



Challenges and Prospects for Transitions to Conservation Agriculture in Iran



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INTRODUCTION

- ✓ Studies show that traditional agriculture is mostly responsible for the soil erosion problems, surface and underground water pollution, and more water consumption (Wolff and Stein, 1998) and it seems to have failed to meet the current food demands of the world population and instead exerts more pressure on ecosystems.
- ✓ FAO introduced Conservation agriculture (CA) as a way of facing these challenges. CA is an agricultural method composed of three practices namely (a) minimal mechanical soil disturbance, (b) permanent organic soil cover by crop residues and/or cover crops, and (c) diversified crop rotations.
- ✓ Several benefits are accruing from this practice such as increased yields and income over time, soil and water conservation, reduction in production costs and biodiversity enhancement while meeting immediate and future food needs of the human population (Uphoff et al., 2006; Dordas, 2015).
- ✓ A shift to CA in the Asian countries is perceived to be of fundamental value in meeting the challenges of food and energy demands, natural resource degradation, escalating production costs and climate change (Bhan & Behera, 2014). However, in Asia countries like Iran this cropping system is still new and areas under CA are small.
- ✓ Despite its promotion for nearly one decade, CA is not widely adopted by farmers throughout Iran. Only an estimated 1.5 million ha of land is managed through CA.
- ✓ In this poster, we present the status of CA in Iran, and the barriers farmers face during the transition from conventional agriculture to CA.

METHOD

- ✓ We used qualitative social science methods for studying the status of CA in Iran. We employed qualitative methods to gather data from key informants that were made up of experts. Experts were identified based on their involvement in activities of the CA projects.
- ✓ The interviews were carried out in 9 provinces. Each interview took about an hour and usually started with some general question about the interviewee's experiences, then focused on the main questions. A total of 32 expert exploratory interviews were conducted.
- ✓ After reading line-by-line sample transcripts, we have prioritized the most important factors impeding and supporting the transition from conventional agriculture to CA

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RESULTS

- ✓ In 2004, no-till and conservation tillage practices were introduced in two provinces (Khuzestan and Kermansha,) by Ministry of Agriculture. In 2007, the first program for the development of CA was started by the Ministry of Agriculture in six provinces (Isfahan, Fars, Khuzestan, Hamedan, Qazvin and Golestan) (Saei Ahan et al., 2009).
- ✓ Currently, due to the positive results of CA in these provinces, the Iranian government has plans to promote CA in all province.
- ✓ CA is still not widely practiced among the farming population in Iran. Adoption levels are low in Iran with less than 5% of arable land under CA.
- ✓ There are several challenges for impeding and supporting transitions to in Iran. The challenges for transition from conventional agriculture to CA were divided into two general groups:

Challenges at farm level :

- Lack of or limited access to machinery and equipment for CA;
- Limited access to credits to purchase CA machines and inputs;
- Poor economic benefits during early phases of CA practices;
- Lack of knowledge and experience of residue supply and management;
- Management and control of weed, pest, and diseases

Challenges at policy level:

- Lack of knowledge about CA among key decision makers hinders its promotion;
- A weak set of special formal organizational structures, rules and informal norms (institutional framework);
- Lack of long-term strategic plans for CA development;
- Low investments in agricultural credit, infrastructure, and markets for CA development.

CONCLUSIONS

The transition from conventional agriculture to CA needs technological and institutional innovations, and it is possible only if all stakeholders in agriculture and other related sectors acknowledge, adapt and adopt this technology.

Development of CA practices would need increased information dissemination and awareness among farmers and policymakers about CA benefits.

Research, in particular, can help to solve farmer and policy constraints to CA adoption and spread.

Creating an enabling institutional environment and suitable government policies are needed to promote CA.