Agricultural Labour: An Analysis on Employment, Age-Wise Engagement and Comparative Study

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Abstract:
Agriculture is the backbone of the Indian economy, accounting for 18.3% of our GDP. The agricultural sector plays a crucial role in terms of employment and food security in India. Its main components are land, labour, and capital, with a particular focus on agricultural labourers. This study aims to shed light on the current scenario of agricultural labour by examining the number of people employed and their average age. It relies on secondary data collected from the Ministry of Agriculture, Periodic Labor Force Survey, and various other statistical surveys. The study analyses the employment trends of agricultural labourers while comparing them to past trends to highlight the significant change. It further delves into the age-wise engagement and distribution of the labourers and discusses the potential impact of this. The study also compares agricultural labour with labour in other sectors and briefly discusses the impact of emerging sectors on agriculture. This study's aim is to provide a better understanding of the position of agricultural labour and ways in which it can be improved to ensure a prospective future for agricultural labourers. This, in turn, will contribute effectively to the country's economy through increased food production.

Keywords: Agricultural Labourers, Employment trends of agricultural labourers, Age distribution of Agricultural labourers, Comparative study of agriculture with other sectors

Introduction:

Background Information:
Agriculture fulfils one of the basic needs of human beings and all cattle, and herbivorous animals. Human beings since the Stone Era have been indirectly engaged in agriculture such as plugging fruits, and all types of tubers grown under the earth naturally for the purpose of satisfying their hunger. When the population started growing, to meet the needs and ends men started cultivating land and started growing the required produce. Indian Agricultural history dates back to the existence of the Indus Valley and other major river bodies such as the Ganges plains, and Deccan Plateaus including the Western Ghats. “One of the oldest waters regulating structures in the world is, the Grand Anicut dam on river Kaveri (1st-2nd Century CE)”¹

Where, near every source of water in India, the nearby states were engaged in Agriculture. However, over the years, the number of states engaged in this activity has been declining. Further, as village systems grew, land revenue became one of the main sources of state income. India was one of the agriculturally rich countries in the 1400s and Early 1500s thereby becoming a target for

European countries to also gain access to Indian Markets. However, despite the exploitation of resources during the colonial period, the government was able to overcome the initial problems and still continued to have agriculture as its backbone. With the growth of technologies, new easier methods for irrigation were brought, but soon the technology also started taking away the agricultural labourer's attention. As liberalisation and globalisation took place under the New Economic Policy in 1991, various countries were invited to invest in Indian Agriculture and it gave rise to new investments, however, on the other hand, it also gave rise to various other corporate jobs which were attracted people as it seemed more promising and dignified than other jobs. This also increased a high unemployment rate in the agricultural sector. Thus, the agricultural labour sector has undergone various changes due to factors such as urbanization, migration, technological advancements and numerous political decisions.

Statement of the problem:
There is an apprehension that the Agricultural sector is not flourishing in terms of production, human-intensive, employment opportunity, job satisfaction, growth, the income to these labourers engaged in this sector. Through this paper, an attempt is made to analyse in depth to understand whether this agricultural sector is flourishing or declining in terms of Human Capital by analysing the employment patterns over the years the age distribution of these workers and how the current situation will influence the future agricultural sector. Further, the study is made in comparison with other prominent sectors in India to better understand the current position of Agricultural labour in India.

Purpose of the study:
All living beings depend on food as the basic/fundamental need to live. Food directly/indirectly comes from agricultural produce. But agriculture depends on various factors viz, climate, soil conditions, right fertilisers, water, protection from other insects/animals, etc. This was largely, managed by human beings in the olden days. Men and women in rural areas morning start their day in the field and return home in the evening. Their food was only starch food. Their focus was on yielding the best crops and the end product. After modernisation and technical advancement, bullocks were replaced by tractors and so many activities carried out by humans were replaced by modern technical equipment, which resulted in saving human time and even Artificial Intelligence is helping in Agricultural production. But having seen advancement in production, the area of concern is these Artificial Intelligence (AI) is replacing Agricultural Labour Intensive (ALI). Till the 20th Century, people used to feel proud landlords and were majorly engaged in agricultural activities for generations. By technological advancement, slowly the 21st-century generation started moving to urban and metros for better opportunities at work and prefer studying Engineering, Medicine or Law as they believe such professions alone will be respected well in the society.

