

Institutional Silence in Agrarian Crisis: A Bibliometric Interrogation of Extension Research's Structural Blindness to Farmer Distress

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Aim: This study examines why Indian agricultural extension research has shown limited substantive engagement with farmer distress though the extensive proximity of extension institutions to farmers

Methodology: A bibliometric-comparative design was applied to three independently constructed Scopus corpora: a farmer-distress corpus, an India-specific extension corpus and their intersection. Cross-domain term frequencies were examined, 66 intersection records were screened and directly relevant studies were thematically analysed.

Results: The study identified 446 distress records, 2,493 extension records and 66 intersection records, of which only 9 were directly relevant. Cross-domain terms were largely absent across titles, abstracts and keyword fields. The resulting comparative ratio was 356 India specific extension records for every directly relevant record.

Interpretation: The pattern is consistent with an institutional mandate boundary rather than a simple topic gap. Extension has proximity to farmers, but distress identification and response have not been incorporated as a routine function. International examples indicated the response possibility, referral-oriented roles are feasible, although this adoption in India would require appropriate training, staffing, referral capacity and privacy safeguards.

Key words: Agricultural extension; Bibliometrics; Farmer distress; India; Institutional mandate

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1. Introduction

India's agrarian crisis and farmer suicides have generated extensive scholarship across agricultural economics, rural sociology, psychiatry and development studies. Alongside there is the larger literature on agricultural extension, the system through which transfer of technology to farmers happens since the Green Revolution. KVKs, State Departments of Agriculture, SAUs, Farmer Training Centres, commodity boards, allied NGOs, RVKs and DAATTCs together form an extensive grassroots public extension network. These literatures would seem to have mutual engagement because extension personnel have regular contact with the farmers.

The conventional extension literature has treated extension mainly as a system for transfer of technology, adoption and farm-level decision making. Later, expanded attention to governance, capacity building, management and pluralistic advisory arrangements (Anderson and Feder, 2004; Birner et al., 2009; Davis, 2008; Feder et al., 1999; Rogers, 2003; Swanson and Rajalahti, 2010). This study asks whether the same institutional orientation is visible in research on farmer distress. But this study found such engagement has not occurred.

It argues that absence is due to extension architecture, not simply an oversight. India's extension architecture was built around Transfer of Technology system, intended to fix the research-practice gap, but it was never structurally extended to identify and respond to farmer distress.

The welfare schemes, crop-insurance instruments and distress-relief programmes exist in policy, but their delivery to intended beneficiaries remains comparatively understudied. We call this the last-mile bibliometric gap. Further, the extension workers may be well placed to notice early signs of distress through routine village contact, yet lack a clear protocol, training, or mandate for responding. We call this proximity without mandate.

The study uses three independently constructed corpora: Distress (446 records), Extension (2,493) and Intersection. Results show almost lexical absence of extension terms in distress research and distress terms in extension research. The contribution is diagnostic rather than just descriptive.

Extension research built on existing extension institutional architecture inherited a transfer of technology mandate and has continued uninterruptedly to contribute literature for adoption, productivity and information flow. Here no extension service provider is trained for distress response and no clear protocol, no referral mechanism existing with current extension institutes. The bibliometric absence is consistent with this mechanism because extension research often develop around institutional mandates. The mandate-boundary argument is supported by ATMA's structural reform (during 1998 pilot testing to scaled up to national level) without extending its mandate to this distress response argument. ATMA decentralized extension planning (SREP) brought KVKs, NGOs, farmer organisations and line departments into a convergence framework (Chandra and Kadian, 2017) still focused on transfer of technology but not on distress identification or response.

2. Materials and Methods

2.1 Research Design

This study uses a bibliometric-comparative design to test India's extension architecture extended to distress response. Three purpose-built literature corpora and a PRISMA-adapted screening protocol were used to test this.

2.2 Data Source and Corpus Architecture

Literature records were retrieved from "Scopus" because of its journal-coverage breadth and its compatibility with the Bibliometrix/Biblioshiny analytical environment (Aria & Cuccurullo, 2017) used throughout this study. Rather than a single compilation search, three parallel search streams were constructed, each targeting a distinct conceptual territory and yielding an independently screened corpus.

All searches were carried out in Scopus using the TITLE-ABS-KEY field. The bibliometric analysis was done using Biblioshiny, version 5.0. Searches were conducted on 23rd and 24th of June, 2026. No specific date range was set; all records available in Scopus at the time of the search were considered.

