



SPARC

Supporting Pastoralism
and Agriculture in Recurrent
and Protracted Crises



INITIATIVE ON
Fragility, Conflict,
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Livestock and Climate

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REPORT

CAUSES OF FARMER– HERDER CONFLICTS IN AFRICA

A systematic scoping review

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About SPARC

Climate change, armed conflict, environmental fragility and weak governance and the impact these have on natural resource-based livelihoods are among the key drivers of both crisis and poverty for communities in some of the world's most vulnerable and conflict-affected countries.

Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) aims to generate evidence and address knowledge gaps to build the resilience of millions of pastoralists, agro-pastoralists and farmers in these communities in sub-Saharan Africa and the Middle East.

We strive to create impact by using research and evidence to develop knowledge that improves how the UK Foreign, Commonwealth and Development Office (FCDO), donors, non-governmental organisations, local and national governments, and civil society can empower these communities in the context of climate change.

TABLE OF CONTENTS

Acknowledgements	2
Executive summary	4
1. Background	5
2. Methodology	9
3. Overall trends	17
4. Causes of conflict	24
5. Conclusion and recommendations	34
References	36
Annex 1: Studies included in the review	39
Annex 2: Protocol for the scoping review	43
Annex 3: Full list of keywords used in analysis	44

EXECUTIVE SUMMARY

Conflict between farmers and livestock herders in Africa has received much attention in recent years, with attendant concerns about increasing and intensifying levels of conflict. This systematic scoping review was based on an approach designed to minimise selection bias using transparent and reproducible methods. The aim was to gain insights into the causes of farmer–herder conflict and uncover any trends and potential gaps in understanding. A second aim was to ascertain to what degree conflict is connected to land and natural resources and to what extent land tenure insecurity is cited as a cause of conflict and how this is discussed. A third aim was to understand to what degree and in what capacity women and youth are mentioned in research on farmer–herder conflict.

The review followed a systematic scoping review approach. A search of academic research articles in English- and French-language Web of Science, Science Direct and think-tank libraries identified 88 relevant research articles and papers. These 88 papers were selected from a long list of 1,102 articles, suggesting that, although interest in farmer–herder conflicts is significant, primary research on the causes of conflicts is scarce.

All case studies reviewed make a direct link between farmer–herder conflict and land or natural resources. Nearly all conclude that conflict is increasing or becoming increasingly violent, but only a few present primary evidence to support this claim.

Regarding categories of causes, most studies emphasise governance, political and social factors rather than resource scarcity or climate change. These factors include weak or exclusive governance, land issues, poor relationships between groups and ethnic bias. Those are followed by (perceived) pastoral mismanagement, environmental scarcity, violence and human insecurity. Climate change, while a topic of global interest, does not feature as one of the top causes of conflict.

While land issues are given prominence, land tenure insecurity is identified tangentially and more through its impacts, such as blocked or limited access to land and natural resources and tenure disputes. The identification of tenure insecurity itself (i.e., the reason this may be happening) is scarce and mentioned in only 13% of cases. This suggests that the analysis of farmer–herder conflicts fails to go to the root causes and focuses instead on what is seen or can be easily quantified and explained. A deeper investigation into the relationship between land tenure, insecurity and conflict is recommended.

Women are mentioned in relation to conflict in only 28% of the studies, primarily as victims and less frequently as instigators of conflict or peacemakers. Young people are more frequently mentioned, in 43% of the studies, and primarily as participants in conflict. Youth is not differentiated by sex in these studies, but everything suggests that male youth is being discussed.

The findings from this scoping review suggest that more primary research on farmer–herder conflicts is required, and the breaking down of what are normally grouped as ‘causes’ into influencing forces, triggers, sparks and root causes of different depths. In addition, the explicit role of tenure insecurity in farmer–herder conflict, and the role of women and youth in these conflicts, and the impacts on them, needs more attention.

1. BACKGROUND

Farmer–herder conflicts are in the spotlight in Africa

Farmer–herder¹ conflicts in Africa have received heightened attention in recent years in the media, academic circles and policy-making contexts, with attendant concerns about increasing and intensifying levels of conflict between groups (Flintan et al., 2021). Farmer–herder conflicts are mostly local, sporadic and low intensity, without direct involvement of governments and government security forces.

In the public domain, the media and international organisations have described farmer–herder conflicts using strong, sometimes alarmist language, giving the issue a heightened sense of urgency. The African Union Commissioner for Peace and Security stated that ‘conflicts between herders and farmers on the continent take more lives than terrorism’ (AU, 2018),² while a 2021 news article in *The Guardian* reported ‘violence linked to conflicts between farmers and herders across west and central Africa has led to more than 15,000 deaths ... half of those have occurred since 2018, most of them in Nigeria, which has created the country’s deadliest security crisis’ (Akinwotu, 2021).

In addition, literature in the public domain often imbues the topic with inflammatory language. For example, using unhelpful labelling of particular groups. The Fulani, the largest pastoralist group in West Africa (UNOWAS, 2018), are often labelled as ‘strangers’ or ‘aliens’ or as a general public danger. Often, this group is conflated with known terrorist organisations. The Global Terrorism Index for 2015 claims that Nigeria is home to ‘two of the five most deadly terrorist groups in 2014; Boko Haram and Fulani militants’ using a catch-all term to describe the Fulani. It goes on to mention that ‘unlike Boko Haram who are now affiliated with ISIL and aligned with the establishment of a caliphate, the Fulani militants have very localised goals, mainly greater access to grazing lands for livestock’ (IEP, 2015).



¹ The authors acknowledge that a distinct dichotomy between the livelihood groups is outdated. In reality, there is a lot of overlap, with farmers increasingly rearing livestock and pastoralists increasingly taking up farming. However, each of these groups continues to maintain a specialisation in one of the two livelihood systems. The term ‘farmer–herder’ is used here for ease of reference.

² While this quotation appeared first in an African Union press release describing the conference in which the statement was first made, the quotation has since been used in a UN peacekeeping mission report (UN, 2020).

There appears to be no consistent narrative in the media on the causes of farmer–herder conflict and a lack of robust evidence. A wide range of causes is given, sometimes within the same publication, resulting in a complex and often confused picture. Often, it is the herders and their practices that are blamed, for example, for:

- deliberate destruction of crops by pastoralists and cattle rustling by bandits (*The Sun*, 2022)
- destruction of farmland and the terrorising of farmers by non-resident herders who invade the area illegally (Boateng, 2022)
- climate-induced scarcity and related migration as well as crop destruction and encroachment on transhumance corridors, using language such as ‘climate wars’ and transhumance bringing pastoralists into ‘collision’ with farming communities (Chime, 2021).

In international forums herders and their practices can also be blamed ,among the main causes. At a conference on the ‘Impact of cross-border transhumance on sustainable peace and development in West Africa and the Sahel’ (UN, 2019), Mariam Aboubakrine, a member of the United Nations (UN) Permanent Forum on Indigenous Issues, referred to transhumance as a spark in herder–farmer clashes. Elsewhere (UNOWAS, 2018), it is said that, while conflict plays out around competition over land and natural resources, the main issue is how natural resources are allocated and managed.

The sheer volume of causes saturating the public domain creates a free-for-all interpretation with ample scope for cherry-picking among policy- and decision-makers, as well as groups with potentially vested interests. Causes can easily be selected and tailored to justify particular actions or interventions, such as:

- passing grazing bans to restrict the ‘indiscriminate grazing’ of pastoralists (Olufemi, 2021)
- using degradation narratives to ‘legitimize and pave the way for agricultural investments and environmental conservation under a “green economy”’ (Bergius et al., 2020)
- using scarcity narratives and the different interpretations of this narrative to justify decisions taken in terms of using ‘underutilised’ resources (Mehta et al., 2019; Scoones et al., 2019)
- ‘securitising’ and politicising climate change by linking climate-change-driven migration with violence and insecurity (Benjaminsen and Ba, 2021; Wiederkehr et al., 2022), when the empirical evidence supporting this link remains inconclusive and research on the topic scarce (*ibid*)
- finally, and perhaps most dangerously, extremist groups and politicians using and manipulating farmer–herder grievances to further specific ends (Bøås et al., 2020; Cline, 2020; Ugwueze et al., 2022).

While an increase in farmer–herder conflict and the increasing violence of the conflict is often treated as a given in the media and the policy domains, some studies critically question whether there is an increase or intensification in farmer–herder conflicts, or whether the increased violence observed in parts of Africa is linked to conflict between farmers and herders in the first place (Hussein et al., 1999; Kräli and Toulmin, 2020). While the question of whether farmer–herder conflict or the intensity of this conflict is increasing is not the subject of this review, this contentious debate shows that the issue is a topic of intense interest.

A review of academic and think-tank literature

Because of this heightened yet often confused attention, and to guide future SPARC research, this systematic scoping review aims to explore academic and think-tank literature³ on the causes of farmer–herder conflicts, eliciting trends and potential gaps in understanding. It also aims to ascertain to what degree conflict is connected to land and natural resources, assuming that land and natural resources play a central role. It aims to identify to what extent land tenure insecurity is cited as a cause of conflict and how this subject is discussed, acknowledging that the relationship between land tenure and conflict is complex and that further research on this relationship is likely needed (Flintan et al., 2021; Osman, 2012).

The logic for including land tenure insecurity is the argument that tenure insecurity causes land (or land access) to be lost to competing uses, accelerated by pressure on land resources. As grazing spaces decrease and spaces for smallholder farmers increase, the competition for resources critical for both livelihoods increases. With increased competition, there are increased chances of this competition becoming violent, suggesting tenure insecurity as a root cause of conflict (Flintan et al., 2021; de Jode and Flintan, 2020; Osman, 2012; Sulieman, 2015).

This review asks:

- What are the causes of farmer–herder conflict?
- Does land feature and to what extent?
- Is tenure insecurity part of the discussion, and if so, how?

Given that the links between women and conflict, as well as youth and conflict, have been highlighted as gaps in the existing research (Caroli et al., 2022), this scoping review also aims to explore to what extent both groups have been mentioned in case studies on farmer–herder conflict.

While there have been recent literature reviews on related topics, few focus specifically on the causes of farmer–herder conflict or do not follow a systematic review methodology. One study focuses on analysing specific incidents of conflict from across 16 countries using the Armed Conflict Location and Event Data Project database and queries whether violence in Africa can be attributed to farmer–herder conflicts as many reports suggest, while also exploring how the causes of conflict are, or could be, framed (Krätli and Toulmin, 2020). Three others explore the sources of violence and instability affecting pastoralists and other rural land users and the causes of land conflicts, using a general literature review or comparative case study approach (Brottem and McDonnell, 2020; Ntumva, 2022; Seter et al., 2018, respectively). Another review assesses the causes and drivers of conflicts involving pastoralists and is based on interviews with stakeholders in six African countries (UNOWAS, 2018). While these are extensive reviews, none apply a systematic review approach. Two systematic reviews have been identified. One focuses on conflict linked to land-use change more broadly (de Jong et al., 2022), and the other explores the links between climate change and violent conflict in West Africa (Tarif, 2022) but does not focus specifically on farmer–herder conflicts.

³ Think-tank literature helped the review team capture more recent perspectives outside peer-reviewed journals.



