerge as the dominant industry at national level while Gujarat demonstrates a region-specific industrial specialization, with textile industries leading in factories in operation, employment and income generation. Gujarat accounts a notable share in India's Agro-based industries, particularly in total output (13.8%), gross value added (11.8%) and net income (11.1%). Agro-based industries in both India and Gujarat experienced significant positive growth in net income, net profit, gross value added and total output while tobacco industries recorded negative growth in factories in operation and employment. Despite the strong economic contributions, the low and negative growth of factories in operation and employment in major industries raises concerns and suggests region specific policy interventions for its future enhancement and inclusive growth.

**Keywords:** Agro-based industries, Growth rate, India, Gujarat

### Introduction

India's agriculture sector has exhibited a tremendous growth in terms of production of food grain, horticulture product, milk products and fish production. India has 157.35 million hectares of agricultural land second largest in the world after the USA. As from the past decade there was a huge growth of food grain production from 265.04 million tonne in year 2013-14 to 328.4 million tonnes in 2023-24. The same trend was also observed in case of horticulture (353.19 million tonne), milk (239.3 million tonne) and fish product (184.02 lakh tonnes) in year 2023-24. The export revenue of agriculture products during year 2024 was 48.9 billion USD. India contributes around 20 per cent share in total milk production in the world. India is the second-largest producer of vegetables and fruits, with horticultural production estimated at 205 and 799 thousand tonnes in 2023-24 (Anon., 2024) [3]. India is also the second-largest producer of eggs and ranks fifth in meat production globally. Egg production has increased at a CAGR of 7.35 per cent annually, while meat production has grown by 4.3 per cent over the past eight years, up to 2022-23.

Agriculture and allied activities' sector contributing 16 per cent to India's GDP for FY24' (PE) at current prices and supports about 46.1 per cent of the population (Anon., 2025) [4]. Indian *Agro-based* industries employ 56.5 Crores people and contribute Rs. 4,54,53,944 Lakhs GVA which is 20.69 per cent of all GVA by industries in India's GDP (Anon., 2023) [2]. The food processing industry was a largest sector of *Agro-based* industries represents 32 per cent of the total food market in India. It ranks th in terms of production, consumption and exports. It also contributes 8.80 per cent to the GVA in manufacturing and 8.39 per cent in agriculture and this sector also accounts for 13 per cent of India's exports and per cent of total industrial investment (Anon., 2024) [3].

*Agro-based* industries are the backbone of the Indian economy not only connect two crucial sectors of the economy but also provide vast employment opportunities, contribute significantly to GDP and export earnings. They stabilize agricultural income, reduce post-harvest losses and enhance product marketability, linking agriculture to consumers and driving sustainable

**Corresponding Author:**  
**RA Makwana**  
 Department of Agriculture  
 Economics, College of  
 Agriculture, Junagadh  
 Agricultural University,  
 Junagadh, Gujarat, India

development (Singh and Kaur, 2018)<sup>[7]</sup>. Despite infrastructural gaps, unstable trade, regional and environmental disturbance *Agro-based* industries strengthened value chains through policy reforms, technology adoption and public-private partnership

which ensured sustainable development and diversifying the economic growth. Among the different classification considered for studying *Agro-based* industries, this study considers the NIC code based classification given in Table 1.

**Table 1:** Classification of Agro based industry based on 2008 NIC code classification (Anon., 2008)

| NIC code |                                                                                                                              |         |                                                                                                                     |
|----------|------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------|
| 2-digit  | Industry                                                                                                                     | 3-digit | Industry                                                                                                            |
| 10       | Manufacture of food products                                                                                                 | 101     | Processing and preserving of meat                                                                                   |
|          |                                                                                                                              | 102     | Processing and preserving of fish, crustaceans and molluscs                                                         |
|          |                                                                                                                              | 103     | Processing and preserving of fruit and vegetables                                                                   |
|          |                                                                                                                              | 104     | Manufacture of vegetable and animal oils and fats                                                                   |
|          |                                                                                                                              | 105     | Manufacture of dairy products                                                                                       |
|          |                                                                                                                              | 106     | Manufacture of grain mill products, starches and starch products                                                    |
|          |                                                                                                                              | 107     | Manufacture of other food products                                                                                  |
|          |                                                                                                                              | 108     | Manufacture of prepared animal feeds                                                                                |
| 11       | Manufacture of beverages                                                                                                     | 110     | Manufacture of beverages                                                                                            |
| 12       | Manufacture of tobacco products                                                                                              | 120     | Manufacture of tobacco products                                                                                     |
| 13       | Manufacture of textiles                                                                                                      | 131     | Spinning, weaving and finishing of textiles                                                                         |
|          |                                                                                                                              | 139     | Manufacture of other textiles                                                                                       |
| 15       | Manufacture of leather and related products                                                                                  | 151     | Tanning and dressing of leather; manufacture of luggage, handbags, saddlery and harness; dressing and dyeing of fur |
|          |                                                                                                                              | 152     | Manufacture of footwear                                                                                             |
| 16       | Manufacture of wood and products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials | 161     | Sawmilling and planing of wood                                                                                      |
|          |                                                                                                                              | 162     | Manufacture of products of wood, cork, straw and plaiting materials                                                 |
| 17       | Manufacture of paper and paper products                                                                                      | 170     | Manufacture of paper and paper products                                                                             |
| 22       | Manufacture of rubber and plastics products                                                                                  | 221     | Manufacture of rubber products                                                                                      |
|          |                                                                                                                              | 222     | Manufacture of plastics products                                                                                    |