The searches used Scopus's standard AND/OR operators and truncation (\). No additional software was used for restricting or expanding search terms. Synonyms and related terms were included only through the manually prepared OR-term lists provided in Appendix A.

Master1 (the Distress corpus) was assembled from Scopus search strings 1A and 1C (full query syntax in Appendix A), targeting farmer distress, agrarian crisis, farmer suicide and indebtedness terminology, with String 1C additionally restricting to India and named Indian states. The combined search returned 1,365 records; after deduplication, 649 remained and restriction to Articles and Reviews yielded 446 records as the final analytical corpus.

Master2 (Extension) used strings 2B and 2BV1 (Appendix A), restricted to India and targeting all extension related terms. A broader non-India string (2A) returned 19,517 records and is reported only as a global benchmark. The India-restricted search returned 3,137 records; after deduplication, 2,668 remained and Articles & Reviews yielded 2,493 analytical records.

Master3 (the Intersection corpus) applied a compound search architecture (strings 3A–3E, Appendix A) designed explicitly to capture records at the conceptual overlap of the two domains, returning 92 records; after deduplication, 66 records remained. Unlike Master1 and Master2, this deduplicated set was carried forward without Articles & Reviews restriction to preserve the exceptionally limited literature.

2.3 Relevance Screening and Categorization Protocol

Each of the 66 intersection records was read and classified into three relevance tiers using a

two-axis active engagement test for extension mechanism and farmer distress.

Category A (Directly Relevant, n = 9): both the extension architecture (mechanism/institution) and farmer distress are actively engaged as objects of analysis, rather than just incidental mentions.

Category B (Partially Relevant, n = 19): one axis is active while the other is contextual or peripheral. B1 comprised welfare-scheme, crop-insurance, or delivery studies without a named extension institution (n = 14); B2 comprised extension-mechanism papers where distress was background rather than the analytical object (n = 2); and B3 contained weak or just citational engagement with both (n = 3).

Category C (Excluded, n = 38): records retrieved by the intersection search strings but actively not actually engaged.

2.4 Comparative Ratio Construction

For 2,493 (Master2) records of extension literature, there are only 7 directly related India based extension distress records (Category A) are founded. It is therefore yields to the final ratio is 356:1. The 356:1 ratio is understood as a simple description of the size difference between the two bodies of literature. Refer the Figure 1 for PRISMA-Adapted Flow Diagram for Corpus Construction Across Three Search Streams. Two of the nine category A records are from USA, hence excluded.

Note: Manual classification of the 66 intersection records was conducted by a single coder using the stated criteria. No second coder or inter-rater reliability statistic was used.

2.5 Bibliometric Term-Frequency and Cross-Domain Absence Analysis

To test whether the two literatures are mutually disconnected, Biblioshiny keyword-frequency analysis was conducted independently on Master1 and Master2 across Author Keywords, Keywords Plus/All Keywords, Title and Abstract. The complete ranked lists were searched for extension related terms in Master1 and distress terms in Master2. Counts were

normalised against each field's most frequent term, allowing comparison relative to field-specific vocabulary rather than raw counts.

2.6 Thematic Analysis of Category A Literature

The nine Category A records were considered for qualitative reading, coded for recurring patterns in how extension and distress are jointly engaged. Themes were derived from a thorough comparison across literature rather than imposed from a pre-existing framework, consistent with an inductive thematic-analysis approach (Braun & Clarke, 2006). This qualitative layer complements the quantitative absence-testing described in Section 3.3.

3. Results and Discussion

3.1 Corpus Composition

The three corpora differ sharply in size and composition. Master1 contains 446 distress records and Master2 2,493 extension records (Figure 1). The Intersection corpus narrows to 66 records, of which only nine (13.6%) substantively engage both extension mechanisms and farmer distress. The other 57 comprise partial relevance ($n = 19$) and false positives ($n = 38$; 57.6%), indicating a thin underlying overlap.

3.2 Cross-Domain Term Near-Absence

Table 1 reveals the full-field cross-domain search. Extension terms are almost absent from Master1. None occur in titles, while keyword and abstract fields contain only 2–3 distinct terms at 1.77%–3.13% of each field's top-term frequency. The reverse test shows the same pattern. The distress terms appear in no more than eight forms in Master2, at 0.41%–3.38% of the top-term frequency. The pattern is therefore better described as near-total mutual absence than partial overlap. Near absence of extension related terms also found at Figure2 the word cloud.