There has been a shift in the employment trends thereby affecting agricultural employment too. Further, the average age of the farmers is around 40-50 years. Thus, after the present generation retires or becomes too old to continue the work, whether it will be taken over by the next generation is a debated problem. In the case where there is a shortage of youth workers in this, it will cause a GDP gap and also an alarming need for agricultural products which may not be effectively substituted. Thus, the problem must be identified in its root and be severed before it affects negatively.
In this background, an attempt is being made to find out whether there is any reduction in the labour force in the agricultural sector, and if so, what are the factors/reasons for the same, and suggest some remedial actions to ensure that our Country always flourishes in agriculture.

Research Methodology and Research Questions
To conduct this research, a comprehensive methodology majorly relying on quantitative study was used. The Secondary data is collected from the annual statistics provided by the departments of the Government of India. The primary source for the employment data is the NSSO survey conducted by the Ministry of Statistics and Programme Implementation. The agricultural contribution and data are extracted from the Agricultural Census and the Department of Agriculture and Farmers Welfare. This research also relies on other government-approved surveys. The research questions asked are,
1. Is India facing a reduction in human capital agricultural sector
2. What are the possible reasons for the reduction in labour
3. Suggestions by the author to address the problem statement
4. Whether we can remain the largest agricultural producer in the world at all times.

Data/Findings and Discussions:
"India's wheat exports are mainly to neighbouring countries with Bangladesh having the largest share of more than 54 per cent in both volume and value terms in 2020-21. In 2020-21, India entered new wheat markets such as Yemen, Afghanistan, Qatar and Indonesia. The top ten importing countries for Indian wheat in 2020-21 are Bangladesh, Nepal, United Arab Emirates, Sri Lanka, Yemen, Afghanistan, Qatar, Indonesia, Oman and Malaysia, according to data from the Directorate General of Commercial Intelligence and Statistics (DGCIS)" 2

The agriculture sector in India holds the record for second-largest agricultural land in the world generating employment for about half of the country's population. India is the second largest economy in terms of agricultural needs and employment in the world generating employment for about half of the country's population and it supplies various countries the wheat and rice products, fruits and vegetables. As we have seen the global position of India on Agricultural contribution, let's take a look at the GDP contribution of Agriculture to India over the past years up to the present,
"Agriculture plays an important role in Indian Economy. It provides gainful employment to a significantly large section of Indian society and provides raw materials for a large number of industries in the country. According to the 1991 Population Census, nearly 74 per cent of India's population live in rural areas for its livelihood. Agriculture is the largest contributor in the country's Net Domestic Product accounting for as much as 34.2 per cent in 1991-92 at current prices. Thus, Agriculture has a key position in India's economy both in view of employment and contribution to the national income." 3

As seen above, the agricultural sector has been contributing to the Indian economy significantly. Despite the struggles faced post-independence, the agricultural sector continued to be dominant in India. It also provided healthy sources of food to its citizens. Comparatively, From the years 2011 up to 2022 report, the contribution has been moderate.

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"Agriculture plays a vital role in India's economy. 54.6% of the population is engaged in agriculture and allied activities (census 2011) and it contributes 18.5% to the country's Gross Value Added (current price 2011-12)." 4

"Agriculture plays a vital role in India's economy. 54.6 of the total workforce is engaged in agriculture and allied sector activities (Census 2011) and accounts for 18.6 % of India's GVA at current prices during 2021-22. Given the importance of the agriculture sector, the Government of India has taken several steps for its development in a sustainable manner." 5

From the above data, it can be noticed that the agricultural sector's contribution has reduced drastically in the past 30 years. The introduction of various other sectors has attracted the transfer of labour from rural areas practising agriculture, to the urban cities for other financially beneficial jobs. With the passage of time, men have brought in a lot of techniques, and technologies to increase agricultural produces in areas where the barren land is not fit for cultivation purpose, encouraging organic farming, alternate irrigation systems in case of low water storage areas, etc. On the other hand, to accommodate the growing population various agricultural lands are being converted into residential and/or commercial buildings or are being used by other industries (viz automobile, energy, information technology, etc) or are being used for other non-agricultural purposes.

