



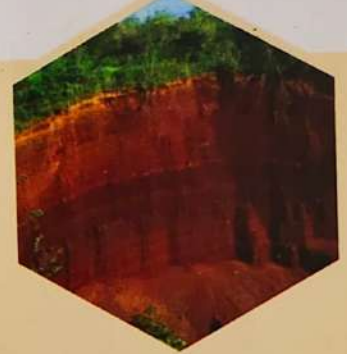
ABSTRACTS

INTERNATIONAL CONFERENCE

On

**Soil and Water Resources Management for Climate
Smart Agriculture, Global Food and Livelihood Security**

November 05th-09th, 2019
NASC Complex, New Delhi, India



A Joint International Conference of



ISCO
International Soil
Conservation Organization



Soil Conservation Society of India (SCSI)
World Association of Soil and Water Conservation (WASWAC)
International Soil Conservation Organization (ISCO)

Organized by

Soil Conservation Society of India, New Delhi, India

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Preface

Soil and Water Conservation and management are prerequisite for sustainable agriculture. It is important to conserve and properly manage the natural resources and improve economic viability of farming to meet food and livelihood security. Proper management of land, water, biodiversity and climate resources is the need of the hour. There is a strong need to increase agricultural production towards achieving the goals of livelihood security on sustainable basis as well as reduce the productivity gap between marginal and favoured areas. A strong infrastructure has to be built which can deliver optimally under climate variability and change. Soil and Water Conservation and Irrigation are important aspects of land use and rural development in these regions. Participation of the stakeholders at various levels is absolutely necessary. Proper management of soil, water, animal, plant and human resources is essential to aim for rural development, mitigating climate change effect, enhancing farmers' income and achieving the future targets on sustainable basis.

The 4th International Conference of SCSi jointly organized by WASWAC, ISCO and SCSi on "Soil and Water Resources Management for Climate Smart Agriculture, Global Food and Livelihood Security" during November 5-9, 2019, hosted by the Soil Conservation Society of India, New Delhi and co-sponsored by the Indian Council of Agricultural Research (ICAR), DST-SERB, NABARD, ICSSR, NBA, NRAA, CSIR and ISRO and supported by IUSS and ESSC. This book includes the Abstracts of the papers contributed by experienced professionals, researchers and academicians from different countries and are categorized into the broad themes of the conference. The editors are grateful to Prof. Li Rui, Prof. Samir A El-Swaify, Prof. Miodrag Zlatic and members of the technical committee of the conference for their efforts, support and cooperation.

This abstract book will prove to be an important knowledge bank and tool in the hands of policy makers, students, researchers, scientists and field level workers for better management options for management of the natural resources to attain sustainable farming vis-à-vis mitigating climate change effect.

Suraj Bhan and Sanjay Arora



Interactive Effect of Irrigation and Nutrient Management on Yield and Water Use Efficiency of Cowpea

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In the age of over-exploitation of natural resources, proper conservation management practices should be adopted to make it to a sustainable and quality rich environment along with high income of the resource poor farmers in agriculture. In this context, proper utilization of water along with nutrient management are important aspects to make farming more beneficial. On this behalf, an field experiment was conducted during the summer season of March to July 2018, at the Instructional Farm of Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal to investigate the interactive effect of irrigation and various nutrients under Cowpea (Var- Rohan 1086) production. The experiment was laid out in split plot design having three main plot treatment (I_0 – CPE 60 mm, I_1 - CPE 50 mm, I_2 - CPE 40 mm) and five sub plot treatment [F_0 – Control, F_1 – Farm yard manure @ 2.5 t/ha, F_2 – Cow dung @ 10 t/ha, F_3 – Poultry manure @ 2t/ha, F_4 – Recommended Dose of Fertilizer (N-P-K : 12.5 – 25 - 12.5)] with three replications. Results showed that the yield is increased with each treatment, attaining the highest value of 13.62 q/ha in treatment I_2F_4 which is 81.6% more than control. The moisture use efficiency of the crop, was increased significantly by 52.99% in the treatment I_0F_2 over control. Though the best results were obtained in I_2F_4 , in terms of benefit-cost ratio and from sustainable point of view treatment I_2F_2 was proven more beneficial than any other treatments.

Key words: Benefit-cost ratio, Cow pea, Integrated nutrient management, Water use efficiency