Within Category B ($n = 19$), Fourteen are partially relevant records (73.7%) fall into sub-tier B1, where welfare-scheme or crop-insurance studies that never engage a named extension

institution. Only two (10.5%) fall into B2, in which an extension mechanism is actively discussed in distress context. Wherever literature approaches the extension, distress is at welfare delivery side only rather than the extension-institutional side. Researchers studied that the schemes are more likely from distress point of view rather than extension welfare delivery. Where B3 contain only three records, which are weakly engaged.

Retrieved category C intersection records have false engagement. The terms found related in search strings but actively not engaged to either construct i.e., false positives arising from ordinary terms (for example, "extension" used in its regular language "sense of expansion, rather than denoting an institutional actor") or from thematic proximity without genuine conceptual relevance.

3.3 Thematic Analysis of Directly Relevant Literature

Close reading of the nine Category A records, which are the only records in the entire tri-corpus architecture that substantively engaged in both constructs mentioned under four recurring themes (Table 2).

Together, the four themes show extension's relationship to distress as incidental, aspirational, or geographically displaced. The one India-based intervention designed, implemented and evaluated as a distress-response mechanism, the Vidarbha Psychosocial Support and Care Program (Theme 4).

3.4 Comparative Ratio

Normalising Category A records against the India specific Extension corpus gives 2493:7. In other words, for 356 extension records, we found only one directly relevant farmer distress record. This is a conservative India-specific comparison. The main value of the 356:1 figure is not its exact number, it is the large imbalance of lexical absence. This should therefore be understood as a conservative estimate of the large gap between the volume of extension research and extension research engages with farmer distress.

3.5 Interpretation of the Absence as a Design Choice

One possibility is that research on extension and distress has developed separately and researchers have not yet connected the two areas. Across the four textual fields, there is almost no direct overlap in the relevant terms. The intersection search also produced mostly false positives and the limited relevant studies were focused mainly on welfare delivery.

The Training and Visit system and the KVK network established from 1974 onward were built around a transfer of technology and adoption of it. Research develops technology, extension transmits it and farmers adopt it. Success is measured through adoption, yield gains and information reach. Yet, extension research assesses farmers' ability to act on technical information, but not their psychological or economic ability to do so. Hence, the institutional role of extension in relation to distress has received little direct attention in literature. This silence is examined through frontline public administration. Lipsky (2010) argues that public institutions are shaped by what frontline personnel are permitted, trained and expected to do in direct encounters with citizens. Applied here, the extension mandate shapes village-level contact. An officer observing acute financial or psychological distress during a routine visit has no clear protocol, referral pathway, or institutional expectation to act beyond informal observation.

However, sometimes a literature gap could also arise from neglect, limited resources, or other constraints. But when we consider the ATMA reforms, it proves the possibility to update the mandate with enhanced role of Extension service providers. But, restructured ATMA extension system is yet without being extended to distress response along with every public extension system in India. Besides to this, India's implemented distress-response programme was built as a parallel program rather than through the existing public extension system. Other than public extension system has proved the distress response, but existing

extension system overlooks this approach through its design choice. Hence, considering together, the claim is therefore a well-supported inference, not just a demonstrated causal relationship.

The other corpora, distress research emerged from a separate provocation as the visibility of farmer suicide as a national crisis and has continued to ask a different set of questions such as causation, policy failure, psychosocial harm, not from Extension point of view.

3.6 Last-Mile Service Gap, Confirmed Empirically Rather Than Bibliometrically

The first sub argument is a service gap. Though, extension system engaged in farmers' distress (14 of 19 Category B studies approach the boundary through welfare delivery to the distress farmers), the first sub-argument is a delivery problem. Bhogale and Roy (2022) found that fewer than one-third of surveyed farmers in Marathwada were aware of government advertisements and schemes intended for them. This awareness spread mainly through informal channels rather than extension or advisory mechanisms. Brown (2016) reported related structural pressures among civil-society organisations working in agrarian-crisis settings. This suggests a last-mile gap in which delivery itself often fails to reach those intended farmers and existing scholarship is partly captures that failure.

3.7 Proximity Without Mandate

The second sub-argument points to a more specific structural failure. The extension personnel are often close to farmers and can notice early signs of distress, but they have not been given the training, procedures, or mandate to respond to these signals.

