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Problems of agricultural labors: A review

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Abstract:

Agriculture is one of the largest employers in India, playing a vital role in the economy of Maharashtra, and providing jobs for a significant portion of the state's workforce. Despite the introduction of various types of machinery in this sector, labor scarcity remains a pressing issue. Labor is a fundamental component of agriculture, essential for the entire "seed to seed" development process. Recently, the sector has been grappling with a significant shortage of labor, impacting both farmers and agricultural scientists' efforts to achieve food security.The higher earnings available in other local jobs highlight the seasonal nature of agricultural work as a primary factor contributing to labor shortages. Consequently, many small farmers leave agriculture to obtain more stable employment opportunities. This labor scarcity poses a major challenge to scientists seeking viable alternatives.This review concludes that several strategies can help mitigate labor shortages in agriculture, including hiring agricultural machinery, cultivating crops that require less labor, effectively utilizing government subsidies, adopting precision farming techniques, and maximizing family labor. In addition, many government schemes are influenced by ongoing labor scarcity.

Keywords: *Agriculture, cropping strategies, labor scarcity and labor-saving technology.*

Introduction:

Agriculture serves as the cornerstone of India's economy, with over 70% of the population relying on this sector for their livelihood. It is a key focus of agricultural geography, a sub-discipline of human geography that also examines the specialization of agricultural colleges and universities. Labor plays a crucial role in agricultural production from planting to harvesting. However, India, despite being rich in labor, is currently grappling with a shortage of agricultural workers.

The percentage of employed agricultural laborers on a wage basis rose from 45.6% in 2001 to 54.9% in 2011, largely because many laborers migrated to other local jobs. This labor scarcity has led to delays in agricultural operations, thereby hindering productivity. Recently, many small farmers have exited the agricultural sector because of challenges such as water shortages and labor unavailability. Some have opted to lease their land and seek better opportunities in urban areas, while others lease to medium and large farmers who can afford machinery to meet labor demands and hire workers at daily wages. Addressing this pressing issue has become a new focus of agricultural extension research. This review explores strategies for mitigating labor shortages in agriculture. The Indian government, along with state governments, has launched various initiatives to alleviate the challenges faced by farmers. Notably, the government recently introduced an 80% subsidy for machinery and equipment to help farmers manage stubbles effectively.

Reasons for Labor Shortage:

1. Seasonal Nature of Agriculture: Laborers typically work only a few months each year, prompting them to seek permanent jobs with regular income.
2. Attractive wages in nonagricultural industries: Higher wages in nonagricultural sectors encourage workers to migrate from rural to urban areas in search of a more sustainable lifestyle and better educational opportunities.
3. Perception of Agricultural Work: Many people associate agricultural work in rural areas with self-service, which may deter them from pursuing jobs in this sector.
4. Impact of MNREGA: The implementation of the Mahatma Gandhi National Rural Employment Guarantee Act (2005) led many individuals to leave agricultural employment for social welfare programs that offer higher wages.
5. Gender Disparities: There is a notable gender imbalance in agricultural labor, as young men and women pursuing higher education often do not consider agriculture a viable career option.
6. Aging Workforce: The existing agricultural labor force is aging, resulting in a decline in available workers for agricultural tasks.

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7. Influence of Government Schemes: Various government initiatives, such as the Ladaki Bhahin Yojana, PMKSY, and NAMO SHETKARI Saman Yojana, have also contributed to labor shortages in Maharashtra.
8. Lack of Registration: Rural agricultural laborers are often not registered with any government or non-government unions, which limits their access to support and resources.