2. METHODOLOGY

A systematic scoping review

Systematic reviews aim to identify, evaluate and summarise the findings of all relevant individual studies, thereby making the available evidence more accessible to decision-makers. What makes a normal review different to a systematic review is that systematic reviews adhere to a strict scientific design based on explicit, pre-specified and reproducible methods. They use explicit, systematic methods that are selected with a view to minimizing bias, thus providing more reliable findings from which conclusions can be drawn and decisions made (CRD, 2009, Cochrane Handbook updated 2022). As well as setting out what we know about a particular intervention, systematic reviews can also demonstrate where knowledge is lacking. This can then be used to guide future research (CRD, 2009). Also see Higgins et al., (2022) and Aromataris and Riitano (2014).

Systematic *scoping* reviews are commonly used 'for reconnaissance to clarify working definitions and conceptual boundaries of a topic or field. Scoping reviews are, therefore particularly useful when a body of literature has not yet been comprehensively reviewed or exhibits a complex or heterogeneous nature not amenable to a more precise systematic review of the evidence. While scoping reviews may be conducted to determine the value and probable scope of a full systematic review, they may also be undertaken as exercises in and of themselves to summarise and disseminate research findings, to identify research gaps, and make recommendations for future research' (Peters et al., 2015). The methodology developed by Peters et al. (2015) of the Joanna Briggs Institute was followed in this review.

To ensure rigour, the design of the review followed the Preferred Reporting Items for Systematic Reviews and Meta-analysis, or PRISMA, format (Page et al., 2021) and used the PRISMA 2020 checklist available online.⁴ Additionally, a protocol was developed at the outset of this review. The protocol is considered a clarification and guidance document to ensure a common understanding among the review team from the outset. The protocol is provided in Annex 2.

The review was conducted first in English and then in French to ensure that more studies were included. Once conducted, the results were combined (Figure 1).

Databases searched and search parameters

Review of English-language literature

The review team canvassed contacts within their research community networks to elicit feedback on the most relevant databases for this review. Web of Science, Science Direct, Scopus and CAB Direct were identified. It was decided to focus on Web of Science and Science Direct, knowing them to be respected databases and given existing institutional permissions.

⁴ The checklist can be accessed at: www.prisma-statement.org

The Boolean search string (farmer OR smallholder OR settler) AND (pastoralist OR herder OR nomad) AND conflict AND (Africa OR Sahel) was used to query the databases. The term 'conflict' was used to avoid limiting what the search results reveal, recognising that the term can include an array of meanings. The definition most useful for this review is 'any situation in which two or more parties perceive that they possess mutually incompatible goals' (Mitchell, 1981).⁵ The review team also avoided use of the terms 'land' or 'natural resources' in the search string, as the interest was to see whether and to what extent the issues of land and natural resources came up in a more general search on causes of conflict.

The terms 'farmers' and 'herders' were expanded to encompass some common, similar descriptions, i.e., 'small' and 'settler' for farmer, and 'pastoralist' and 'nomad' for herder, as this is how such groups are most commonly described in the conflict literature. The reviewers explored literature covering the entire continent, with specific mention of the Sahel region, given that it is often mentioned without reference to Africa. This was to avoid unintentionally being driven towards a narrower set of conclusions that may be linked to a particular region's history, geography, or social and political contexts. Truncated search words and wildcards were not used, nor were long search strings (for example, spelling out every country in Africa instead of simply using the words 'Africa OR Sahel') given search string limitations in Science Direct.

The time range was set from 2000 to the present following the time range used in the SPARC scoping review of pastoral land tenure and governance (Flintan et al., 2021). The rationale for the timeframe is supported by the observed increase in coverage of the topic, while a relative increase in terms of research and documentation on pastoralists and rangelands has also been observed starting around the year 2000 (Johnsen et al., 2019).

A search of English-language literature was conducted in Science Direct and Web of Science on 30 April 2022. Due to the large number of search results (over 3,000 results in Science Direct), additional limiting parameters were introduced, including journals clearly irrelevant to the topic (for example, veterinary journals) and limiting the search results to research articles, which excluded items such as books, book reviews and editorials.

The final search yielded 109 journal articles in Web of Science and 862 journal articles in Science Direct. To complement the database search, a search was conducted in Google on 8 May 2022 for the same search string, and the first eight international think tanks listed⁶ producing research reports on the subject were included. A follow-on search was then done for specific publications through the think tanks' respective websites using the same search string. At the same time, for some (Empirical Studies of Conflict, International Crisis Group, African Center for Strategic Studies and Clingendael), the search string was slightly adapted to ('farmer–herder conflict' AND 'farmer–pastoralist conflict') as the longer search string was not accommodated by these websites. Seventeen think-tank documents were included based on the above search.

⁵ This can cover competing interests between the state and local smallholders with regard to land allocation and use, disputes or tensions between groups, transgressions on property and people (for example cattle stealing, farm raiding, beatings and the killing of humans or livestock), as well as large-scale violence where many people and livestock may lose their lives.

⁶ South African Institute of International Affairs, Empirical Studies of Conflict, International Crisis Group, International Institute for Environment and Development, Search for Common Ground, African Center for Strategic Studies, Kofi Anan International Peacekeeping Center and Clingendael.

The complete results of 971 journal articles and 17 think-tank papers were migrated into Mendeley, and 18 duplicate articles were removed. Then titles and abstracts were screened for inclusion or exclusion in the review with the primary criteria for inclusion being that the research article focuses specifically on a case (or cases) of farmer–herder conflict, or that the study has conducted primary research (either quantitative, qualitative, or both) on the topic, or had at least included questions in local interviews and discussions on causes of farmer–herder conflict or had captured responses from interviewees on causes of conflict.⁷



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Using the above criteria, the primary reviewer and one other reviewer narrowed down the long list independently, based on reading titles and abstracts. The two reviewers combined their individual results, and duplicates in the combined list were removed. A third reviewer was brought in to provide guidance on a few discrepancies and then to review the full shortlist with the primary reviewer once again.

As a result of this process, 900 publications were excluded as being outside the criteria for this review. Of the remaining 70 documents, 64 were obtained in full text, while four full texts could not be accessed. Of these 64 documents, 28 articles were excluded after reading the abstract, discussion, conclusion and methodology. The primary reviewer undertook this second screening, and a second reviewer double-checked this process. This process yielded 38 studies for the review made up of 21 journal articles and 17 think-tank documents in English.

Review of French-language literature

The search of the French literature was undertaken on 4 November 2022 by a native French speaker (different from the English reviewer). The following French-language Boolean search string (*agriculteur OR petit exploitant OR colon agricole*) AND (*pasteur OR éleveur OR nomade*) AND *conflict* AND (*Afrique OR Sahel*) was used to collect 84 and 47 publications from Web of Science and Science Direct respectively, covering the period 2000–2022. A preliminary check by title and abstract resulted in the inclusion of 20 Web of Science journal articles and 5 Science Direct journal articles, totalling 25 articles.

This preliminary list of articles was subjected to an advanced screening that resulted in the removal of seven articles from the Web of Science list, of which two were duplicates, two were inaccessible, and three did not focus on farmer–herder conflicts but dealt with goat rearing or the implication of agribusiness development on the agrarian system and water management. Three articles from the Science Direct list were excluded, one a duplicate in the Web of Science list and two others dealing with the prehistoric and historical anthropology of the shepherd's crook in Brazil and Europe without a focus on farmer–herder conflicts. After this, 15 journal articles were retained.

⁷ The criteria for think-tank documents were not as stringent and some reviews were also included. The rationale is that the think-tank documents are considered supporting documents for comparison with the research articles. This means that the 17 think-tank results were retained.

To expand this list, a direct search on Google using the same search string was undertaken on 15 and 16 January 2023 and resulted in 24 additional journal articles, of which 16 were finally retained after import and screening in Mendeley. Thus, the number of French-language journal articles considered in this review was 31.

Beyond the journal articles, the same Boolean search string on Google was used to identify 8 publications by think tanks, whose websites were then visited to collect 20 additional articles, making 28 think-tank publications. Advanced screening of these identified 10 of the 28 as relevant to the review. An additional search for think-tank publications identified 9 additional documents, bringing the total considered for the review to 19.

In total, 50 publications were identified from the French literature about farmer–herder conflicts, including 31 journal articles and 19 think-tank papers (Table 1).

TABLE 1: TOTAL PUBLICATIONS USED IN THE REVIEW

Literature	Journal articles	Think tank	Total
English language	21	17	38
French language	31	19	50
Total	52	36	88

The list of included papers is found in Annex 1.⁸

Limitations with the process

Several limitations are acknowledged:

- The overall number of journal articles and papers is relatively small, so trends identified can be taken only as an indication and not as robust results.
- A search across a wider set of databases may have yielded a larger set of results, improving diversity and robustness.⁹ However, the findings of this review agree, in the main, with findings from similar reviews mentioned above,¹⁰ indicating that a good proportion of the studies on farmer–herder conflict may have been captured. Additionally, Seter et al. (2018) note that there are surprisingly few robust primary studies on violent farmer–herder conflict, or herder–herder conflict for that matter, which may further corroborate the small sample size.
- The review did not include grey literature, institutional reports (e.g., from the World Bank) or material obtained through snowballing, due to limited time and resources as well as a preference for studies based on primary research.

⁸ After combining the French and English literature and completing the analysis it was noted that two papers were included in both the French and English literature results. Given that it was late in the process to remove and re-do the analysis and given that the small number would unlikely make any significant change to the results, the two duplicates were left and included in the review.

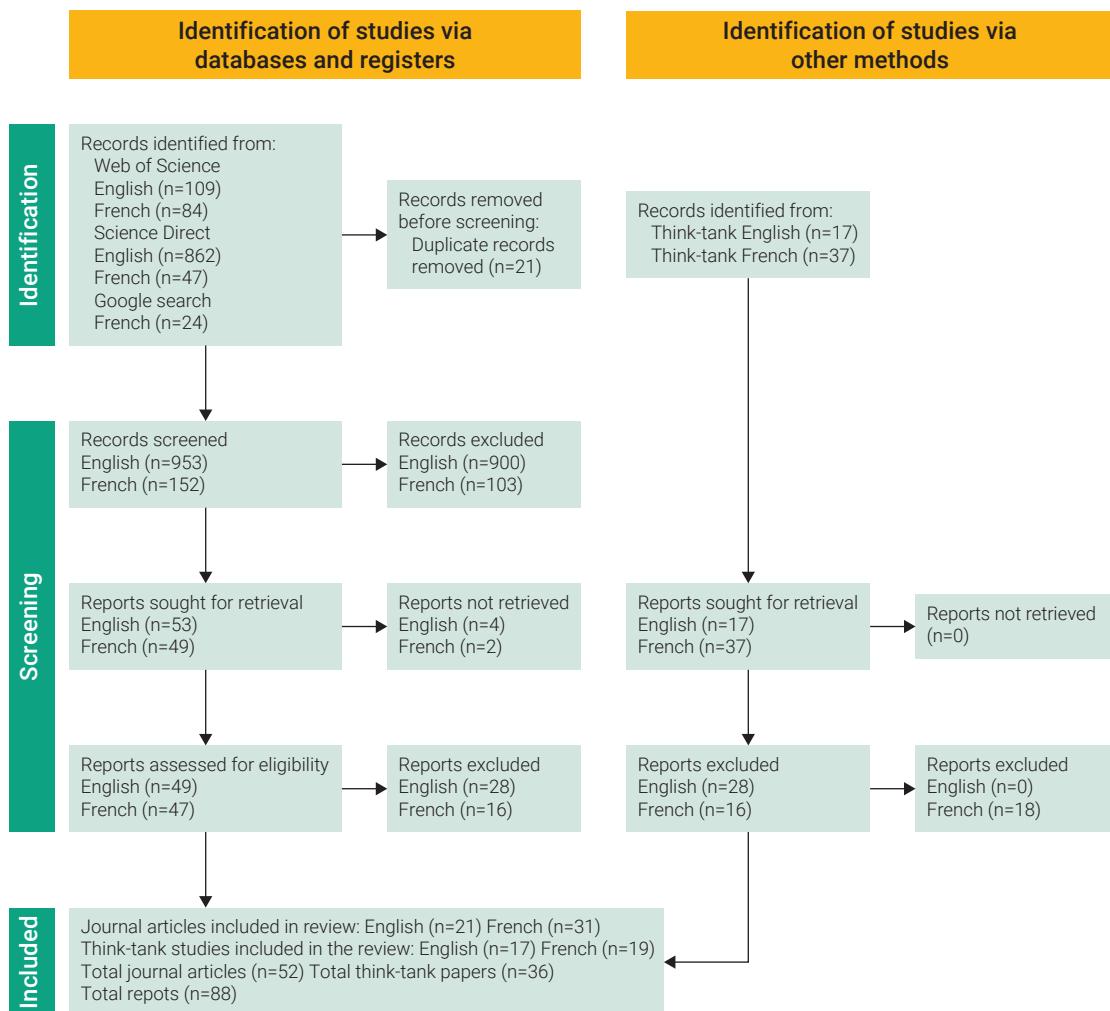
⁹ The latter acknowledging that different databases have both strengths and weaknesses (see, for example, Stahlschmidt and Stephen (2020) for a comparison of selected databases), and a search across a variety of databases would serve to minimise the effects of the weaknesses.