Category A studies show that extension is connected to distress, but only secondarily. Koshti and Mankar (2016) linked extension contact with adaptive behaviour in suicide-prone Vidarbha; Pouchepparadjou et al. (2025) linked extension contact with lower distress in Tamil Nadu; and Deshpandey (2012) identified weak extension services among factors in Karnataka's

agrarian transition. Extension therefore has a real connection with distress, but was not designed or organised as a distress-response system.

Theme 3 of Table 2 mentioned what could happen if this role were deliberately created. In Georgia (Scheyett et al., 2024) and Kentucky (Norrod et al., 2026), extension personnel were trained and given a specific role in identifying and responding to distress. There, their close contact with farmers became part of the response system itself.

The basic problem in India, it is not that extension personnel are too far from farmers to notice distress. They have the proximity, but no mandate or system to escalate to act on what they see.

A rare study outside this study's main literature shows the same problem from another angle. Reddy, Bhattacharya, Reddy and Ricart (2021) developed a multidimensional Farmers' Distress Index using 50 indicators across seven areas, including psychological factors. Their aim was to identify farmers facing distress before it became a crisis. The study was based on fieldwork with 640 dryland farmers in Andhra Pradesh and Telangana.

This is an important attempt to address the problem of identifying distressed farmers. However, the study stops at diagnosis. It suggests the index as a planning tool for research institutions, local administration and NGOs, but does not connect it to the routine village-level work of extension personnel. It also does not clearly identify who would actually use the index in the field.

In other words, even this strong attempt to improve early identification does not solve the mandate problem. It provides a better tool for identifying distress, but not an institutional actor responsible for using that tool. This is exactly where extension could have a role, but currently does not. This requires an interdisciplinary approach beyond existing institutional boundaries (Roy et al., 2026).

3.8 From Institutional Blindness to Institutional Avoidance

The strongest thematic finding concerns not only what India's public extension system has failed to do, but also what happened when a programme actually attempted a distress response (Theme 4 in the Table 2).

The Vidarbha Psychosocial Support and Care Program (VPSCP) (Vindhya et al., 2022) is the only programme in the Category A literature that was specifically designed, implemented and evaluated to address agrarian-distress suicides in India. It combined psychosocial and livelihood support on a meaningful scale. But instead of working through the existing public extension system, it was created as a parallel structure, even though extension personnel were already present in the villages it served.

This is important because it suggests something more than institutional blind spot. Blindness means the system was never designed to see the problem. VPSCP shows that when the problem was clearly recognised, the response still did not use the existing extension system, that is only attempted like lifeline to farmer distress of Aid India, Farmers distress cell of Centre for sustainable agriculture, etc.

An alternative role for extension has been recognised and even recommended within Indian scholarship, but the system has not been redesigned yet to take on that role.

3.9 International Example for Structural Correction

If India's extension system has never been designed to identify or respond to farmer distress, international examples show that this is not an inherent limitation of extension systems. It is an institutional design choice.

In Belgium, extension agents are trained as "farm gatekeepers" who can recognise early signs of distress and refer farmers to professional help (Nye et al., 2025). In New South Wales, Australia, the SCARF programme trains frontline agricultural workers in well-being and suicide prevention, improving their knowledge and confidence to help farmers

(Perceval et al., 2020). Rural Financial Counsellors in Australia have also been trained to identify distress and connect farmers with ifarmwell, a digital support service (Gunn et al., 2022).

New Zealand's GoodYarn programme similarly uses trained rural workers to improve mental-health awareness in farming communities (Younker & Radunovich, 2022). In the United States, Cooperative Extension Services have also become channels for mental-health and suicide-prevention programmes. Examples include mental-health-first-aid training in Michigan (Cuthbertson et al., 2022), outreach to hard-to-reach farmers in Georgia (Scheyett et al., 2024) and the BARN Farmer Dinner Theater programme in Kentucky (Norrod et al., 2026).

"Responding to distress" can mean several different things and each requires different levels of training and carries different risks.

The simplest role is mental-health awareness and recognition. Training frontline workers to notice signs of serious distress is the approach used in most of the five countries reviewed. A step further is gatekeeping and referral, as seen in Belgium and Australia. Here, the frontline worker identifies a farmer who may need help and connects them to a professional service. They are not expected to diagnose, counsel, or treat the farmer.

