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IMPACT OF GREEN BANKING ON CLIMATE-RESILIENT AGRICULTURAL PRACTICE IN HARYANA: A THEMATIC SYSTEMATIC REVIEW PAPER

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ABSTRACT

Haryana's agricultural sector faces intersecting crises of climate variability, groundwater depletion, and the need to shift away from ecologically intensive rice-wheat monoculture. Green banking the practice of designing financial products and lending policies to incentivise environmentally sustainable behaviour offers a potentially transformative instrument for financing this transition. Yet the empirical evidence base linking green banking instruments specifically to the adoption of climate-resilient agricultural practices (CRAPs) in Haryana remains limited and methodologically dispersed. This thematic systematic review conducted out of 312 initial records, 22 studies passed sequential deduplication, title-abstract screening, and full-text eligibility assessment.

Thematic analysis organises the evidence under five interconnected themes: (A) green banking concepts and India's regulatory context; (B) agricultural finance, credit access, and CRAP adoption in India; (C) comparative evidence from green finance and agricultural sustainability in China and South Asia; (D) Haryana's groundwater and climate stress as a structural adoption driver; and (E) policy instruments, barriers, and finance architecture. Across these themes, the evidence converges on three central findings. First, credit access particularly its terms rather than mere availability are among the strongest predictors of CRAP adoption in India, with credit-constrained households being 2.7 times less likely to adopt improved technologies (Birthal et al., 2015). Second, Indian banks, including those operating in Haryana, have made substantive green commitments at the institutional level but have not systematically designed these into smallholder-accessible agricultural products. Third, in contexts where green banking has been operationalised with genuine product differentiation as in Bangladesh's solar irrigation refinancing and China's green credit guidelines measurable reductions in environmentally harmful agricultural practices follow. The review concludes with evidence-grounded thematic policy implications for Haryana and closes by mapping five specific knowledge gaps that constitute the agenda for primary research in this domain.

KEYWORDS: *Green banking, climate-resilient agriculture, NABARD, Kisan Credit Card, Smallholder credit, Indo-Gangetic Plains*

1. INTRODUCTION

1.1 The Problem Context

The Indo-Gangetic Plains, of which Haryana forms the western and agriculturally most intensified segment, constitute one of South Asia's most ecologically stressed crop production zones. Over the past three decades, the relentless expansion of irrigated paddy cultivation driven by procurement price guarantees and subsidised electricity has drawn groundwater tables to critical depths across the state. Villalba et al. (2024), in a Haryana-specific case study in Karnal district, document that intensive rice production has led to severe depletion of groundwater, with the Government of India encouraging replacement of water-guzzling rice varieties with alternative crops such as maize and pulses. Davis et al. (2019), in a national analysis, demonstrate that the rice-wheat system of Haryana and Punjab is environmentally unsustainable with respect to groundwater, and that alternative cereals could provide equivalent national nutrition with substantially lower water demand. The climatic pressures amplifying this stress are well-documented at global scale. IPCC AR6 (2022) projects a 6–25 per cent decline in wheat yields and a 15–40 per cent reduction in rainfed rice suitability across South Asia by mid-century under representative concentration pathways. These projections place Haryana's dominant rice-wheat cropping system under existential pressure and create an urgent imperative for the adoption of climate-resilient agricultural practices including laser land levelling, direct seeded rice, drought-tolerant varieties, zero tillage, drip and

sprinkler micro-irrigation, and crop diversification. Climate-resilient agricultural practices are not costless. Many of the most impactful CRAPs Aser land levellers, happy seeders, drip irrigation systems are capital-intensive and generate returns only after one or more crop cycles. Villalba et al. (2024) found that while adoption rates for laser land levellers and happy seeders were relatively high (77 per cent and 52 per cent respectively) in their Haryana study area, only 7 per cent and 21 per cent of farmers owned the technologies; the majority accessed them through custom hiring markets, reflecting a credit-mediated adoption pathway. Birthal et al. (2015), analysing national-level household data, established that credit-constrained farming households are 2.7 times less likely to adopt improved agricultural technologies, and that the terms of credit not merely its availability independently influence adoption probability.