¹⁰ For example, Brottem and McDonnell (2020), who reviewed over 300 publications in English and in French.

The content of published research in peer-reviewed journals, even if recently published, will be a few years older given academia's lengthy procedures within their publication pipelines. Hence the inclusion of think-tank literature, which tends to have a quicker turnaround.

The review of French literature took a slightly different approach by including a Google search for additional articles. Additionally, the English and French reviews were undertaken by different people so interpretations could differ. However, including both was considered more valuable than presenting them separately.

FIGURE 1: PRISMA FLOW DIAGRAM



Case coding

The following information was coded: (1) study location; (2) methods used; (3) mention of increasing frequency or intensity of conflict; (4) mention of links between conflict and land and natural resources; (5) mention of women; (6) mention of youth; and (7) causes of conflict.

Study location: It was of interest to understand the geographical spread of the articles on farmer–herder conflict. Where these focused on more than one country, each country within the study was counted as a separate case. Where studies focused on a broad region without mention of countries (for example, Africa or the Sahel), these were counted in a separate category.

Methodology: Methods used in the case study research were grouped into five main categories: (1) qualitative methods, including interviews, focus group discussions, field observations, informal discussions, workshops and any general mention of 'case study'; (2) quantitative methods, including household surveys, administered questionnaires and spatial analysis; (3) mixed methods – combining both qualitative and quantitative approaches; (4) mixed methods plus remote sensing, mapping and combining qualitative and quantitative approaches with remote sensing and participatory mapping; (5) secondary sources, including reviews of literature and locally obtained documents (e.g., police records, court cases). All case study methods included an element of secondary data review; therefore, where secondary sources are mentioned, this means that the publication was a review.¹¹

Indication of increased frequency or intensity of conflict: articles and papers that mention increased conflict or increased intensity of conflict. The purpose was to explore whether there are similar trends in published academic and think-tank literature compared to literature in the public domain.

Indication of links between conflict and land or natural resources: These include articles and papers that make direct links between conflict and land or natural resources.

Mention of women and of youth: articles and papers that mention women in relation to conflict. This includes mention of women only in direct relation to conflict and excludes mention of women in other ways (for example, in methodologies indicating disaggregation by sex). Mention of youth was treated in a similar fashion.

Causes of conflict: Causes of conflict were grouped into categories¹² and subcategories. Figure 2 presents the results. For each category, keywords or phrases were extracted from the review literature and worded in ways that indicate a cause (for example, weak governance instead of governance).¹³ As shown in the figure, these keywords or phrases were grouped under subcategories. Subcategories were created as common themes within the set of keywords or phrases. For example, where phrases such as 'scarce resources' or 'scarcity of land' appear, these were grouped under the subcategory 'resource scarcity'. Where phrases such as 'limited

¹¹ This is the case for only one think-tank document.

¹² The categories used were defined as causes most frequently observed in the literature, including in the abstracts during the inclusion and exclusion exercise, and based on a deep reading of one-third of the included English literature documents.

¹³ A full list of the keywords and phrases used is in Annex 3.

grazing resources' or 'shortage of water' appear, these were grouped under the subcategory 'limited resources' (see Box 1 for notes on the definition and scope of each category). Having scoped the French literature, the French reviewer agreed that the categories and subcategories identified for the English language review were also suitable for the French language review.

For analysis, a code of 1 was given to a phrase or keyword mentioned as a cause of conflict within the study. A code of 2 was given to a phrase or keyword that was mentioned in the study but not specifically as a cause, i.e., included only in the background, introduction, footnotes or references, or mentioned as a point for discussion. The primary author undertook a detailed analysis of one-third of the included English literature studies and checked keywords and phrases in context for the remainder. The reviewer of the French literature undertook an analysis of all the French literature studies. All the data analysis and data representation were done using MS Excel Office Pro.

FIGURE 2: CATEGORIES AND SUBCATEGORIES OF CAUSES OF CONFLICT



BOX 1: A NOTE ON CATEGORIES AND SUBCATEGORIES

Tenure insecurity includes legal, de facto and perceived tenure insecurity.

Land or natural resource scarcity includes absolute scarcity, most often cited as caused by climate change or degradation, and structurally induced scarcity, for example, by excising land for other purposes.¹⁴

Poor or exclusive governance refers to weaknesses in systems mediating control of and access to resources associated with human action for decision-making, in addition to the processes that influence human action or result from it. Governance encompasses policies, institutions and processes as captured in the UK Department for International Development's Sustainable Livelihoods Framework (DFID, 2000). The subcategory 'weak or biased institutions' refers to customary and statutory institutions.

Pastoral mismanagement refers to when (normally external) actors perceive pastoralist actions as mismanagement of resources.

Poor relationships and ethnic bias are seen as connected but do not always come together. There can be poor relationships without ethnic bias.

Violence and human insecurity refers to broader violence, for example involving terrorist groups, arms proliferation, cattle raiding and the human insecurity resulting from these.

Historical grievances indicate conflict attributed to roots in a country's or a region's past, linked to colonialism or the historical relationships between groups.

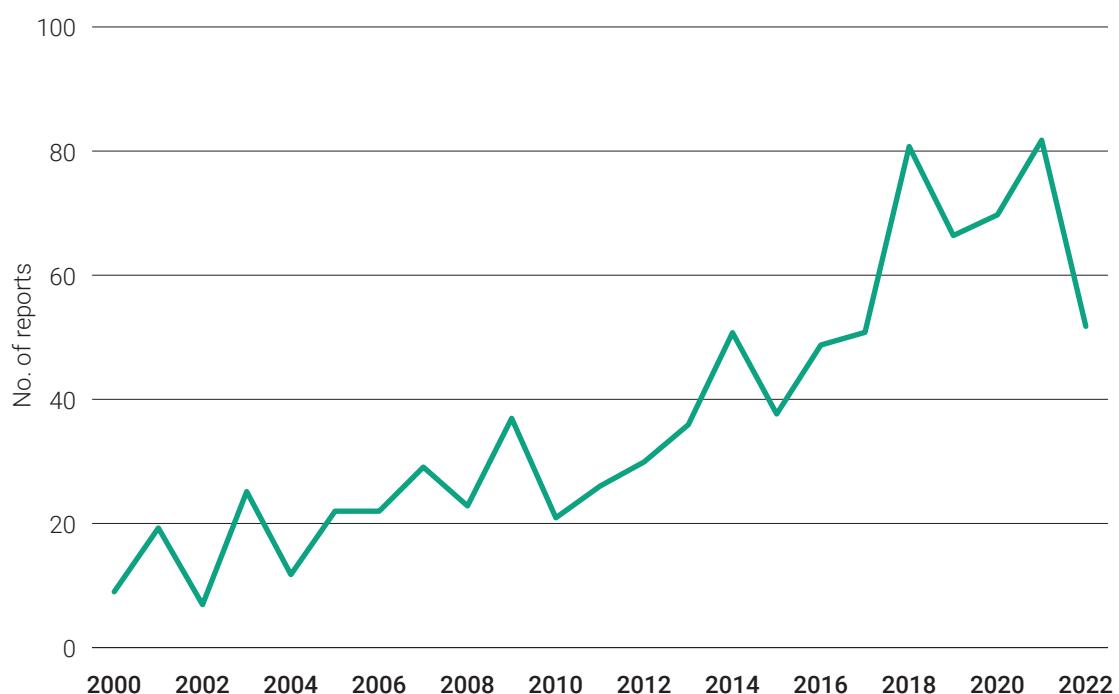
¹⁴ For more information on different types of scarcity see UNEP (2012).

3. OVERALL TRENDS

Date of publication

The search of academic literature on farmer–herder conflict in Science Direct showed a marked increase in search results between 2000 and 2021 (Figure 3).¹⁵ This indicates that attention to farmer–herder conflicts has increased significantly over the last two decades.

FIGURE 3: AN INCREASED FOCUS ON FARMER–HERDER CONFLICTS IN ENGLISH-LANGUAGE ACADEMIC LITERATURE



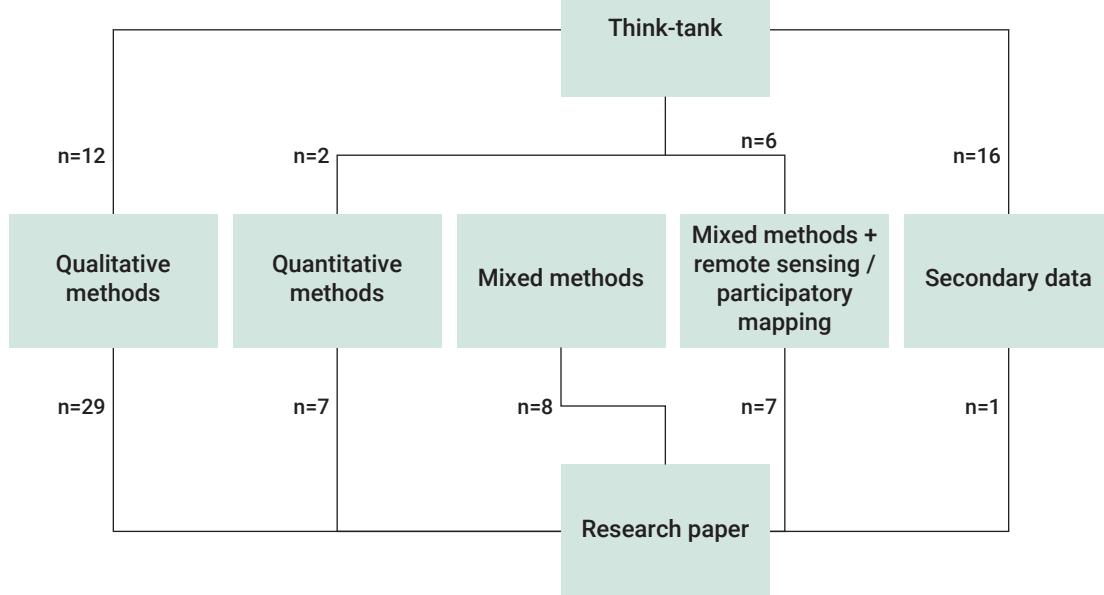
Note: the literature search was carried out in April 2022 so does not capture articles published in 2022 after April, hence the dip in the graph.