None of the five countries expects extension personnel to provide clinical screening, counselling, or treatment. Those responsibilities remain with trained mental-health professionals. Therefore, if India considers a similar role for extension, it should focus on recognition and referral, not clinical care. This distinction is important because farmer distress is also rooted in economic and agrarian problems and should not be treated as purely a mental-health issue.

These international examples show that the design gap can be addressed, but they should not be copied directly into India. India faces different structural conditions.

The first and biggest constraint is referral capacity. A referral system works only when

accessible counselling or mental-health services are available to receive the farmer. This infrastructure is much less reliable in rural India than in Belgium, Australia, or the United States.

The second constraint is workload. Indian extension personnel already have large areas and many farmers to cover. Adding distress identification without additional staff could overload them and weaken their existing extension responsibilities.

The third issue is privacy and stigma. Extension workers interact with farmers repeatedly and often in public settings. This can make it difficult for farmers to disclose personal problems safely. Any future digital system that links distress information with a farmer's identity, land records, or other personal data could create additional privacy and confidentiality risks.

So, the international evidence supports the possibility of an extension-based role in India, but not a simple transfer of foreign models. Any Indian model would need to be limited, practical, adequately staffed, supported by a functioning referral network and designed carefully around privacy and stigma.

The fact that five countries have done this in different ways challenges the idea that extension systems are inherently unable to respond to farmer distress. It points instead to a simpler and more uncomfortable conclusion: India's extension system has the reach and proximity, but it has never been given this role.

3.10 Scope and Limitations

There are three main limitations to these findings.

First, the study used only Scopus to identify the literature. Scopus covers a wide range of journals, but some Indian journals and regionally published work on extension and agricultural economics may not be fully indexed. Therefore, the absence found in this study should be understood as an absence in the internationally indexed literature, not as an absence from all Indian writing on the subject.

Second, only published literature in English or with English abstracts was included. Government reports, grey literature and Indian-language studies were excluded and may contain the practical field-level work missing from academic literature. NABARD and ICAR-CRIDA, for example, have developed farmer-distress index initiatives, but these efforts are not represented in the indexed literature examined here. Their absence therefore does not mean such work does not exist; it may require to document that important institutional work into formal academic literature.

Third, the screening of the 66 intersection records involved some interpretation, even though it followed clear criteria defined in Section 3.3. Another researcher might classify a few borderline studies differently. However, such differences are unlikely to change the overall pattern or the large imbalance reported in the study.

Fourth, the main design claim rests primarily on bibliometric and lexical evidence, supported by ATMA and VPSCP. The study did not examine KVK job descriptions, SAU curricula, or State Department of Agriculture training manuals, which could directly establish what extension personnel are expected to do. Systematic documentary analysis is therefore needed.

Fifth, the Category A, B and C classification was done by a single researcher. The records were not independently classified by a second coder, so inter-rater reliability measure was not calculated. Although the classification followed the criteria specified in Section 3.3.

3.11 Implications for a Future Research Agenda

First, the identification paradox i.e., Proximity Without Mandate needs to be tested both in the field and in the institutional level. Beyond surveys and interviews with KVK, RVK and DAATTC personnel, this includes direct documentary analysis of extension job charters, training curricula and performance-evaluation criteria to establish whether distress-response is formally excluded from mandate, informally discouraged, or simply never contemplated

which is a distinction the present bibliometric design cannot resolve on its own.

Second, the reasons behind VPSCP's decision to work outside the existing extension system need to be studied. Was extension considered unsuitable? Or they simply not consulted? Or did existing institutional arrangements make a parallel system the easiest option? Each possibility have a different problem.

Third, the international examples need to be examined for their relevance to India. The five-country comparison shows several possible approaches, such as short training programmes, non-clinical gatekeeper roles and referral systems.

Fourth, the method could be applied across countries. Other Global South systems may similarly focus on technology transfer while farmers face economic and social distress. Cross-country bibliometric analysis could show whether India is unusual or whether the pattern reflects a broader limitation of traditional extension models.

3.12 Conclusion

This paper examined and reported an unconventional claim i.e. India's agricultural extension research has not only paid too little attention to farmer distress but also not institutionally designed to study or respond to it.

The study found almost no meaningful use of distress-related terms across four bibliometric fields and two independently developed corpora. It also found a 356-to-1 gap between the overall volume of extension research and research that substantially engages with farmer distress. The nine studies at the intersection of extension and distress further support the same pattern.

