International Journal of Academic Research and Development (IJAR&D)
ISSN : 2395-1737 (Print), Volume 11, No. 2, Page No 137-145
DOI : https://doi.org/10.70381/23951737.v11.n2.i22.2025.15
Bharti Publications, New Delhi, India

East Meets West: A Comparative Analysis of Agricultural Growth in Odisha and Gujarat Using NSDP and CAGR

Pallavi Das

Ph.D. Scholar, Centre for Studies in Economics and Planning, School of Social Sciences, Central University of Gujarat, Kundhela, Gujarat

Prof. Kshamanidhi Adabar

Professor, Centre of Studies in Economics and Planning, School of Social Sciences, Central University of Gujarat, Kundhela, Gujarat

ABSTRACT

Odisha and Gujarat, located on opposite ends of India—one in the east and the other in the west—have both made significant strides in agriculture over the years. Yet, their paths to growth have been quite different. This paper takes a closer look at how agriculture has evolved in these two states, using Net State Domestic Product (NSDP) data as the foundation. By applying the Compound Annual Growth Rate (CAGR) and examining the share of agriculture and its allied sectors in the overall NSDP, the study paints a detailed picture of their agricultural performance over a defined period. What emerges is a nuanced understanding of the unique challenges and opportunities that have influenced agricultural development in Odisha and Gujarat. While further research is needed to fully explain the differences in their growth patterns, this paper offers a strong starting point. It not only sheds light on what's driving agricultural growth in these states but also provides valuable insights that can help shape effective policies for other developing regions aiming to strengthen their own agricultural sectors.

Keywords: *Agriculture, Odisha, Gujarat, Economic Growth, NSDP, CAGR, Regional Development, Agricultural Policy, Sectoral Analysis, Developing States*

Introduction

The economy is often classified into three core sectors: primary, secondary, and tertiary, with each playing an important role in contributing to statistics such as GDP (Gross Domestic Product), NDP (Net Domestic Product), and NSDP or GSDP. Agriculture, which is the foundation of the primary sector, remains a key source of income for a substantial section of the people. As a result, agricultural growth and development are critical to promoting long-term and equitable economic improvement.

In 2016, agriculture accounted for 23% of India's GDP, while it employed a staggering 59% of the country's total workforce (Benchmark Report, 2017). This statistic highlights a significant disparity, where the majority of the workforce contributes to only a fraction of the GDP. In contrast, the industrial sector, also known as the secondary sector, employed approximately 22% of the workforce and contributed around 26% to the GDP.

The economic reforms of 1991 marked a pivotal moment in India's economic landscape. These reforms particularly benefited the secondary and tertiary sectors, leading to outstanding performance. The removal of many restrictions on imports and exports opened up the economy, fostering rapid growth in the industrial

sector. According to the World Bank, India's industrial manufacturing GDP output in 2015 ranked as the sixth largest in the world, based on 2013 US Dollar values ($559 billion), and the ninth largest when adjusted for inflation to constant 2005 US dollars ($197.1 billion) (UNSD 2013).

This transformation underscores the dynamic nature of India's economic sectors and their pivotal roles in shaping the nation's growth trajectory.

"A couple of decades ago India was considered to be a third world country with limited economic potential but now India is one of the fastest growing economies of the world with vast economic potential" (Alamgir & Jalal, 2008). The rate of growth of an economy is generally used to measure the overall performance.

GSDP or NSDP are the principal indicators to determine the economic growth and to analyze the sectoral sifts taking place in a state. The key point that differentiate gross from net is CFC, while estimating gross "no deduction is made for CFC which takes place in the process of production", whereas while estimating net, "CFC is subtracted from gross value figures" (SDP report of Chandigarh, 2015).

"Net state domestic product (NSDP) is defined as a measure, in monetary terms, of the volume of goods and services produced within the boundaries of the State during a given period of time after deducting the depreciation, accounted without duplication". NSDP is also called as state income. NSDP and Per Capita NSDP of a state reflect the economic growth and well being of its people.

The comparison between the growth rate of Gujarat and Odisha is done by calculating the growth by means of using the NSDP data at a constant price and not current price as current price does not reflect the actual economic growth. The use of current prices over the time does not disclose the real growth as it is a combined effect of the "change in volume of goods and services and the changes in the prices of goods and services" (SDP report of Chandigarh, 2015). The economic performance of Gujarat and Odisha is compared by examining the growth of agricultural sector and its share in NSDP.