¹⁵ Using the search string (farmer OR smallholder OR settler) AND (pastoralist OR herder OR nomad) AND conflict AND (Africa OR Sahel), and limited to research articles and relevant journals (for example excluding veterinary journals).

Methodology

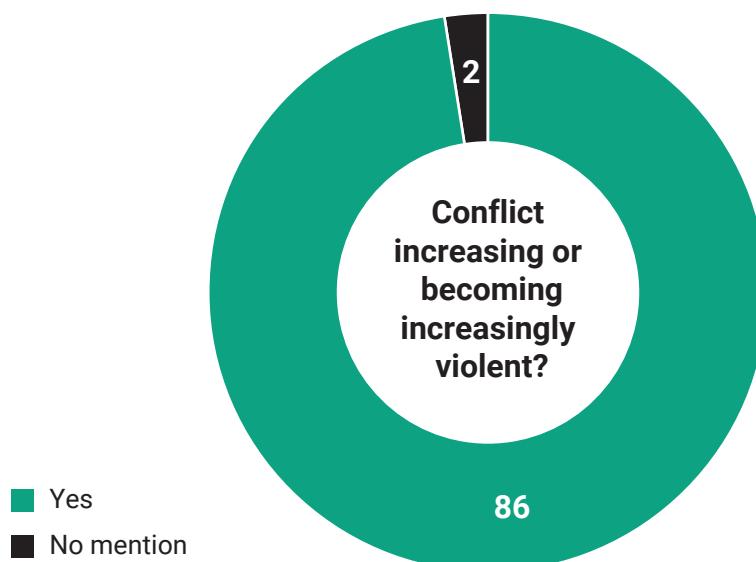
The majority of included articles and papers used qualitative methods for their research, while a minority used quantitative methods only. Among the journal articles, approximately one-third used a combination of qualitative and quantitative approaches, and a small percentage added a remote sensing or participatory mapping component alongside mixed methods (Figure 4). All studies included a review of secondary data alongside primary research methods.

FIGURE 4: METHODOLOGY



Trends in farmer–herder conflicts

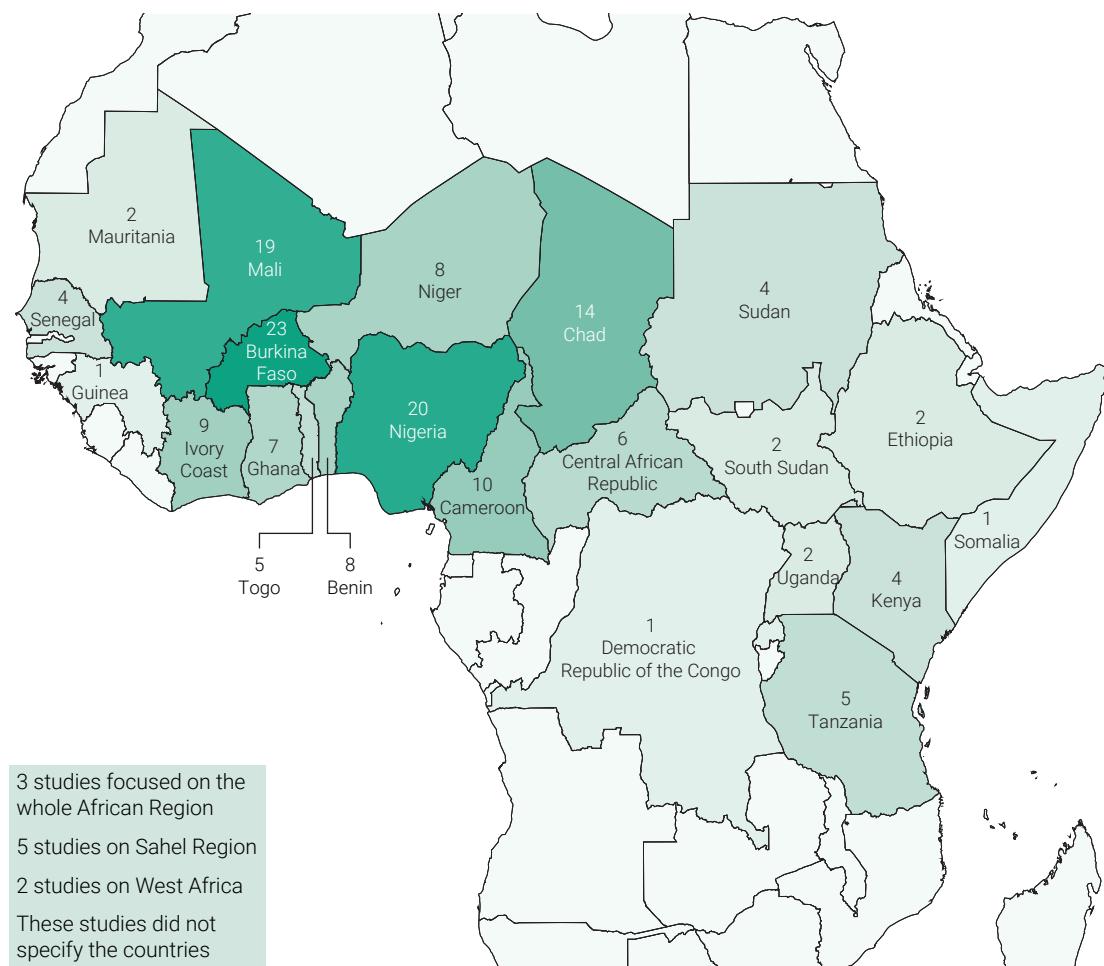
FIGURE 5: NO. OF REPORTS MENTIONING AN INCREASE IN FARMER–HERDER CONFLICT



Mirroring literature in the public domain, 98% of reviewed studies mentioned that farmer–herder conflict is increasing in frequency or intensity, or both (Figure 5). However, most studies mention this as a general statement, while few show it as a research finding. This observation supports the hesitancy of a number of researchers to accept the mantra of increasing farmer–herder conflict at face value, as referenced above in Section 1.

Geographic distribution of research on farmer–herder conflict

FIGURE 6: MAP SHOWING GEOGRAPHIC DISTRIBUTION OF RESEARCH ON FARMER–HERDER CONFLICT

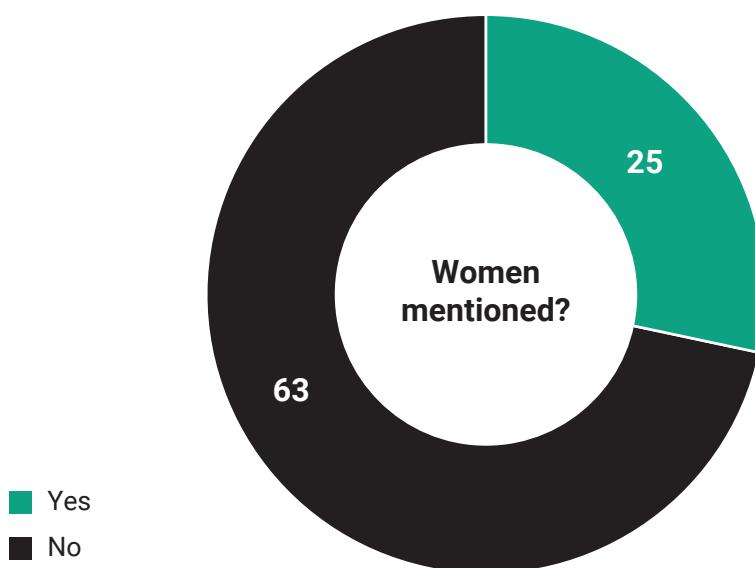


While the identification of the literature was not limited to a particular country or region in Africa, all identified case studies on farmer–herder conflict concentrate on the West and East Horn of Africa, with the majority focused on West Africa, particularly Burkina Faso, Nigeria and Mali (Figure 6). This suggests there is predominantly more research undertaken on farmer–herder conflicts in these regions or that such conflicts are more common in these areas or both. There were predominantly more case studies in the Sahel in the French literature than in the English. No articles on farmer–herder conflicts were identified for North or Southern Africa. No articles or papers were found for Burundi, Djibouti, Eritrea, Guinea-Bissau, Liberia, Rwanda and Sierra Leone, suggesting that farmer–herder conflicts are not so prevalent in these countries; however, follow-up research is needed to confirm this.

Mention of women in farmer–herder conflicts

Neglect of the gender dimension of conflict has been acknowledged for some time (Hamilton and Dama, 2003). Despite the indication that things were changing (*ibid.*), nearly 20 years later, the role of women in conflict is still not sufficiently discussed, particularly women's role in promoting conflict or promoting peace (Brottem and McDonnell, 2020; Caroli et al., 2022). This is supported by the findings of this review, where only 25 of the 88 articles and papers mention women in relation to the conflicts described (Figure 7). This suggests a continued gap in research.

FIGURE 7: NO. OF REPORTS MENTIONING WOMEN

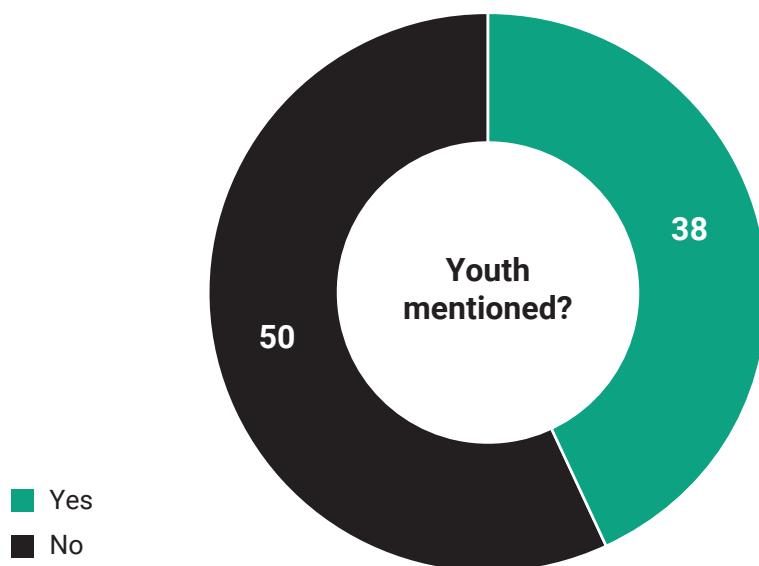


In 70% of the cases where publications mention women, they are described as victims of conflict; in 30% they are described as instigators of or contributors to conflict; and in 30% they are described as having an important role in peacemaking. For example, Hagberg (2001) mentions that women instigated a conflict by informing a farmer's son about alleged damage to his father's crop field by a Fulani herder. The farmer's son received this information and got into a fight with the young Fulani herdsman, killing him with a weapon. Sougnabe and Reounodji (2021) describe women as victims: 'These situations promote cases of human rights violations, and it is often the civilian population, especially women and youth, who are targeted'.

In addition, while narrowing down the literature for this review, many research articles analysing women's access and rights vis-à-vis land were noticeable. Although these studies were not included in our review, as they were not specifically about farmer–herder conflicts, it suggests that research regarding women has touched on related issues, but that women are ignored in discussions of research on conflict and peacebuilding.

