



Australian Government

Australian Centre for  
International Agricultural Research

Crops

# Increasing productivity and profitability of pulse production in cereal-based cropping systems in Pakistan

## Overview

Demand for pulses in Pakistan, as in other South Asian countries, outpaces supply due to declining production over the last 20 years. Despite relatively high prices, legumes, especially chickpea and lentils, have been progressively pushed out to the most marginal lands.

Major production constraints include the lack of access to high yielding, disease-resistant varieties; poor agronomic practices, limited options for disease and post-harvest management; and labour shortages.

Pakistan has to import pulses to meet growing demand. This reliance on imports means the country is missing out on the economic and environmental benefits that legumes bring to farming systems such as crop diversification, soil health, control of diseases and reduction of systemic risks.

Re-introducing legumes into cropping systems is a priority for the Government of Pakistan. The Government recently considered greater price control to prevent price fluctuations, thereby providing incentives for increased production not only in marginal areas but also for different farming systems.



## KEY FACTS

**ACIAR Project No.** CIM/2015/41

**Duration:** November 2016 to October 2022

**Target areas:** Pakistan

**Budget:** A\$2,300,953

### Project Leader

Ata Rehman, Charles Sturt University

### Key partners

- (NARC) National Agricultural Research Centre
- PMS University of Arid Agriculture Rawalpindi
- MNS University of Agriculture, Multan, Punjab
- Pakistan Agricultural Research Council (PARC)
- Sindh Agriculture University, Jamshoro, Sindh

### ACIAR Research Program Manager

Dr Eric Huttner

## Objective

**The project's aim is to enhance the production and profitability of legumes in the existing cropping systems in Pakistan so that the decline in legume production can be reversed.**

**The project's specific objectives are to:**

- Identify agronomic factors limiting the productivity and profitability of lentils, chickpeas and groundnut, and evaluate possible solutions, mostly through farmer led research and demonstrations of suitable innovations.
- Increase opportunities for farmers to undertake post-harvest value addition to chickpea, lentil and groundnut crops.
- Develop and evaluate, in partnership with farmers, site specific village-based seed production and dissemination systems to facilitate access to improved varieties.
- Disseminate the learning and practices from the project activities to other farmers and private sector participants, such as input suppliers and potential service providers.

## Expected scientific results

- Improved knowledge of the social barriers to the adoption of new technology.
- Improved understanding of the performance of different pulse varieties grown using a range of innovative farming practices.
- Improved understanding of the performance of Pakistani grown pulses in various value-adding applications.
- Results published in reports and research publications and made available for other ACIAR projects and to collaborating institutions with similar aims.

## Expected outcomes

- Increased lentil, chickpea and groundnut production and value addition in cereal cropping system, helping to sustainably meet increasing demand for high-quality legumes in Pakistan.
- Less reliance on fertiliser to grow cereal crops due to improved nitrogen soil levels.
- Credible evidence influencing policy change in favour of lentil, chickpea and groundnut production.
- Increased crop productivity thanks to access to quality seed from better adapted varieties, helping to improve the ability of farmers to maintain and further improve their farming systems.
- Increased income due to post harvest value addition.