## Objectives

- To examine the average performance of *Agro-based* industries in India and Gujarat and the contribution of Gujarat in India's industries
- To estimate the growth performance of *Agro-based* industries in India and Gujarat

## Methodology

The time series data of *Agro-based* industries for the period from 2012-13 to 2022- 23 was collected from annual published information on Annual Survey of Industries reports and its website and classified and coded (Table 1). The performance of *Agro-based* industries in terms of number of factories in operation, net income, net profit, gross value added, employment and total output was analysed by fitting the exponential function of the form  $Y = ab^t e^u$  where, Y is dependent variable, a is intercept, b is regression coefficient, t is the time period in years and eu is the error term.

## Results and Discussion

In terms of mean value of factories in operation, the highest value was registered by food product and beverage industries in India while in case of Gujarat state, the textile industries exhibited the highest mean value of 1950.2 in number with 13.8 per cent share of Indian textile industries followed by paper and rubber industries. The Gujarat state accounted for 8.8 per cent share of factories in operation of total *Agro-based* industries in

India with mean value of 6664.4 in number. The net income generation by different Agrobased industries, the food products and beverage industries showed highest mean value followed by textile industries in India whereas for Gujarat state, the textile industries exhibited highest mean value with the share value of 21.1 per cent in India's net income from textile industries. The net profit, gross value added, employment and total output, the food product and beverage industries showed highest mean value in India whereas in Gujarat state textile industries exhibited the highest mean value of gross value added and employment however in case of net profit and total output the food and beverage industries displayed highest mean value. The contribution of Gujarat state in India's total *Agro-based* industries was 11.1 per cent in net income, 9.7 per cent in net profit, 11.8 per cent in gross value added, 10.8 per cent in employment and 13.8 per cent in total output (Table 2).

Figure 1 illustrated the contribution of different *Agro-based* industries with percentage share value to the total *Agro-based* industries in India. In terms of factories in operation the food product and beverage industries exhibited the highest share with the value of 45 per cent followed by textiles industries. As for the net income, net profit, gross value added, employment and total output generation in India manufacture of food products and beverages industries exhibited the highest contribution with percentage share of 38, 42, 41, 35 and 55 per cent followed by textile, rubber and plastic product, textile, textile and textile industries, respectively.

