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An analysis of the role of India's industrial and agricultural sectors in economic growth: Special focus on Bihar economy

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Abstract
Both industry and agriculture are regarded as essential pillars of a developing nation such as India's economy. Industry and agribusiness play crucial roles in an economy's reasonable financial development. India's GDP is made up of 14.6% and 28.6%, respectively, from farming and industry, although their importance to the country's monetary, social, and political system exceeds this percentage. Both sectors hold the key to the overall growth of the economy through generating jobs, paying salaries, ensuring food security and independence, supplying tools and equipment to other sectors, and generating cash from uncharted trade. With a focus on Gross Domestic Product (GDP), Per-capita Gross National Income (PcGNI), Gross Domestic Savings (GDS), Gross Domestic Capital Formation (GDCF), and Production of both agribusiness and mechanical area, the current investigation aims to examine the contribution of both farming and modern area to the Indian economy. GDP and PcGNI are used in this work as separate intermediaries of monetary development and financial improvement. The supplementary data used for the entire analysis is obtained from the Reserve Bank of India's Handbook of Statistics on Indian Economy. Nonetheless, the results show that, notwithstanding industry's influence on India's monetary development during the study period, agriculture has shown a much stronger beneficial impact on the financial turn of events. According to the analysis, agriculture forms the basis of both industry and the economy. Industry and agribusiness are like the two hands that hold up the Indian economy without them, it cannot be sustained or worked. Therefore, it is essential for a developing country to give importance to both farming and industry, particularly in the early stages of a financial turn of events. Since the two regions are fairly comparable for one another, they should both be taken into consideration. Rather than looking at industry vs agriculture, the issue could be addressed by looking at industry and agriculture together.

Keywords: Agriculture, industry, OLS test, India

Introduction
The Agriculture Act 1947 defines agriculture as "the use of land for market gardens and nursery grounds, the use of land for woodlands where that use is ancillary to the farming of land for Agricultural purposes, horticulture, fruit growing, seed growing, dairy farming and livestock breeding and keeping".

The foundation of the Indian economy is agriculture, which employs over 65% of the country's workforce. It must provide for over 17% of the world's population on 2.3% of the planet's land area and 4.2% of its water resources. The economy is now growing at a faster rate because to the economic reforms that were started in the nation in the early 1990s.2. Agriculture continues to be the engine of development even though its share of the nation's GDP decreased from over 30% in 1990-1991 to less than 15% in 2011-2012, a tendency that is normal in the process of any economy developing.

In Bihar, industrial development has never been easy. To draw in investors and industry leaders, the Bihar government does, however, update the State Industrial Policy every five years. Even though industry's share of the Gross State Domestic Product (GSDP) is far lower than the average Indian standard, over the past ten years, this contribution has steadily increased, even in the face of current obstacles to the availability of sufficient infrastructure and production factors in Bihar.

Since land is a finite resource that cannot be produced or replicated, it is both the most essential resource for industrial development and a crucial component of production. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR Act) has made it more difficult for the government and investors to make land accessible for industrial development. The paper analyses the barriers to industrial development in the imperfect land sales markets of India and Bihar. It finds that one of the biggest barriers is the absence of an accurate and up-to-date land record. Other barriers include the issue with the minimum value register and the lack of sufficient infrastructure for land administration in order to operationalize the proper land sales market that will be necessary for industrial development following the LARR Act. Within a neo-liberal framework, the current article critically evaluates both Bihar's industrial policy and the policy for allocating land for industrial growth. It also offers recommendations for the state's land use policy to be adopted.

India's agriculture sector's scope

In India, the pressure from an expanding population is accompanied by a stagnant or declining area under cultivation. This calls for an increase of farming and related activities in both the time and space dimensions. India has a tropical environment with plenty of sun radiation all year round, making it ideal for year-round food growth. The potential for increasing irrigation through river projects and small-scale irrigation initiatives is enormous. In addition to the aforementioned benefits, India enjoys a greater workforce pool. Because it is the main industry, agriculture depends on other industries. The specifics of land use classification in India help to clarify the breadth of agriculture in the country. The following are the terms and definitions related to land use statistics: geographical area, reporting area for land utilisation, cultivable land, not cultivable land, fallow land, net area sown, etc.

