



# Impact of Paddy (*Oryza sativa* L) Production Technologies Advised by the KVK Jammikunta in Karimnagar District of Telangana State, India

N. Venkateshwar Rao <sup>a++</sup>, P. K. Jain <sup>b#</sup>, N. Kishore Kumar <sup>ct\*</sup>  
and M. Jagan Mohan Reddy <sup>d#</sup>

<sup>a</sup> Krishi Vigyan Kendra, Jammikunta, Dist: Karimnagar (TS), India.

<sup>b</sup> School of Agriculture, IGNOU, New Delhi, India.

<sup>c</sup> Krishi Vigyan Kendra, Malyal Dist: Mahabubabad (TS), India.

<sup>d</sup> Extension Education Institute, Hyderabad (TS), India.

## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

## Article Information

DOI: 10.9734/AJAEES/2022/v40i121823

## Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here:

<https://www.sdiarticle5.com/review-history/95627>

Original Research Article

Received: 18/10/2022

Accepted: 30/12/2022

Published: 31/12/2022

## ABSTRACT

The present paper highlights the impact of paddy production technologies in terms of adoption quotient, productivity and profitability in Karimnagar district of Telangana State (Formerly Andhra Pradesh). High impact in terms of adoption quotient, productivity and profitability of paddy production technologies is observed among the KVK Jammikunta adopted farmers compared to the non adopted farmers.

<sup>++</sup>Senior Scientist and Head;

<sup>#</sup>Director;

<sup>†</sup>Scientist (Extension);

<sup>\*</sup>Corresponding author: E-mail: kishoreneelam85@gmail.com;

*Keywords: Adoption quotient; productivity; profitability and impact of paddy production.*

## 1. INTRODUCTION

The performance of any event or technology is assessed through impact. Impact is known through the consequences accrued by the technologies [1]. Technology application process is incomplete without understanding the impact created in the environment. Impact studies facilitate for scaling up of technologies [2,3]. Being paddy is one of the important crops of Karimnagar district grown by farmer for long period of time [4,5]. The present study emphasized on impact of production technologies on paddy crop.

## 2. METHODOLOGY

Ex-post facto research design combined with exploratory type of research design was used as the selected phenomena have already occurred and the researcher had no control over the same.

The KVK Jammikunta of Telangana State along with its 15 adopted villages were selected for the study. A sample of 60 paddy growing farmers who are adopting the KVK technologies and 30 paddy farmers who are not covered under KVK production technologies were selected from the adopted villages.

The impact of paddy production technologies advised by KVK Jammikunta was assessed with different technologies like Direct seeding paddy, SRI cultivation, Drum seeding paddy, IPM in Paddy, INM in paddy and hybrid rice cultivation among the KVK adopted paddy farmers in comparison with non adopted farmers. The impact is studied in terms of adoption quotient, productivity and profitability.

## 3. RESULTS AND DISCUSSION

### 3.1 Impact of Paddy Production Technologies of KVK Jammikunta in Karimnagar District

#### 3.1.1 Impact of paddy production technologies in terms of adoption quotient

##### a) Adoption quotient of paddy adopted farmers

Adoption quotient = Total obtained score of all the selected paddy adopted farmers/ Total possible score of all the selected paddy adopted farmers x 100

Adoption quotient of paddy adopted farmers  
=  $4643/5220 \times 100$

= 88.94%

##### b) Adoption quotient of paddy non adopted farmers

Adoption quotient = Total obtained score of all the selected paddy non adopted farmers/ Total possible score of all the selected paddy non adopted farmers x 100

Adoption quotient of paddy non adopted farmers =  $1391/2610 \times 100$

= 53.29%

##### c) Impact of KVK technologies in terms of adoption quotient in paddy

$88.94 - 53.29 = 35.65\%$

It is observed that adoption quotient of paddy adopted farmers is 88.94% and that of non adopted farmers is 53.29%. 35.65% is the difference between paddy adopted and non adopted farmers.

These results are in conformity with the findings of Singh et al., [6] and Razack [7].

Significant difference was observed between the adoption quotients of adopted and non adopted farmers in paddy crop, it is quite obvious that the farmers cannot be under adopted category adopts most of the recommended practices advocated by the KVK against to their counter parts of non adopted farmers who are averse to accept and implement the recommended practices. Hence it has been reflected by symbolizing more adoption quotient by the adopted farmers compared to non adopted farmers, it is all may be due to the efforts put in by the KVK scientists to motivate and persuading the farmers to adopt the innovative farm technologies through the process of technology assessment, refinement, demonstration and dissemination.

#### 3.1.2 Impact of paddy production technologies in terms of productivity

##### a) Productivity level of paddy adopted farmers

Productivity level = Total productivity of all the selected paddy adopted farmers/ Number of selected paddy adopted farmers

Adopted Paddy farmers productivity level =  $385740/60 = 6429$  Kg/ha

### **b) Productivity level of paddy non adopted farmers**

Productivity level = Total productivity of all the selected paddy non adopted farmers/ Number of selected paddy non adopted farmers

Non adopted Paddy farmers productivity level =  $174810/30 = 5827$  Kg/ha

### **c) Impact of KVK technologies in terms of productivity level in paddy**

$6429 - 5827 = 602$  Kg/ha

It is noticed that the productivity of paddy adopted farmers is 6429 kg/ha and that of non adopted farmers is 5827Kg/ha, the difference between productivity levels of paddy adopted and non adopted farmers is 602 Kg/ha.