At the same time, Extension contact is associated with lower distress where studied, other countries have used extension personnel for distress recognition and referral activities. India has demonstrated through VPSCP, Aid India& CSA that a distress-response programme can be possible. Hence, this research and service gap of extension can be systematically treated by extension experts.

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5. Authorship and Contribution

Authors' contributions: N. Hema Sarat Chandra: Conceptualization, methodology, bibliometric analysis, screening, thematic analysis and manuscript preparation; D. Karthik: Data collection in SCOPUS and bibliometric analysis; B. Hema: manuscript corrections, revisions and finalization; Pankaj Kumar Ojha: internal review, correction; M. Jagan Mohan Reddy: Manuscript correction, mentorship and supervision.

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Conflict of interest: The authors declare no conflict of interest.

Data availability: The bibliographic search strategy and corpus construction described in the manuscript. Scopus records are subject to database access conditions.

Consent to publish: All authors agree to publish in Journal of Environmental Biology.

Table 1. Cross-Domain Term Near-Absence Analysis

Corpus	Field	Cross-domain terms found	Total occurrences	Field's own top term	Occurrences as % of top-term frequency
Master1 — Distress (n = 446)	All Keywords	3	3	India (136)	2.21%
Master1 — Distress (n = 446)	Author Keywords	2	2	India (64)	3.13%
Master1 — Distress (n = 446)	Title	0	0	India (143)	0.00%
Master1 — Distress (n = 446)	Abstract	2	12	Farmers (677)	1.77%
Master2 — Extension (n = 2,493)	All Keywords	6	6	Agricultural extension (446)	1.35%
Master2 — Extension (n = 2,493)	Author Keywords	5	5	Climate change (148)	3.38%
Master2 — Extension (n = 2,493)	Title	2	2	Farmers (484)	0.41%
Master2 — Extension (n = 2,493)	Abstract	8	27	Farmers (5,064)	0.53%

Note: Cross-domain terms were identified across the relevant bibliometric fields and normalized against each field's most frequent term.

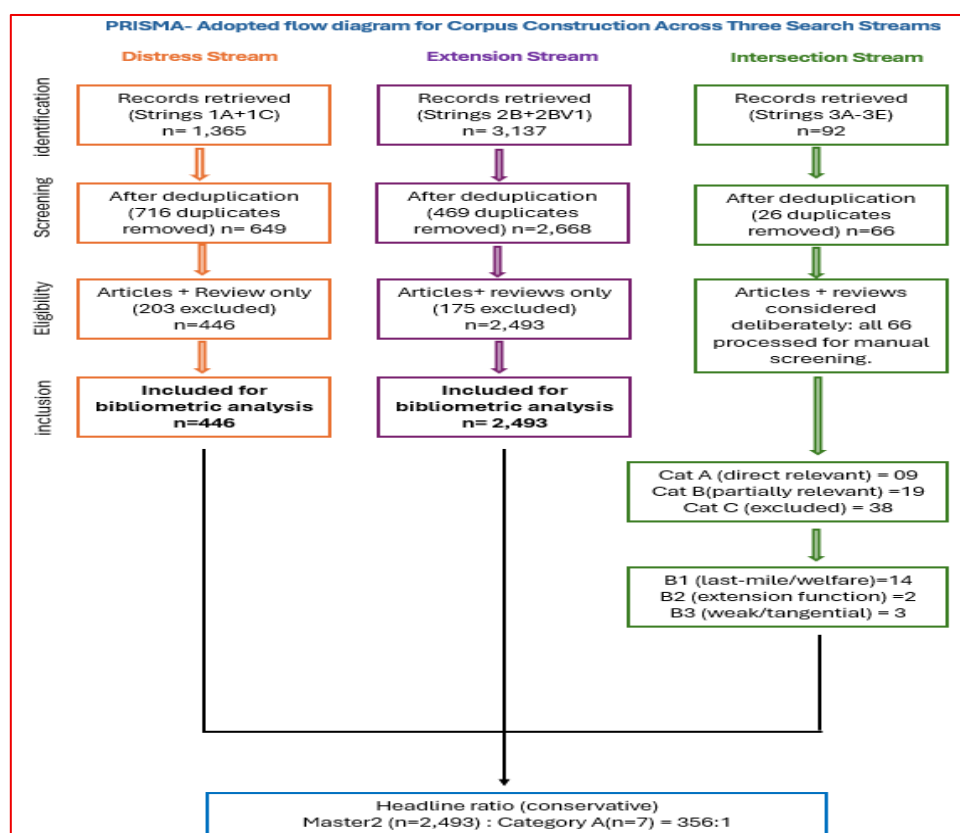
Table 2. Thematic Analysis Summary, Category A (n = 9)