The various other problems such as low or no availability of water resources, loans/credit problems, shallow profit or returns, and other opportunities for respectable work being available, have contributed to the changes in the agricultural trends in India.

"In 2022-23, of the 141 million hectares of gross sown area in the country, nearly 73 million hectares, or 52%, had irrigation access" 6

From the above data, it can be inferred that only a certain fraction of the agricultural lands has access to efficient water resources, which influences the decision of the labourers to continue practising agriculture or move on to find alternate work. Though the government provides various schemes to protect the farmer's interest, these schemes are often targeted towards resolving the debt problems of the farmer, they often never address the access to water, ensuring a back-up in case of failure of crops due to lack of resources and even if they do address these issues they are very poorly implemented. Further, the age of the population engaged in the sector is averagely of an age of 50 years or above and sometimes falls down to 40 years of age. This gives rise to concern about whether there is an ageing population in the agricultural sector, as this may determine the course of direction of the further practice of agriculture in India.

Employment of Agricultural Labourers in India:

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6 Ministry of commerce and Economy,2023, Indian Brand Equity foundation report on Agriculture in India in the year 2022-2023, Retrieved from https://www.ibef.org/industry/agriculture-india, [accessed on 30 November 2023]
The above data represents the total percentage of the population engaged in the agricultural sector in India, it can be seen that there has been an increase in the number of people engaged compared to 2018-19, however, it is still lower than the previous year. The change in the overall employment trends due to the pandemic is also to be taken into account, as a lot of rural to urban migrants have lost their work or livelihood and returned back to their rural homes to be engaged in the agricultural sector till, they get a new opportunity, owing to which there has been a brief increase. This phenomenon was termed as ‘reverse migration’ where it is was noted that among many people who had lost their employment in the urban sectors and started engaging in the agricultural sector for the time being, i.e., until they again receive employments or better opportunities in urban areas. It is to be noted that even though the changes are not drastic and still a high portion of the population is continuing to work in this sector when compared to the employment trends of the other sectors, there has been a lower percentage of employment in this sector. To substantiate the statement let us take a look at the below data,

In the above data, the distribution of the working population in various sectors is presented where within the agricultural sector there has been a drop from 60.8 per cent of the rural population being engaged in the sector in the annual year 2020-21 to 58.4 per cent engagement in the year 2022-23. The total population rural and urban engaged in this sector has also seen a brief drop from 46.5 percent in 2020-21 to 45.8 percent in 2022-23. Comparably, the proportion of the people engaged in other sectors such as manufacturing and construction in the above table has increased in the past 3 years. This drop has occurred due to the various problems faced by the farmers. To understand what those problems are various surveys were conducted by social organizations let us take a look at one such report,

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It is to be noted that the above data, only shows the various resources, economic and production problems. In addition to this, according to other surveys, the farmers feel that life in the city is better than life in the village due to the availability of better infrastructure, education for their children, and better financial and status-worthy jobs available in the cities.

Though, the employment trends, show a brief decline in the number of people being employed/engaged, the main concern does not lie there alone. The age of the workers in this sector is averagely constituted by the ageing population, i.e., the young generation is not employed in this sector, which raises concerns as in a period of time when the current workers are too old to work coupled with the lack of young agriculture worker will lead to a worrisome gap in this sector. Its contributions will be affected not only economically but also the food security will be impacted thereby affecting the health of the next generations too.