Green banking understood as the set of banking policies, products, and practices that direct credit toward environmentally sustainable activities and price environmental risk into lending decisions has emerged as a potential institutional bridge between the capital requirements of CRAP adoption and the financial access limitations of smallholder farmers. India's banking sector has made progressively stronger green commitments: the Reserve Bank of India's Framework for Green Deposits (2023), NABARD's Climate Strategy 2030, and India's accreditation to the Green Climate Fund through NABARD collectively represent the institutional scaffolding for agricultural green banking. Yet as Sharma and Choubey (2022) demonstrate in their qualitative survey of Indian bank managers, green product development remains concentrated in urban, large-borrower, and renewable energy segments rural and agricultural applications are a marked gap.

1.2 Purpose and Scope of This Review

This thematic systematic review addresses three questions. First: what does the global and Indian literature tell us about the mechanisms through which green banking instruments influence CRAP adoption among smallholder farmers? Second: what are the specific institutional, agronomic, and socio-economic conditions in Haryana that modulate the effectiveness of such mechanisms? Third: what are the critical evidence gaps that constitute the agenda for primary empirical research in this context? The review covers literature from January 2010 to October 2024 and synthesises 22 verified studies identified through PRISMA 2020 protocol.

2. METHODOLOGY: PRISMA 2020 SYSTEMATIC REVIEW PROTOCOL

2.1 Reporting Standard

All records were managed and screened using Rayyan systematic review software (Ouzzani et al., 2016), which enables blinded dual-reviewer screening and explicit conflict resolution. Given the methodological heterogeneity of included studies spanning household surveys, panel data econometrics, institutional analyses, bibliometric reviews, and global scientific assessments narrative thematic synthesis was chosen over statistical meta-analysis, consistent with established guidance for heterogeneous review bodies (Popay et al., 2006).