Mention of youth in farmer–herder conflicts

FIGURE 8: NO. OF REPORTS MENTIONING YOUTH



Of the 88 publications, 38 mention youth (Figure 8). Although the case studies do not state that they explicitly focused on male youth, the descriptions – for example, that youth are susceptible to recruitment into armed groups, forming vigilante groups for community protection, or track and return stolen livestock – suggest that the focus was on male youth and not female. No article includes any description of youth that suggests that they are talking about women or girls, suggesting an additional gap in the research.

In 81% of the articles and papers where youth are mentioned describe young people as contributors to conflict, 50% as victims, and only 18% as peacemakers. As contributors to conflict, youth are most often described as doing so in groups to protect their communities, protest injustices, or take justice into their own hands. They are commonly described as susceptible to recruitment by armed groups, by either criminal groups or known insurgency groups such as Boko Haram, motivated by disillusionment, disenfranchisement, lack of opportunities and poverty. Komi (2018) reports that pastoralists are increasingly young and often lack the civility and maturity to resolve conflicts amicably. And CSAO/OECD-AFD (2013) notes: 'The actors of violence are essentially young nomads (Tuaregs, Arabs, Toubous, Peuls) who have put themselves on the fringe of their communities'.

Standalone research on the role of youth in conflict is scarce, with no articles or papers in the selection focusing on this. This indicates an area for further research.

Land and natural resources in relation to farmer–herder conflict

While 100% of farmer–herder conflict studies report land and natural resources conflict (Figure 9), most mention the link as a general statement like conflict or competition over land, water, or a combination of the two, or over natural resources in general. A few studies provide a deeper analysis alongside this statement, for example situating the statement in historical context, and capturing the evolution of social, economic and political change that created conditions for inequality, for disparity between groups, for erosion of social relations, or for unresolved grievances over natural resources.

FIGURE 9: NO. OF REPORTS MENTIONING LAND AND NATURAL RESOURCES

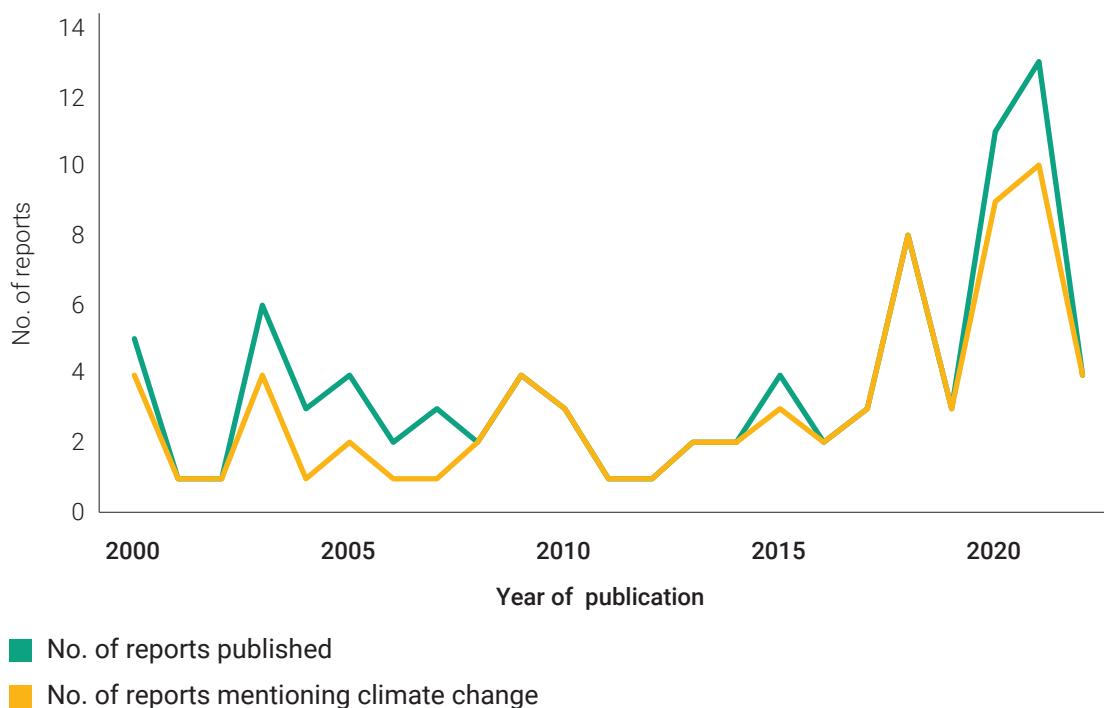


Climate change

Given the current global emphasis on climate change, the authors undertook a search of the phrases 'climate change' and 'changing climate' within the English literature longlist of search results (Figure 2) and compared this with a similar search within the included 88 articles and papers. A search of these terms within the title, abstract and keywords of the longlist showed climate change mentioned 121 times out of 871 (14%). The longlist of results contained a wide assortment of studies that may be related to farmer–herder conflict but are not directly focused on this, for example, articles on land tenure, land grabbing, livelihood resilience or agricultural productivity. It appeared that climate change does not come up as a feature of interest in these areas of focus, explaining the limited mention of the topic.

However, when searching for 'climate change' or 'changing climate' within the included combined 88 case studies focused on farmer–herder conflict, the topic is mentioned in 62 out of 88 papers (70%), and when expanded to include other ways of describing climate change (e.g., climate variability, desertification, drought) this number increased to 72 articles out of 88 (81%) (Figure 10). This indicates that climate change receives greater attention within primary research on farmer–herder conflict (discussed further below) than in literature more generally and is a topic that has received increased attention in recent years.

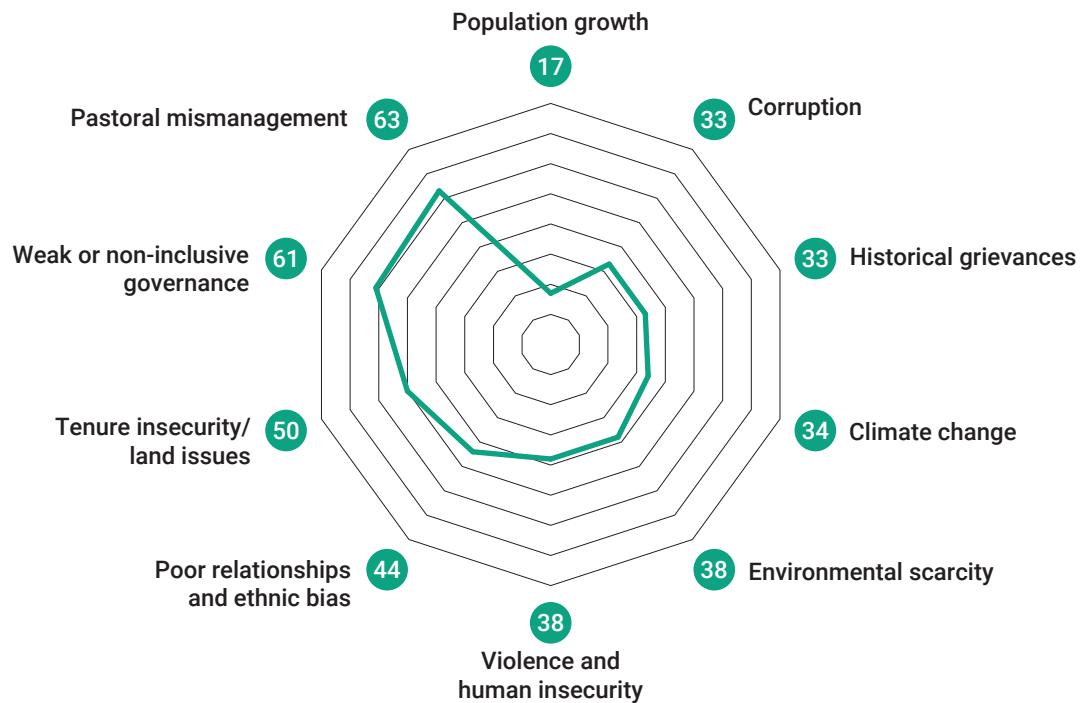
FIGURE 10: MENTION OF CLIMATE CHANGE WITHIN THE 88 INCLUDED STUDIES



4. CAUSES OF CONFLICT

All articles and papers identify multiple causes of farmer–herder conflict, with no paper citing one cause. Causes interact with one another in complex ways and at multiple levels depending on context and influential forces, though this is rarely considered in the articles reviewed.

FIGURE 11: CAUSES OF CONFLICT BY CATEGORY AND FREQUENCY OF MENTION

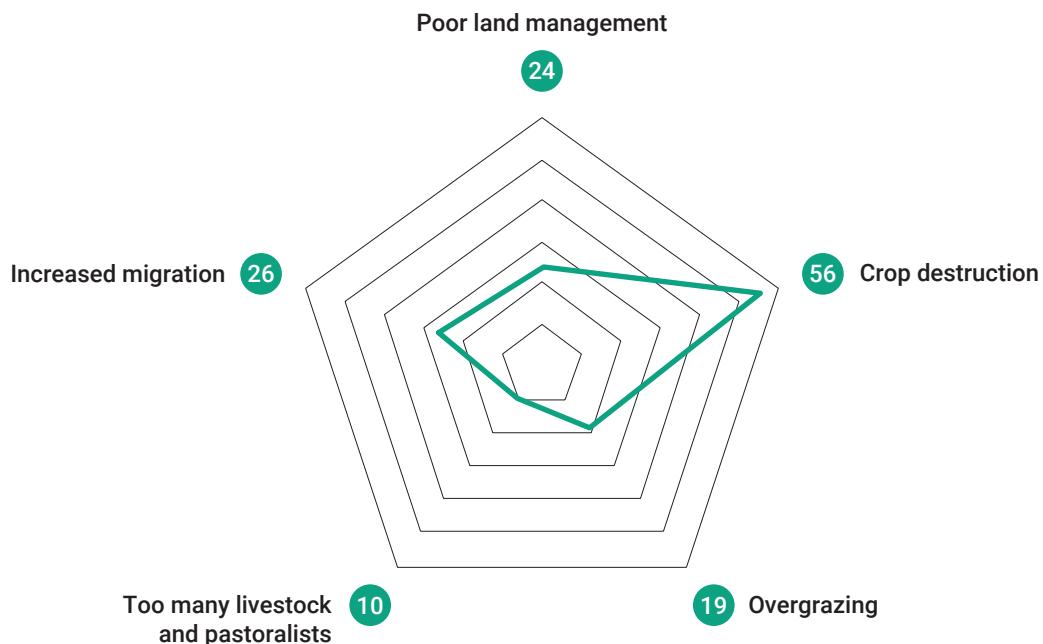


The most frequently cited cause categories were pastoral mismanagement, weak or non-inclusive governance, tenure insecurity, land issues, deteriorating relationships, and ethnic bias. These were followed by environmental scarcity and violence (Figure 11). Climate change, while a topic of global interest, did not feature in the top causes.

While difficult to draw conclusions from these results, they suggest that the emphasis of most studies is on the underlying governance, political and social factors of conflict, rather than resource scarcity or climate change. This finding aligns with findings from previous reviews (Brottem and McDonnell, 2020; Ntumva, 2022; Seter et al., 2018). Additionally, the large number of articles that cite pastoral mismanagement as a cause of conflict (63 in all) suggests a simplistic reading of a situation that has its deeper causes found elsewhere.

