Volume. 1, Issue 10, October 2026

STRUCTURAL TRANSFORMATION AND GROWTH DYNAMICS OF GUJARAT'S AGRICULTURAL SECTOR

Pardeep Singh[1], Laxmi R. Dubey[1], K. P. Thankur[1], Dharmik G. Borisagar[2], Charls M. Nagani[3]

1. College of Agribusiness Management, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar-385506, Gujarat;
2. College of Agriculture, Vaso, Anand Agricultural University, Anand-388110, Gujarat;
3. IAMI, Anand Agricultural University, Anand-388110, Gujarat

Corresponding author: pardeepsingh@sdau.edu.in

Introduction

Agriculture and allied activities have remained central to Gujarat's economic development, rural livelihoods, and diversification. Over the past four decades, the state's agricultural economy has undergone significant structural transformation, shifting gradually from traditional crop-based production to high-value crops and allied activities. Changes in irrigation, technological advancement, market infrastructure, commercialization, changing consumer demand and diversification of farm activities have contributed to this transformation. While cereals, pulses and oilseeds historically constituted an important component of agricultural production, the increasing importance of fruits and vegetables, spices and condiments, dairy, forestry and fisheries reflects the changing composition of agricultural output. Such changes are important not only for understanding the growth trajectory of Gujarat's agriculture but also for assessing the emerging sources of agricultural income and value creation. The increasing contribution of livestock and other allied activities suggests that agricultural development in the state is progressively becoming more diversified and less dependent on conventional crop production.

The growth trajectory, however, has not been uniform across different periods or commodity groups. From 1980-81 to 2023-24, Gujarat state agriculture has transformed towards high-value crops, livestock, forestry and fishing due to policy implications, demand of the products and institutional changes. Therefore, the present study examines the changing composition, growth performance and contribution of major commodity groups to the value of output growth of Gujarat's agriculture and allied sector during 1980-81 to 2023-24. The study specifically analyses the changing share of different commodity groups, period-wise growth rates and their commodity group contribution to overall growth of the sector. The analysis provides evidence of the evolving structure of Gujarat's agricultural economy and highlights the increasing role of diversification, commercialization and high-value agricultural and allied activities in shaping the state's agricultural growth.

The study is based on secondary data from a period of 1980-81 to 2023-24. Data on the value of output of major commodity groups and agriculture and allied activities were obtained from the Ministry of Statistics and Programme Implementation (MoSPI, 2026). The analysis covers major crop groups, including cereals, pulses, oilseeds, sugar, fibre, spices and condiments, fruits and vegetables and other crops, along with milk, other livestock, forestry and fisheries. The analysis uses three major indicators: (i) commodity group-wise share in the value of output, (ii) growth rate of value of output, and (iii) contribution of individual commodity groups to the overall growth of agriculture and allied activities. The study period is divided into four sub-periods 1980-81 to 1989-90, 1990-91 to 1999-00, 2000-01 to 2009-10 and 2010-11 to 2023-24 to examine changes in growth and structural composition over time. Growth rates are estimated using the appropriate growth-rate approach based on the time-series value of output. The contribution of individual commodity groups is assessed to identify their relative role in determining the overall growth of the agriculture and allied sector. Wholesale Price Index (WPI) data, wherever required for price-related analysis, are sourced from the Office of the Economic Adviser. The analysis is conducted at constant prices to distinguish changes in real output from changes attributable to price movements.

Results and discussion

Gujarat state agriculture and allied sector has gone through a significant structural transformation throughout the period 1980-81 to 2023-24. The share of crop sector declined from 76.52 per cent during the 1990s to 61.98 per cent during 2010-11 to 2023-24, indicating a gradual shift toward livestock, forestry, and fisheries (Fig. I). Crops contributed 57.69 per cent of the total value of output for the entire period, followed by livestock, forestry and fisheries at 26.28, 10.13 and 5.90 per cent respectively. Cereals and oilseeds saw the biggest decrease in their relative value of output contributions within the crop sector. The share of cereals decreased from 21.22 per cent in the 1980s to 6.35 per cent during 2010-11 to 2023-24 and oilseeds from 25.51 to 11.54 per cent in 2010-11 to 2023-24. Pulses also fell from 5.02 to 2.26 per cent. Sugar fell from 5.46 to 1.87 per cent. However, fruits and vegetables share increased from 10.52 per cent in the 1980s to 15.60 per cent during 2010-11 to 2023-24 in the total value of output. The share of spices and condiments also increased from 3.50 per cent to 5.29 per cent, indicating the increase in diversification into high-value crops.

