

Policy Brief of ICSCI 2022

Scale-up the System of Crop Intensification (SCI) for Mainstreaming Agroecological Approaches in Indian Agricultural Production

Premise

This policy brief presents the outcomes of the International Conference on the System of Crop Intensification (ICSCI) and proposes actions to promote SCI adoption. The target audience includes policymakers at all levels, research institutions, and the private sector, with a focus on fostering collaboration between scientists and corporations. These proposed actions complement existing efforts to promote nature-based agriculture in India.

Background

The Green Revolution transformed Indian agriculture for the past century, aiding the growth of the population through input-intensive and tech-focused methods. However, this approach led to long-term issues like soil degradation, declining groundwater levels, and reduced biodiversity that are now mining food production and the provision of ecosystem services. Climate change further impacted productivity, causing food and livelihood insecurity. To address these challenges and secure future food needs, we must adopt pro-poor, resource-conserving strategies alongside modern productivity enhancements.

India leads in innovative and regenerative agricultural approaches, thanks to the central government's support. The Bhartiya Prakritik Krishi Paddhati (BPKP) promotes regenerative approaches through Natural Farming (NF), part of the Paramparagat Krishi Vikas Yojana (PKVY) under the National Mission on Sustainable Agriculture (NMSA). This is the largest nature-based agricultural program in the world. Despite these efforts, most of Indian agriculture still depends on the indiscriminate use of synthetic inputs, contributing to environmental disruption and climate change.

The System of Crop Intensification (SCI), a derivative of the System of Rice

Patel, N., Dorin, B. and Nagaich, R. (2022). A New Paradigm for Indian Agriculture from Agroindustry to Agroecology. NITI Aayog. Available at: http://www.niti.gov.in/sites/default/files/2022-04/Working_Paper_on_Agriculture_With_Cropmarks_060402022.pdf ISBN: 975-81-953811-7-3

²Patel, N., Nandi, R. and Meena, S. (2022). Assessing the Impact of the System of Root Intensification Method of Natural Farming in Gaya district of Bihar.

Intensification (SRI), offers ecological and economic benefits for various crops. According to NITI Aayog, combining SCI with NF provides an opportunity to scale up agroecological approaches and nature-based solutions, ensuring national food security.

Way Forward

Supportive policies are vital for a successful transition to a socially, economically, and environmentally sustainable agricultural system that can feed the nation while preserving natural resources. **Cooperation among policymakers at all levels** can lead to the **systematic implementation of innovative and sustainable agricultural approaches**, benefiting society as a whole.

Through its recent innovative efforts, the Government of India's continued support and collaboration with stakeholders at various levels has been crucial and resulted in some states showing demonstrative improvements for scaling up SRI, SCI and NF. These efforts should be extended across the country to achieve sustainable food production.

The promotion of SRI/SCI should be integrated into states' agricultural policies, and convergence with nature-based solutions like Natural Farming must be prioritized.

Public resources are redirected towards natural crop management through schemes like PM PRANAM 2023, aimed at fostering the adoption of NF practices. The **complementarity between SRI/SCI and Natural Farming** is proven by the millions of farmers that implement these agricultural methods for sustainable intensification without the use of any synthetic input.

A systematic integration of SRI/SCI into existing government agricultural programs like MGNREGA, NMSA, Mera Gaon Mera Gourav, Jaivik Kheti will contribute to the achievement of programs' objectives. SRI and SCI should be integrated into existing programs by carefully adapting their practices to specific agro-ecosystems and designing synergies with the practices already promoted within these programs. **By consistently integrating SRI and SCI methods into ongoing sustainable agriculture programs, farmers' resilience will be enhanced, and food production can be stabilized without the need for large additional funds.**