The Employment-Unemployment Reports are analysed to show the age distribution of the agricultural labourers below,

Figure 3: Source, State of Indian Farmers Report by IM4Change organization

Figure 4: Source, Based on data from the EUS survey report, 2004-05 and PLFS report, 2018-29

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The above chart represents the young population, being 20-29 years old, employment trends. While the share of employed and other increased 7% and 8% respectively, the share of young adults employed in industry and services remained almost the same. On the other hand, Agriculture has a drastic drop in the employment as the proportion of young people from the largest states does not look for work due to education, housekeeping or other reasons is highest in states like Bihar and Uttar Pradesh at 60 per cent and 57 per cent respectively, while it is lowest in states like Tamil Nadu, Andhra Pradesh and Chhattisgarh at about 40 per cent. This raises concern as the young population are the future generation providers, and with these young people ignoring the option of taking up agricultural work or if this decrease in the young generation participation there will be very limited to no agricultural labourers. In such dire scenarios, the economy will lose its major contributors and the development of the country will be affected. However, the most pressing issue among all of these problems is that, there will abundant population with insufficient food available there by affecting the whole health and sustenance of the people.

Figure 5: Source, Based on data from the EUS Survey report 2004-05, and PLFS report, 2018-19

The above chart represents, the average age of the prime working population engaged in the Agricultural sector. The average age of agricultural workers was 46.7 years in Kerala and 43.4 years in Tamil Nadu in 2018-19, the highest among major states in India. A decline in the share of agricultural workers among young Indians followed an increase in those undergoing education. Thus, there has been a reduction in the employment trends, i.e., human capital reduction in the agricultural sectors. According to a survey made by Gaon Connection a rural media platform, 48 per cent of the children of the workers engaged in the farming service are unwilling to continue the agricultural practices. The various reasons for this disinterest towards being engaged in the agricultural sector are:

1. Quality Education: Many of the youth prefer to pursue higher studies and get more respectable and profitable jobs

2. Uncertain Nature of Agriculture: There are many natural risks in farming and the yielding results thereby profit gained is often unstable

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11 Employment- Unemployment Survey Report May 2019
3. Credit: The process of irrigation requires heavy investment however not always the investment is returned. Thus, they get stuck in debts
4. Social Status: According to various surveys, the majority of the youth perceive agriculture to be of low status compared to other sectors
5. Labour Intensive: It requires heavy Manuel work and most are unwilling to participate in the same

**Recommendations and Suggestions:**
Under a survey conducted by 'Gaon Connection', The farmer's opinions on how the improvement they want to see were, 29.5 per cent wanted a fair price for their produce, 19.9 % wanted seeds at affordable prices, and 9.6 % required affordable diesel. Further, most of the farmers are of the opinion that the governmental schemes are not as effective as they wish them to be or are rather helpful only to the richer farmers with bigger lands.¹²

As per the data from the Tamil Nadu Agriculture Union, From the time period of 1960 to 2010 the conversion of agricultural for non-agricultural purposes has increased from 13.57 lakh ha to 21.05 lakh ha, i.e., a 42 percent increase in land conversion. Some of the factors for such conversions are the increasing population’s increasing demands for housing and infrastructure development along with land requirements for industrial purposes.¹³

It highlights the agricultural lands being converted for residential/industrial and non-agricultural purposes; it is alarming that in the last 60 years, residential buildings have come up in lakes and ponds which were supplying nearby agricultural lands. Even further alarming is agricultural and paddy fields in the village are being converted for non-agricultural purposes and sold to real estate brokers, who in turn sell larger agricultural areas, in acres into residential plots for higher rates.

However, the data collected on the conversion of the lands is more specially handled by the state governments and the central focus is on the portion of land where agriculture is being conducted. However, according to the author, more focus should be put on restricting and overlooking land conversions. Surveys should be made to find out how many such 'Punjas' (wetlands) have been converted for non-agricultural purposes.

Upon further analysis, the common problems faced by agricultural labourers thereby resulting in the reduction of future labour, are:
1. In the present agricultural families, the next generation is not interested in cultivation as they believe they will not receive profitable income coupled with hard labour and neither will acquire a respectable status by being engaged in farming. This is because currently, the farmer after having put so many efforts for months gets meagre profit or revenue. As per the Situation Assessment Survey (SAS) of Agricultural Households in the rural areas of the country conducted by the National Statistical Office

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¹³ Tamil Nadu Agricultural University, Land use planning for Tamil Nadu http://www.agritech.tnau.ac.in/12th_fyp_tn/5.%20Natural%20Resource%20Management/5_4.pdf [accessed on 30 November 2023]
(NSO) and Ministry of Statistics and Programme Implementation (MoSPI), the average income of farmers in agricultural households all over India is, Rs 10,218\textsuperscript{14}