The term "forest area" refers to any territory that has been legally designated as a forest, whether it is privately or state-owned, wooded, or kept in prospective forest condition. The term "forest area" still refers to the region where crops were grown in the forest as well as any grazing grounds or open spaces inside the forests.

The term "area under non-agricultural uses" refers to any land used for purposes other than agriculture, such as land used for roads, railroads, buildings, or submerged in waterways like rivers and canals.

Land under miscellaneous tree crops, etc.: This refers to all land that can be farmed but is not counted towards the "Net area sown." This category includes land under casuring trees, thatching grasses, bamboo bushes, and other fuel-producing groves, among other things, that are not considered "Orchards".

Crop able waste land

This refers to land that is available for cultivation, whether it has been used or not, but hasn't been used for any reason for the previous five years or more, including this year. Such land may be left fallow or covered in non-productive bushes and jungles. They could be in isolated blocks or among farmed estates, accessible or inaccessible.

Net area sown

The net area sown denotes the total area planted with orchards and crops. An area that is seeded more than once in a single year is only counted once.

The reporting region for land use data

The area for which data on land use classification are available is referred to as the reporting area. The reporting area is the area as stated in village documents in areas where land records are the source of land utilisation statistics.

Agriculture's share of national income

The performance of agriculture is a major factor in determining the growth rate of the Indian economy, which is regarded as its backbone. This claim is supported by the fact that, among the nine primary economic sectors, agriculture continues to be the largest.

Industrial sectors' contribution to India's economy

The Cotton and Textile Sectors The textile business requires a lot of manpower. It employs forty-five million people. It is widely prevalent in India's unorganised economy. In 2014-15, India produced 48194 million kilograms of fabric annually.

The industries included in this sector are iron and steel, coal, cement, fertiliser, gemstones and jewellery, petroleum, chemicals, automobiles, leather goods, and sugar.

Latest advancements

The construction of ROB, which is a portion of SH 83, Baghi-Barbigha Road, was scheduled to be finished in January 2019 under BSHP-2. The project came at a total cost of Rs 32.74 crore, or $5.08 million.

In 2019-20, 30,959 and 3,606 aircraft movements were handled at Patna and Gaya, respectively. In the same time frame, Patna and Gaya handled 45,25,765 and 2,37,452 passengers, respectively. 12,249 MT of goods were handled at Patna airport in the same time period.

As of April 2018, the state of Bihar had been allotted a total of Rs 2,469.77 crore (US$ 383.21 million) under the AMRUT plan.

Important sectors

1,185.36 thousand hectares of land were used for production in the state's 21,204.97 thousand metric tonnes (MT) of horticulture in 2018-19.

In 2018-19*, the state produced 62 thousand MT of pulses and 6,787.8 thousand MT of rice.

About 6% of Bihar's total cultivated land is used for sugarcane agriculture. In 2018-19 (P), the state produced 182.85 lakh MT of sugarcane. In the state of Bihar, eleven sugar mills were in operation during the 2019-20 sugar season. An estimated 220.50 lakh MT of sugar are expected to be produced in Bihar year 2019-20.

The number of visitors from abroad and within the country in 2019 was 33.99 million and 1.093 million, respectively.

Review of literature

1. Regarding the mechanisation of agriculture, M.M. and A. Singh (1971) [10] did a study by Billings on the effect of technical changes on the need for human labour in the states of Punjab and Maharashtra, which represent developed and underdeveloped parts of India, based on the degree of new farm technology. The adoption of

new farm technology, such as planting high-yielding varieties, using power irrigation systems, and using power tractors, reapers, and thrashers, was more prevalent in Punjab. The cumulative effect on the demand for human labour was estimated to have replaced labour by 5.5% between 1968 and 1969.