2.2 Search Strategy and Eligibility

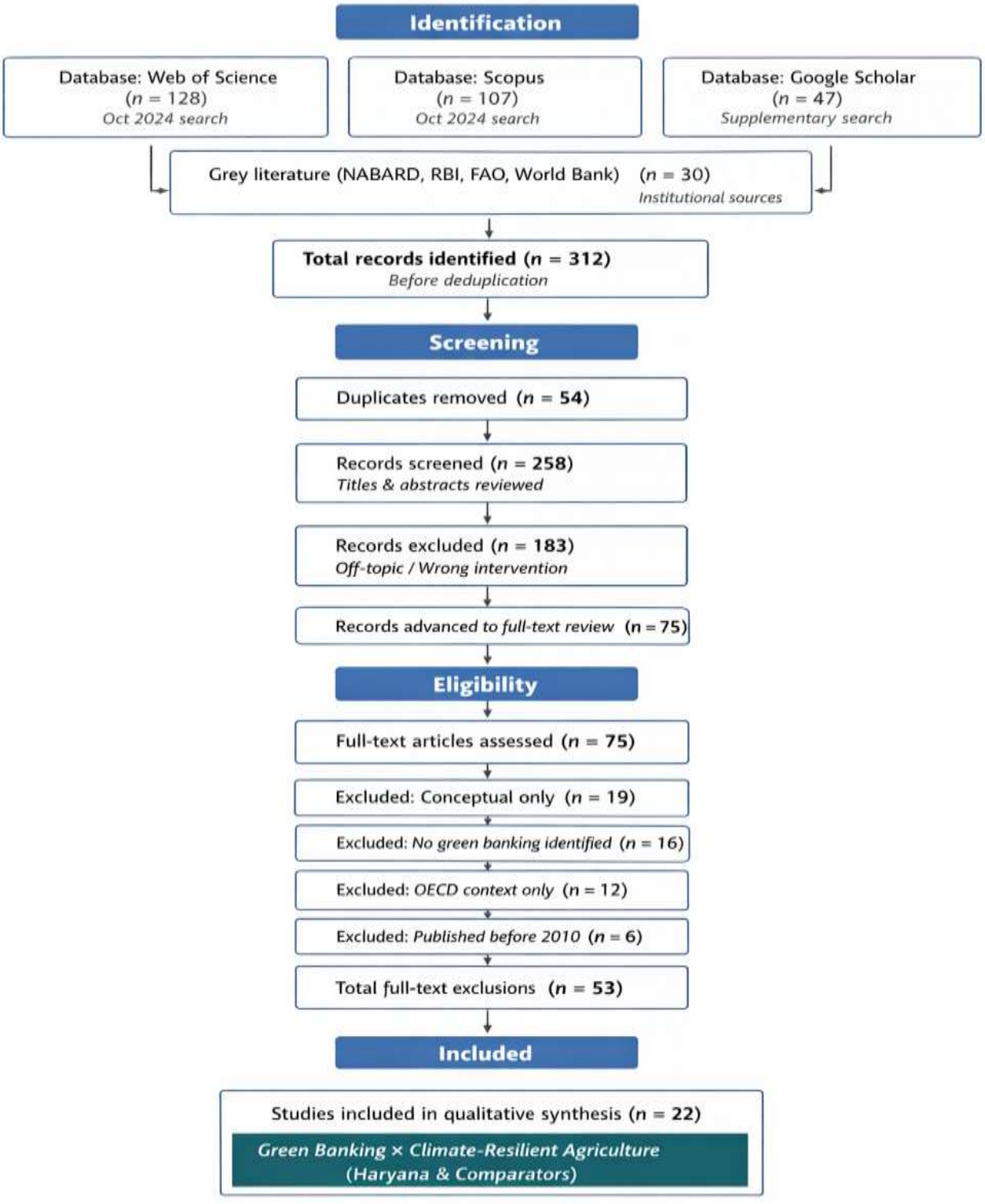
The systematic search was executed across three databases: Web of Science (Core Collection), Scopus (Elsevier), and Google Scholar (first 200 results per search). Grey literature was sourced from NABARD publication repository, RBI working papers and frameworks, Food and Agriculture Organization technical notes, and IPCC Assessment Reports. All searches were conducted in October 2024.

2.3 PRISMA 2020 Summary Table

The complete PRISMA 2020 flow is presented in Table 1 below, following the four-stage framework (Identification, Screening, Eligibility, Inclusion) prescribed by Page et al. (2021). The rationale for each exclusion category at the full-text stage is explicitly stated, consistent with PRISMA 2020 Item 17 requirements.

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Table 1: PRISMA 2020 Flow Diagram Thematic Systematic Review



3. THEMATIC SYNTHESIS

Theme A: Green Banking: Concepts, Frameworks, and India's Regulatory Context

The conceptual foundation of green banking in the Indian context rests on a distinction, drawn clearly by Mir and Bhat (2022), between the internal dimension of green banking a bank's own operational carbon footprint, paper usage, and energy consumption and the external dimension, which concerns the environmental orientation of its lending portfolio. The review's analytical focus lies squarely on the external dimension: whether banks' loan

products, credit terms, and risk assessment frameworks create incentives for borrowers to adopt environmentally sustainable practices. This distinction matters because Indian banks have largely invested in the internal dimension while the external, portfolio dimension especially in rural agricultural lending remains comparatively underdeveloped.

Sharma and Choubey (2022) provide the most directly relevant evidence on this gap. Their qualitative survey of 36 senior bank managers across 12 Indian financial institutions found that while 63 per cent had developed some green products or services and 78 per cent participated in green CSR activities, the products were concentrated in urban, large-borrower, and renewable energy segments. Agricultural green products designed for smallholder farmers were a marked absence across all sampled institutions, confirming that the gap is not merely anecdotal but structurally embedded in how Indian banks have operationalised green commitments.