The realm of agriculture and its allied sectors is intricately connected to the abundant natural resources of the country. This comprehensive sector encompasses agriculture, livestock, forestry, logging, and fishing, all of which harness and utilize these natural resources to generate raw materials and essential commodities. These raw materials, in turn, serve as fundamental inputs for various industries, facilitating further production processes.

In the context of India's economy, the agriculture sector holds a distinct and vital position, as a significant proportion of the population depends on it for their livelihoods (Economic Survey of Odisha, 2017). This primary sector plays a pivotal role in driving the growth of both the industrial and service sectors (Verma and Bodh, 2018).

Gujarat stands as one of India's high-income states, celebrated for its swift industrial expansion. Conversely, Odisha falls within the category of medium-income states in India, with agriculture serving as the predominant sector, contributing to approximately 30% of its NSDP. It is worth noting that the agriculture sector exerts a substantial influence on the overall income of both Gujarat and Odisha. NSDP, which is also referred to as state income, underscores that while a state may be classified as high-income or medium-income, the agriculture sector remains a significant determinant of its income profile.

The agricultural landscapes in Gujarat and Odisha have evolved differently over time. While the contribution of agriculture to NSDP has decreased significantly in both states, declining from approximately 48% to about 14% in Gujarat and from 66% to 13% in Odisha between 1970 and 2018, it remains the bedrock of their economies. Agriculture continues to be the primary source of employment for a vast majority of rural residents in both states. According to the 2011 census, approximately 57.6% of Gujarat's population resides in rural areas (the State of Gujarat Agriculture, AERC Report, 2012), while a striking 83% of Odisha's population lives in rural regions (Sahoo & Joshi, 2018).

In terms of employment, about 60% of Odisha's workforce (Economic Survey, 2017-18) and roughly 51.8% of Gujarat's workforce (AERC Report, 2012) rely on agriculture for their livelihoods. The agriculture and allied sectors in both states are intricately intertwined with the well-being and prosperity of their people.

Gujarat has long been renowned for its rapid industrial development, with agriculture historically playing a relatively minor role in the state's growth narrative. Interestingly, despite agriculture being the dominant sector in Odisha, Gujarat has consistently outperformed Odisha in terms of agriculture growth rates throughout various decades.

It's noteworthy that both states share similarities in terms of agricultural characteristics. Gujarat and Odisha have comparable proportions of land under cultivation, accounting for about 59% in Gujarat and approximately 61% in Odisha. They also experience similar climatic conditions. However, both states face inherent disparities within their agricultural landscapes. Gujarat's agriculture is marked by variations such as drought-prone areas, saline regions, low rainfall zones, and susceptibility to

cyclones and floods (AERC Report, 2012). Likewise, agriculture in Odisha grapples with natural disparities, including low rainfall, saline areas, and heightened vulnerability to natural disasters. Both states confront significant risks and instabilities in agricultural output and productivity due to these factors.

As per the input survey 2006-07 "the average size of land holding in Gujarat was 2.11 ha" (Rao & Nanavati, 2015) and in case of Odisha it was 1.04 ha (Economic survey of Odisha, 2017). Marginal and small farmers are lesser in Gujarat and more in Odisha; Odisha has less than 1% of large farmers. One of the most unique features that farmers of Gujarat have and which lag in farmers of Odisha is risk taking. "Farmers in Gujarat are enterprising and risk taking" (Rao & Nanavati, 2015).

Crop sector is considered as the major growth driver of agriculture and allied sector in both the states. The area under horticulture crops were increased; diversity in agro- climatic condition helped Odisha to enjoy a " natural comparative advantage for horticulture crops with possibilities for growing a diversified basket of fruits, vegetables, spices, tuber crops and flowers; whose potential has not been fully exploited" (Economic survey of Odisha, 2017).

