

Heuristic parameters significant role of Agriculture labour management

Dr. Bimal Sinha

Assistant Professor, Deptt. of Commerce, M.C.D College, Sonai, Cachar, Assam, India

Abstract:

The study portrays heuristic parameters of agriculture labour management, the household engaged in this agriculture practices estimated as unit of Cachar district under the study. The agriculture labour plays a major role in the field of agriculture in absence of them development is not possible. In India labour market is predominated by feature called casual labour. Improvement of labour productivity as a factor of production differs from other factors of production of labour as it is subject to its free will, the productivity of labour can be improved if the workers are kept satisfied. Just as the satisfied workers can be productive dissatisfied workers can be even destructive. Therefore, through proper human resource planning we can improve the morale of the labour and improve labour productivity. In labour market organizations seek employees (demand for labour) and individuals offer their availability to organization's (supply of labour) labour supply and demand have implications for all activities but particularly for compensation and external staffing. moreover, they are generally not subject to organization control, thereby creating potential turbulence and uncertainty of labour management. Labour management of agriculture and industrial labour management both are totally different. Whereas agriculture labour is differ from one region to another region. Particularly, in Northeastern region, Assam, in Cachar district there is no irrigation facility whereas, some other regions of India, like Northern and Southern areas cultivable lands are irrigated. But in cachar district cultivation are totally depended on monsoons and natural rains. No doubt, the area, calculated a traditional paddy crops area. So, there is greater key role of labour in productivity of agriculture in determining these heuristic factors i.e. man, machine, material, sack, sale money market.

Keywords: man, machine, material, sack, sale, money and market.

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I. Introduction:

The distinguishing feature of rural economy of India has been the growth of agricultural labour in the crop production. The phenomena of underemployment, under development and surplus population are visible. Agricultural labour management involves more than just scheduling employees to perform task like planting, milking and repairing machinery. It also requires leadership and proactive management to ensure that tasks are completed on time, costs are controlled and workers are satisfied¹. Agricultural labour is the work involved in farming, including growing crops, managing livestock and other agricultural tasks.² An Agricultural labour is one who is basically unskilled and unorganized and has little for its livelihood, other than personal labour all those persons who desire major part of their income as payment for work performed on the farms of others can be designated as agricultural workers³

After the dawn of freedom, India wedded to the goal of democratic setup in the country. Under the Directive Principles, it has been laid down that the 'state shall strive to promote the welfare of the people by securing and protecting, as effectively as it may, social, economic and political shall inform all the institution of national life' with this moto, the strategy of direct assault on poverty and inequality through rural development and rural employment programme has been adopted. The launching of the community development programme in 1952 was landmark in the history of India set up which ushered in an era of development with the participation of the people. it adopted a systematic integrated approach to rural development with a hierarchy of village level workers and block level workers drawn from various fields to enrich rural life⁴. On the recommendations of Rural Credit Review Committee (1969), Marginal Farmers and Agricultural Labour agencies were set up along with SFDA. The fundamental objective of the MFALDA programme is to assist the marginal cultivators in making the maximum productive use of their small holdings by undertaking horticulture, animal husbandry, diary etc. ⁵ labour management co-operation can be evolved only after taking into consideration the needs of workers to be satisfied and the demands of management to be fulfilled. Management wants maximum production at a reasonable cost. Employees demand recognition of human element in industry to ensure ease of work – mental as well as physical. labour management co-operation will serve two main

purposes (1) Economic purpose- Optimum production. (2) Moral and Social purpose. – full recognition of importance of human values and thereby maximum utilization of human resources through appropriate motivation or employees.

Considerations influencing human conduct and behaviour are: (1) Respect given to the basic human rights, e.g. Sense of dignity. (2) The need for the esteem of others, e.g., appreciation, recognition, praise, etc. (3) The survival instinct demanding security of employment and income to satisfy economic wants according to the expected living standards. (4) The desire for security. (5) Social instincts in human being as a social animal.⁶

Agricultural labour management is the process of hiring, managing, and motivating farm workers to increase productivity and reduce costs. Its important for the success of any farm.

