

Challenges of Productivity Improvement in Agriculture Sector in India

Anita

Research Scholar

Email: 1993anitameena@gmail.com

Abstract

Agriculture development is viewed as increase in productivity in agriculture and per capital income. The increasing population is not only effect Indian agriculture-food, income and employment but also all over economy dependability is increasing continuously. In the persent time of development and globalization. Indian productivity of agriculture has not found enough in several aspects. The Indian farmers are using new production technology and innovations with traditional knowledge and working system. There is not only one factor responsible for it. There are some paradox between technological progress and productivity in agriculture. Farmers are facing several problems for increasing in productivity.

Reference to this paper
should be made as follows:

Received: 25.08.2019

Approved: 15.09.2019

Anita

*Challenges of
Productivity Improvement
in Agriculture Sector in
India*

*RJPSS 2019, Vol. XLIV,
No. 1, pp. 216-222*

Article No. 28

Online available at:
[https://anubooks.com/
?page_id=5262](https://anubooks.com/?page_id=5262)

Introduction

Agriculture development is viewed as increase in productivity in agriculture and per capita income. The increasing population is not only effect Indian agriculture -food, income and employment but also all over economy dependability is increasing continuously. In the present time of development and globalization, Indian productivity of agriculture has not found enough in several aspects. The Indian farmers are using new production technology and innovations with traditional knowledge and working system. There is not only one factor responsible for it. There are some paradox between technological progress and productivity in agriculture. Farmers are facing several problems for increasing in productivity.

Objectives

There are major objectives which given below :

- (i) To explain the functional relation between agriculture productivity and technological progress.
- (ii) To analyse the major barriers related to agriculture productivity.
- (iii) To study the interrelation between agriculture productivity and factor endowments.

Research Hypotheses

The research hypotheses are given below :

- (i) In relation to agriculture productivity, there is negative relationship between technological progress and structural depreciation, which gives the stability to level of agriculture productivity.
- (ii) It is possible to increase the agriculture productivity on fixed factor ratio (F_x/F_y), in condition of technological changed combination will be adopted. For this, there would be awareness about alternative combinations among the farmers.
- (iii) There is possibility to increase agriculture productivity through financial factors distributional efficiency which depends on economic behaviour of government and public.

Research Methodology

Present study is based on secondary data. We have used quantitative and qualitative data in the study. We have used some empirical qualitative aspects related to agriculture productivity and technological progress. We conducted interviews to farmers in western Uttar Pradesh.

Agriculture Productivity

There are various types of diversities found in Indian agriculture, based on geographical, economical, political, cultural and social aspects, which create many challenges for productivity and production technological progress. There are needs to introduce some concept of productivity in India, which are given below:

- (i) Quantitative Agriculture Productivity
- (ii) Income Agriculture Productivity (Average Productivity)
- (iii) Qualitative Agriculture Productivity
- (iv) Time Factor Agriculture Productivity

Quantitative Agriculture Productivity

It is calculated based on two methods - micro level quantitative agriculture productivity and macro level agriculture productivity.

$$\text{Micro level quantitative productivity} = \frac{\text{Total production in a farm}}{\text{Size of farm in ha}} \text{ (in htr)}$$

$$\text{Macro level quantitative productivity} = \frac{\text{Total production in Indian Agriculture}}{\text{Total agriculture used land in India}} \text{ (in htr)}$$

It is related to productivity of particular cropping.

Income Agriculture Productivity

Income agriculture productivity is calculated on multiple in quantitative agriculture productivity by price level of crops. The income and quantitative productivity are related to production of particular cropping. It productivity is not affected by duration of cropping. The income agriculture productivity is changing through change in quantitative productivity and price level.

There are three types of income agriculture productivity :

- (i) Market Price Level Based Income Productivity - Quantitative Productivity x Market price level of crop
- (ii) Minimum Support Price based Income productivity - Quantitative Productivity x MSP
- (iii) Daily Price Based Income Productivity - Quantitative Productivity x Average of Daily Prices of crop

Qualitative Agriculture Productivity :

Qualitative productivity is a different and independent concept from quantitative and income productivity. The increase in production is not necessary but increase in the quality of crops is compulsory. Production of such crops is useful in domestic use in farmers family. Hence quantitative and income productivity may be decreased and increased. Production of such crops may be on special demand in market or on special festivals and programs.

This productivity found in flower agriculture. This productivity effects on health, education, and working capacity.

Time Factor Agriculture Productivity :

Time factor productivity is related to number of different crops in a period but production of earlier crops will not change. With the changing of number of crops, production of crops will change necessarily. Hence the productivity may vary with different level of cropping.

Interrelation between quantitative productivity and income productivity is given below in table 1.