In Gujarat also area under horticulture was increased and it has a significant share in agriculture activities. Gujarat has properly used its soil diversity and has well diversified its cropping pattern. Production of horticulture crops increased in Odisha but it was not up to the expectable level. According to the second advance estimate of agricultural data, the growth rate in Odisha climbed dramatically to 19.65% in 2016-17 but subsequently decreased to 4.70% in 2017-18 due to inadequate crop output (Economic survey of Odisha, 2017). Crop production in Odisha increased but the production of paddy and pulses remained low in comparison to other leading states. Despite the average paddy and pulse yields being lower than those of the top states, Odisha has achieved tremendous growth in average paddy and pulse yields "which were above 3000 kg/ha and 500 kg/ ha respectively during 2012-16, compared to average yield of paddy of 2338 kg/ha and of pulses of 350 kg/ ha during 2001-11" (Economic survey of Odisha, 2017). Rice is the principal crop of Odisha and has shown an "unprecedented" growth rate of 27%. In Gujarat, growth in wheat production was the most important factor that has significantly affected the crop sector growth. "The major sources of agricultural growth in Gujarat as identified in recent literature are milk, cotton, horticulture crops, groundnut, sugarcane, wheat and rice" (Rao and Nanavati, 2015). Gujarat holds the title of being India's top producer of cotton and groundnuts, and it ranks as the fourth-largest state in the country for fruit production. In between 2004-05 to 2013-14, percentage increase in the food grain production was about 33% and among all the important crops produced in Gujarat ground nut has registered highest percentage increase, its change in the production was approximately 618% followed by oilseeds (176%) & cotton (103%) (Directorate of Gujarat Agriculture, 2014).

Livestock is another source that significantly contributes to agriculture growth. Odisha is the country's eleventh-best egg-producing, thirteenth-best meat-producing and sixteenth-best milk-producing state (Basic Animal Husbandry Statistics, 2016). Gujarat holds the position of being the fifth-largest producer of both milk and wool in India. In the last ten years milk, egg and meat production in the state increased by about 5%, 19% & 10% respectively (Rao & Nanavati, 2015). According to the Livestock Census 2012, Odisha provides around 4.05% of the overall livestock population of the country, and according to the results of the 19th livestock census of Gujarat 2012, the total livestock population of the state was 273.97 lakh (Socio- economic review of Gujarat, 2016-17). Both the states have high potential to increase their livestock activities.

Leveraging the country's one of the longest coastline of 1600 kms, Gujarat accounts about 20% of marine fish production; which is highest among all the states of India (Socio-economic review of Gujarat, 2016-17). Export of fish and fish products in Gujarat was 208624 tons during 2015-16, the state has received foreign exchange earning of Rs 3567 crore (SDP Gujarat, 2016-17). Whereas Odisha has about 480 km of long coastline and contributes around 5% of total fish production of India, The state ranks tenth in fish production (Economic survey of Odisha, 2017-18). 38,007 tons of frozen shrimp worth Rs 2143 crore were sold to foreign nations during 2016-17. Japan, Hong Kong, China, USA, UAE, UK & Indonesia are the major importer of marine products from Odisha (Economic survey of Odisha, 2016-17).

Forests play a pivotal role in maintaining ecological equilibrium while also significantly contributing to the economic landscape of a region. Odisha, known for its rich forest cover, boasts a sprawling expanse of woodlands spanning approximately 58,136 square kilometers. These forests are primarily concentrated in regions such as the Eastern Ghats, Central Tablelands, and Northern Plateau, while the coastal areas, characterized by a denser population, have relatively less forested land. Impressively, the total forest area in Odisha accounts for about 37% of its overall geographical expanse (Economic Survey of Odisha, 2010-11).

Odisha's forests encompass a diverse range of ecosystems, comprising littoral and swamp forests (0.48%), tropical moist deciduous forests (39%), tropical dry deciduous

forests (57%), and tropical semi-evergreen forests (1%) (Odisha Forest Report, 2009.)

Similarly, in Gujarat, the state's forest cover extended over an area of approximately 19,145.83 square kilometers until the year 2009-10, constituting approximately 10% of the state's total geographical area. Gujarat's natural wealth includes an impressive network of 23 wildlife sanctuaries and 4 national parks, covering roughly 9% of the state's total land area, which surpasses the national average of 4%. The majority of forests in Gujarat exhibit characteristics of being dry, deciduous, and scrubby in nature, with relatively lower productivity levels, as indicated in the (Socio-economic Review of Gujarat, 2011-12).