Benefits of effective labour management

Increased Productivity: By allocating labour, machinery and time efficiently, farmers can complete tasks on time and maximize yields.

Cost Control: labour costs can be a significant portion of agricultural expenses.

Improved worker satisfaction: A positive work environment can lead to higher job satisfaction, which can help retain employees.

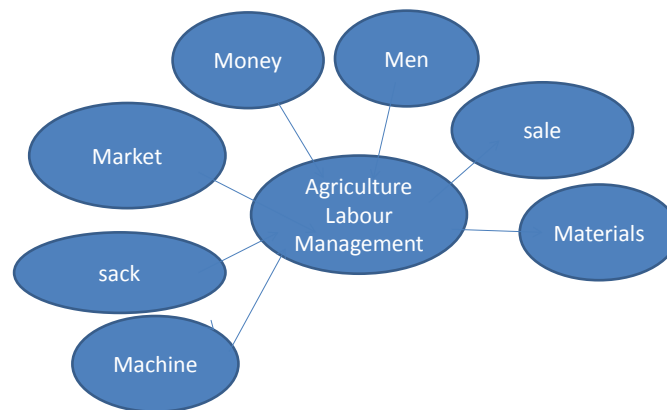
Ensured worker safety: Effective labour management can help ensure worker safety.

Techniques of effective labour management:

- Set clear expectations
- Invest in training and development.
- Create a positive work environment.
- Communicate effectively with employees.
- Implement a time and attendance system.
- Provide skills training.
- Conduct performance reviews.
- Establish fair compensation structures.
- Manage Conflicts.

Labour management involves more than just paperwork and forms. It also involves finding creative ways to increase productivity and reduce loss. Efficient labour management is vital for the success and sustainability of agricultural operations. Here's why:

- **Optimal Resource Utilization:** proper allocation of labour ensures that resources such as time, machinery, and inputs are utilized optimally, leading to increased productivity and profitability.
- **Timely Operations:** Ensure that tasks like planting, irrigation and harvesting are completed on time. Minimizing crop losses and maximizing yields.
- **Cost Control:** Labour costs constitute a significant portion of the total expenses in agriculture. By managing labour efficiently. Farmers can control costs and improve overall financial performance.
- **Worker Satisfaction:** well managed labour practices contribute to a positive work environment, leading to higher job satisfaction among farm workers. This, in turn, fosters employee retention and loyalty
- **Challenges in Traditional labour Management:** Despite its importance, labour management in agriculture has traditionally been plagued by several challenges.
- **Manual Tracking:** Many farmers still rely on manual methods. Such as paper records or spreadsheets, to track labour activities. This approach is time consuming, error prone, and lacks real-time visibility.
- **Communication Barriers:** In large farms or those with multiple work sites, communication between managers and workers can be challenging leading to inefficiencies and misunderstandings.
- **Compliance Issues:** **Compliance** with labour regulations, such as minimum wage requirements and safety standards. Can be complex and difficult to monitor without proper tools and systems in place.
- **Lack of Data Analysis:** **without** access to comprehensive data on labour activities and performance, farmers struggle to make informed decisions to improve productivity and efficiency⁷.



Source: Primary Data

1.1. Literature Review:

A large number of studies have been carried out on the agriculture sector and measurement of its productivity India. All these studies can be categorized into two group agriculture sector and other crops specific sector. These studies have been proved that Total Factor productivity growth of agriculture has been vital contributing for acceleration of Indian national income growth.

Tanhampoar and Mahamoud (2018) investigated the empirical model to evaluate the productivity growth in agriculture sector. the result has been found that average factor production growth rate is -0.72% and its share in value added is also negative -19.6% while it has estimated to be 33.8% in fourth development plan.

Alexanderi (2017) explained the labour productivity situation in Rumanian agriculture farms across regions. The results have been indicated that there are economic growth trends in west region and less obvious in North East region.

Ranga and Muruganandhan (2016) review the findings of various research works on the impact of farm mechanization on production, productivity, employment and gross income in agriculture sector. They found that different studies concluded that the farm mechanization increased more efficient utilization of inputs which lead to increase average cropping intensity and increase labour productivity.

