



**AgEcon** SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

*No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.*

## **Subject II**

### **Conservation Agriculture**

#### **Rapporteur: V.T. Raju\***

Conservation Agriculture (CA) is a resource saving technology/method and refers to the system of raising crops without tilling the soil, while retaining crop residues as soil surface and involving spatial and temporal crop sequencing/rotations. Thus, it is based on the principle of minimum soil disturbance and thus promotes natural biological processes above and below the soil surface. The concept of Conservation Agriculture is relatively new to India. The Conservation Agriculture (CA) has been reported to reduce cost of production while improving yield and conserving land and water resources. There is an opportunity to enhance farm productivity and improve sustainability of agriculture in the resource poor regions through application of the principles of conservation Agriculture.

The keynote paper presented under this theme highlighted documentation of constraints for up-scaling of CA, disseminating CA concepts to other unexplored regions of India, examining the potential benefits at micro-levels, synergizing existing government programmes for CA and developing the appropriate institutional and market innovation mechanisms for linking CA with international programmes and treaties.

Five full length papers and fourteen summaries published on this subject of Conference Volume were taken up for discussion in this session. The discussion focused on six broader issues related to Conservation Agriculture. These issues included water conservation, soil degradation and salinity, organic farming, carbon emissions and credits conservation agriculture in rainfed regions and conservation agriculture in irrigated farming. The major points which emerged on each of these issues are presented below:

#### *1. Water Conservation:*

Water being a critical and scarce input/resource in agriculture production, its conservation through technologies like alternative wetting and drying technology (AWD), Systems of Rice Intensification (SRI), etc. are to be encouraged.

---

\*Dean, College of Post Graduate Studies, Central Agricultural University, Barapani, Meghalaya – 793 103.

## 2. *Soils Degradation and Salinity:*

In many irrigated areas soil salinity and soil degradation are increasing causing loss in production and productivity. To ensure desalinization collective action, group credit government supports are needed. Family size, perceptions on the benefits of conservation methods have positive affect on conservation practices while off farm employment and land tenure system have a negative effect.

## 3. *Organic Farming:*

Organic farming can be considered as a part of CA as the use of chemicals and organic inputs are not used. But to promote organic farming identification of organic farming zones, training in organic farming practices including local production of organic inputs, scientific monitoring system for quality control of commercial organic inputs, Certification, linkages to niche markets, etc. are to be promoted.

## 4. *Carbon Emission and Credits:*

The green gas can be reduced through proper crop management and agronomic practices. The Resource Conservation Technologies (RCT's) will benefit in terms of reduction in carbon emissions. Since, RCT's involved incremented costs investment grant for RCT's is needed.

## 5. *Conservation Agriculture in Rainfed Regions:*

In rainfed agriculture conservation/minimum tillage with residue retention on surface is more appropriate than zero tillage. Techniques and technologies like soil water conservation, watershed management, mulching, etc. will benefit under rainfed conditions.

## 6. *Conservation Agriculture in Irrigated Regions:*

In irrigated farming, zero tillage is more profitable than conventional tillage. Drip method of irrigation can be used as a tool for conserving valuable resources like water and electricity. Most of the conservation methods/technologies like laser leveler, permanent raised beds, tensiometers in rice, direct seeding of rice, IPM, protective technologies in vegetable cultivation and diversification of agriculture are technically feasible and economically viable.

**Recommendations:** The following recommendations are made which have policy implications:

- Technologies related to Conservation Agriculture (CA) for different agro-ecological situations need to be developed by National Agricultural Research Stations research and development.
- Socio-Economic benefits of different CA technologies needs to be worked out for different Agro-ecological situations.
- For creation of awareness on adoption of CA practices by the farmers at grass-root level, the help of ICT needs to be explored.
- Community based custom hiring of machineries required for CA needs to be strengthened.
- Organic farming being one of the components of CA, the inputs and products need to be promoted through proper market intelligence.
- Corporate sectors supplying CA related machineries and equipments should also be involved in knowledge strengthening and training activities at farmers' level.
- The ITKs related to CA needs to be documented and validated for its integration with modern technologies.
- Since direct benefits of the carbon credit markets cannot be made accessible for the farmers, incentives are to be provided by the government.