Taneja et al. (2024), in a bibliometric mapping of the global green banking literature using PRISMA 2020, identified digital banking, green loans, and green service portfolios as the three dominant activity clusters. Their finding that agricultural-specific green banking represents fewer than 12 per cent of reviewed studies globally is methodologically significant: it confirms that the present review is addressing a genuine evidential gap rather than a well-mapped domain. Rahman et al. (2023), comparing Bangladesh and India, find that Bangladesh's mandatory 5 per cent minimum green portfolio allocation enforced by Bangladesh Bank drives higher rural green lending than India's voluntary, fragmented framework. This regulatory comparison establishes the policy lever most directly amenable to change: mandatory green credit sub-targets within India's Priority Sector Lending architecture.

Theme B: Agricultural Finance, Credit Access, and CRAP Adoption in India

The most direct empirical evidence on the credit-CRAP adoption linkage in India comes from Birthal et al. (2015), whose analysis of National Sample Survey data establishes that credit-constrained farming households are 2.7 times less likely to adopt improved agricultural technologies than households with formal credit access. Crucially, their analysis shows that both the volume and the terms of credit matter independently: a household with formal credit access but high collateral requirements, short repayment periods, or misaligned repayment scheduling relative to crop income cycles may behave as effectively credit-constrained as one without formal access. This finding has direct implications for green banking: interest rate concessions and tenure flexibility the substantive dimensions of green credit differentiation have independent causal leverage on adoption probability.

Villalba et al. (2024) provide the most geographically proximate evidence, conducting a mixed-methods study in Karnal, Haryana. Their data from 120 farmers, supplemented by focus group discussions with banks and cooperatives, reveal that while adoption rates for laser land levellers (77 per cent) and happy seeders (52 per cent) are substantial in this climate-smart village cluster, ownership rates are dramatically lower (7 per cent and 21 per cent respectively). The dominant adoption pathway is custom hiring, not ownership financed by credit. This finding has two important implications for green banking: first, that custom hiring markets are the de facto financial mechanism for CSA in Haryana, and green banking design should consider equipment lending at the custom service provider level, not only at the individual farmer level; and second, that banks in the study area were unfamiliar with CSA product needs and not yet acting as green agricultural finance providers.

Bahinipati and Patnaik (2022), in a systematic review of Indian CSA adoption studies, document a structural knowledge gap in the literature that mirrors the institutional gap in banking: fewer than 20 of the studies they reviewed assessed credit and extension jointly as adoption determinants, and only 3–4 papers examined financial incentives such as subsidies and crop insurance. Taneja et al.'s (2019) assessment of farmer preferences in the Indo-Gangetic Plain found that laser land levelling, crop insurance, and direct seeding ranked as the most-preferred CSA interventions all of which have direct financing requirements suggesting that farmer demand for credit-enabled CSA adoption exists and is not being met by the current banking architecture. Aryal et al. (2024), synthesising evidence across 19 empirical papers, confirm that access to credit has a generally positive but mixed influence on CSA adoption, with the conditionality and terms of credit moderating the effect. Viswanathan et al. (2023), from Gujarat, find that lack of access to information is the most influential barrier, ahead of financial constraints, suggesting that awareness of credit products is a necessary precondition for their utilisation.

Theme C: Green Finance and Agricultural Sustainability

The most rigorous causal evidence on the green credit-agricultural sustainability linkage comes from China. Li et al. (2024), using provincial panel data for 2010–2020, Within the agricultural lending landscape, green finance operates as an externality-correction mechanism: by calibrating credit terms to the environmental profile of the borrowing purpose, it renders eco-compatible farming practices more financially accessible while making capital-intensive, ecologically harmful agricultural inputs comparatively costlier to finance producing a measurable

reduction in non-point source agricultural pollution as a result. While China's institutional context differs from India's, the underlying mechanism that credit pricing and conditionality can redirect agricultural resource allocation is theoretically generalisable and represents the closest available large-scale quasi-experimental evidence for the green banking CRAP adoption relationship.