The shares of the fiber crops were still varying along the lines of 11 to 12 per cent over the two successive periods. In contrast, livestock, mainly for milk (21.73 per cent), has emerged as a major constituent, rising from 23.48 per cent in the 1990s to 25.52 per cent in the latest period. The share of forestry and fisheries increased from 11.83 per cent (2000-01 to 2009-10) to 12.49 per cent in the latest period. Overall, the results reveal a distinct transition in the agricultural economy, from traditional cereal and oilseed agriculture to high-value crops and allied activities such as fruits and vegetables, dairy, forestry and fisheries. This indicates the changing structure of the state's agricultural economy in terms of commercialization, diversification and higher value crops.

The growth performance of the agriculture and allied sector in Gujarat shows a pattern of improvement over time, with a relatively weak performance in the 1980s and strong acceleration in the subsequent decades (Table 1). The crop sector experienced a negative growth rate of -2.55% from 1980-81 to 1989-90, mainly due to the decline in the growth rate of major crop groups like cereals (-5.84%), fiber (-8.28%), pulses (-2.30%) and oilseeds (-2.73%). This poor performance is attributed to greater dependence on rain, frequent droughts and climatic variability, low adoption of modern agricultural technologies, low irrigation coverage, low productivity during the initial period, etc. The negative growth is primarily due to the decrease in real agricultural output and not to price changes, as the figures are based on the value of output at constant prices of 2011-12.

Table 1: Commodity group-wise growth of Value of Output

(Base year, 2011-12)

Commodity Groups	1980-81 to 1989-90	1990-91 to 1999-00	2000-01 to 2009-10	2010-11 to 2023-24	1980-81 to 2023-24
Cereals	-5.84	2.63	8.97	2.43	3.01
Pulses	-2.30	0.84	11.07	10.80	3.97
Oilseeds	-2.73	2.70	9.42	4.78	4.38
Sugar	-0.04	4.27	1.04	4.63	3.21
Fibre	-8.28	10.81	23.80	-0.31	6.80
Spices & Condiments	-0.60	1.95	18.05	11.07	8.00
Fruits & Vegetables	2.57	5.10	14.78	6.51	8.12
Other Crops	-1.00	6.52	1.44	5.22	4.19
Crop Sector	**-2.55**	**4.87**	**10.55**	**4.53**	**5.29**
Milk	-	6.46	7.56	7.30	7.39
Other livestock	-	7.69	15.45	2.74	7.77
Livestock Sector	-	**6.62**	**8.66**	**6.60**	**7.45**
Forestry	-	-	31.35	10.95	13.69
Fisheries	-	-	5.15	9.35	6.80

Commodity Groups	1980-81 to 1989-90	1990-91 to 1999-00	2000-01 to 2009-10	2010-11 to 2023-24	1980-81 to 2023-24
Forestry & Fisheries Sector	-	-	**16.02**	**10.39**	**9.73**
Agriculture and Allied Activities	**-2.55**	**5.79**	**10.61**	**5.65**	**6.72**

Source: MOSPI, 2026

The crop sector recorded a growth of 4.87 per cent during 1990-91 to 1999-00, which rose to 10.55 per cent during 2000-01 to 2009-10 and moderated in the period of 2010-11 to 2023-24 at 4.53 per cent. The highest growth during 2000-01 to 2009-10 was recorded for fiber crops (23.80%) followed by spices and condiments (18.05%) and fruits and vegetables (14.78%). The important high-growth crop groups for the entire period have been spices and condiments (8.00%) and fruits and vegetables (8.12%), signifying a shift toward high-value agriculture.

The livestock sector also increased consistently from a growth rate 6.62 per cent in the 1990s to 8.66 per cent in 2000-01 to 2009-10, with an overall growth rate of 7.45 per cent. Forestry and fisheries also contributed substantially, with growth of 9.73 per cent during the longer period also. Agriculture and allied activities overall grew at 6.72 per cent per annum. This reflects structural changes and diversification of the Gujarat agricultural economy away from traditional crop-based production toward high-value crops, livestock, forestry and fisheries.

The contribution pattern, when viewed alongside the growth rates, highlights a transformation in the sources of agricultural growth in Gujarat (Table 2). During the 1980s, Gujarat's agricultural sector experienced a contraction of 2.55 per cent annually, primarily due to negative growth in cereals (-5.84%), fibre (-8.28%), and oilseeds (-2.73%). Negative growth in these three groups pulled overall growth down, with contributions of −48.69, −38.36 and −27.36 per cent respectively. Pulses and other crops also recorded negative growth of 2.30 and 1.00 per cent, contributing -4.54 and -6.69 per cent, respectively. In contrast, fruits and vegetables registered positive growth of 2.57 per cent and contributed 10.62 per cent, indicating their relatively better performance during this period. During the 1990s, agricultural growth recovered to 4.87 per cent, supported by a turnaround in most crop groups. Fibre recorded a strong growth of 10.81 per cent and it contributed by 21.09 per cent in the growth of agriculture and allied sector, while other crops, oilseeds and fruits and vegetables increased by 6.52, 2.70 and 5.10 per cent, contributing 12.03, 9.08 and 8.82 per cent in the growth of the agriculture and allied sector, respectively. The livestock sector also increased by 6.62 per cent, with a contribution of 22.53 per cent to overall growth of the sector. This indicates the beginning of a shift towards commercial crops, high-value crops and livestock activities.

