### Progress Report of National Conference on Soil Health: A Key to Unlock and Sustain Production Potential

**Title of the Conference**: Soil Health: A Key to Unlock and Sustain Production Potential

**Date of the National Conference**: 3-4 September, 2014

**Duration**: Two days

**Organized by**: Jabalpur Chapter of Indian Society of Soil Science Department of Soil Science and Agricultural Chemistry, J. N. Krishi Vishwa Vidyalaya, Jabalpur (M.P.) - 482 004 (M.P.)

**Collaborations with**: Indian Institute of Soil Science, Bhopal  
Indian Society of Soil Science, New Delhi  
Borlaug Institute of South Asia, Jabalpur

**Partially sponsored by**: M.P. Council of Science & Technology, Bhopal

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Introduction :-

It is well known fact that soil is one of the most important natural resources and facilitates the nutrition to plants and directly related to productivity of crops. Unless soil health is cared all other interventions of crop production measures etc are void. Considering the scenario of fertilizer consumption in terms of plant nutrients which was 0.066 million tones in 1950-51 has increased to 25.53 million tones in 2012-13. It has been estimated that by 2020, the nutrients requirement will be 28.8 million tones to catch the targeted food grain production of 321 million tones while availability will be only 21.6 million tones with an effective gap of 7.2 million tones which need to bridge by unlocking the production potential of soil by managing the soil health.

India’s food economy has gone through a complete cycle since its independence, starting with food shortages via self sufficiency and ended with possibility of food insecurity situation. Agriculture sector is witnessing a serious problem of deceleration and stagnation of crop yields which probably persist for the coming years. Diminished soil health is resulting from exploitative and intensive agricultural practices which have put a tremendous pressure on the soil causing steady decline in soil environment and nutritional deficiencies which need to be corrected for sustaining agriculture production. Therefore, the outcome of the National Conference on “Soil Health: A Key to Unlock and Sustain Production Potential” will suggest various strategies for soil supplementation to achieve quantum jump in sustainable food grain production providing food nutritional security.

The underlying principle in considering “soil health” is that soil is not just an inert, lifeless growing medium; rather it is a living, dynamic and ever-so-subtly changing whole environment. Therefore, while categorizing a healthy soil it should be in a state of composite well-being in terms of biological, chemical and physical properties, each cooperatively functioning so that the soil reaches its full potential and resists degradation, thus providing a full range of functions and maintaining its capacity for future.

The main objectives of said conference is to deliberate on issues relating to excessive and imbalance use of chemical fertilizers and pesticides, burning of crop residues and loss of soil fertility, deletion in soil organic matter content, opportunities for filling the nutrient gap through biofertilizers and other sources of organic inputs, managing the industrial effluents, promotion of soil health centers, organic farming for eco-friendly production system, sensor based land use planning, agricultural diversification, extension services such as educating the farmers about soil health issues by adopting the techniques of soil test.

The state of Madhya Pradesh, in central India, has varied climatic conditions, vegetation, bio-diversity and socio-economic-cultural strata. Thus, it provides appropriate location for the National Conference on the memorable eve of JNKVV’s Golden Jubilee (1964-2014). Indian Society of Soil Science (ISSS), New Delhi and Indian Institute of Soil Science, Bhopal are also in endeavour for creating awareness about importance of soil health for sustainable agriculture. We cordially invite you and your colleagues as scientists, policy makers, NGOs, farmers and entrepreneurs from various national R&D and private organizations for active participation in this National Conference to be held on 3rd and 4th September, 2014 at JNKVV, Jabalpur in the most congenial and pleasant environment. Looking forward to meet you and your colleagues to deliberate on soil health issues related to agricultural problems confronting mankind of this country.

Conference Mission

To prepare the detail inventory on improvement in soil health and associated components for exploring the opportunities of unlocking the production potentials under different agro-ecoregions.
Objectives

- To review the status of current research on soil health under different agro-ecoregions to unlock the production potential.
- To identify long-term challenges of soil health problems for livelihood security and formulation of strategies to achieve thereof.
- To evolve synergy among the techniques developed to conserve the resources and accelerate the food production.
- To exchange the views and establish linkages among stakeholders for future planning on development of viable agro-techniques.

Themes

A. Soil health management and biodiversity

- Soil physical environment in relation to soil health and crop productivity.
- Vulnerability of degraded soils and strategies for their mitigation.
- Minimization of soil disturbances for improving soil health.
- Carbon sequestration in soil and its potential in different agro-ecoregions of India.
- Impact of current agricultural practices on soil biodiversity.