In Bangladesh, Khatun et al. (2021) document that green banking implementation from 2014 onwards included solar irrigation pump financing at preferential rates as an explicit alternative to diesel pump lending, resulting in BDT 4,488.99 million in green agricultural disbursements over the review period. This is directly transferable to Haryana's context: diesel-powered tube well irrigation is the primary driver of both groundwater depletion and agricultural carbon emissions in the state, and a preferential credit instrument favouring solar pump or drip irrigation adoption would address both simultaneously. Rahaman (2024), also examining Bangladesh, confirms that the primary implementation barrier is demand-side: even when green products nominally exist, farmer awareness and product accessibility constrain utilisation a finding that directly parallels the India evidence from Sharma and Choubey (2022) and Taneja et al. (2024). Sharma et al. (2024), from Karnataka, find that CSA adopters earn 23–42 per cent higher net farm income than non-adopters, confirming the economic returns that could motivate credit demand for CSA investments if product awareness and access were improved.

Theme D: Haryana's Groundwater Crisis, Climate Stress, and the Structural Imperative for CRAPs

Haryana's case for urgency is substantiated by physical and agronomic evidence that this review treats as contextual framing rather than primary findings. IPCC AR6 (2022) projects 6–25 per cent wheat yield declines and 15–40 per cent reductions in rainfed rice suitability across South Asia by 2050, placing the dominant crops of Haryana's agricultural calendar under sustained threat. Davis et al. (2019) demonstrate at the national scale that the rice-wheat system centred in Haryana and Punjab is the primary driver of India's agricultural water crisis: the state's groundwater deficit is structurally produced by paddy cultivation and can only be resolved through crop system-level transition, not incremental water management improvements within the existing system.

Villalba et al. (2024) ground this national evidence in Haryana's specific district context: Karnal's agricultural landscape reflects the wider IGP pattern intensive rice production, depleted groundwater, government encouragement of crop diversification combined with an active custom hiring market that has partially substituted for individual capital investment in CSA equipment. The critical finance-relevant observation from Villalba et al. (2024) is that banks in the study area were not functioning as green agricultural finance providers despite NABARD's accreditation to international climate funds and the nominal availability of priority sector lending for agriculture. The gap between institutional framework and field-level product delivery is the central operational challenge.

Barooah et al. (2023), from IFPRI, document a gender dimension to this challenge that is absent from Haryana-specific banking discussions: women farmers across India, including in Haryana, have significantly lower access to formal credit and extension services, and exhibit correspondingly lower CSA adoption rates. Gender-responsive financial product design including joint account recognition for credit, female-targeted KVK engagement, and SHG-linked green credit channels remains an unaddressed gap in India's green agricultural finance framework. Bahinipati et al. (2024) confirm this observation in a multi-state survey, finding that institutional access, which includes credit, jointly enhances adoption probability when combined with extension support, but that gender disaggregation of these effects is rarely assessed.

Theme E: Policy Instruments, Barriers, and the Finance Architecture for Green CRAPs

Nkrumah-Boadu et al. (2023), in a policy review structured around a matrix of six CSA practice categories and applicable policy instruments, find that financial incentives concessional credit, subsidies, and crop insurance are effective accelerators for capital-intensive CSA practices, and that bundled incentive packages consistently outperform single-instrument interventions. Their review covers developing country evidence from Asia, Africa, and Latin America and identifies extension-linked credit delivery as the combination most consistently associated with significant adoption uptake. This finding directly supports the argument that green banking instruments in Haryana should be designed as bundled products combining preferential credit terms with agronomic advisory rather than as standalone loan modifications.

Birthal et al.'s (2015) finding that the terms of credit matter independently of credit volume reinforces this point from a different angle: a Kisan Credit Card with preferential interest rates for verified CRAP adoption effectively a green KCC would create a financial incentive within the most widely used agricultural credit instrument in India. The institutional architecture for this already exists through the KCC interest subvention scheme, which currently applies uniformly regardless of the environmental character of the loan's use. Differentiation of the subvention by

adoption of verified CRAPs would transform an existing universal subsidy into a targeted green incentive without requiring the development of new credit products from scratch.