Theme	Representative papers	Core finding
1. Proximity without mandate	Koshti and Mankar (2016);	Found that extension contact is a statistically significant predictor ($\beta = 0.279$, $p < 0.01$) associated with higher adoption of climate adaptation measures in suicidal or distress-prone districts

	Pouchepparadjou et al. (2025); Deshpandey (2012)	of Vidarbha. Identified extension contact reduces distress proneness among indebted farmers in Tamil Nadu and Puducherry. Realized, poor extension services contribute to acute agricultural distress in Karnataka.
2. The delivery gap is empirical, not only bibliometric	Bhogale and Roy (2022); Brown (2016)	Due to heavy paper works, reliance on ICT channels hurdles the awareness not more than 30%. Civil society organizations (CSOs) promoting sustainable agriculture often prioritize relationships with state actors, donor organizations, and rural elites over the rural poor, creating a structural delivery barrier in addressing contemporary agrarian distress.
3. Extension as distress responder, but outside India	Scheyett et al. (2024); Norrod et al. (2026)	Extension organizations can deliver mental-health literacy, recognition and referral-oriented programmes when these functions are explicitly incorporated.
4. India's implemented but bypasses public extension	Vindhya et al. (2022); Rao (2012)	The Vidarbha Psychosocial Support and Care Program addressed farmer distress through a parallel psychosocial and livelihood structure rather than through the existing extension architecture. Rao (2012) recommended extension services as an intervention, though not adopted.

Figures

Figure 1. PRISMA-adapted flow diagram for corpus construction across three search streams.

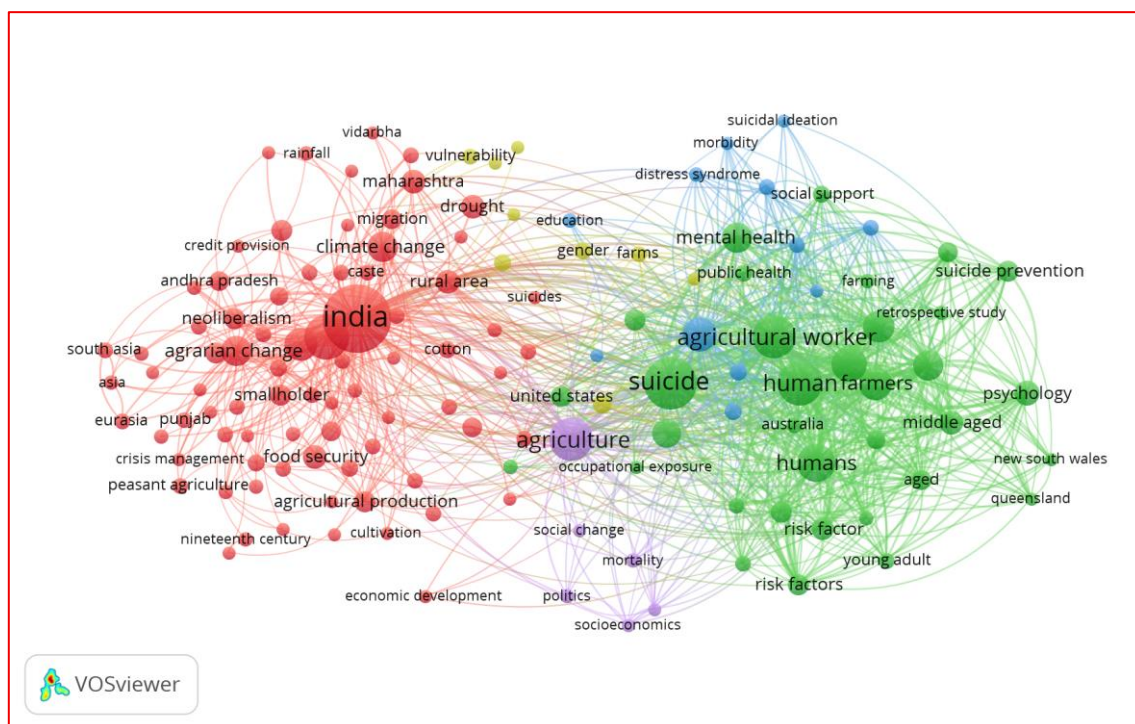


Note: All 66 deduplicated Master3 records were processed for manual categorization. Full search-string syntax is given in Appendix A.