Growth of agriculture and allied sector is not only obligatory for food security, to increase national income or to reduce poverty and unemployment but also to maintain overall economic development. Agriculture sector plays a pivotal role in the growth of any state economy. It is the chief sector supporting the growth of other two major sectors. "A state can achieve high growth only when the agriculture and its allied sectors growth accelerate; hence agriculture has always been the reform agenda" (AERC Report 146, 2012). Knowing the importance of agriculture in a state economy it is necessary to evaluate the performance of agriculture & allied sector.

Data and Methodology

Data Sources: The analysis conducted in this study relies on secondary data obtained from reputable sources. Specifically, data related to the Net State Domestic Product (NSDP) and per capita NSDP for the states of Odisha and Gujarat were sourced from the SDP dataset provided by the EPW Research Foundation. This dataset is originally published by the National Accounts Statistics (NAS), which is overseen by the Central Statistics Office (CSO) of India. The utilization of such authoritative data sources ensures the reliability and credibility of the findings.

Time Frame - The study period, which covers over 50 years of economic growth in both states, runs from 1970–1971 to 2017–2018. This prolonged period enables a thorough evaluation of long-term trends and patterns in Gujarat's and Odisha's economic performance.

Constant Prices- To make meaningful comparisons over time, the study uses NSDP and per capita NSDP data adjusted to constant prices. This approach helps account for the effects of inflation, offering a clearer picture of real economic growth. Data at constant prices is available for key benchmark years—1970–71, 1980–81, 1993–94, 1999–2000, 2004–05, and 2011–12—allowing for a consistent and reliable evaluation of how the economy and its various sectors have evolved over the decades.

Key Analytical Metrics - To achieve the objectives of this study, several key analytical metrics and methods are employed:

1. Percentage Analysis - Percentage-based calculations are used to evaluate each state's sectoral contributions to the NSDP and calculate its portion in the larger context of India. This technique enables a relative assessment of the importance of various industries and states in the Indian economy.
2. Compound Annual Growth Rate (CAGR) - The CAGR is used to quantify the growth rates in Gujarat and Odisha over the selected analysis period. This indicator sheds light on the rate of economic expansion and helps detect patterns in each state's economic development.

Using these data sources and analytical tools, this research attempts to provide a complete and rigorous assessment of Odisha and Gujarat's economic trajectories, with a special emphasis on sectoral contributions and their implications for state-level income and development.

Data Analysis

In light of this, the current study examines the growth rates of Gujarat and Odisha's agricultural and related sectors as well as their respective contributions to the NSDP between 1970–71 and 2017–18. The economic activities of agriculture, cattle, forestry, logging, and fishing are all included in the category of agricultural and related sectors. "One of the key indicators of how much agriculture and related industries contribute to the state's overall income is the NSDP from agriculture" (Bhoi & Sia, 2015). Table 1 displays the corresponding share of agriculture in the NSDP of Gujarat and Odisha from 1970-2018.

Table 1: Percentage Share of Agriculture in the Total NSDP of Gujarat & Odisha from 1970-71 to 2017- 2018

At 1970-71 Constant Prices		
Year	**Gujarat**	**Odisha**
1970-71	47.96	65.46
1971-72	48.46	63.01
1972-73	32.93	65.26
1973-74	39.69	65.57
1974-75	30.51	60.47
1975-76	42.72	64.59
1976-77	41.40	57.72
1977-78	39.87	63.21

1978-79	39.28	62.77
1979-80	38.08	55.13
1980-81	38.28	61.70
At 1980-81 constant Prices		
1980-1981	39.93	53.14
1981-1982	42.95	54.57
1982-1983	37.33	51.06
1983-1984	38.17	55.26
1984-1985	38.59	50.11
1985-1986	30.24	52.56
1986-1987	28.43	49.54
1987-1988	17.17	46.22
1988-1989	32.45	44.79
1989-1990	29.13	47.17
1990-1991	26.98	39.12
1991-1992	24.22	40.08
1992-1993	27.63	37.10
1993-1994	21.58	40.29
At 1993-94 Constant Prices		
1993-1994	24.25	44.25
1994-1995	28.80	41.66
1995-1996	24.31	40.41
1996-1997	28.63	38.13
1997-1998	26.07	40.19
1998-1999	25.81	38.26
1999-2000	18.02	33.17
At 1999-2000 Constant Series		
1999-2000	17.68	32.35
2000-2001	16.61	30.47
2001-2002	20.45	33.53
2002-2003	17.35	27.44
2003-2004	21.24	29.80
2004-2005	18.66	27.27
At 2004-05 Constant Prices		
2004-05	17.71	25.25
2005-06	19.20	24.99
2006-07	17.47	22.60
2007-08	17.00	21.73
2008-09	14.73	20.50
2009-10	12.46	21.91
2010-11	13.94	20.85
2011-12	14.23	19.92
At 2011-12 Constant Prices		
2011-12	19.27	17.90
2012-13	14.66	19.69
2013-14	17.40	17.38
2014-15	15.74	18.52
2015-16	14.06	14.81
2016-17	13.99	15.41
2017-18	14.01	13.10