Urgessa (2015) investigated the determinants of agricultural productivity and rural household income in Ethiopia. To examine the relationship between income and productivity panel data regression model used namely pooled OLS. Fixed and Random effect model and using socio-economic survey of 2011-12 to 2013-14.

Valerio (2014) analyzed how agricultural productivity of major crops namely rice, corn and coconut in the CALABARZON region has affected by using with extent of inputs. To estimate the data, he has used Cobb-Douglas function.

Kumar and Nain (2013) analyzed the strength and weakness, opportunities and threats to Indian agriculture. They found that the largest cultivable land with highly record production of food grains showed the strength of Indian agriculture. The main weakness of agriculture lies in large amount of harvest losses, low yields and less contribution in national GDP.

Todkari (2012) attempted to examine the impact of irrigation on agricultural productivity in Solapur district where rainfall is uncertain and inadequate. so, irrigation is necessary for successful agricultural production. The study is based on secondary data and Kendal's ranking co-efficient method to know agricultural productivity. He observed that there is high correlation between irrigation intensity and agricultural productivity, in five Tehsils in this region namely Pandharpur, Malshiras, Kamala, Barshi and Madha.

Doss (2011) gave empirical evidence to study on women role in agriculture. The participation of women in agriculture sector is clearly significant women comprise more than half of agricultural worker in many African and Asian countries but found out their contribution is much less in some reason. Although, their contribution in agriculture sector yet.

Shitter and Ashoaw (2010) examined pattern and determinants of agriculture labour productivity in west African region. The analysis revealed that agriculture productivity is positively affected higher education growing capital formation more irrigation and good quality fertility.

Dharmasiri (2009) attempted to format a dissimilar model for computing agriculture productivity. It is called average productivity. Index which can recognize spatial distribution pattern of productivity of a state or any country. There are two major components of API are average yield and harvested area related to select crops

Meijerink and Roza (2007) showed that agriculture is backbone in many developing countries for GDP growth and development. In recent years, there have been various changes in agriculture sector in developing countries. However, agriculture is fewer contributors in GDP as compare to non-agricultural sector. The nonagricultural sectors have higher productivity than economics was agriculture dominator.

Kumar and Mittal (2006) examined sustainability issue of the Indian crop productivity from 1971 to 2000. A sustainable farming system is a system in which natural resources are managed in this way that potential yield and resources stock do not decrease overtime period.

To compute the TFP indices for crops they have applied Divisia Tornqvist index. The results have shown that the obtained productivity growth during 1980's has not been sustained during in the 1990's.

It is observed from the review of above relevant studies and literature that no research study has been done on agriculture labour management. Therefore, propose study intends to provide a comprehensive study of agriculture labour which covering man, machine, material, sack, sale, money and market.

1.2. Research Objectives:

The main objectives of the study are:

1. To draw the characteristics of the agricultural labour management.
2. To enumerate the growth and development of agricultural labour management.
3. To identify the growing challenges and prospects.

1. 3. Research Methodology:

The proposed study is to explore and understand the various features of agricultural labour management of Cachar district. The universe is all the cultivating household as a unit in Cachar district. The population 9025 number of agricultures labour household as unit by using sample size calculator, the sample size is found 96 at confidence level 10%. The area of study was conducted in Cachar district data analysis techniques descriptive statistics for analyzing the dependence data Chi-square exact test is used due to the reason that some of the cells are either zero or less than 5. The report presentation is using tables for easy grasping the findings of the study.

1.3.1 Data Analysis and Interpretation:

A part from the cultivators, agricultural labours are the other vitally involved in farming. Their number is very large and is rapidly growing. They live a life of abject poverty. They are the most backward; the most neglected class of the rural economy. As such they require our urgent attention.

i) **Men** Without a satisfactory solution of their problems, no real and durable progress can take place in the rural sector⁸

Agriculture labour may be defined as labour, who works in agriculture or in activities allied to it for the whole or part of the year in return for wages (in cash or kind or both) for full time or part time work. This definition incorporates the present job situation in the agricultural sector. This sector, being underdeveloped, does not work for the whole year. Nor does it provide fulltime work to everyone.

ii) **Machine**

Role of farm mechanization, technology in agriculture is no less important. We shall be learning about use of modern equipment and other such measures to increase the farm productivity and output, prevalence of extension services to educate farmers about the changing farm practices and their suitability in different contexts; impact of new production structure on the farm outputs, particularly about the success of green revolution in India. Along with this, we shall be discussing about the role of technology in agriculture⁹.