2. Rao CHH, (1974) [11] highlights the goals of new technology on employment, both positive and negative. According to him, "The green revolution has made a significant contribution to employment if it is seen as a bundle that includes fertilisers and HYV. Additionally, tube wells appear to have made a substantial contribution to labour employment.
3. Singh G, (1980) [12] discovered that although Punjab saw a green revolution in the middle of the 1960s, a sizable portion of agricultural labourers in the Ludhiana district continued to live in poverty, meaning that their situation had not changed.
4. According to Mahajan RK, (2002) [13], Punjab's agricultural growth began to slow down in the 1970s, following which the green revolution was a major success. Real wages for agricultural workers in rural areas stagnated, the profit margin shrank, and the cost of production per unit of agriculture grew.
5. According to Pandhey MK, (2004) [14], globalisation has led to an increase in non-agricultural self-employment jobs. The lack of employment has caused many people to take on odd jobs on their own in order to make a pitiful living, which has decreased the calibre of employment.
6. Beams N (2006) [15] confirmed that several nations-including China, India, and Russia-achieve strong growth rates but also have significant issues with unemployment. In Asia, the share of nonregular workers in the overall labour force is gradually rising. The principal cause of this was the lack of a surge (flow) of capital for investment to go along with the growth in the effective size of the global labour force.

Objectives of the study

- To understand the composition of the industrial and agricultural sectors for the expansion of the economy.
- To ascertain the several reasons why the agriculture sector experiences vocational transformation.
- To investigate the different kinds and fields of new jobs that the industrial and agricultural sectors have joined to strengthen the Bihar economy.

Research Methodology

Both primary and secondary data form the study's foundation. Both primary and secondary data have been gathered from websites, books, magazines, journals, and newspapers. Data from the industrial and agricultural sectors, which support Bihar's and India's economic growth, are included in this study.

The industrial sector's size and revenue in Bihar and India are depicted in Figure 1.

Table 1 depicts the various industry structures in Bihar, including those for food products, textiles, leather goods, and so forth.

Fig 1: Size of industrial sector in present Bihar State

SI. No.	Particulars	Bihar	India	Share of Bihar%
1.	Net domestic product (Rs. core)	32.004	11.89.773	2.7
2.	Industrial Sector Income (Rs. core)			
	Registered	445	1,58,240	0.3
	Un registered	575	80,904	0.7
	Total	1020	239144	0.4
3.	% age share of (2) in (1)			
	(a) Percentage share of 2 (a)	1.4	13.3	
	(b) Percentage share of 2 (b)	1.8	6.8	-
	(c) Percentage share of 2 (c)	3.2	20.1	

***Note:** Income figures are at 1993-94 prices & average for triennium record 2002-2003

Table 1: Structure of Industries in Bihar (ASI)

Industry group	No of factories	Value of output (Rs. core)	Net Value Added (Rs. core)	Share% to all Industries		
				No. of factories	Value of output	Net value added
Food products/beaver-apes/tobacco	303	171330	35401	21.8	221	28.3
Textile/textile products	23	418	-85	1.7	0.1	-0.1
Leather/leather products	8	7697	1318	0.6	1.0	1.1
Wood/wood products	138	2243	295	9.9	0.3	0.2
Paper/printing/publishing	64	18848	5718	4.6	2.4	4.6
Coke/petroleum/nuclear fuel	29	506106	74692	2.1	65.4	59.7
Chemicals	49	7834	2164	3.5	1.0	1.7
Rubber/plastic products	14	3601	218	1.0	0.5	0.2
Basic metals/metal products	100	29209	1299	7.2	3.8	1.0
Machinery and equipments	57	3652	826	4.1	0.5	0.7
Transport/equipment	5	2172	449	0.4	0.3	0.4
Others	599	20917	2793	43.2	2.7	2.2
All Industries	1388	774027	125090	100.0	100.0	100.0

***Source:** Economic Survey, Finance Department, Government of Bihar, (2006-2007)

Conclusion

By 2022, India is predicted to accomplish the lofty target of tripling its agriculture revenue. Due to increased investment in agricultural infrastructure, including warehousing, cold storage, and irrigation systems, the Indian agriculture sector is anticipated to pick up steam in the upcoming years. Moreover, the increasing utilisation of genetically modified crops is anticipated to enhance the productivity of Indian farmers. The anticipated rise in minimum support price and the combined efforts of scientists to obtain early maturing pulse types should see India becoming self-sufficient in pulses within the next several years.

Bihar is the perfect location for a variety of industries due to its enormous pool of reasonably priced industrial manpower. Due to its close proximity to the large markets of eastern and northern India, ports like Kolkata and Haldia, and raw material and mineral reserves from adjacent states, the state has a distinct location-specific advantage.

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