

Scaling Precision Nutrient Management (PNM) Practices in South Asian Cereal Systems

Mussoorie, India
April 27–29, 2016

DAY 1

8:30–9:00 Registration

SESSION 1: SETTING THE SCENE (CHAIR: DR. A. PATRA)

9:00–9:05 Welcome and charge to the workshop (Dr. A. McDonald)

9:05–9:20 The Delhi Declaration and context for PNM in India (Dr. R. Paroda)

9:20–9:40 A brief history in of soil fertility management in India (Dr. J.C. Katyal)

9:40–10:00 An industry perspective on custom blends and value-added fertilizers (Dr. R.K. Tewatia)

10:00–10:15 Government of India soil health initiatives (Dr. V. Dwivedi)

10:15–10:30 The challenge of taking precision nutrient management to scale (Dr. C. Witt)

10:30–10:45 Tea break

SESSION 2: ADVANCES IN ENVIRONMENTAL ANALYTICS AND GEO-SPATIAL DATA (CHAIR: DR. SEHGAL)

10:45–11:30 Skipping generations: applying new technologies and data sources to build soil and crop information systems (Dr. M. Walsh)

11:30–11:50 The promise (and limitations) of spectroscopy-based soil assessments (Dr. E. Towett)

11:50–12:10 Prospects for adaptive crop management with 'real time' analytics: The example of in-season prediction of rice yields with SARMAP (Dr. A. Laborte)

12:10–12:30 Making remotely-sensed data accessible to decision makers: The LCAT framework (Mr. S. SanthanaVannan)

12:30–1:30 Lunch

SESSION 3: TECHNOLOGY SCALING APPROACHS AND PATHWAYS (CHAIR: MR. V. PRAKASH)

- 1:30–1:45 Extension Systems and investments in soil fertility management: Examples of ‘on the ground’ progress in Bihar (Dr. A.K. Singh and Mr. V. Prakash)
- 1:45–2:00 Mobilizing weather forecasts through agro-advisories (Dr. K.K. Singh)
- 2:00–2:15 Developing a business case for investment in decision support in agriculture: Where does the private sector see opportunity? (Mr. N. Rawal)
- 2:15–2:30 What kinds of information do farmers value: Lessons learnt from maize decision-support systems (Dr. R.M. Sirohi)
- 2:30–2:45 What do we know about enduser preferences for PNM recommendations? (Dr. P. Ward)
- 2:45–3:30 Facilitated discussion: What are the established and potential scaling pathways for PNM for cereal staples in India? What populations and geographies can they serve? (developing a typology of pathways....)
(Facilitator: Dr. A. McDonald)

SESSION 4: EMERGING TOOLS: STRENGTHS, LIMITATIONS, APPLICATION DOMAINS, AND SCALING PATHWAYS (CHAIR: DR. BRUNO GERARD)

- 1:30–1:45 Field sensors (Dr. M.L. Jat)
- 1:45–2:00 Nutrient Expert (Dr. K. Majumdar)
- 2:10–2:30 Crop Manager (Dr. S. Sharma)
- 2:30–2:50 Satellite-based N recommendations (‘GreenSAT’) in Mexico (Dr. U. Schulthess)
- 2:50–3:10 Linking land evaluation to field management: The TAMASA approach (Dr. P. Craufurd)
- 3:10–3:30 GIS-based decision support systems in Bangladesh: What have we learned? (Dr. Zia Ahmed)
- 3:30–4:00 Tea break
- 4:00–4:20 Science foundations of the Soil Health Card initiative (Dr. A. Patra)
- 4:20–5:30 Facilitated discussion: Why have most farmers only partially benefited from 25+ years of science-led advances in PNM? What are the bottlenecks for sustainably reaching millions of smallholders In places like the Eastern IGP? (Facilitator: Dr. J.C. Katyal)
- 5:30 Adjourn
- 6:30 Cocktail dinner

DAY 2

SESSION 5: DEVELOPING USE CASES THAT LEVERAGE DIFFERENT SCALING PATHWAYS

9:00–10:30

For each of following use cases, **breakout groups** will consider the following:

- target audience
- technical approach and utility for endusers
- opportunities for innovation
- data requirements
- partnership arrangements
- (where appropriate) the business case for investment

Potential use cases that could be finalized after Day 1 include:

- ✓ Use Case 1: Adding value to the soil health card initiative
- ✓ Use Case 2: Field-specific recommendations through private sector decision support systems
- ✓ Use Case 3: Field-specific recommendations through input dealers and field advisors (value-added or fee for service)
- ✓ Use Case 4: Agro-advisories deployed at the landscape and sub-landscape scales
- ✓ Use Case 5: Custom fertilizer blends through input dealers and cooperatives
- ✓ Use Case 6: Precision fertilizer application technologies

(Use case rapporteurs: D. Johnson, B. Gerard, S. Beebout, T. Krupnik....)

10:30–11:00 Tea break

11:00–12:30 Use case report backs, discussion, and prioritization of opportunities

SESSION 6: DESIGNING DECISION SUPPORT SYSTEMS WITH ENDUSERS, SCALING PATHWAYS, AND SUSTAINABILITY IN MIND

12:30–1:30 Lunch

1:30–3:00 Parallel sessions on cross-cutting themes

- ✓ *Breakout 1*: Crop condition, soils, and yield forecasts: What is the promise, limitations, and practicality of emerging environmental analytics to contribute to PNM in India? (Facilitators: Dr. B.S. Dwivedi, Dr. B Singh)
- ✓ *Breakout 2*: Enhancing collaboration and cooperation between research, extension, and private sector organizations (Facilitators: Dr. R.K. Malik, Dr. T. Krupnik)

- ✓ Breakout 3: Developing key insights on the influence of national and state level policies on the enabling environment for PNM (Facilitators: Dr. P. Ward, Mr. V. Prakash)

3:00–3:30 Parallel session report back

3:30–4:00 Tea break

4:00–5:30 *Facilitated Discussion*: Building on the present and envisioning the future with strategic choices for advancing PNM in near, medium, and long-term (Facilitator: Dr. C. Witt)

7:00 Dinner

DAY 3

9:00–10:30 Developing an actionable ‘theory of change’, partnerships, and next steps for achieving PNM at scale

10:30–11:00 Tea break

11:00–12:00 Distilling major messages for policy roundtable

12:00 Meeting adjourned

12:30 Lunch

2:00pm Group sightseeing for those departing on April 30 (optional)

CONVENING CONTACTS

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CONVENED BY

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