Source - Authors own calculation from EPW data.

It can be seen from Table 1 that the share of agriculture in NSDP decreased from 47.96% in 1970-71 to 42.72% in 1975-76 and further to 38.28% in 1980-81 for Gujarat, whereas, it was 65.46%, 64.59% and 61.70% for Odisha during the corresponding years. At 1970-71 constant prices, the proportion of agriculture and associated sectors in Gujarat declined by 9.68%, the decline in the share of agriculture was more in Gujarat than that of Odisha (3.76%) from 1970-71 to 1980-81.

At 1980- 81 constant prices, similar kind of trends as at 1970-71 constant prices was observed for agriculture in both the states. The share of agriculture in Gujarat declined from 39.93% in 1980-81 to 30.24% in 1985-86 and further to 21.58% in 1993-94. In Odisha also the share of agriculture sector fall, it dropped from 53.14% to 52.56% and then to 40.29% during the corresponding year. Gujarat's agriculture declined by 18.35% whereas agriculture in Odisha declined by 12.85%. Agriculture and allied sectors in both the states was falling drastically however the rate of fall was more in Gujarat as compared to Odisha during 1970s and 80s.

At 1993-94 & 1999-2000 constant prices during 1993 -2004 the share of agriculture shrank from 24.25% to 17.68% and then increased to 18.66% in Gujarat while in Odisha the share declined from 44.25% to 32.35% and moreover to 27.27% during 1993-94, 1999-2000 and 2004-05. Even though the share of agriculture was reducing, during this period the rate of decline for Gujarat (5.59%) was less than the previous decades and that of Odisha. On the other hand, agriculture declined by 16.98% more than the previous two decades in Odisha.

The performance of agriculture sector was gradually decreasing in Odisha in comparison to Gujarat. At 2004-05 constant prices, share of agriculture sector in Gujarat declined from 17.71% in 2004-05 to 14.23% in 2011-12, whereas it was 25.25% and 19.92% for Odisha. During this period agriculture in Gujarat declined by 3.48% and in Odisha it declined by 5.33%. Though the share of agriculture in NSDP was reducing for both the states, but the pace of reduction was more in Odisha.

The share of agriculture and allied sectors in NSDP for Gujarat and Odisha at 2011-12 constant prices was

19.27% and 17.90% in 2011-12 and 14.01% and 13.10% in 2017-18 respectively, the share declined for both the states during 2017-18. However the rate was different, the share in Gujarat declined by 5.26% and in Odisha by 4.8%. During this decade the share of agriculture in Odisha was less than Gujarat. Table-2 shows the growth rate of agricultural and associated sectors in Gujarat and Odisha.

Table 2: Growth rate of Agriculture and its sub- sectors in Gujarat & Odisha.

Constant Prices	1970-71		1980-81		1993-94		1999-2000		2004-05		2011-12	
Time period	1970-1980		1980-93		1993-99		1999-2004		2004-2011		2011-18	
	Gujarat	Odisha	Gujarat	Odisha	Gujarat	Odisha	Gujarat	Odisha	Gujarat	Odisha	Gujarat	Odisha
Agriculture	0.77	-	2.74	-0.30	11.20	0.58	12.48	2.09	7.26	3.72	3.45	-1.26
F & L	-0.70	-0.26	-0.42	-3.60	1.41	-0.49	7.91	0.82	0.87	0.81	10.09	6.22
Fishing	7.93	6.18	8.57	9.57	-1.89	6.13	-5.17	2.45	3.47	2.85	8.75	12.30
Livestock	-	-	-	-	-	-	-	-	-	-	5.37	3.84
Agriculture Sector	0.83	-1.11	2.78	-0.20	10.17	0.80	11.38	2.0	6.30	3.27	4.41	1.95

Source – Author's own calculation from EPW Data

The share of agriculture in NSDP was falling rapidly for both the states. During 80s the cropping intensity of Odisha was better i.e. is 146% (ODR, 2001). The major reason for the rapid decline in the share during 70s and 80s in Gujarat was largely because of "saturation of results of the earlier strategies" as well as a failure to embrace an innovative strategy based on new technologies (Hirway, 2000). Another major reason was that the government expenditure on agriculture and allied sectors had declined during 80s.