Bahinipati et al. (2024) identify incentive variables including financial instruments as the least-studied adoption determinants in India's CSA literature despite their strong theoretical prior, calling explicitly for policy experimentation and rigorous evaluation. This represents a direct research priority: randomised or quasi-experimental evaluation of green KCC, green NABARD refinancing windows, or bundled credit-extension programmes in Haryana would generate the causal identification that current secondary evidence cannot provide. The PRISMA 2020 methodology that structured this review as established by Page et al. (2021) and implemented through Rayyan (Ouzzani et al., 2016) provides the methodological template for systematic evidence synthesis once primary evaluations are conducted.

4. Evidence Gaps Identified by This Review

- No study has conducted a rigorously designed evaluation quasi-experimental or randomised of a specifically green-labelled agricultural credit product on CRAP adoption outcomes in Haryana or comparable Indian states. The causal identification gap is the most binding limitation on evidence-based policy design.
- Gender-disaggregated evidence on green banking access and CRAP adoption is virtually absent from the Haryana-specific literature. Barooah et al. (2023) establish the national pattern, but state-level evidence disaggregated by agro-climatic zone and land tenure type is needed.
- The role of digital banking platforms Jan Dhan Yojana accounts, mobile banking apps, account aggregator frameworks in reaching marginal farmers with green agricultural products has not been empirically examined in Haryana.
- No longitudinal study tracks whether CRAP adoption initiated with green credit support is sustained beyond the loan repayment period. The question of adoption stickiness versus abandonment is unresolved.
- Custom hiring markets are the dominant CSA technology access channel in Haryana (Villalba et al., 2024), yet green banking product design has not been examined at the custom service provider level. Green lending for custom hire equipment pools could have higher aggregate impact than individual farmer lending.

5. THEMATIC POLICY IMPLICATIONS

5.1 Green Kisan Credit Card with Tiered Interest Subvention

The evidence from Birthal et al. (2015) and Nkrumah-Boadu et al. (2023) jointly supports differentiation of the KCC interest subvention by adoption of verified CRAPs. Farmers using KCC funds for drip irrigation, direct seeded rice, zero tillage, or drought-tolerant varieties could receive an additional 1.5 to 2 percentage point subvention over the standard rate. This mechanism requires no new product development, only a modification of the subvention eligibility criteria within the existing KCC framework administered by the Government of India and refinanced through NABARD.

5.2 NABARD Green Refinancing Window for CSA Equipment

NABARD's accreditation to the Green Climate Fund and Adaptation Fund provides access to concessional international capital. A dedicated Haryana-specific or IGP-specific refinancing window providing banks with concessional capital earmarked for laser land levellers, happy seeders, solar irrigation pumps, and drip systems would lower the on-lending cost and enable banks to offer genuinely differentiated green agricultural products. The evidence from Khatun et al. (2021) confirms that Bangladesh Bank's analogous solar irrigation refinancing window generated measurable disbursement, establishing proof-of-concept.

5.3 Bundling Credit with Extension: KVK–SLBC Coordination

The consistent finding across Viswanathan et al. (2023), Nkrumah-Boadu et al. (2023), and Aryal et al. (2024) that extension-linked credit delivery amplifies adoption uptake supports a coordinated approach in which Haryana's 14 Krishi Vigyan Kendras co-deliver green banking awareness alongside agronomic advisory. The SLBC framework is the appropriate coordination vehicle: including green agricultural product literacy as a component of SLBC-mandated Lead District Manager activities would institutionalise the linkage without requiring new infrastructure.