Pastoral mismanagement

FIGURE 12: COMPONENTS OF PASTORAL MISMANAGEMENT AS A CAUSE OF CONFLICT



Sixty-three articles mention pastoral mismanagement as the cause of farmer–herder conflicts, with the most frequently cited cause being crop damage, followed by increased migration, poor land management and overgrazing and overstocking (Figure 12). Crop damage by pastoralist livestock is often described in isolation of why this may be happening. It is sometimes described as wilful or intentional, and sometimes put down to unintentional damage caused by inexperienced or overworked herders.

While crop destruction may be a common and consistent trigger for conflict, some researchers argue that this issue masks underlying concerns and grievances, with deeper causes found elsewhere. Benjaminsen and Ba (2009) highlight that people will often tell the story that best supports their case. In the case of farmers, the story often centres on crop and farmland destruction, with overstocking, overgrazing and general misuse of natural resources causing damage and degradation. The issue is often more complicated, however, and often revolves around control of land and natural resources.

The narrative of pastoral mismanagement also links to an existing belief among many settled communities and decision-makers that pastoralists use rangelands haphazardly and that pastoralism is a backward way of life, with transhumance described as illogical and responsible for conflict. While this narrative remains widespread, it has been strongly contested, particularly over the last two decades, with studies showing pastoralism as a rational, highly skill-based and adaptive land-use system ideally suited to the variable climate of the drylands (IIED and SOS Sahel, 2010; Nassef et al., 2009; Young et al., 2013).

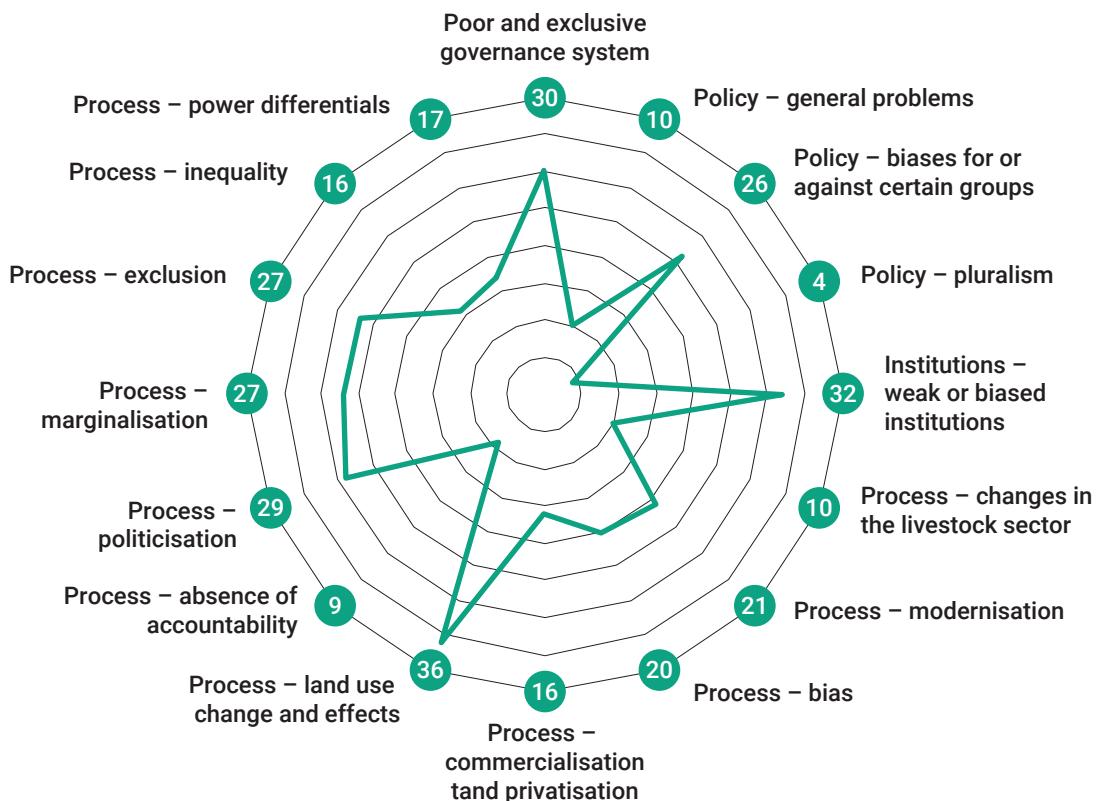
New herd dynamics are observed alongside more traditional forms of pastoralism, for example in Nigeria. Ajala (2020) describes a form of pastoralism called neo-pastoralism, which involves

very large herds kept for purely economic purposes, often by non-pastoralist absentee herd owners. These herds are accompanied by salaried herders who carry sophisticated weapons. South Sudan is mentioned similarly, where political and military elites have acquired very large herds with 'resources gained during the war' (Cottyn and Meester, 2021). These herds may not be managed in ways that sustain rational land use and the sophisticated weaponry used by the accompanying herders does not incentivise investment in maintaining good relations with host communities and can be used to intimidate them (Ajala, 2020). Because of these changing dynamics, it is not surprising that pastoralists as a whole are increasingly being held responsible for the actions of a few.

Weak or exclusive governance

Weak or exclusive governance is the most commonly cited category of causes, with 61 articles referring to this. Weak or exclusive governance was divided into categories of policies, institutions and processes (following the Sustainable Livelihoods framework). The main emphasis in the literature is on processes. The main processes mentioned, in decreasing order of frequency, are land-use change, politicisation,¹⁶ marginalisation, exclusion and modernisation. The main policy issue mentioned is policy bias. Weak or biased institutions are mentioned in 32 articles (Figure 13).

FIGURE 13: COMPONENTS OF WEAK OR EXCLUSIVE GOVERNANCE AS A CAUSE OF CONFLICT



¹⁶ Refers to the manipulation of local grievances, as well as ethnicity, for political ends.

The studies claim that land-use change contributes to conflict through shrinking rangelands and expansion of agricultural land, shrinking and disappearance of transhumance corridors, or similar statements. Some studies explore land-use change more deeply than others by identifying the links between this process and its more complex drivers, for example changing land tenure systems and national and local politics. However, others simply attribute land-use change to population growth and the increased demand for land. Omitting to discuss land-use change along with the drivers of this phenomenon obscures important connections to underlying political and social processes and can lead to interventions that merely address symptoms rather than underlying causes.

The processes of exclusion, marginalisation and power differentials predominantly refer to the balance of power being in favour of settled farmers versus pastoralists, with some exceptions. Some of the literature describes both groups as marginalised from more centralised decision-making on resource allocation. In Somalia, while all of the above processes have been highlighted as issues, the balance of power favours pastoralists over farmers, with farmers being the marginalised group (Cottyn and Meester, 2021). It is also worth noting that, in some cases, the bias towards settled farming is not always present. For example, in Mali, the balance of power has shifted between nomadic pastoralists and settled farmers several times in the past (Benjaminsen and Ba, 2009). There is an imbalance of power between livelihood groups that is not static. It can shift with the times and in response to prevailing conditions. Also of note is that commercialisation and privatisation are mentioned in around 20% of the studies, although these issues have been identified as major factors increasing the vulnerability of rural livelihood groups (Krätli, 2021; Osman, 2012).

In all identified cases, policy bias refers to a policy landscape favouring agriculture over pastoralism, and weak or biased institutions refers to weak or corrupt traditional institutions, deteriorating systems of traditional conflict mediation and resolution, and partial or ineffective state institutions and law enforcement, i.e., institutions rendered incapable of responding during times of conflict to restore peace, often allowing conflict to escalate to violence.



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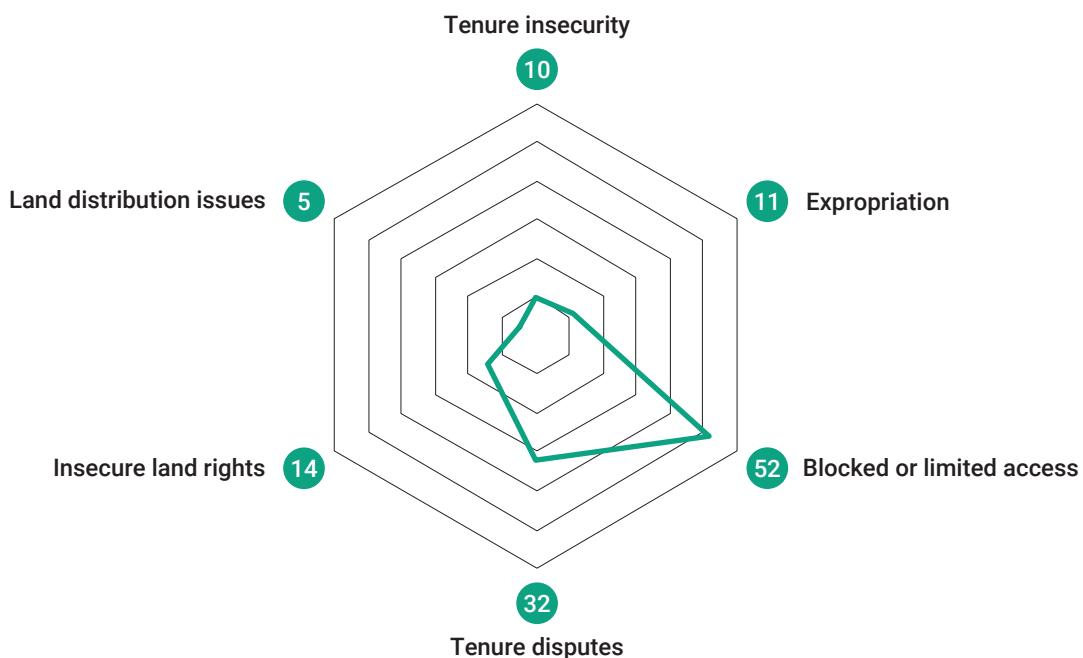
Land issues

While land issues are among the top three cited cause categories of conflict (50 articles in all), land tenure insecurity itself is identified tangentially and more through its impacts such as blocked or limited access to land and natural resources and tenure disputes. The identification of tenure insecurity (i.e., the reason this may be happening) is mentioned in only 24% of the cases. This suggests that the analyses of farmer–herder conflicts fail to go to the root causes and rather focus on what is seen or can be more easily quantified and explained. A deeper investigation into the relationship between land tenure insecurity and conflict is recommended.

In most customary dryland governance systems, all livelihood groups have a recognised right to natural resources. It is suggested that making an explicit connection between conflict and tenure insecurity would provide an entry point to discuss important changes in the dynamics of local, critical social relationships which underpin the security of rights to resources in communal tenure systems. While much of this is already discussed in the literature, identifying and explicitly naming tenure insecurity as an underlying cause of conflict could provide an additional logical entry point for this discussion.

While narrowing down the long list of documents for this review, it was evident that there is a sizeable amount of research on land excision, expropriation and land grabbing,¹⁷ which is discussed separately from or tangentially to local-level conflict. At the same time, land grabbing or land expropriation is mentioned as a cause of conflict in only 13% of the included cases on farmer–herder conflict, suggesting further gaps in land issues and conflicts.