B. Strategic nutrient management for sustainable soil health

- Differential nutrient mining through crop diversification
- Crop residue management for input nutrients
- Site and crop specific INM for ascertaining soil quality
- Challenges of secondary and micro nutrient deficiencies and scope for their amelioration.
- Scenario of heavy metal toxicity and its remediation.
- Opportunity for use of nano-fertilizers.

C. Remote Sensing and GIS application for soil health management

- Remote Sensing and GIS application for site specific land use planning.
- Precision nutrient management for sustainable soil health.

D. Socio-economic aspects

- Scenarios for gap between supply and demand of plant nutrient sources in present and future.
- Use of indigenous technological knowledge for sustaining soil health.
- Social barriers responsible for diminution of soil health.

Brief Information about the delegates:

About 250 abstracts, contributory and lead papers were received for the said conference, out of these, about 150 delegates from different parts of the country (Maharashtra, Uttar Pradesh, Assam, Chhattisgarh, Karnataka, Gujarat, Andhra Pradesh & Madhya Pradesh) belonging to ICAR, SAU’s and other organization participated in the National Conference.
Registration of delegates :-

Invitation card, Programme schedule, Souvenir, Abstract CD, Newsletter of Jabalpur Chapter of Indian Society of Soil Science, a laboratory manual on soil, water and plant testing etc. were provided to all delegates and invited resource persons on 3rd September, 2014.

Inaugural function of the National Conference :-

The National Conference was inaugurated by the chief guest of the function Dr. A.K. Sikka, Deputy Director General (NRM), Indian Council of Agriculture Research, New Delhi. Dr. A.K. Singh, Vice Chancellor, RVSKVV, Gwalior (M.P.) and Dr. S.K. Patil, Vice Chancellor, IGKV, Raipur (C.G.) were the guest of honour. Dr. A.K. Patra, Director, Indian Institute of Soil Science, Bhopal (M.P.) was a special guest and Dr. V.S. Tomar, Vice Chancellor, Jawaharlal Nehru Krishi Vishwa Vidayalaya, Jabalpur presided over the inaugural function of the National Conference.

Welcome address by Dr. A.K. Rawat, Organizing Secretary of the National Conference

Release of Souvenir, Abstract CD of National Conference and Newsletter of Jabalpur Chapter of Indian Society of Soil Science by Dignitaries during inaugural function
A View of Dignitaries during Inaugural function of National Conference

Chief Guest Dr. A.K. Sikka, DDG (NRM), ICAR, New Delhi addressing the Inaugural function of National Conference
Dr. A.K. Singh, Hon’ble Vice Chancellor, RSKVV, Gwalior delivered the 8th Dr. T.D. Biswas Memorial lecture of Indian Society of Soil Science, New Delhi on “Feeding 1.6 billion - Can Soil Scientists Deliver ?” during National Conference on “Soil Health: A Key to Unlock and Sustain Production Potential” during September, 3-4, 2014.
Presentation of contributory and lead papers by different delegates in different technical sessions

Poster Session: Posters presented by different delegates
Valedictory Session :-

Dr. A.K. Patra, Director, Indian Institute of Soil Science, Bhopal was the chief guest of the valedictory function on 4th September, 2014 and the Chairman was Prof. V.S. Tomar, Hon’ble Vice Chancellor, JNKVV, Jabalpur. Dr. S.K. Rao, Dean Faculty of Agriculture, J.N. Krishi Vishwa Vidyalaya, Jabalpur, Dr. S.S. Tomar, Director Research Services, JNKVV, Jabalpur, Dr. A.K. Rawat, Organizing Secretary and delegates of National Conference were also present during valedictory session along with different faculty members of the university.
Best poster presentation awards:

Performance of delegates during poster session of the conference was evaluated by the Chairmen and Co-Chairmen. Following delegates secured their 1st, 2nd and 3rd position in different themes. Accordingly they were awarded (certificates) by the Prof. V.S. Tomar Hon’ble Vice Chancellor, during valedictory session on 4th September, 2014.

Hon’ble Vice Chancellor Prof. V.S. Tomar distributing the awards of the best poster presentation in different theme of the conference during valedictory function

**Theme A: Soil health management and biodiversity**

1. Dr. R.K. Sahu

2. Shri S.S. Baghel

3. Dr. Bisen
Theme B: Strategic nutrient management for sustainable soil health
1. Dr. R.K. Thakur
2. Dr. G.D. Sharma

Theme C: Remote Sensing and GIS application for soil health management
1. Shri G.S. Tagore

Theme D: Socio-economic aspects
1. Dr. B.S. Dwivedi