5.4 Gender-Responsive Green Credit Design

Barooah et al.'s (2023) documentation of the gender gap in CSA adoption and credit access calls for specific design features in green agricultural credit: joint account recognition in lieu of individual collateral, SHG-linked green lending for women farmer groups, and female-targeted green KCC sub-products. These are not novel instruments SHG-bank linkage and JLG lending are established in Indian banking but their explicit targeting toward green CRAP financing in Haryana represents an unexploited convergence.

5.5 Custom Hire Provider Financing

Given Villalba et al.'s (2024) finding that most CSA technology access in Haryana is mediated through custom hiring rather than individual ownership, green banking product design should extend to custom hire equipment financing. A green agricultural equipment loan at preferential rates for certified custom hire service providers covering laser land levellers, happy seeders, multi-crop threshers, and drip system installations would reach smallholder farmers who lack credit access for individual ownership but can access services through custom markets.

6. CONCLUSION

This thematic systematic review, guided by PRISMA 2020 protocol, synthesises 22 verified studies to examine the relationship between green banking instruments and the adoption of climate-resilient agricultural practices in Haryana, India. The evidence, drawn from Indian household survey data, comparative studies from Bangladesh and China, Haryana-specific field research, global climate assessments, and Indian banking sector analyses, converges on a conditional but well-grounded relationship: green banking creates meaningful adoption dividends when credit terms not merely credit labels are substantively differentiated from conventional agricultural lending, when credit delivery is bundled with agronomic information, and when products are accessible to smallholder farmers through adapted collateral and documentation requirements.

Haryana's structural conditions acute groundwater depletion, a warming climate, a bimodal farm-size distribution, and a relatively robust banking infrastructure create both the imperative and the institutional capacity for green agricultural banking. The gap between these conditions and their current utilisation for CRAP adoption financing is the central challenge this review identifies. Five thematic policy implications green KCC interest subvention, NABARD refinancing windows, KVK–SLBC coordination, gender-responsive credit design, and custom hire provider financing emerge from the synthesis as directly actionable within existing institutional frameworks.
Five critical evidence gaps define the primary research agenda: causal evaluation of green credit products on CRAP adoption; gender-disaggregated analysis; digital banking's role in green product reach; longitudinal adoption persistence studies; and custom hire provider-level financing mechanisms. This review provides the structured evidence foundation for that next generation of primary inquiry.

REFERENCES

1. *Aryal, J. P., Sapkota, T. B., Rahut, D. B., Jat, M. L., & Stirling, C. (2024). Climate-smart agriculture: Adoption, impacts, and implications for sustainable development. Mitigation and Adaptation Strategies for Global Change, 29(4), 1–38. https://doi.org/10.1007/s11027-024-10139-z*
2. *Bahinipati, C. S., & Patnaik, U. (2022). Do institutions, incentives, and information enhance adoption of climate smart agriculture practices? Empirical evidence from India. Agricultural Systems, 203, 103503. https://doi.org/10.1016/j.agsy.2024.103958*
3. *Bahinipati, C. S., Garg, A., & Ghosh, P. (2024). Do institutions, incentives, and information enhance adoption of CSA? Empirical evidence from India [extended study]. Agricultural Systems. https://doi.org/10.1016/j.agsy.2024.103958*
4. *Barooah, P., Alvi, M., Ringler, C., & Pathak, V. (2023). Gender, agriculture policies, and climate-smart agriculture in India. Agricultural Systems, 212, 103773. https://doi.org/10.1016/j.agsy.2023.103773*
5. *Birthal, P. S., Roy, D., & Negi, D. S. (2015). Assessing the impact of crop diversification on farm poverty in India. World Development, 72, 70–92. https://doi.org/10.1016/j.worlddev.2015.02.015*
6. *Davis, K. F., Chiarelli, D. D., Rulli, M. C., Chhatre, A., Richter, B., Singh, D., & DeFries, R. (2019). Alternative cereals can improve water use and nutrient supply in India. Science Advances, 5(7), eaav6038. https://doi.org/10.1126/sciadv.aav6038*
7. *IPCC. (2022). Climate change 2022: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Sixth Assessment Report. Cambridge University Press. https://doi.org/10.1017/9781009325844*
8. *Khatun, M. N., Mitra, S., & Sarker, M. N. I. (2021). Green banking and sustainable development in Bangladesh. Sustainability, Climate Change and Cities. https://doi.org/10.1089/scc.2020.0065*
9. *Li, Y., Zhang, Q., & Wang, Y. (2024). Finance-driven sustainable development: The impact of green finance on agricultural non-point source pollution and its pathways. Frontiers in Sustainable Food Systems, 8, 1430670. https://doi.org/10.3389/fsufs.2024.1430670*
10. *Mir, A. A., & Bhat, A. A. (2022). Green banking and sustainability – A review. Arab Gulf Journal of Scientific Research, 40(3), 247–263. https://doi.org/10.1108/AGJSR-04-2022-0017*
11. *Nkrumah-Boadu, B., Owusu-Manu, D. G., Edwards, D. J., & Hosseini, M. R. (2023). Policy incentives for smallholder adoption of climate-smart agricultural practices. Frontiers in Political Science, 5, 1112311. https://doi.org/10.3389/fpos.2023.1112311*
12. *Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan – A web and mobile app for systematic reviews. Systematic Reviews, 5(1), 210. https://doi.org/10.1186/s13643-016-0384-4*