FIGURE 14: LAND ISSUES AS A CAUSE OF CONFLICT

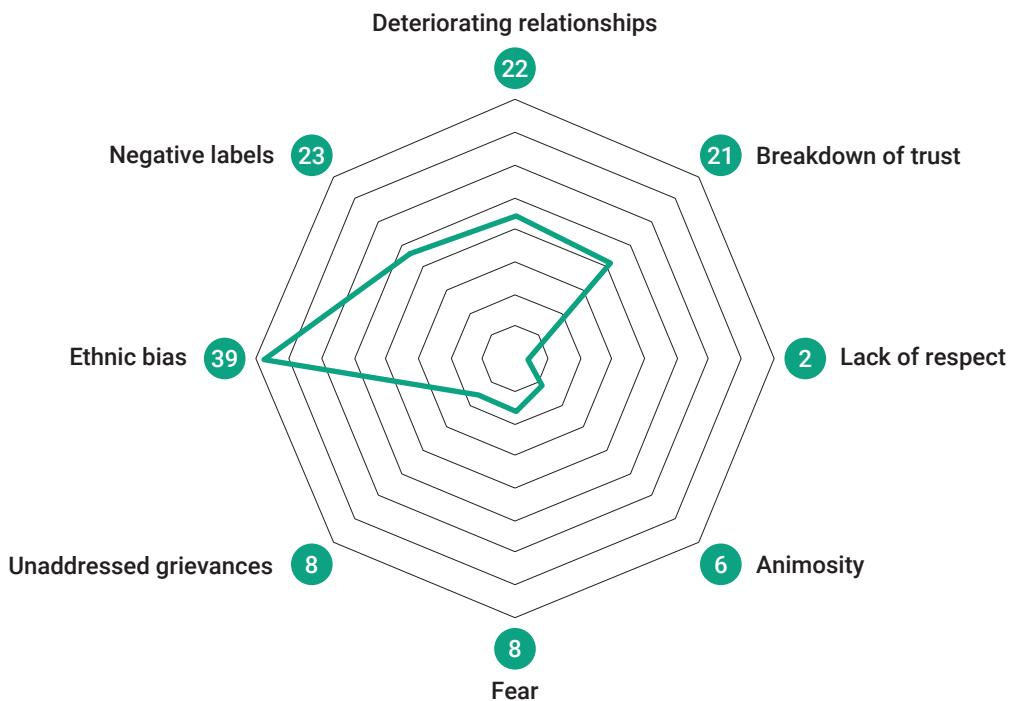


¹⁷ Refers to the acquisition of land, usually by private or foreign investors or by governments, for agriculture and biofuel production. Usually takes places on the back of national governance systems that ignore existing customary and communal land tenure arrangements and communities' existing entitlements to land (Batterbury and Ndi, 2018).

Deteriorating relationships and ethnic bias

Across much of the literature, the relationship between herders and farmers is described as 'deteriorating', with a breakdown of trust between the groups. Ethnic bias is also finding fertile ground to take root and is said to play a significant role in conflict (Figure 15).

FIGURE 15: COMPONENTS OF DETERIORATING RELATIONSHIPS AND ETHNIC BIAS AS A CAUSE OF CONFLICT

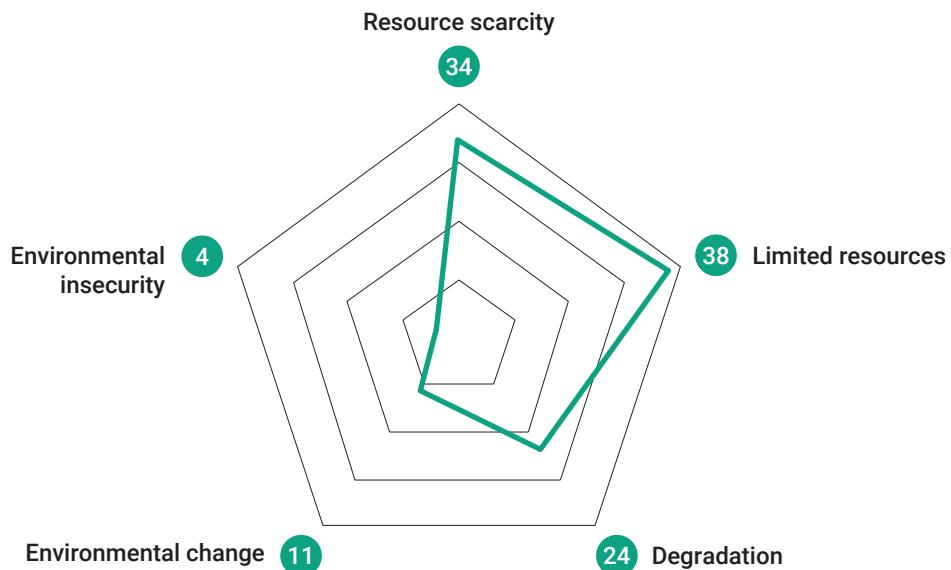


A distinction is made between deteriorating relationships and ethnic bias. The first refers to either a breakdown of existing relationships or connections between groups that were previously strong, based on social interaction, complementarity between livelihood systems and economic inter-dependence. Alternatively, it can be an absence of relationship, for example, when one group is new to an area and has no social ties or problematic communication, such as the absence of a common language, which can lead to escalation following misunderstanding or minor conflict. The second, ethnic bias, describes a more complex and insidious situation.

As described by Maiangwa (2017), ethnic bias is about 'who belongs and who does not belong, who is an alien and who is an indigene; hence, who is deserving of citizenship rights. Ultimately, it is a conflict of who is superior (dominant) and who is inferior (subordinate), and who determines when and how to control the sociopolitical affairs and the resources of the region'. Ejiofor (2021) describes this phenomenon as stemming from a fear of 'not being seen' or of 'not getting one's fair share', because one's culture and way of doing things is undervalued. Often this phenomenon has historical roots and has become a powerful means of manipulating local tensions for political ends (Bøås et al., 2020; Cline, 2020; Ugwueze et al., 2022; Young et al., 2009). Using negative labels to identify groups, particularly the Fulani, is also an issue highlighted. Eke (2020) and Ejiofor (2022) note that ignoring how groups are popularly represented and discussed plays a large role in maintaining the intractability of conflict.

Environmental scarcity

FIGURE 16: COMPONENTS OF ENVIRONMENTAL SCARCITY AS A CAUSE OF CONFLICT

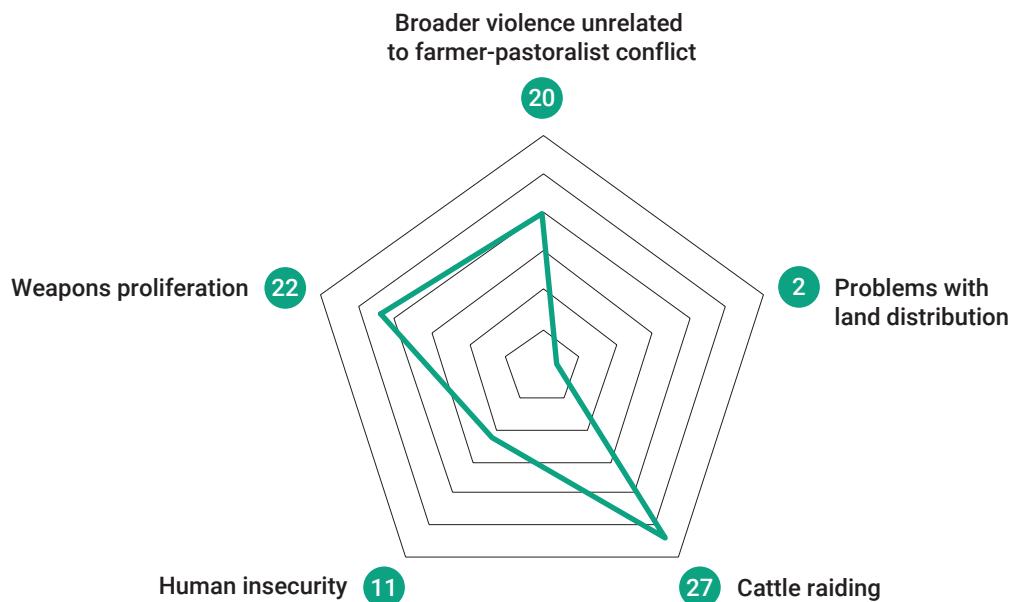


Environmental scarcity as a cause of conflict dominates a lot of the discourse around farmer–herder conflict (Figure 16) and has in recent years garnered considerable criticism (Bond, 2014; Brottem, 2016; Krätli and Toulmin, 2020). The main point of contention with the scarcity argument is that while scarcity of land and natural resources as a driver of conflict is acknowledged as an issue, oversimplifying scarcity and attributing this solely to climate change or degradation is problematic, particularly as there are often underlying structural drivers of scarcity linked to exclusionary governance and politics.

While the results of this scoping review find that environmental scarcity is still mentioned uncritically in many studies, a noticeable proportion of studies provide vocal and compelling critiques against oversimplification of the subject, and against decoupling the issue from wider local and national processes. This suggests a shift in the discourse on scarcity within research on farmer–herder conflict.

Broader violence and resulting human insecurity

FIGURE 17: COMPONENTS OF VIOLENCE AND RESULTING HUMAN INSECURITY AS A CAUSE OF CONFLICT



Over half the studies point to broader regional or national violence as a cause of farmer–herder conflict (Figure 17). Broader violence constitutes insurgencies in West Africa (e.g., the Boko Haram insurgency), alongside organised crime and the proliferation of arms.¹⁸ This larger-scale violence renders large areas dangerous and insecure and drives farmers and herders into smaller spaces, contributing to ‘resource scarcity’, and fuelling farmer–herder conflict (George et al., 2021). Insurgency groups are capitalising on existing farmer–herder grievances for their own purposes (for example for recruitment, or to build an informal political constituency base¹⁹) and are further polarising groups (Bøås et al., 2020). The influence of insurgencies and organised crime has also resulted in the increased uptake of arms by rural communities, for example, to arm local militias to protect communities from raids and attacks, which can too easily be a means of intimidation of rural communities (Ammour, 2020; Cline, 2020) and has resulted in the overall intensification of farmer–herder conflict (Cline, 2020; Bøås et al., 2020).

Broader violence and its interaction with farmer–herder relations and conflict has resulted in the conflation of the two (albeit that the distinctions in some places may be blurry in the absence of critical analysis) and has further fuelled the incrimination of predominantly pastoralist groups such as the Fulani.

¹⁸ Weapons proliferation is cited as a main cause of conflict in this review. Given the prevalence of wider regional conflicts, small arms are plentiful and easy to access. Standalone studies have been written on small arms and light weapons (SALW) proliferation in Africa (for example, Sule et al., 2020; Wisotzki, 2022).

¹⁹ It has been observed that insurgency groups in West Africa are jockeying for positions as new actors in governance – e.g., showing that they are able to address local grievances and provide protection to different groups (Ammour, 2020; Bøås et al., 2020).