Figure 2. Author-keyword profile of the farmer-distress corpus (Master1, n = 446).



Figure 3: Author-keyword co-occurrence network of the farmer-distress corpus (Master1, $n = 446$), generated in VOSviewer (version 1.6.20)



Appendix A: Scopus Search Strings

Database: Scopus (Elsevier), TITLE-ABS-KEY field. Search date(s): 23rd and 24th of June, 2026.
Bibliometric processing: Biblioshiny/bibliometrix [Version 5.0].
(Master1 = 1A + 1C. Master2 = 2B + 2BV1. Master3 = 3A + 3B + 3C + 3D + 3E.)

ID	Query (TITLE-ABS-KEY)	Records
1A	("farmer suicide*" OR "farm suicide*" OR "farmers' suicide*" OR "agrarian distress"	862

	OR "agrarian crisis" OR "agricultural distress" OR "rural distress")	
1C	((("farmer suicide*" OR "agrarian distress" OR "agrarian crisis") AND ("India" OR "Indian" OR "Maharashtra" OR "Vidarbha" OR "Telangana" OR "Andhra Pradesh" OR "Punjab" OR "Karnataka"))	505
2A*	("agricultural extension" OR "extension service*" OR "extension system*" OR "extension worker*" OR "farm advisory" OR "advisory service*" OR "rural extension" OR "extension agent*" OR "extension officer*" OR "extension education")	19,517
2B	((("Krishi Vigyan Kendra*" OR "KVK" OR "ATMA" OR "agricultural technology management agency" OR "T&V extension" OR "training and visit extension" OR "department of agriculture" OR "state agriculture department" OR "commodity board" OR "state agricultural university" OR "farmer training centre" OR "Rythu Vignya Kendra" OR "DAATTC" OR "village adoption programme" OR "agricultural extension" OR "extension service*" OR "extension worker*" OR "extension officer*") AND "India")	1,137
2BV1	((("Krishi Vigyan Kendra*" OR "KVK" OR "ATMA" OR "Rythu Vignya Kendra*" OR "DAATTC" OR "farmer training centre*" OR "state agricultural university" OR "SAU" OR "commodity board*" OR "department of agriculture" OR "village adoption") AND "India")	510
3A	((("farmer suicide*" OR "agrarian distress" OR "agrarian crisis" OR "agricultural distress" OR "farmer distress") AND ("extension" OR "extension service*" OR "KVK" OR "Krishi Vigyan Kendra" OR "department of agriculture" OR "state agriculture" OR "commodity board*" OR "farmer training" OR "Rythu Vignya" OR "DAATTC" OR "agricultural university" OR "NGO" OR "civil society"))	35
3B	((("farmer suicide*" OR "agrarian distress" OR "agrarian crisis") AND ("institutional response" OR "policy response" OR "government response" OR "welfare intervention" OR "agricultural intervention" OR "state intervention" OR "public extension" OR "extension outreach" OR "farmer outreach" OR "rural outreach"))	13
3C	((("agrarian distress" OR "farmer distress" OR "farmer suicide*") AND ("information gap" OR "need assessment" OR "demand driven" OR "farmer need*" OR "information asymmetry" OR "knowledge gap" OR "awareness gap" OR "unmet need*" OR "farmer awareness"))	5
3D	((("farmer suicide*" OR "agrarian distress") AND ("welfare scheme*" OR "government scheme*" OR "PM-KISAN" OR "crop insurance" OR "PMFBY" OR "debt waiver" OR "loan waiver" OR "Rythu Bandhu" OR "scheme implementation" OR "last mile delivery" OR "scheme reach"))	20
3E	((("farmer suicide*" OR "agrarian distress" OR "agrarian crisis") AND ("NGO" OR "non-governmental organization" OR "civil society" OR "voluntary organization")	19

	OR "community organization" OR "self help group*" OR "farmer organization*"))	
4A*	((("farmer suicide*" OR "agrarian distress" OR "agricultural distress" OR "rural distress") AND ("bibliometric*" OR "systematic review" OR "literature review" OR "research trend*" OR "publication trend*" OR "research gap*" OR "knowledge mapping" OR "scientometric*"))	14

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