



## **Yield Gap Analysis of Rice in Kabini Command Area of Karnataka**

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### **ABSTRACT**

*The study was conducted in 4 taluks of Kabini Command area of Karnataka during 2016 to assess the knowledge and adoption level of recommended rice cultivation practices among the rice growers. A total of 120 respondents were interviewed using a pre-tested interview schedule. The findings revealed that the majority (69.17%) of the rice growers were obtained medium level of yield with respect to yield levels of rice recorded by respondents, followed by high (15.83%) and low (15%) level of yield. With respect to yield gap, IR-64 variety had 17.72 per cent, 11.73 per cent and 7.30 per cent of yield gap in marginal, small and big farmers respectively. In case of Jyothi variety the yield gap was 18.63 per cent, 14.45 per cent and 8.82 per cent in marginal, small and big farmers respectively. Hence there is a significant difference between the yield gap of IR-64 variety and Jyothi variety.*

**Keywords:** Yield Gap Analysis, Extent of Adoption, Productivity, Respondents, Potential yield

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### **INTRODUCTION**

Rice (*Oryza sativa* L.) is the most widely grown crop in India. It is the most important staple food crop of the country providing food for more than 70 per cent population. For more than half of the humanity "rice is life". Considering its importance, the United Nation designated year 2004 as the "International Year of rice". It is grown in an area of 44.0 million ha with the production of 106.0 million tones and the productivity of 2455 kg/ha. It is projected that India needs to produce 115 million tonnes of rice by the year 2020 to maintain the present level of food self-sufficiency [1-5]. To maintain national food security there is a need to increase rice production to sustain self-sufficiency. Knowledge and adoption of new technologies and bridging the yield gap could improve not only the production but also the efficiency of rice productivity. Therefore this study was undertaken to assess these aspects in detail with the following objective to analyze the yield gap of selected rice varieties in Kabini Command area.

### **MATERIALS AND METHODS**

The study was conducted during 2016-17 in 4 taluks of Kabini Command Area of Karnataka (viz., Nanjangud and T. Narsipura of Mysore district, Kollegala and Yelandur of Chamarajanagara district). Considering the highest number of rice growing farmers 12 villages were selected from all the 4 taluks and 10 rice growing respondents were selected from each village by applying simple random sampling technique, thus 120 rice growers were selected as respondents for the study. The data collection was done by personal interview method with the help of the well- structured schedule. The statistical tools such as frequency percentage and mean were used analyse the data.

In the present study, the yield gap was operationalized as the difference between the maximum yield obtained at the research station (potential yield) and actual farm yield [6].

The variable was measured using an index as given below.

**Potential yield - Actual yield**

$$\text{Yield gap (\%)} = \frac{\text{-----} \times 100}{\text{Potential yield}}$$

**Potential Yield** refers to the yield which is obtained in the research station.

**Actual farm Yield** refers to the yield obtained in the average farmer's field (respondents in this study). This was used to work out the yield gap indexes.

## RESULTS AND DISCUSSION

**Yield gap of selected rice varieties in Kabini command area:** The result in *Table 1* showed that, 65 q/ha is the potential yield of IR-64 variety and they were recording 53.48 q/ha average yield in marginal farmers field with 17.72 per cent of yield gap. 57.37 q/ha in small farmers field with 11.73 per cent yield gap and 60.25q/ha in big farmers field with 7.30 per cent yield gap. Similarly in case of Jyothi the potential yield is 55 q/ha. Marginal farmers were recording average yield of 44.75 q/ha with 18.63 per cent of yield gap. In small farmers field 47.05 q/ha average yield was recorded with 14.45 per cent yield gap and 50.15 q/ha in big farmers field with 8.82 per cent yield gap.

**Table 1: Yield gap of selected rice varieties in Kabini Command Area (n=120)**

Varieties of Rice	Farmers category	Research station average yield (q/ha)	Average yield obtained by the rice growers (q/ha)	Yield gap (q/ha)	% Yield gap
IR 64 (n=60)	Marginal (<2.5 ac)	65	53.48	11.52	17.72
	Small (2.5-5 ac)		57.37	7.63	11.73
	Big (>5 ac)		60.25	5.05	4.75
Jyothi (n=60)	Marginal (<2.5 ac)	55	44.75	10.25	18.63
	Small (2.5-5 ac)		47.05	7.95	14.45
	Big (>5 ac)		50.15	4.85	8.82

### Overall Yield Gap Index of selected rice varieties in Kabini Command Area:

Data From *Table 2* reveals that, the mean yield gap index of IR-64 variety was 49.44 and Jyothi variety was 55.93. However, 2.09 "t" value indicates a significant difference between the yield gap of IR-64 and Jyothi. Jyothi showed a higher yield gap than IR-64. Hence the hypothesis is rejected.

**Table 2: Overall Yield Gap Index of selected Rice varieties in Kabini Command Area(n=120)**

Varieties	N	Mean yield gap index	't' value
IR 64	60	49.44	*2.09
Jyothi	60	55.93	
<b>Total</b>	120	52.69	

\*Significant at 5 per cent level

## REFERENCES

- Mukhopadhyay, S. D. AND Dasgupta, D., (1994), Yield Gap And Technological Gap: A Case Study Of Birbhum District Of West Bengal. *Maharashtra J.Extn.Edu.*,**13**:203-208.
- Nagabhushanam, K. AND Herle, P. S., (1997), Yield Gap In Paddy – A Study. *Karnataka J.Agric.Sic.*,**10**(1):174-176.
- Nagaraj, K. H., (1999), An Analysis Of Yield Gap, Technological Gap And Constraints In Groundnut Production. *Ph.D.(Agriculture)Thesis In Agril.Ext.* (Unpub.), University Of Agricultural Sciences, Bangalore.
- Pochaiahmaraty and Rameshkaumar, P., (1998), A Study On The Extent Off Adoption And Yield Gap In Paddy.*Maharashtra J.Extn.Edu.*,**9**(1):1925-1927.
- Prakash, P., (2000), A Study On Technological Gap, Yield Gap And Constraints Of Paddy Cultivation In Palakkad District Of Kerala.*M.Sc. (Agriculture) Thesis In Agril.Ext.*(Unpub.), University Of Agricultural Sciences, Bangalore.
- Sunil, R., (2007), Analysis Of Yield Gap And Technological Gap In High Yielding Varieties Of Paddy Cultivation In Mandya District.*M.Sc. (Agriculture) Thesis In Agril.Ext.*(Unpub.), Univ. Agric. Sci., Bangalore.

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