2. The Agricultural Produce Market Committee (APMC) is not properly taking care of the farmer's interests. Even though the Government has implemented the National Agriculture Market (e-NAM) scheme, an online virtual trading platform, to provide farmers with the opportunity to directly sell their produce at remunerative prices through a competitive online bidding system. So far only 1000 wholesale regulated markets across 18 States and 3 Union Territories have been integrated with the e-NAM platform. Many are yet to be made aware of it.\textsuperscript{15}

3. Farmers face either acute water crisis or excess water resulting in the destruction of crops.

4. Corporate Companies engage in agriculture purposes for their own procurement or benefits acquiring largescale corporate lands at very low costs and agriculture labour is being compromised.

5. Insurance to the crops is not sufficient.

To meet the above issues, it should be notified by Government and support shall be provided in the following manner:

1. Fix fair and decent pay to attract degree/diploma holders to do cultivation. The fair should be on par with the pay scale of their qualification and employed in any industry.

2. Set certain parameters on the conversion of agricultural lands for non-agricultural purposes. Even if any situation arises where any farmer is forced to sell any land, the Government should take over these lands.

3. Create agricultural employment opportunities for graduates who are unemployed and pay decent salaries like a public sector undertaking.

4. Government should deploy supervisors to assist Village Sarpanch or the Village heads to fix fair value prices to ensure that the APMC objective is met properly.

5. Water management systems need to be sufficiently managed with modernised ways of storing adequate water needed by ponds, lakes or waterbodies to ensure that no drop of water is wasted. Similarly, during heavy rain, the fields are protected by removing excess water using the traditional methods or Latest Technologies.

6. Corporate Companies with turnover of over Rs 1000 crores, should carry out CSR (Corporate Social Responsibility) in contributing to Agri-Investment and in supporting the agricultural labour workforce. Further, to encourage the highly paid IT employees, Agricultural PLI (Performance Linked Incentive) can be introduced to apportion a portion of their PLI to invest in land and encourage these employees to do agriculture as a backup of their employment.

7. Artificial Intelligence (AI) shall be used to bring in new effective tools or methodologies for Agriculture. For example, In Ghana, Kenya and Rwanda ICT solutions were brought in for connecting farmers with agricultural extension workers and researchers.\textsuperscript{16}

8. The crop insurance to be increased adequately to meet the loss suffered by the farmers.


\textsuperscript{16} Food and Agriculture Organization of the United Nations, Report on Youth and Agriculture, file:///C:/Users/91861/Downloads/i3947e%20(2).pdf [accessed on 07 December 2023]
9. The Agri-investments by the public must be further advertised and encouraged, which can be used to cover the insurance, minimum wages of farmers, encouraging more technologies, etc.

10. AII (Agricultural Investment and Incentive) shall be promoted alongside AI (Artificial Intelligence).

**Conclusion:**

Indian Agriculture has a long history and has been contributing to the economy and organic sustenance of the population significantly. It has undergone various natural/climatic changes, economic developments, technological advancements and several policy decisions. These factors have influenced a shift in the employment trends of the agricultural sector, with growth in other sectors there has been a fall in this sector. The age of the population engaged in the sector was also analysed which has given rise to concerns about the sector's future workforce. Thus, in addition to the current decline in employment, the future generation, i.e., the current young population are not interested in pursuing agricultural work. The various reasons for such disinterest have been discussed. These findings highlight the need for attention towards the agricultural labourers and to address their key issues such as water management and fair pricing, to ensure it encourages the continuation of the agricultural sector. The effective encouragement and protection of the current labourers by the government will also influence the younger generation to pursue agriculture as a career. Further, certain observations and suggestions are put forth by the author to improve the engagement and employment of the agricultural workforce. In conclusion, understanding the current position of agricultural labour in India is necessary so that the current challenges can be addressed through effective legislation and policies to ensure a prosperous and sustainable future for the agricultural sector as a whole thereby boosting the economy and food security of India and its global contribution.