However the scenario changed from 1990, Odisha experienced decline in the share of agriculture in NSDP and in Gujarat also the share of agriculture was in a decline mode but the rate of decline was less in compared to Odisha. Gujarat since 1990 improved its agriculture performance by emphasizing on various factors such as development of irrigation, modern technology, adoption of HYV crops, infrastructure and marketing (Rao and Nanavati, 2015). On the other hand during 1990s the food grains production was steadily declining which emerged as one of the major concerns associated with agriculture in Odisha (Rath & Jena, 2006). Another problem during 90s was that, agriculture was not commercialized in Odisha. Farmers were mostly producing for domestic consumption purpose and not for commercial purpose. There had not been any noticeable change in the cropping pattern during 90s, instead of increasing area under "remunerative" cash crops area under food grains was increased from 85% in 1970 to about 90% during 1990s (Odisha Development Report, 2001). The cropping intensity also dropped to 139% in 90s from 146% in 70s, it declined by 7%.

After 2000 both the states have given due importance to agriculture sector. Gujarat's agricultural sector performance was outstanding after 2000. As per Gulati et. al (2009) "agriculture in Gujarat after 2000 seems to have picked up dramatically, recording an average annual growth rate of 9.6%" (Shah et al, 2000). It has outperformed the rest of the economy since 2000. The main reason behind the agriculture growth in Gujarat was the "massive boom in the cotton production, growth in the high value sector comprising livestock, fruits and

vegetables, and the rise in the wheat production" (Shah, 2000). The growth rate of wheat and pulses was almost double and in case of cotton it jumped to 3- 4 times. Cash crops such as bananas and potatoes have exhibited a noteworthy upward trajectory in production in Gujarat. Additionally, the livestock sector, particularly milk production, has experienced a significant acceleration in its growth rate. This positive trend in agriculture is further underscored by the expansion of the area under food crop cultivation, a development particularly prominent in the early 2000s. The year 2010-11 witnessed a surge in crop production, attributed in part to favorable monsoon conditions. Key crops such as cotton, tobacco, food grains, groundnuts, and oilseeds recorded robust output during this period, as reported (Directorate of Agriculture of Gujarat, 2011. Gujarat has firmly established itself as India's leading cotton-producing state and a pivotal contributor to the country's cotton supply. This impressive growth in the agriculture and allied sectors has translated into increased income for agricultural workers. Gujarat has been at the forefront, with the income of its farmers growing at an exceptional annual rate of 13% since the turn of the century, making it the fastest-growing state in terms of farmer income across the nation. This remarkable agricultural performance has not only bolstered the state's economy but also improved the livelihoods of its farming community (Gulati et al, 2009).

Conclusion and Policy Suggestion

The central government's announcement of MSP for crops such as cotton, wheat, and others encouraged the farmers of Gujarat to produce more. The "Bt cotton revolution" played an important role in making the state one of the largest producer of cotton, the revolution spread to mostly all the cotton growing states like Maharashtra, Andhra Pradesh and Punjab but it was only Gujarat which experienced expeditious rise in agriculture. Several other initiatives taken by the BJP government like "revive farm extension, research technical and credit support to farmers & Krishi Mahotsav" has further accelerated the growth of agriculture in Gujarat.