**Table 2:** Average performance of Agro-based industries in India and Gujarat during 2012-13 to 2022-23

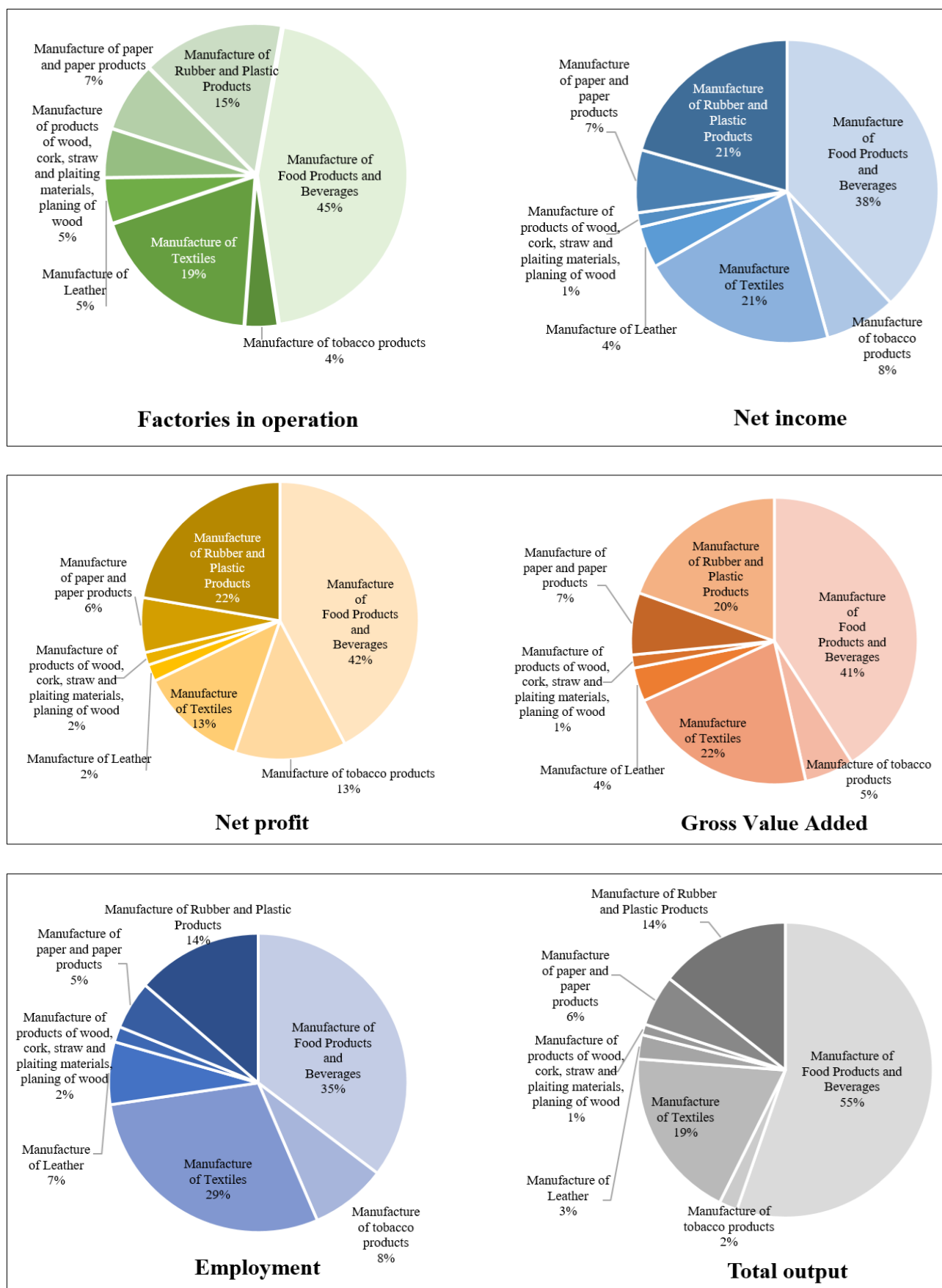
| Sr. No.                                                                                                                                                                                                                                                                  | Name of the Industry                        | Factories in operation |                | Net income (0000) |               | Net profit (0000) |               | Gross Value Added (0000) |               | Employment (0000) |              | Total output (0000) |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------|----------------|-------------------|---------------|-------------------|---------------|--------------------------|---------------|-------------------|--------------|---------------------|----------------|
|                                                                                                                                                                                                                                                                          |                                             | India                  | Gujarat        | India             | Gujarat       | India             | Gujarat       | India                    | Gujarat       | India             | Gujarat      | India               | Gujarat        |
| 1                                                                                                                                                                                                                                                                        | Food product & beverage (10,11)             | 34020.6                | 1814.6 (5.3)   | 808.4             | 62.1 (7.7)    | 424.5             | 29.4 (6.9)    | 1263.8                   | 93.6 (7.4)    | 192.7             | 12.1 (6.3)   | 12153.1             | 1408.1 (11.6)  |
| 2                                                                                                                                                                                                                                                                        | Tobacco products (12)                       | 2687.0                 | 135.4 (5.1)    | 161.5             | 6.3 (3.9)     | 130.4             | 6.1 (4.6)     | 171.3                    | 8.1 (4.7)     | 44.8              | 0.5 (1.1)    | 441.7               | 40.2 (9.1)     |
| 3                                                                                                                                                                                                                                                                        | Textiles (13)                               | 14149.0                | 1950.2 (13.8)  | 448.9             | 94.7 (21.1)   | 126.6             | 26.7 (21.1)   | 669.5                    | 151.1 (22.6)  | 158.9             | 32.3 (20.3)  | 4146.9              | 892.9 (21.5)   |
| 4                                                                                                                                                                                                                                                                        | Leather (15)                                | 3708.3                 | 24.7 (0.7)     | 93.7              | 0.6 (0.7)     | 19.8              | 0.05 (0.3)    | 117.5                    | 0.8 (0.7)     | 36.9              | 0.3 (0.7)    | 581.3               | 3.5 (0.6)      |
| 5                                                                                                                                                                                                                                                                        | Wood, cork, straw & plaiting materials (16) | 3977.9                 | 485.6 (12.2)   | 32.5              | 3.5 (10.8)    | 14.8              | 1.5 (10.2)    | 45.6                     | 5.5 (12.1)    | 9.2               | 1.1 (11.4)   | 260.4               | 42.1 (16.2)    |
| 6                                                                                                                                                                                                                                                                        | Paper and paper products (17)               | 5708.8                 | 790.1 (13.8)   | 141.9             | 14.7 (10.4)   | 63.9              | 4.6 (7.3)     | 215.9                    | 25.3 (11.7)   | 28.5              | 3.9 (13.8)   | 1230.9              | 186.1 (15.1)   |
| 7                                                                                                                                                                                                                                                                        | Rubber and Plastic Products (22)            | 11570.8                | 1463.7 (12.6)  | 436.8             | 54.6 (12.5)   | 224.1             | 26.8 (11.9)   | 603.7                    | 81.3 (13.5)   | 74.5              | 10.1 (13.5)  | 3155.6              | 465.4 (14.7)   |
| Total Agro-based industries                                                                                                                                                                                                                                              |                                             | 75822.5                | 6664.4 (8.8)   | 2123.9            | 236.5 (11.1)  | 981.5             | 95.2 (9.7)    | 3087.3                   | 365.7 (11.8)  | 553.9             | 60.2 (10.8)  | 21969.9             | 3038.3 (13.8)  |
| Non-Agro based industries                                                                                                                                                                                                                                                |                                             | 118422.1               | 13985.9 (11.8) | 8547.4            | 1330.1 (15.6) | 4963.9            | 909.9 (18.3)  | 11668.4                  | 1860.3 (15.9) | 990.6             | 119.6 (12.1) | 64532.8             | 12330.9 (19.1) |
| All Industries                                                                                                                                                                                                                                                           |                                             | 194244.6               | 20650.4 (10.6) | 10671.2           | 1566.5 (14.7) | 5945.5            | 1005.2 (16.9) | 14755.7                  | 2225.9 (15.1) | 1544.5            | 179.7 (11.6) | 86502.8             | 15369.2 (17.8) |
| <b>Note:</b> 1. Factories in operation and Employment are in numbers, Net income, Net profit, Gross Value Added and Total output are in Rupees Lakh<br>2. Values in parenthesis indicate percentage share contribution of Gujarat state in India's Agro-based industries |                                             |                        |                |                   |               |                   |               |                          |               |                   |              |                     |                |

