Big jump towards no-till chickpea in the Kermanshah province of Iran

Increasing Productivity of Cereal-based Systems to Enhance Food Security in Iran Project (EFSIP)

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Abstract

Chickpea is a valuable food crop, highly adapted to rainfed conditions and good for rotation with wheat. It is a good source of protein, carbohydrate, fiber, minerals and vitamins with very low negative impact on environment compare to meat. With 5% of world production, Iran is the third in chickpea production worldwide but the productivity is as low as 500-600 kg/ha. Through a five-year action oriented research for development project, Iran and ICARDA are working together to increase crop productivity in the wheat based systems in the dryland agriculture areas of the country. The project aims at increasing wheat, chickpea and barley productivity through proper crop rotation focusing on water use efficient genotypes and no-till agriculture practices.

The project uses innovation platform and participatory technology verification in farmer' fields (PTVFF) methodologies. Performance of chickpea under no-till in warm and moderate cold IPs in Kermanshah province (West Iran) and in PTVFFs was impressive. Yield difference between chickpea under CA out yielded those under conventional tillage (CT) in warm and moderate cold areas by 48% (900 kg/ha) and 88% (1536 kg/ha), respectively. In the PVTFFs, weed population density was less in no-till chickpea compared to CT fields. Moreover, less drought stress demonstrated by extended crop maturity period was observed in no-till fields compared to those under CT. These results have been used through field days, workshops, training courses and media outlets to increase no-till cultivation of chickpea in Kermanshah to 1141 ha in 2017-18 representing a 576 % increase to 2016-17.

Production cost reduction, soil organic mater build-up and effective soil moisture conservation make conservation agriculture a smart choice for sustainable dryland farming

Conventional chickpea cultivation issues resulting to low productivity and high production cost

EFSIP methodologies to promote no till Chickpea in the dryland provinces of Iran

1. Innovation platform (IP): is a space for collective learning and exchanges: EFSIP adopted the IP concept with the aim of bringing together all stakeholders along the value chains of the project target commodities namely wheat, barley and chickpea

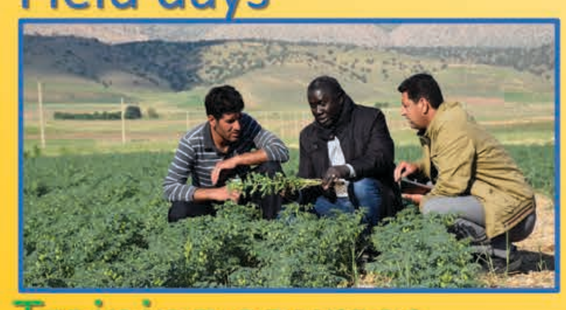
Low-cost-CA seeders sold to farmers at 50% government subsidy

2. Dissemination fields (DF): is an action oriented approach for effective technology dissemination through approaching, sensitizing and directly working with potential early adopters among farming communities on large scale on farm testing of new agriculture innovations

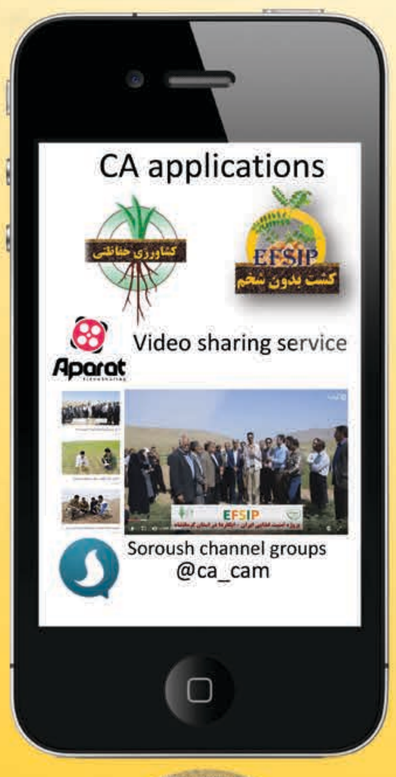
3. Capacity building and communication

Workshops

Field days



Training courses



Iranian farmers' proverb
For Chickpea, one rainfall is too little but two are too much

Outcome