

# Determinants of technical and allocative efficiency of sorghum producers in Botswana

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## INTRODUCTION

- ◇ Sorghum remain an important source of livelihood for Botswana
- ◇ Its cultivated on 80 percent of arable land
- ◇ The current output and yield level are below their potential.
- ◇ Improving efficient resource use and allocation is key in increasing the sorghum productivity.

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## METHODOLOGY

- ⇒ Secondary data from 1998 until 2017 used.
- ⇒ Stochastic production frontier used for factors influencing technical efficiency
- ⇒ Stochastic cost frontier used for factors influencing allocative efficiency.

## RESULTS

- ◆ Average technical efficiency was 0.94
- ◆ Average allocative efficiency was 0.67.
- ◆ Education level increased the level of technical efficiency
- ◆ Rainfall variability and trade openness had a negative effect on allocative efficiency

## Conclusion

- Sorghum producers were both technical and allocative inefficient.
- Education was the main determinant of technical efficiency
- Rainfall variability and trade openness were the main determinant of allocative

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