The food product and beverage industries of India exhibited a positive and significant growth of all parameters of study in which number of factories in operation and employment increased at the rate of 1.25 and 2.76 per cent *per annum* while the net income (7.79%/annum), net profit (10.30%/annum), gross value added (8.49%/annum) and total output (9.11%/annum) showed medium to high growth rate during 2012-13 to 2022-23. Reddy and Kumari (2014) <sup>[6]</sup> furnished similar results of different parameters of food and beverage producing industries in India during the study period 2006-to 2011-12 in that the employment, total output and net income increased at the rate of 1.32, 7.22 and 6.84 per cent, respectively. The tobacco product industries of India displayed negative but significant growth rate of factories in operation and employment whereas, the net income, net profit, gross value added and total output increased at the rate of 4.45, 4.74, 4.05 and 3.69 per cent *per annum*, respectively. The textiles industries exhibited negative but significant growth of factories in operation decreased at the rate of -1.12 per cent *per annum*. The net income (7.70%/annum) and net profit (9.15%/annum) of textile industries showed high growth while the employment (1.46%/annum) and total output (4.28%/annum) showed lower rate of growth (Table 3).

The leather industries of India showed moderate growth performance of factories in operation, employment and total

output increased at the rate of 0.51, 2.89 and 4.61 per cent *per annum* while the net income (9.48%/annum), net profit (8.20%/annum) and gross value added (7.84%/annum) showed medium growth rate. The manufacture of products of wood, cork, straw and planting materials, planning of wood industries of India showed nonsignificant growth performance of factories in operation while employment (2.62%/annum) illustrated lower growth rate. The net income, net profit, gross value added and total output of wood industries demonstrated medium to high growth rate.

The paper and paper product industries showed tremendous growth of net profit increased at the rate of 29.91 per cent *per annum* whereas the factories in operation (1.28%/annum) and employment (4.24%/annum) displayed low growth rate. Indian paper industries also showed high and significant growth rate of net income, gross value added and total output increased at the rate of 16.30, 11.56 and 10.40 per cent *per annum*, respectively. The rubber and plastic product industries of India showed low growth of factories in operation while the net income, net profit, gross value added, employment and total output showed higher growth rate and the similar results also furnished by Kumudha (2023) <sup>[5]</sup> during the period from 2007-to 2021-22 showed that employment of rubber and plastic product industries of India increased at the rate of 7.32 per cent (Table 3).



**Fig 1:** Average contribution of different Agro-based industries to the total Agro-based industries in India during study period 2012-13 to 2022-23