Table:1: -Men Respondents on Machine

Machine	Men			Total
Machine utilization	less	Medium	High	
Maximum	30	21	22	73
Minimum	0	0	17	17
Partial	0	0	6	6
Total	30	21	45	96

(Source: Primary Data)

From the above table it is seen that Maximum category under Machine respondent is the highest and High category under Men respondent is the second responses and Partial category under Machine respondent is the lowest responses.

From the above findings, it is imperative to test whether Men respondent depend upon the machine.

Hypothesis Testing

Null Hypothesis (H_0)

There is no significant relationship between the Men respondent and Machine.

Alternative Hypothesis (H_a)

There is a significant relationship between the Men respondent and Machine.

For testing the above hypothesis Chi-square (exact test)

Table:2 Chi-Square Tests

Pearson Chi-square	Value	Df	Exact sig (Two sided)
	34.279	4	0.000

Test Result of SPSS Software

Since the P -value ($=0.000$) < 0.05 , the Chi- square critical value $\chi^2=34.279$ is significant. Hence, Null hypothesis (H_0) is rejected and Alternative hypothesis (H_a) is accepted. That is, there is a significant relationship between Men and Machine. In conclusion that Men respondents are depend upon the Machine.

iii) Material

Agricultural mechanization implies the use of various power sources and improved farm tools and equipment with a view to reduce the drudgery of human beings and draught animals, enhance the cropping intensity, precision and timeliness of efficiency of utilization of various crop inputs and reduce the losses at different stages of crop production. The end objective of farm mechanization is to enhance the overall productivity and production with the lowest cost of production. The contribution of agricultural mechanization has been well organized in enhancing the production together with irrigation, biological and chemical inputs of high yielding seed varieties, fertilizers, pesticides and mechanical energy. Indian Green revolution is regarded as one of the greatest achievements of the twentieth century. It has been adopted in India on a large scale benefiting small, medium and large size of the farms¹⁰.

Table:3: -Material Cost Respondents on Machine

Machine Utilization	Material Cost			Total
	Marginal	Medium	High	
Maximum	30	21	22	73
Minimum	0	0	17	17
Partial	0	0	6	6
Total	30	21	45	96

(Source: Primary Data)

It is seen from the above table that Maximum category under Machine respondent is the highest, High category under Material Cost respondent is second level responses and Partial category under Machine respondent is the lowest responses.

From the above findings, it is imperative to test whether Material cost respondent depend upon the Machine in Cachar district.

Hypothesis Testing

Null Hypothesis (H_0)

There is no significant relationship between the Material Cost respondent and Machine in Cachar district.

Alternative Hypothesis (H_a)

There is significant relationship between the Material costs respondent and Machine in Cachar district

For testing the above hypothesis Chi-square (exact test)

Table:4 Chi-Square Tests

Pearson Chi-square	Value	Df	Exact sig (Two sided)
	32.270	4	0.09

Test Result of SPSS Software

Since the P –value (=0 .09) > 0.05, the Chi- square critical value $\chi^2=32.270$ is significant. Hence, Null hypothesis (H_0) is accepted and Alternative hypothesis (H_a) is rejected. That is, there is no significant relationship between Material costs and Machine. In conclusion that Material costs respondents are not depend upon the Machine.

iv) Sack

A sack usually refers to a rectangular shaped bag. sack may also refer to: Bag, a large bag made from a rough heavy material, paper or plastic, used for carrying or storing things.¹¹

v) Sale

A transaction that includes an exchange of services or goods for a certain amount of money is known as a sale. In other words, any activity that involves transferring the ownership of a good or commodity to the buyer in exchange for a monetary price is known as a sale.¹²

Table no:5-Sacks respondent for sale respondent

Sack	Sale			Total
	Marginal	Profit	Business	
Old sack	5	12	5	22
New sack	22	3	11	36
Expert guidance	0	34	4	38
Total	27	49	20	96

(Source: Primary Data)

It is revealed from the above table that Profit category under sale respondent is the highest responses, Expert guidance category under sack respondent is second responses and Business category under sale respondent is the lowest responses.