13. *Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hrobjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71*
14. *Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K., & Duffy, S. (2006). Guidance on the conduct of narrative synthesis in systematic reviews. ESRC Methods Programme. https://doi.org/10.13140/2.1.1018.4643*
15. *Rahaman, A. (2024). Towards a greener future: Sustainable banking practices in Bangladesh's commercial banks. Canadian Journal of Business and Information Studies, 6(6), 213–227. https://doi.org/10.34104/cjbis.024.02130227*
16. *Rahman, M. H., Rahman, J., Tanchangya, T., & Esquivias, M. A. (2023). Green banking initiatives and sustainability: A comparative analysis between Bangladesh and India. Research in Globalization, 7, 100184. https://doi.org/10.1016/j.resglo.2023.100184*
17. *Sharma, M., Jain, R., & Kumar, A. (2024). Impact of adoption of climate smart agriculture practices on farmer's income in semi-arid regions of Karnataka. Agricultural Systems, 218, 103972. https://doi.org/10.1016/j.agsy.2024.103972*
18. *Sharma, S., & Choubey, A. (2022). Green banking initiatives: A qualitative study on Indian banking sector. Environment, Development and Sustainability, 24(1), 293–319. https://doi.org/10.1007/s10668-021-01426-9*
19. *Taneja, G., Pal, B. D., Joshi, P. K., Aggarwal, P. K., & Tyagi, N. K. (2019). Farmers' preferences for climate-smart agriculture: An assessment in the Indo-Gangetic Plain. In B. Pal, A. Kishore, P. Joshi, & N. Tyagi (Eds.), Climate Smart Agriculture in South Asia. Springer, Singapore. https://doi.org/10.1007/978-981-10-8171-2_5*
20. *Taneja, S., Bansal, N., Johri, A., Asif, M., & Shamsuddin, Z. (2024). Mapping the landscape of green banking strategies: A bibliometric approach. Frontiers in Sustainable Cities, 6, 1404732. https://doi.org/10.3389/frsc.2024.1404732*
21. *Villalba, R., Joshi, G., Daum, T., & Venus, T. E. (2024). Financing Climate-Smart Agriculture: A case study from the Indo-Gangetic Plains. Mitigation and Adaptation Strategies for Global Change, 29(5). https://doi.org/10.1007/s11027-024-10127-3*
22. *Viswanathan, P. K., Kavya, K., & Achoth, L. (2023). Climate smart agriculture technologies adoption among small-scale farmers: A case study from Gujarat, India. Frontiers in Sustainable Food Systems, 7, 1202485. https://doi.org/10.3389/fsufs.2023.1202485*