**Table 3:** Growth performance of Agro-based industries in India during study period 2012-13 to 2022-23

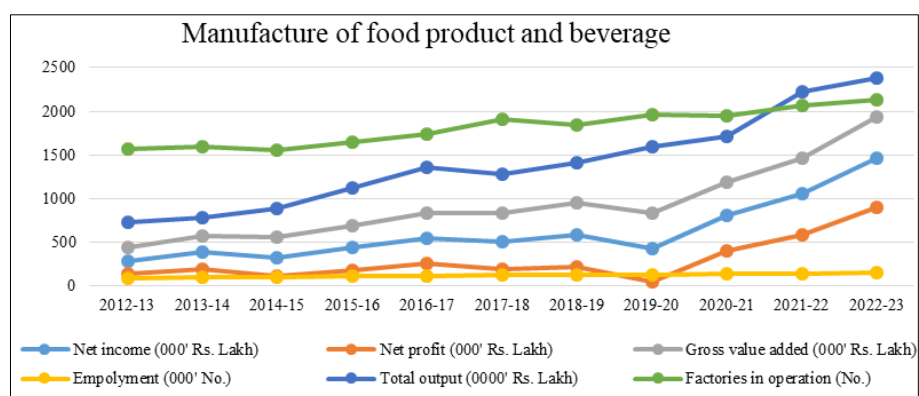
| Sr. No.                         | Name of the Industry                                                                      | Factories in operation |      | Net income |      | Net profit |      | Gross Value Added |      | Employment |      | Total output |      |
|---------------------------------|-------------------------------------------------------------------------------------------|------------------------|------|------------|------|------------|------|-------------------|------|------------|------|--------------|------|
|                                 |                                                                                           | CAGR                   | SE   | CAGR       | SE   | CAGR       | SE   | CAGR              | SE   | CAGR       | SE   | CAGR         | SE   |
| 1                               | Manufacture of Food product and beverage (10,11)                                          | 1.25***                | 0.09 | 7.79***    | 0.60 | 10.30***   | 0.64 | 8.49***           | 0.20 | 2.76***    | 0.10 | 9.11***      | 0.17 |
| 2                               | Manufacture of Tobacco products (12)                                                      | -1.30**                | 0.44 | 4.45***    | 0.45 | 4.74***    | 0.47 | 4.05***           | 0.43 | -0.48*     | 0.23 | 3.69***      | 0.48 |
| 3                               | Manufacture of Textiles (13)                                                              | -1.12**                | 0.36 | 7.70***    | 0.62 | 9.15***    | 2.38 | 1.05              | 2.02 | 1.46***    | 0.15 | 4.28***      | 0.47 |
| 4                               | Manufacture of Leather (15)                                                               | 0.51*                  | 0.27 | 9.48***    | 0.68 | 8.20**     | 2.63 | 7.84***           | 0.52 | 2.89***    | 0.38 | 4.61***      | 0.42 |
| 5                               | Manufacture of products of wood, cork, straw and plaiting materials, planing of wood (16) | 0.15                   | 0.15 | 10.51***   | 0.62 | 11.67***   | 1.01 | 8.40***           | 0.48 | 2.62***    | 0.20 | 7.08***      | 0.44 |
| 6                               | Manufacture of Paper and paper products (17)                                              | 1.28***                | 0.10 | 16.30***   | 0.74 | 29.91***   | 2.60 | 11.56***          | 0.46 | 4.24***    | 0.20 | 10.40***     | 0.42 |
| 7                               | Manufacture of Rubber and plastic products (22)                                           | 0.79***                | 0.23 | 10.54***   | 0.43 | 9.11***    | 0.77 | 10.13***          | 0.31 | 6.07***    | 0.13 | 9.77***      | 0.36 |
| Total Agro-based industries     |                                                                                           | 0.51***                | 0.12 | 8.70***    | 0.28 | 8.80***    | 0.52 | 7.40***           | 0.36 | 3.27***    | 0.21 | 8.08***      | 0.24 |
| Total non-agro based industries |                                                                                           | 1.67***                | 0.14 | 8.06***    | 0.47 | 6.99***    | 0.81 | 7.48***           | 0.28 | 3.30***    | 0.10 | 7.76***      | 0.51 |
| All Industries                  |                                                                                           | 1.19***                | 0.05 | 8.20***    | 0.39 | 7.29***    | 0.73 | 7.47***           | 0.27 | 3.30***    | 0.10 | 7.84***      | 0.43 |

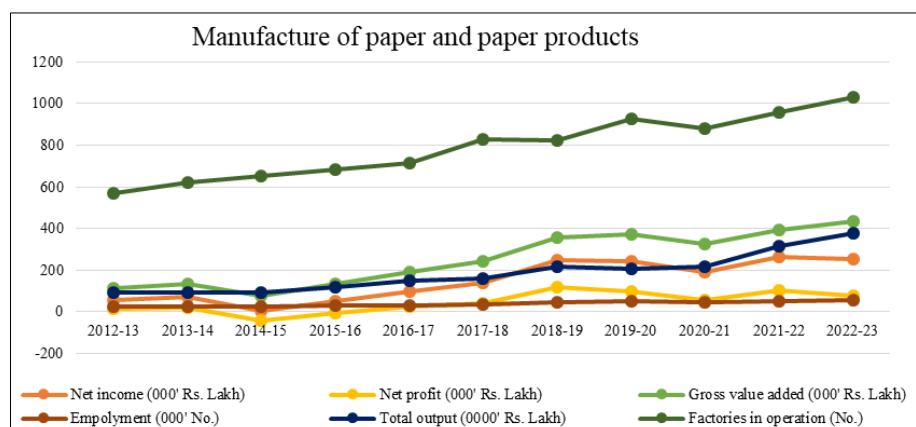
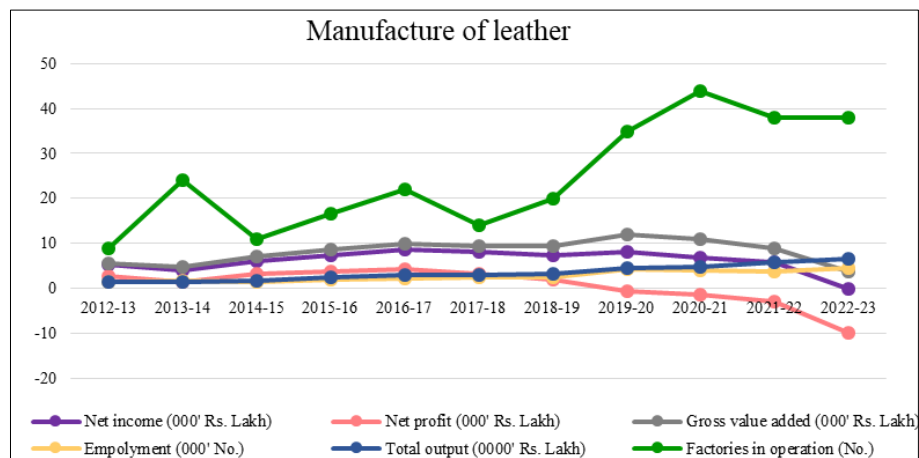
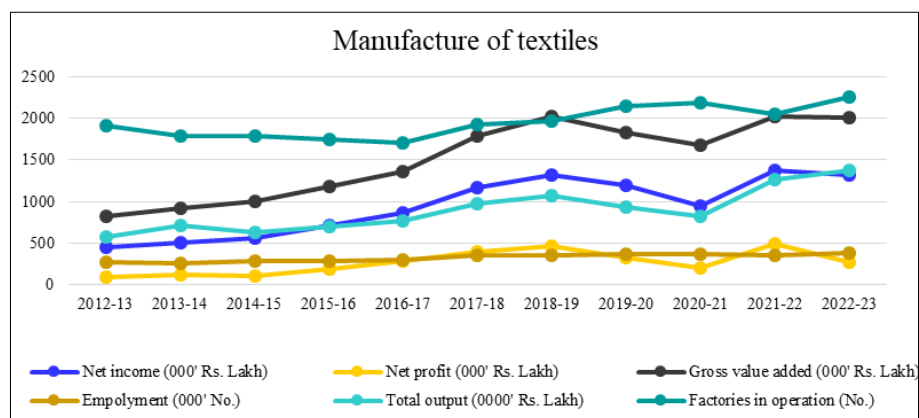
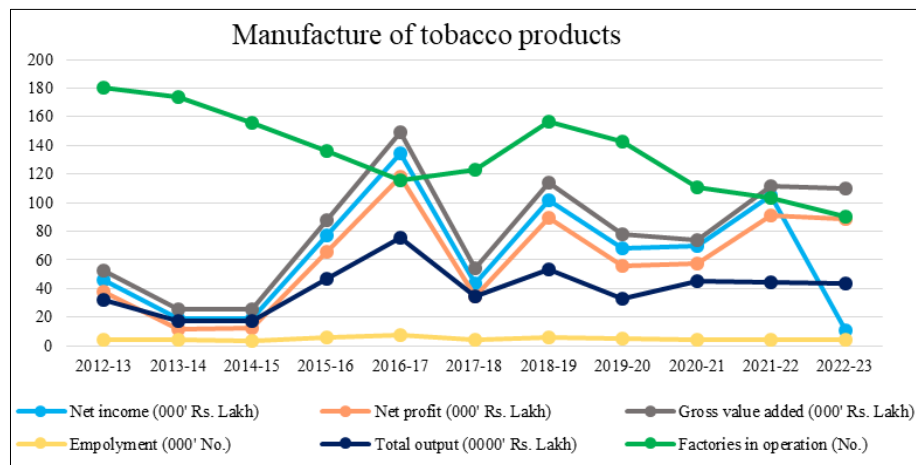
Note: 1. Factories in operation and Employment are in numbers, Net income, Net profit, Gross Value Added and Total output are in Rupees Lakh 2.\*\*\*, \*\* & \* significance at 1%, 5% and 10% level, respectively other are non-significance 3. CAGR– Compound Annual Growth Rate and SE – Standard Error