Odisha also improved its agriculture performance. The area under HYV seeds was increased after 2000. The state also witnessed an increase in the area and production of spice crops. Onion, garlic, coriander, chilly, ginger and turmeric has shown an increasing growth trend in terms of production since 2007 (Directorate of Horticulture Odisha, 2010). The crop sector performed outstanding during 2016-17. Odisha's food grain output has been steadily expanding since 2001. Paddy output climbed from 6,813 TMT in 2008-09 to 6,917 TMT in 2009-10 and in case of cash crops particularly potato experienced acceleration in the growth trend, the production increased significantly by 43.86%. Odisha was rated fourth in vegetable output in 2009-10, with a total production of 8.937 TMT. Odisha contributes about 4% of India's total spice production. "Odisha bagged national '*Krishi Karman Award'* four times consecutively between 2010-11 and 2014 -15" (Economic Survey of Odisha, 2016-17). Odisha contributes about 5% of the nation's overall livestock population. From 2010-11 to 2016-17, there was a notable surge in the production of milk and meat in Odisha, with quantities rising from 1,670 thousand metric tons to 2,002 thousand metric tons and from 138 thousand metric tons to 176 thousand metric tons, respectively (Directorate of Animal Husbandry & Veterinary Services Odisha, 2017). However, a contrasting trend emerged in the production of eggs, which experienced a decline from 2,357 million to 1,974 million during the same period.

In the realm of dairy production, Odisha's success story is epitomized by OMFED, which has played a pivotal role in ushering in the "white revolution" within the state, drawing inspiration from the illustrious example set by Anand, Gujarat. Over the past 37 years, OMFED has been instrumental in the promotion, procurement, and marketing of milk and milk products, contributing significantly to the economic development of rural agricultural communities in Odisha.

In the fisheries sector, Odisha made substantial strides in 2014-15, contributing approximately 5% to India's total fish production and securing the 10th rank in terms of production nationwide. This progress can be attributed to the government's strategic initiatives, including the formulation of the State Agricultural Policy 2013 and the Odisha Fishery Policy 2015, as well as dedicated budget allocations for the agricultural sector.

Despite these encouraging developments, some areas of Odisha's agricultural landscape present room for improvement. Notably, sugar production witnessed a sharp decline of 60% in 2016-17, signaling challenges in this segment. Similarly, although the state holds promising potential in floriculture, it currently contributes only 3% of the total flower production in the country.

The production of oilseeds faced a slight setback, decreasing from 152 thousand metric tons to 150 thousand metric tons between 2008 and 2010. Likewise, despite an expansion in the cultivated area for fibers from 89 thousand hectares in 2008 to 109 thousand hectares in 2010, the actual production declined from 288 thousand metric tons to 275 thousand metric tons during the same period.

These observations suggest that while Odisha has made commendable progress in various agricultural sectors,

there exists untapped potential for further growth. The need to optimize agricultural production is underscored by a reduction in the area devoted to food grains, shrinking from 5,428 thousand hectares in 2008-09 to 5,406 thousand hectares in 2009-10. Similarly, the net sown area (NSA) decreased from 5,829 thousand hectares in 2000-01 to 5,574 thousand hectares.

Given this, Odisha has a great deal of potential to increase its agricultural production, concentrating on oilseeds, textiles, and other commodities that provide revenue. Utilizing its agricultural potential will allow the state to further support its economic development and progress.

Low use of stimulating inputs like HYV seeds, chemical fertilizers, low investment, lack of rural infrastructure, small size of operational holding and lack of appropriate policies are major obstacles that agriculture faces in Odisha. If the rates of growth of irrigation, marketing, power supply, infrastructure and storage and transport facilities are improved, the state can met the food requirements of its population by 2025.

The BJP government's agricultural policy initiatives have revitalized the trajectory of agricultural growth in Gujarat. The primary goal of these efforts is to improve market access for agricultural farmers. This overarching strategy includes a number of painstakingly developed initiatives targeted at improving farmers' access to more advantageous and efficient markets.

Gujarat has established itself as a trailblazer in the implementation of the Agricultural Produce Market Committee (APMC) system. This daring approach has enabled farmers to conduct direct transactions with a wide range of stakeholders, including wholesalers, exporters, manufacturers, and major trade conglomerates, all without the need of arhatias or commission agents. This innovative strategy has drastically reshaped the state's agricultural marketing structure, giving producers more control and profitability.

In addition to the requirement of market access, Gujarat's agricultural growth narrative has been bolstered by a number of complementing elements. The notion of agricultural diversification, which involves exploring a wider range of crops and commodities, has played a critical role in broadening the sector's horizons and limiting the hazards associated with monoculture. The revolutionary Krishi Mahotsav project, which was designed to spread best agricultural practices and stimulate innovation, has served as a catalyst for increased production and sustainable agricultural growth. Furthermore, the provision of technical help and improved access to financing resources has provided farmers with the knowledge and financial resources they need to maximize their agricultural efforts.