From the above findings, it is imperative to test whether Sack respondent depend upon the Sale respondent in Cachar district.

Hypothesis Testing

Null Hypothesis (H_0)

There is no significant relationship between the sack respondent and sale respondent in Cachar.

Alternative Hypothesis (H_a)

There is a significant relationship between the Sack respondent and Sale respondent in Cachar.

For testing the above hypothesis Chi-square (exact test)

Table:6: Chi-Square Tests

Pearson Chi-square	Value	Df	Exact sig (Two sided)
	32.250	4	0.000

Test Result of SPSS Software

Since the P – value (=0.00) < 0.05, the Chi-square critical value $\chi^2=32.250$ is significant. Hence Null hypothesis (H_0) is rejected and Alternative hypothesis (H_a) is accepted. That is, there is a significant relationship between Sack respondent and Sale respondent. In conclusion that Sack respondent depend upon the sale.

vi) Money Market

Money is a necessity for a modern economy. It is equally so far modernizing economy like that of India. As such money matters are important. The money market concerns trading in money instruments involving borrowing and lending for short periods. It is a part of securities market. The other part is a capital market which deals with long term instruments like equity and share as, debentures and bonds.¹³

Table: 7: Market Respondent on Money

Market	Money			Total
	Survival	Profit	Both	
Survival	5	12	5	22
Business	22	3	11	36
Profit	0	34	4	38
Total	27	49	20	96

(Source: Primary Data)

It is seen from the above table that profit category under money respondent is the highest on the other hand profit category under Market respondent. is the second highest and Both category under Money respondent is the lowest.

From the above findings, it is imperative to test whether Money respondent depend upon the Market in Cachar district.

Hypothesis Testing

Null Hypothesis (H₀)

There is no significant relationship between the Money respondent and Market in Cachar district.

Alternative Hypothesis (H_a)

There is significant relationship between the Money respondent and Market in Cachar district

For testing the above hypothesis Chi-square (exact test)

Table:8: Chi-Square Tests

Pearson Chi-square	Value	Df	Exact sig (Two sided)
	52.366	4	0.000

Test Result of SPSS Software

Since the P –value (=0 .000) < 0.05, the Chi- square critical value $\chi^2=52.366$ is significant. Hence, Null hypothesis (H₀) is rejected and Alternative hypothesis (H_a) is accepted. That is, there is a significant relationship between Money and Market. In conclusion those Money respondents depend upon the Market.

Conclusion:

In conclusion that Men respondent are depended upon the Machine, Material costs respondents are not depended upon the Machine. On the other hand, Sack respondent is depended upon Sale respondent. Money respondents are depended upon the Market.

Bibliography

- [1]. <https://uvm.edu>
- [2]. [http:// unacademy.com](http://unacademy.com), [www. world bank.org](http://www.worldbank.org), [http://research respository.ilo.org](http://research.respository.ilo.org)
- [3]. National Commission of labour
- [4]. R. K. Lekhi (1996) The Economics of Development and Planning, 115-116
- [5]. Ibid- 125.
- [6]. S.A Sherlekar &V.S. Sherlekar (2009) Modern Business Organisation and Management, Himalaya Publishing House, Mumbai 8.124
- [7]. [https:// nature.berkeley.edu](https://nature.berkeley.edu), <http://slideshare.net>,<http://navfarm.com>, [http:// bivatec.com](http://bivatec.com)
- [8]. A.N. & M.K. Agarwal, Indian Economy (2019), New age International publishers, New Delhi-, 250.
- [9]. B. Ghosh, Personal Management Industrial Relations Labour Welfare (2000), World Press, 154
- [10]. Ibid. 168
- [11]. [http:// dictionary. Cambridge.org](http://dictionary.cambridge.org)
- [12]. [www. vocabulary.com](http://www.vocabulary.com)
- [13]. [http://economic times.indiatimes.com](http://economic.times.indiatimes.com)