The total *Agro-based* industries of India recorded stable and significant growth rate in that the factories in operation and employment displayed lower growth value while the net income, net profit, gross value added and total output showed medium growth at the rate of 8.70, 8.80, 7.40 and 8.08 per cent *per annum*, respectively. The non-agro based industries have shown similar results with low growth performance of factories in operation and employment while the net income, net profit, gross value added and total output showed medium growth rate. In terms of total industries of India also similar trend was found in that the factories in operation and employment showed low growth value while the net income (8.20%/annum), net profit (7.29%/annum), gross value added (7.47%/annum) and total output (7.84%/annum) exhibited medium growth rate (Table 3). The Figure 2, represents the trend performance of different *Agro-based* industries in Gujarat during study period 2012-13 to 2022-23. The textile industries illustrated tremendous growth with highest trend value in most of the parameters of study from number of factories in operation to total output generation it showed highest value among all *Agro-based* industries. The food product and beverage industries and total *Agro-based* industries exhibited increasing trend of all parameters while the tobacco product industries revelled less stable trend and pick revenue generation was found in year 2016-17. The lower trend value was registered by leather industries in Gujarat while paper

and rubber industries showed slow and persistent trend whereas the wood industries of Gujarat exhibited slightly increasing trend.

The manufacture of food product and beverage industries of Gujarat showed tremendous growth performance with high growth of net income, net profit, gross value added and total output increased at the rate of 14.50, 14.65, 13.45 and 12.24 per cent *per annum* while the factories in operation and employment only increased at the rate of 3.39 and 5.12 per cent *per annum*, respectively. The tobacco product industries of Gujarat displayed negative growth rate of factories in operation and employment decreased at the rate of -5.46 and -0.20 per cent *per annum*, respectively while net income, net profit, gross value added and total output showed positive and significant results. The net profit of textile industries of Gujarat showed higher growth performance, increased at the rate of 14.31 per cent *per annum* followed by net income, gross value added and total output at the rate of 11.85, 10.01 and 7.90 per cent *per annum*, respectively while the factories in operation and employment showed low growth rate. Gujarat's leather industries illustrated higher growth of factories in operation, employment and total output increased at the rate of 14.20, 13 and 17.58 per cent *per annum*, respectively displayed in Table 4.