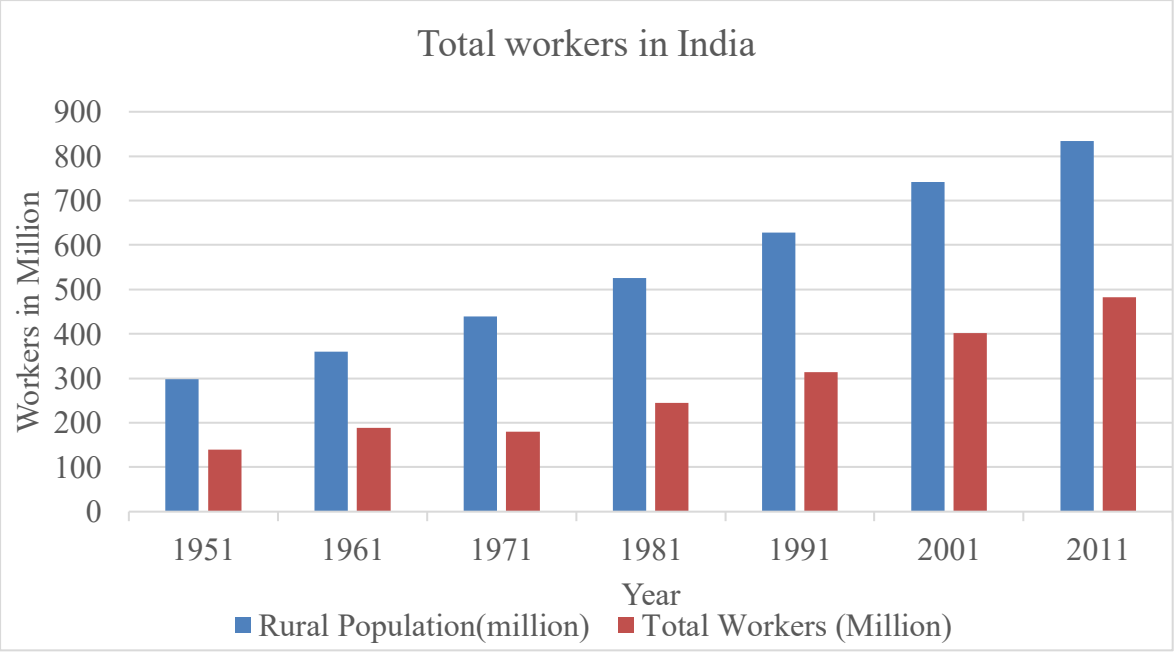
Consequences of Labor Shortage:

1. Reduced Cultivation Efficiency: Labor shortages hinder proper agricultural practices, diminishing crop germination capacity.
2. Delays in Farm Operations: A lack of available labor leads to delays in agricultural activities, resulting in decreased productivity and profitability, ultimately jeopardizing future food security.
3. Increased Labor Wages: The imbalance between supply and demand for labor causes a significant rise in labor wages.
4. Harvest Delays: Delays in harvesting complicate the timely planting of subsequent crops, reducing cropping intensity.
5. Changes in Cropping Systems: Labor shortages necessitate significant alterations in recommended cropping systems, impacting overall agricultural practices.

Population and Agricultural Workers:

Year	Total Population	Average Annual Exponential Growth Rate	Rural Population	Total Workers	Agricultural Workers (in Million)		Total
(1)	(2)	(3)	(4)	(5)	Cultivators(6)	Agricultural Labour (7)	(8)
1951	361.1	1.25	298.6	139.5	69.9	27.3	97.2
1961	439.2	1.96	360.3	188.7	99.6	31.5	131.1
1971	548.2	2.20	439.0	180.4	78.2	47.5	125.7
1981	683.3	2.22	525.5	244.6	92.5	55.5	148.0
1991	846.4	2.16	628.7	314.1	110.7	74.6	185.3
2001	1028.7	1.97	742.5	402.2	127.3	106.8	234.1
2011	1210.9	1.50	833.7	481.9	118.8	144.3	263.1

Source: Registrar General of India, Government of India Ministry of Agriculture & Farmers Welfare Department of Agriculture & Farmers Welfare Economics & Statistics Division.



In India 1951 to 2011 population is growing.

Labor in crop production is heavily involved in sowing, weed management, fertilizer application, pest management, disease management, and harvesting. Key operations such as weed management and fertilizer application can be streamlined by the use of agrochemicals. Broadcasting fertilizers, for instance, can save time and energy compared with traditional application methods. The 1968 Pesticide Regulation Act facilitated the availability of numerous registered insecticides.