Table 1. Quantitative Productivity and Income Productivity, 2014-15

Crops	Quantitative Productivity (quintal/hect)		
	Minimum Support Price (Rs./quintal)	Income Productivity (Rs. hect)	
Rice	23.90	1360	32504
Wheat	28.72	1450	41644
Corn	25.57	1310	33496.7
Gram	8.75	3175	27781.25
Jwar	9.53	1550	14771.5
Groundnut	14.00	4000	56000
Arhar	7.50	4350	32625

Technological Progress in Agriculture Production

Generally there are three using technology in agriculture production in India.

- (i) Labour using technology
- (ii) Capital using technology
- (iii) Natural technology

In this reference there are two types of technological progress in agriculture production in India.

- (i) Forwarded technological progress
- (ii) Backwarded Technological progress

In forwarded technological progress, we can increase production, employment and income level of farmers, basis on rational change between different factors as (Fx/Fy). In this scenario farmers are on fixed cost line or bugged line. In backward technological progress, we can change the ratio between different factors of production but there will be production constant and cost decreased, so farmers may be change your income level.

Forwarded and backwarded technological progress is affected through social, economic, cultural and political aspects. There are very differences among the householding with size and distribution, which effect to technological progress in wrong ways on functional level. With reference to technological progress, labour and capital have some conditions,

which are given below.

- Farmers are combined owners of labour and capital.
- Other farmers are owners of labour and capital.
- Farmers are owners of labour but other farmers or non-farmers are owners of capital.
- Farmers are owners of capital but other rural families are owners of labours.

Above conditions affect the internal functional disparities between technological progress and productivity. In this condition, there is a difficult in workkig on an average and census size strategy and planning of central power in India, there is a another important condition, to know working capacity of engaged production factors for productivity increasement. For this we can classified the production factors into below categories:

- (i) External dividable factors for production
- (ii) Internal dividable factors for production

External divided factors means which are dividable physically for increasing and decreasing working capacity. There factor ratio (Fx/Fy) will be change. Internal divided factors means, which are not dividable physically for increasing and decreasing working capacity. There factor ratio (Fx/Fy) will be fixed or non changeable.

Growth Rate in Agriculture in India:

In this reference Indian agriculture growth rate was different in five year plans, which is given below in table 2.

Table 2. Planwise Growth Rate in Agricultural Sector

Plans	Average Growth Rate (annual)
First	3.2
Second	3.6
Third	-0.7
Fourth	3.0
Fifth	4.0
Sixth	6.3
Seventh	3.1
Eighth	4.9
Ninth	2.5
Tenth	2.5
Eleventh	4.1

Source : Economic Survey, India, 2017-18

Major Problems Related to Agriculture Productivity :

The Indian agriculture is facing many problems related to low productivity, in which major problems are given below:

1. Underuse and misuse of factors is an intensive problem in agriculture, which effects the productivity in decreasing way. The Indian farmers have not higher education with technology. They are depend on leaders, social workers, agriculture scientist, and other departmental officers and workers for new technology and awareness. Farmers do not have statistical data about agriculture input and output with functional relation between them.
2. Indian farmers are facing the problem to unstability pricing in the agriculture marketing, but prices of factors are stable and increased. So actual income productivity is not countable on flexible prices.
3. Educated unemployees are migrated to urban areas for employment so rural area is facing the problems related to well-educated person. Immigrants youth and under educated population is engaged in agriculture activities.
4. Agricultural institute and colleges are not fully solving problems related to agriculture and mainly productivity. There are not proper social and educational relation between farmers and these institutions. A number of farmers are using traditional patterns of cropping and system.
5. There is highly corruption in agriculture and rural development programmes, so corruption is effecting the productivity negatively indirect or indirect ways.
6. We are responsible for productivity with agriculture land only. There are not other factors responsible for productivity as seeds, labour, management and water resources. Farmers can not be count the productivity for increasement.

Conclusion:

It is not compulsory to increase in agriculture productivity, due to change into production technique from labour intensive to capital intensive technology or from capital intensive to labour intensive technology.

There would be necessary proper combination between land productivity and productivity of other factors. There would be change in combinations of factors on basis of size and quality of householdings. There can not be pressed on productivity of agriculture householdings with independent impacts of inputs and technological progress.

References

- 1 INDIA (2017). *New India Wing*, Govt. of India, New Delhi.
- 2 Indian Economy - Pratiyogita Darpan, Agra
- 3 Katyayan, Arun (2017). *Fundamentals of Agriculture*, Kitab Mahal, Ashok Nagar, Allahabad
- 4 Mishra & Puri (2015). *Indian Economy*, Himalaya Publishing House, New Delhi.
- 5 Singh, Arun Kumar (2014). *Research Methods in Psychology, Sociology and Education*, Banarasidas, Delhi.
- 6 Singh, Ramesh (2018). *Indian Economy*, McGraw Hill Educational (India) Private Limited, Chennai.