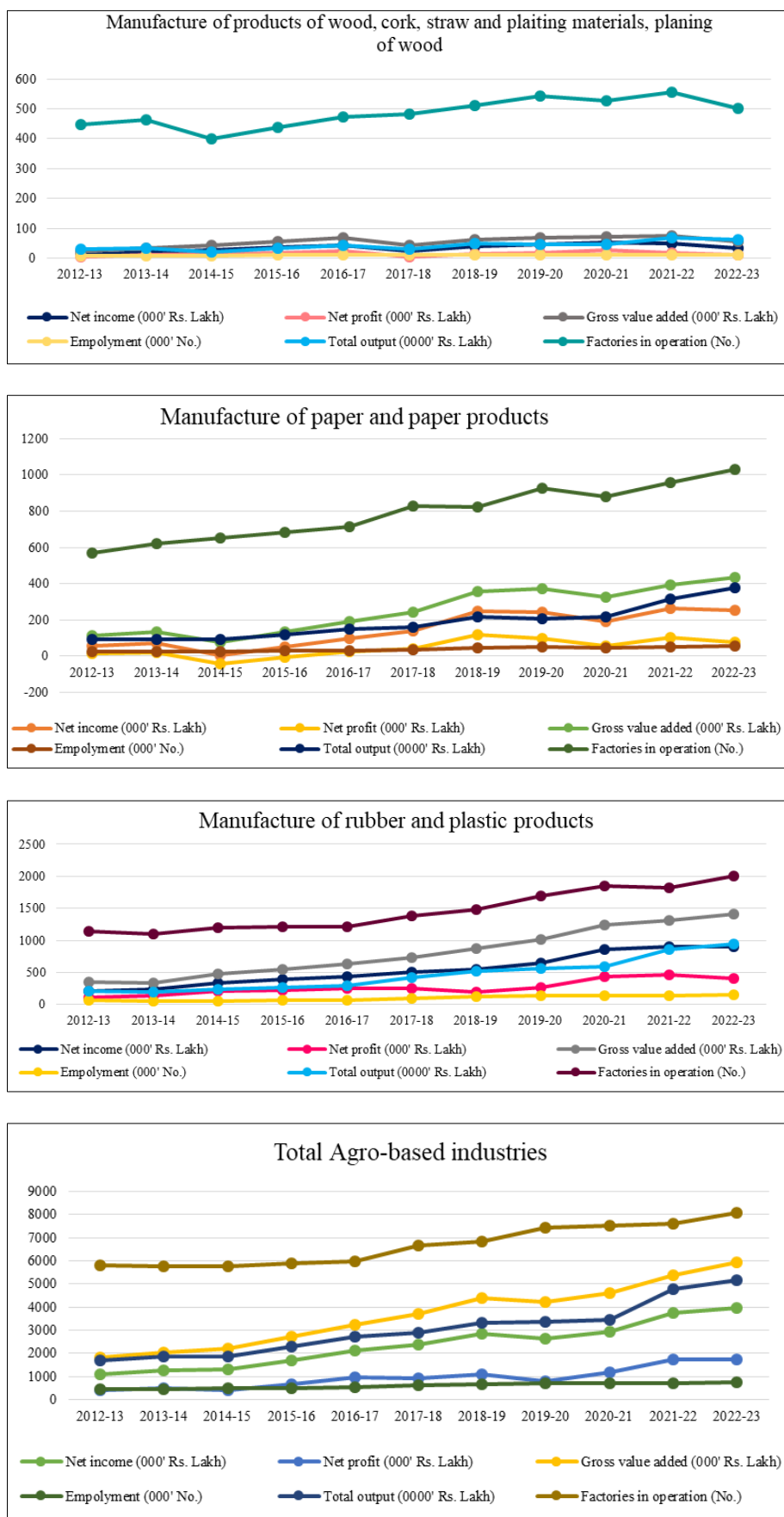


Fig 2: Trend performance of different Agro-based industries in Gujarat

**Table 4:** Growth performance of Agro-based industries in Gujarat during study period 2012-13 to 2022-23

| Sr. No. | Name of the Industry                                                                      | Factories in operation |      | Net income |      | Net profit |      | Gross Value Added |      | Employment |      | Total output |      |
|---------|-------------------------------------------------------------------------------------------|------------------------|------|------------|------|------------|------|-------------------|------|------------|------|--------------|------|
|         |                                                                                           | CAGR                   | SE   | CAGR       | SE   | CAGR       | SE   | CAGR              | SE   | CAGR       | SE   | CAGR         | SE   |
| 1       | Manufacture of Food product and beverage (10,11)                                          | 3.39***                | 0.12 | 14.50***   | 1.06 | 14.65***   | 3.17 | 13.45***          | 3.14 | 5.12***    | 0.20 | 12.24***     | 0.35 |
| 2       | Manufacture of Tobacco products (12)                                                      | -5.46***               | 0.51 | 2.69       | 3.67 | 15.88***   | 3.02 | 11.74***          | 2.91 | -0.20      | 0.80 | 6.43***      | 1.79 |
| 3       | Manufacture of Textiles (13)                                                              | 2.34***                | 0.26 | 11.85***   | 0.85 | 14.31***   | 1.97 | 10.01***          | 0.62 | 4.12***    | 0.25 | 7.90***      | 0.58 |
| 4       | Manufacture of Leather (15)                                                               | 14.20***               | 0.53 | -          | -    | -          | -    | 2.32              | 1.60 | 13.00***   | 0.62 | 17.58***     | 0.42 |
| 5       | Manufacture of products of wood, cork, straw and plaiting materials, planing of wood (16) | 2.43***                | 0.27 | 10.03***   | 1.44 | 7.69**     | 2.78 | 8.63***           | 1.10 | 3.64***    | 0.46 | 8.74***      | 0.86 |
| 6       | Manufacture of Paper and paper products (17)                                              | 5.94***                | 0.16 | 27.93***   | 4.44 | -          | -    | 17.65***          | 1.22 | 8.93***    | 0.40 | 15.84***     | 0.51 |
| 7       | Manufacture of Rubber and plastic products (22)                                           | 6.59***                | 0.25 | 16.08***   | 0.39 | 13.10***   | 0.96 | 16.51***          | 0.34 | 11.69***   | 0.61 | 17.93***     | 0.48 |
|         | Total Agro-based industries                                                               | 3.84***                | 0.16 | 14.11***   | 0.45 | 15.70***   | 0.90 | 12.83***          | 0.34 | 5.81***    | 0.24 | 11.76***     | 0.32 |
|         | Total non-agro based industries                                                           | 3.48***                | 0.13 | 6.33***    | 0.56 | 4.02***    | 0.79 | 6.30***           | 0.34 | 5.90***    | 0.10 | 6.27***      | 0.62 |
|         | All Industries                                                                            | 3.59***                | 0.13 | 7.36***    | 0.45 | 4.93***    | 0.75 | 7.27***           | 0.29 | 5.88***    | 0.13 | 7.25***      | 0.53 |

Note: 1. Factories in operation and Employment are in numbers, Net income, Net profit, Gross Value Added and Total output are in Rupees Lakh 2. \*\*\* \*\* & \* significance at 1%, 5% and 10% level, respectively other are non-significance 3. CAGR – Compound Annual Growth Rate and SE – Standard Error