The significant investment in vital infrastructure, such as irrigation facilities and transportation networks, is central to this agricultural success story. These infrastructural improvements have jointly reinforced Gujarat's agricultural environment, making it more robust and adaptive to changing challenges. In summary, these multiple methods and activities have not only reenergized agricultural growth in Gujarat, but have also created an atmosphere in which farmers may thrive as significant contributors to the state's economic success. As a consequence, Gujarat's agricultural sector is healthy and sustainable, and it is prepared to make substantial contributions to the state's overall economy.

Reference

Sahoo, P., and Joshi, D.P. (2018). Growth and Structural change in Odisha. *Journal of Regional Development and Planning*, 7 (1), 17 -30.

Menon, S. (2008). Drivers of economic growth in Gujarat.

Hirway, I. (2000). Dynamics of Development in Gujarat: Some Issues. *Economic and Political Weekly*, 35(35/36), 3106 – 3120.

Mohapatra, B.K. (2017). Where Odisha Stands in India: A Socio-Economic Comparison. *International Journal of Advanced Research*, 5(6), 911-917.

Rath, B., and Jena, P.R. (2006). Growth Determinants of Orissa and their Implication for Future Development of the State. *Indian Journal of Agricultural Economics*, 61 (2), 200-217.

Morris, S. (2012). Economic Growth in Gujarat in Relation to the Nation and Other States in Recent Times – A Statistical Analysis. *Working paper*, IIM, 1-39.

Kalyani, M., and Kar, B.P. (2011). Success and Failure of Entrepreneurs in Implementation of Strategic Programs in Small Scale Enterprises in Two States of India: A Comparative Study. *European Journal of Business and Management*, 3(10), 86-99.

Planning Commission (2001). Odisha Development Report 2001. *Government of India.*

Thind, M., and Singh, L. (2018). Structural Change and Economic Growth across Major States in India. *Millennial Asia*, 9 (2), 162-182.

Planning and Convergence Department (2017). Odisha Economic Survey. *Government of Odisha.*

Rao, A.S., and Nanavati, A. (2015). Gujarat Economy: structure and performance. *Wisdom publication.*

Awasthi, D.N. (2000). Recent changes in Gujarat industry: Issues and Evidence. *Economic and Political Weekly*, 35(35/36), 3183-3192.

Bhatt, M., and Chavada, V.K. (1970). Industrial Growth in Gujarat: An Appraisal. *Economic and Political Weekly*, 5(48), 1929-1932.

Shah, T., Shreedhar, G. and et.all. (2010). Secret of Gujarat's Agrarian Miracle after 2000. *Economic and Political Weekly*, 44(52), 45-55.

Verma, S., and Bodh, P.C. (2018). Glimpses of Indian Agriculture. *Millennial Asia*, 9(3), 336 – 340.

Senapati, A.K., and Goyari, P. (2019). Growth and Instability in Agricultural Productivity in Odisha. *Agricultural Economics Research Review*, 32(1), 55-66.

Sethi, A.S., and Kaur, G. (2011). Some Dynamic Aspects of Net Domestic Product in India – A Sectoral Analysis. *The Journal of Indian Association for Research in National Income and Wealth,* 33, 113 -124.

Agro- Economic Research Centre (2012). State of Gujarat Agriculture. *Ministry of Agriculture*, Govt. of India.

Dubey, A. (2009). Intra-State Disparities in Gujarat, Haryana, Kerala, Orissa and Punjab. *Economic and Political Weekly*, 44(26/27), 224-230.

Planning & Coordination Department (2007). Eleventh Five Year Plan & Annual Plan 2007-2008. *Government of Odisha*.

Planning and Convergence Department (2018). The Economic Survey of Odisha 2017-18. *Government of Odisha.*

Directorate of Economics & Statistics (2019). Odisha Profile 2018. *Government of Odisha.*

Spant (2003). Why NDP should replace GDP as a Measure of Economic Growth. *Confederation of Professional Employees*, 39-43.

Dholakia, R., & Sapre, A. (2011). Gujarat's Growth Story. *Economic and Political Weekly*, 46 (32), 122-124.