This result is in conformity with the result of Razack [7]

It was evident from the technologies disseminated by the KVK, Karimnagar had an impact on the productivity level of adopted farmers in paddy crop. Their productivity levels are higher than the non adopted farmers, the reasons could be before adoption of these technologies by the farmers, the KVK scientists were disseminating these technologies by scrupulous assessment careful refinement and showing the value or skill involved in these technologies by conducting well planned method and result demonstrations. This might have facilitated farmers to practice KVK advocated technologies intoto in true spirit, there by the farmers reaped the devidends in the form of high productivity level.

### **3.1.3 Impact of paddy production technologies in terms of profitability**

#### **a) Profitability level of paddy adopted farmers**

Profitability level = Total profitability of all the selected paddy adopted farmers/ Number of selected paddy adopted farmers

Adopted paddy farmers profitability level =  $23,49,840/60 = 39,164$  Rs/ha

#### **b) Profitability level of paddy non adopted farmers**

Profitability level = Total profitability of all the selected paddy non adopted farmers/ Number of selected paddy non adopted farmers

Non adopted paddy farmers profitability level =  $9,88,860/30 = 32,962$  Rs/ha

#### **c) Impact of KVK technologies in terms of profitability level in paddy**

$39,164 - 32,962 = \text{Rs.}6,202$  Rs/ha

It is noticed that the profitability of paddy adopted farmers is 39,164 Rs/ha and that of non adopted farmers is 32,962 Rs/ha, the difference between profitability levels of paddy adopted and non adopted farmers is 6,202 Rs/ha.

This finding is in line with the result of Singh et al. [6].

The results on profitability accrued by the farmers of paddy crop give an impression that there was glaring difference between profitability levels of adopted and non adopted farmers of selected crops, this could be due to continuation of the adoption of location specific technologies recommended by the scientists of KVK, Karimnagar, the technologies recommended were assessed and refined on various fronts like their simplicity, practicability, applicability, trialability, compatibility and cost [8,9]. The KVK Karimnagar is known for past few decades for its popularity of recommending low cost and high profitable technologies which has lured the farmers in a massive way to come forward to accept and apply the recommended technologies, hence there is every reason to quote these technologies are the main contributors of enhanced profitability level among adopted farmers.

## **4. CONCLUSION**

High impact of paddy production technologies in terms of adoption quotient, productivity and profitability was seen among the farmers adopted by the KVK Jammikunta compared to the non adopted farmers. This could be due to the multiplicity of the transfer of technology mechanisms followed by the KVK scientists in the adopted villages especially for the benefit of farmers adopted by the KVK.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Tanveer Ahmed. An economic analysis of paddy based farming systems in Southern Karnataka – a case study of Mandya district. M.Sc.(Ag.) Thesis, Univ. Agric. Sci., Dharwad; 2006.
2. Ravishankar K. Agricultural wealthier forecasting impact and analysis in Andhra Pradesh. Ph.D. Thesis, Acharya N. G. Ranga Agricultural University, Hyderabad; 2005.
3. Vichare. Economic analysis of rice based cropping systems in North Konkan region of Maharashtra. Ph.D. Thesis, Dr. B. S. Konkan Krishi Vidyapeeth, Dapoli; 2007.
4. Alam MK, Bell RW, Hasanuzzaman M, Salahin N, Rashid MH, Akter N, Akhter S, Islam MS, Islam S, Naznin S, Anik MF. Rice (*Oryza sativa* L.) establishment techniques and their implications for soil properties, global warming potential mitigation and crop yields. *Agronomy*. 2020;10(6):888.
5. Xia Q, Green BD, Zhu Z, Li Y, Gharibzahedi SM, Roohinejad S, Barba FJ. Innovative processing techniques for altering the physicochemical properties of wholegrain brown rice (*Oryza sativa* L.)—opportunities for enhancing food quality and health attributes. *Critical Reviews in Food Science and Nutrition*. 2019;59(20): 3349-70.
6. Singh RI, Singh G, Singh J. Economics of paddy production in Sultanpur. *Indian Journal of Agricultural Economics*. 1987;37 (5):11-12.
7. Razack A. Economic evaluation of Integrated Pest Management (IPM) programme. M.Sc.(Ag.) Thesis, Tamil Nadu Agril. Univ., Coimbatore; 2000.
8. Balamatti, A.M., 1993. A study on rice cultivation pattern of Siddhi farmers and their socioeconomic characteristics, Yellapur, Karnataka. M.Sc. Thesis submitted to University of Agricultural Sciences, Dharwad.
9. Bhat, P.L. 1994. A study to identify the determinants of yield gaps and constraints in rice cultivation of Jammu and Kashmir State. M.Sc. Thesis submitted to Andhra Pradesh Agricultural University, Hyderabad

© 2022 Rao et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:  
<https://www.sdiarticle5.com/review-history/95627>