Manufacture of products of wood industries of Gujarat showed low growth of factories in operation and employment while the net income, net profit, gross value added and total output increased at the rate of 10.03, 7.69, 8.63 and 8.74 per cent *per annum*, respectively. The paper industries of Gujarat displayed medium growth of factories in operation and employment while net income, gross value added and total output showed higher growth rate. The rubber and plastic product industries of Gujarat showed medium growth of factories in operation while it exhibited higher growth of net income, net profit, gross value added, employment and total output (Table 4). The total *Agro-based* industries of Gujarat displayed low growth of factories in operation only increased at the rate of 3.84 per cent *per annum* while the employment (5.81%/annum) showed medium growth rate displayed in Table 4. The net income, net profit, gross value added and total output of total *Agro-based* industries of Gujarat illustrated higher growth at the rate of 14.11, 15.70, 12.83 and 11.76 per cent *per annum*, respectively. The non-agro based industries of Gujarat showed low growth of factories in operation and net profit while the net income, gross value added, employment and total output demonstrated medium growth rate. The industries of Gujarat registered similar growth performance with low growth of factories in operation and net profit while the net income, gross value added, employment and total output illustrated medium growth rate increased at the rate of 7.36, 7.27, 5.88 and 7.25 per cent *per annum*, respectively.

## Conclusion

In summary, the findings reiterate that *Agro-based* industries are a crucial pillar of industrial and agricultural transformation by significantly contributing to the income generation, employment and value addition. The food product and beverage industries emerged as a dominate industry in India while, the textile industries demonstrated a strong industrial base with highest contribution in terms of factories, net income and employment in Gujarat with considerable contribution. The *Agro-based* industries of India and Gujarat exhibited stable and statistically significant growth of net income, net profit, gross value added and total output generation however, the relatively lower rate of growth in number of factories in operation in India and employment in both indicated a gradual structural shift towards capital-intensive production systems. Despite these improved trends, tobacco industries exhibited negative growth in terms of factories and employment. The lower growth in employment among both India and Gujarat raises concerns regarding the inclusiveness of industrial expansion. Thus, there is a need to strengthen infrastructure, promote technological

innovation, encourage value addition and adopt sustainable and region-specific policy interventions for further enhancement of *Agro-based* industries for economic development and rural transformation.

## References

1. Anonymous. National Industrial Classification. New Delhi, India: Ministry of Statistics and Programme Implementation; 2008.
2. Anonymous. Annule Survey of Industries report. New Delhi, India: Ministry of Statistics and Programme Implementation; 2023.
3. Anonymous. Food and food processing industry in India. Brickwork research; 2024. Available from:<https://www.brickworkranking.com>. Accessed 30 Mar 2026.
4. Anonymous. Ministry of Information, Government of India; 2025. Available from:<https://www.pib.gov.in>. Accessed 30 Mar 2026.
5. Kumudha A. Evolution of Agro-based industries in India. Bodhi International Journal of Research in Humanities, Arts and Science. 2023;8(1):71-75.
6. Reddy LK, Kumari SR. Performance of Agro-based industries in India: A critical analysis. IOSR Journal of Economics and Finance. 2014;2(4):15-25.
7. Singh R, Kaur J. Technological and labor challenges in Punjab's Agroindustries: Vocational training and technology adoption. Agricultural Engineering Review. 2018;11(3):158-176.