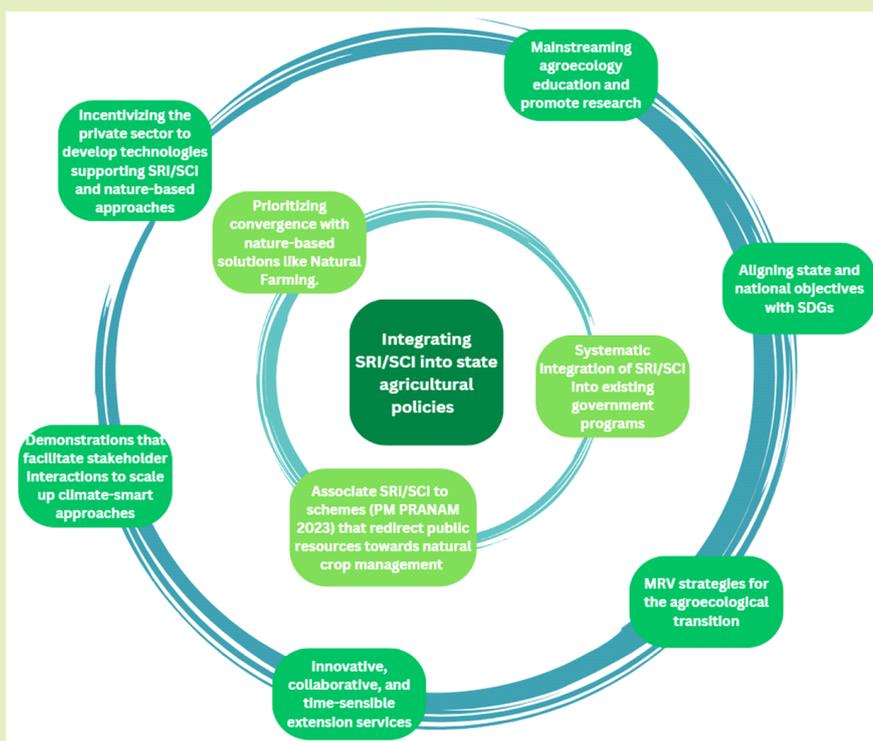
Capacity-building training is crucial as SRI and SCI are knowledge-intensive practices rather than input intensive ones. **Mainstreaming agroecology education** in agricultural institutions will empower future scientists to drive sustainable production and ecosystem management. **Encouraging private sector** involvement through incentives for developing technologies supporting SCI and nature-based approaches is also essential.

Extension services should be able to reach the majority of Indian farmers through the adoption of multiple approaches for dissemination. The use of emerging digital technologies and the mobilization of communities through strategic Farmer Field Schools (FFS) and Farmer Producer Companies (FPCs) should facilitate engagement in diverse farming systems, from large-scale mechanized landowners to rural subsistence farmers. Also, extension services should **work collaboratively with farmers for designing context-related adaptation of SRI/SCI methods**. **Consistent access to extension services will help farmers to avoid disadoption** due to lack of proficiency or perceived complexity.

Demonstrations that facilitate interactions between stakeholders should be encouraged for scaling up climate-smart approaches for sustainable intensification. This would **foster the adaptation of appropriate and contextual methodologies for scaling-up climate-smart approaches** like SRI/SCI, Natural Farming, Direct Seeding of Rice (DSR), Alternate Wetting and Drying (AWD), Integrated Pest Management (IPM), Conservation Agriculture (CA), Agroforestry and other resource-conserving approaches as well as the combinations of these.

SRI and SCI methods address at least eight Sustainable Development Goals (SDGs) related to ending hunger, mitigate climate change, and enhance water-use efficiency and livelihoods. **Aligning state and national objectives with SDGs should guide Measuring, Reporting, and Verification (MRV) strategies for the agroecological transition, fostering collaboration on both national and international levels.**

" According to NITI Aayog, combining SCI with NF provides an opportunity to scale up agroecological approaches and nature-based solutions, ensuring national food security^{1,2}. "



Integrating SRI/SCI into National/State agricultural policies

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