Table 2: Commodity Group-Wise Contribution to the Growth of Value of Output

(Base year, 2011-12)

Commodity Groups	1980-81 to 1989-90	1990-91 to 1999-00	2000-01 to 2009-10	2010-11 to 2023-24	1980-81 to 2023-24
Cereals	-48.69	5.91	7.46	2.73	3.24
Pulses	-4.54	0.58	2.23	4.32	1.32
Oilseeds	-27.36	9.08	12.61	9.76	7.74
Sugar	-0.08	3.74	0.42	1.53	1.19
Fibre	-38.36	21.09	26.37	-0.64	10.36
Spices & Condiments	-0.82	1.00	4.52	10.36	4.62
Fruits & Vegetables	10.62	8.82	16.72	17.97	14.80
Other Crops	-6.69	12.03	1.32	6.71	4.68
Milk	-	22.53	13.65	28.08	24.65
Other livestock	-	4.38	4.88	1.84	4.49
Forestry	-	-	20.62	15.71	20.66

Commodity Groups	1980-81 to 1989-90	1990-91 to 1999-00	2000-01 to 2009-10	2010-11 to 2023-24	1980-81 to 2023-24
Fisheries	-	-	2.36	7.27	5.97

Source: MOSPI, 2026

During 2000-01 to 2009-10, agricultural and allied activities recorded their highest growth of 10.61 per cent, driven by rapid expansion across several commodity groups. Fibre registered the highest crop growth of 23.80 per cent and contributed 26.37 per cent to overall growth, followed by fruits and vegetables (14.78% growth; 16.72% contribution), oilseeds (9.42%; 12.61%) and milk (7.56%; 13.65%). Forestry recorded exceptionally high growth of 31.35 per cent, contributing 20.62 per cent. The growth during this period reflects a significant phase of agricultural diversification and expansion of high-value and allied activities. During 2010-11 to 2023-24, the growth of agriculture and allied activities moderated to 5.65 per cent, although several high-value and allied commodities continued to perform strongly. Milk recorded 7.30 per cent growth and emerged as the largest contributor, accounting for 28.08 per cent of overall growth, followed by fruits and vegetables (6.51% growth; 17.97% contribution) and forestry (10.95%; 15.71%). Spices and condiments also recorded strong growth of 11.07 per cent, while fisheries grew by 9.35 per cent. In contrast, fibre experienced a marginal decline of 0.31 per cent.

Over the entire 1980-81 to 2023-24 period, Gujarat's agriculture and allied sector registered an average growth of 6.72 per cent, with the crop sector growing by 5.29 per cent, livestock by 7.45 per cent, and forestry and fisheries by 9.73 per cent. Among individual commodity groups, fruits and vegetables recorded 8.12 per cent growth and contributed 14.80 per cent, while milk registered 7.39 per cent growth and contributed 24.65 per cent. Forestry, with 13.69 per cent growth, contributed 20.66 per cent, while fibre and oilseeds contributed 10.36 and 7.74 per cent, respectively. Overall, the results indicate a structural transformation of Gujarat's agriculture from dependence on traditional crops towards high-value crops, dairy, forestry and fisheries, reflecting increasing diversification and commercialization of the agricultural economy.

Conclusions

The study reveals a significant structural transformation in Gujarat's agriculture and allied sector during 1980-81 to 2023-24. The share of the crop sector declined over time, while livestock, forestry and fisheries gained increasing importance. The 1980s recorded negative agricultural growth, largely because the period was affected by droughts and rainfall variability, which adversely affected crop production, particularly cereals, fibre and oilseeds. Growth improved substantially during the subsequent decades, reaching its highest level during 2000-01 to 2009-10, supported by the expansion of fibre, fruits and vegetables, livestock and forestry. In the recent period, dairy, fruits and vegetables, spices, forestry and fisheries have emerged as important drivers of growth. Overall, the findings indicate a clear shift from traditional cereal- and oilseed-oriented agriculture towards high-value crops and allied activities. This transformation highlights the growing importance of agricultural diversification, commercialization, improved irrigation and technological advancement in strengthening the resilience and growth of Gujarat's agricultural economy.

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