Moderation Strategies:

To address labor deficiencies in horticulture, several advances and methodologies have been developed. These include machine planting, development of less labor-intensive crops, blended editing, herbicidal weed administration, and utilization of combined collectors. While these innovations are picking up notoriety for their potential to lighten labor shortages, their benefits have not completely come to small- and medium-sized agriculturists regularly because of the need for mindfulness. Underneath are key methodologies for relieving labor shortages.

a) Cultivate Mechanization:

Farm operations that require noteworthy control input and moo control are prioritized for mechanization. This approach is successful because such assignments can be performed more rapidly and efficiently using the apparatus. Created nations, which have a lower share of business in farming and higher levels of mechanization, have seen significant GDP development from farming compared to countries like India, where rural work remains tall but mechanization is restricted. Boundaries to mechanization in India incorporate high costs, the need for information in the working apparatus, and few arriving possessions. Components such as plant stature, dispersion, soil sorting, and dampness substances are basic for viable apparatus operation, making it challenging for a few ranchers to contribute to such hardware. As of late, private segments have started creating littler apparatuses and actualizing them to improve efficiency for these farmers.

b) Improved Seed Generation Technology:

Improved seed assortments can decrease labor input by upgrading the effectiveness of vitality. Seeds with particular traits, such as profound roots, dry spell resistance, non-lodging characteristics, and bug and malady-resistance can lower labor escalation. Weed administration alone accounts for approximately 35% of the labor in agrarian operations. Actualizing blended editing or intercropping can smother weed development, thereby diminishing labor needs and expanding net benefits. Moreover, progress in herbicides has made it less demanding to oversee weed issues, sparing labor in nursery administration and transplanting. Procedures such as direct-seeded rice decreased soil compaction, shortened the edit length by up to 20 days, and diminished water prerequisites by 35%.

c) Agrochemicals:

Labor in the edit generation is intensely included in sowing, weed administration, fertilizer application, bother administration, malady administration, and collection. Key operations such as weed administration and fertilizer application can be streamlined by the use of agrochemicals. Broadcasting fertilizers, for example, can spare time and vitality compared with conventional application strategies. The 1968 Pesticides Control Act has encouraged the accessibility of various enrolled bug sprays for successful bothering administration. Created nations extensively.

d) Activities taken by the government:

The Least Compensation Act was presented in the Least Compensation Act in 1948 in the central government and state government wards for settling

compensation. It gives obsession and authorization of least compensation in regard to planned livelihoods to avoid abuse of labor through the installation of moo compensation. The objective of the Act was to guarantee a minimum subsistence wage for specialists. Appropriations for Ranchers in India Rural endowments are fundamental, and the Indian economy is generally subordinate to the cultivation division. The government of India, as well as state governments, started a few plans that helped reduce the predicament of ranchers. As of late, the government has given 80% endowment for apparatus and hardware for ranchers to preserve the stubble. Rashtriya Krishi Vikas Yojana (RKVY), the National Nourishment Security Mission (NFSM), and the National Bank for Agribusiness and Country Advancement (NABARD) credits in India make a particular difference to small and medium agriculturists in modernizing their cultivation. Annihilation of fortified labor Since Freedom, a few endeavors have been made to kill the insidiousness of strengthened work since it is an exploitative, brutal, and infringement of all guidelines of social value. The Fortified Labor Framework (Annulment) Act of 1976 was sanctioned to annul the framework of reinforced work to not as it avoided physical misuse of the individuals having a place to weaker areas, but also to guarantee balance and right to life as cherished beneath the Indian Structure. The arrangement of settlement laws has been executed in numerous states to oblige the cultivation of laborers.

Employment Ensure Scheme:

The National Food for Work Program (NFFWP), Crash Plot for Country Business (CSRE), National Country Business Jawahar Gram Samridhi Yojana (JGSY), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) are some of the plans under the Business Ensure Act. According to Prasad (2014), the inclusion of MGNREGA laborers in agriculture is the best technique to overcome labor deficiencies. Uncommon organizations for the advancement of the Little Ranchers Advancement Office (SFDA), Minimal Farmers, and Rural Laborer Act Advancement Office (MFAL) were shaped in 1970-71 to require care of the issues of cultivating work within the country. Moreover, other government plans are influenced by labor shortages. In Maharashtra Ladakhi Bhahin Yojana, PMKSY & NAMO SHETKARI SNMAN YOJANA are influenced by Scarcity.

Conclusion:

Currently, labor scarcity is a major problem in the agricultural sector. The scarcity of laborers during the peak period of agricultural operations has led to a drastic reduction in agricultural productivity. The government has taken several steps to address this issue. It is definitely a manageable problem by agricultural extension system to convert the farmers from conventional farming to modern farming by farmers training programs. From this review, it can be concluded that hiring agricultural machinery, cultivating crops requiring less labor, efficient utilization of government subsidies, precision farming, cooperative farming, and intensive use of family laborers are available options for overcoming labor scarcity in agriculture. Different schemes have affected agricultural labor scarcity for the government in Maharashtra, India.

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