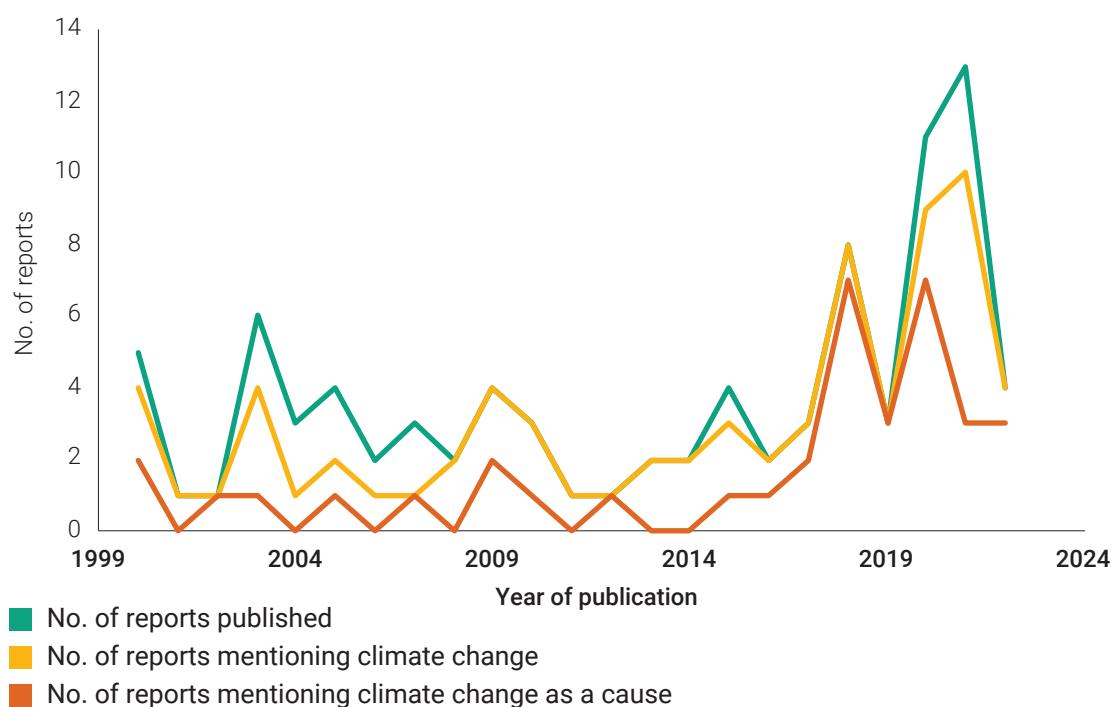
The most common cause, particularly in the French literature, is given as cattle raiding. Traditionally, cattle raiding has been part of some pastoralist societies for centuries. It is increasingly being driven by solely economic and often commercial interests beyond pastoralists. Non-traditional players in the livestock sector, including politicians, insurgency groups and criminals, use the lucrative livestock sector to further political and economic ends. This is now common. The ungoverned appropriation of livestock by these groups has meant the practice of raiding has become more invasive and violent, fuelling insecurity and fear, besides the fact that raiding has increased overall (Cline, 2020). It is also of note that, while this scoping review shows cattle raiding as a cause of conflict, the underlying changes in the livestock sector that underpin violent raiding and include issues such as new patterns of cattle ownership, increased value of cattle, and absentee herd ownership, receive considerably less attention within the case studies.

Climate change

Deeper analysis of the included studies shows that only 37 papers (42%) specify climate change and related terms as a cause of conflict. This differs from the 70% of papers that mention climate change in the article more generally (Figure 18).

One reason for the notable discrepancy between mentions (70%) and listings as a cause could be that, in recent years, there has been a lively debate on whether climate change is a cause of conflict or an exacerbator of conflict when it interacts with other more systemic causes. The current consensus appears to be that climate change exacerbates conflict but is not a main cause, supporting its higher number of mentions. That is, it can be viewed as one factor that interacts with social, political and economic dynamics. It is this interaction, rather than climate change itself, that influences conflict (Benjaminsen and Ba, 2021; Brottem, 2016; Caroli et al., 2022; Madu and Nwankwo, 2021; Pacillo et al., 2022).

FIGURE 18: NO. OF REPORTS MENTIONING CLIMATE CHANGE



Climate security

Climate security is increasingly being used as a term within dialogue on climate change (PNNL, 2022; SIPRI, 2015; UNEP 2018). Climate security refers to the security risks induced, directly or indirectly, by changes in climate patterns that substantially alter political stability, human security, or national security infrastructure. 'The growing climate crisis poses geopolitical and socioeconomic stressors like population displacement, terrorism, economic stagnation, impacts to infrastructure, and social unrest' (PNNL, 2022). See, for example: <https://climateandsecurity.org> and the new CGIAR research initiative on climate security.

Despite this increasing global attention, climate security is only mentioned in two of the English language papers, and in none as a cause. It is discussed in one paper that refutes the climate security narrative and in a second paper climate security is said not to be a stand-alone cause but rather exacerbates pre-existing political, social and other conditions. The term for 'climate security' in French (*sécurité climatique*) is not mentioned in the articles reviewed. However, there is use of the French term for 'environmental security' (*sécurité environnementale*) (Assi et al., 2022; CSAO, 2010; Krätli and Toulmin, 2020; Rangé et al., 2020).



5. CONCLUSION AND RECOMMENDATIONS

While there has been a marked increase in attention given to farmer–herder conflict over the last two decades, this review identified only a few primary case studies. Although our review used only a few databases to access journal articles, this nevertheless suggests a significant gap in research.

The majority of case studies indicate increasing (or increasingly violent) farmer–herder conflict. However, most studies mention this as a general statement, while few show this as a research finding. This observation supports the hesitancy of several researchers to accept the mantra of increasing farmer–herder conflict at face value and calls for further critical analysis and primary research.

In all case studies, land and natural resources are mentioned as central issues in farmer–herder conflict, which mirrors the literature in the public domain. The literature reviewed listed the following as main causes of conflict: (1) pastoral mismanagement; (2) weak or non-inclusive governance; (3) poor relationships and ethnic bias; (4) violence and human insecurity; and (5) environmental scarcity. This supports findings from other recent but less systematic reviews. There also appears to be agreement on centring the causes of conflict more on governance, politics and relationships rather than technical aspects of resource scarcity or climate change (Brottem and McDonnell, 2020; Krätli and Toulmin, 2020; Ntumva, 2022; Seter et al., 2018). Many articles that cite pastoral mismanagement as a cause of conflict (63 in all) suggest a simplistic reading of a situation with its deeper causes found elsewhere.

While tenure insecurity features as a cause of farmer–herder conflict, it tends to be approached tangentially – as impacts such as blocked or limited access to land and natural resources, tenure disputes and land-use change – while the identification of tenure insecurity itself, i.e., as the reason this may be happening, is scarce (mentioned in only 10 of the included cases). This suggests that the analysis of farmer–herder conflicts fails to go to the root causes and rather focuses on what is seen or can be more easily quantified and explained. A deeper investigation into the relationship between land tenure insecurity and conflict is recommended.

Based on the included case studies, the conversation on environmental scarcity, climate change and pastoral mismanagement appears to be changing. There appears to be more criticism of accepting simplistic interpretations of environmental scarcity as a cause of conflict, less emphasis on climate change as a standalone cause (while acknowledging its role in exacerbating conflict), and more critical viewpoints expressed towards pastoral mismanagement.

While it was acknowledged 20 years ago that women are an often-missed demographic in the conversation on farmer–herder conflict, it appears that today this is still the case (with women being mentioned in only 28% of the included studies). Women are often described as victims and more rarely as contributors to conflict or peace. While some studies exist on the subject, the role of women in conflict is still under-studied and under-reported, constituting a gap for further research (see, for example, Adelehin et al., 2018; CDD, 2018; Hamilton and Dama, 2003; Odary et al., 2020).

Youth are also under-represented in the literature (youth featuring in only 43% of included case studies) and are generally cast as instigators of conflict. The link between youth and conflict deserves more research attention given the high proportion of youth on the continent, the high proportion of youth who have grown up in environments of conflict and given the emphasis on youth militarisation in the literature. Female youth are not mentioned at all. The literature also suggests there is an increasing gap growing between youth and traditional leaders (Young et al., 2009). More research on youth (including women) in farmer–herder conflicts, the role they play and the impacts on them is urgently needed.

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ANNEX 2: PROTOCOL FOR THE SCOPING REVIEW

Rationale	Previous research has suggested links between conflict and land and resource use, land and resource tenure security and governance. We want to explore some of these linkages further.
Aim	The aim of this systematic scoping review is to explore academic literature on farmer–herder conflicts eliciting trends and potential gaps and biases and the presentation of these conflicts, particularly their causes. As part of this we want to ascertain to what degree land tenure insecurity has been included as a cause and how.
Research question	What does academic literature say about the causes of farmer–herder conflicts in Africa? What are the trends, biases and research gaps in this literature? Is land tenure insecurity featured as a cause and if yes, how is it presented?
Population	Farmers and herders (and similar terms to these including smallholders and pastoralists)
Interest	Trends in academic literature on farmer–herder conflicts. How the literature presents the causes of farmer–herder conflicts and whether land tenure insecurity is included. Other interesting aspects such as inclusion of women and youth in this literature. Boolean search string used: (farmer OR smallholder OR settler) AND (pastoralist OR herder OR nomad) AND conflict AND (Africa OR Sahel)
Context	Africa

ANNEX 3: FULL LIST OF KEYWORDS USED IN ANALYSIS

Tenure insecurity

Tenure insecurity

Tenure insecurity
Land tenure insecurity
Absence of tenure security
Lack of tenure security
Loss of tenure security
Land insecurity
Insecurity of land tenure
Insecurity of tenure
Weak tenure rights
Weak tenure security
Tenure inequity
Tenure uncertainty
Loss of tenure
Weakening of tenure
Weak land tenure

Blocked or limited access

Insecure access to (farming and grazing resources; food, farming and grazing resources)
Unequal access to pastoralist resources
Limited access rights
Limited water access
Lack of access to pasture
Access to key spaces is lost
Access to pastoral land has often been lost
Access to wetlands is decreasing
Block the pastoralists' movement and access to pastures
Blocked resource access for herders and farmers
Blocking of livestock corridors
Blocking seasonal transhumance corridors
Constraint on livestock mobility
Block traditional migration routes
Maintain access to water
Limited access to land
Blocking of grazing routes
Barriers to land use and access
Changes to land use and resource access
Limited amount of land set aside for grazing
Routes and areas around waterholes being obstructed
Access to waterholes is blocked
Blockage of livestock corridors
Blocking of transhumance

Expropriation

Land grab
Expropriation
Expropriate
Land is confiscated
Lands confiscated
Evicting farmers (or evicting)
Vulnerable to dispossession
Green grabbing
Land appropriation
Elite land acquisition
Land alienation

Livestock corridors occupation	Grievances against the established land tenure system dominated by farmer communities
Blocking of water	Both seek access to the region's fertile land
Reduction in areas and accessibility	Competition for access to natural resources
Lack of access to land	About access to strategic resources at specific moments of the year
Lack of access to grazing	Problems over land tenure
Lack of access to water	Growing tension over access to land and its use
Risk of losing land and access to resources	Struggle for control over access to land
Tenure disputes	Tenure dispute
Complexities of land tenure	
Land tenure conflict	
Struggle for control over land	
Struggles over control	
Quest for land	
Struggles over access	
Disagreement over the ownership and cultivation of fields	
Disputes over the ownership and use of land	
Contention over rights of access and use of key water and grazing resources	
Disputed understandings of property relations	
Contest over herders' right to graze and the farmers' right to farm	

Scarcity

Resource scarcity

Resource scarcity
Natural resource scarcity
Scarce resources
Scarcity of grazing, land and water
Environmental scarcity
Land scarcity
Scarcity of land
Scarcity of natural resources
Farm/grass land scarcity
Arable land has become scarce

Scarce natural resources

Pastureland has become scarcer

Shrinking natural resources

Limited resources

Limited arable and grazing land
Limited arable/grazing land
Lack of water
Insufficient grazing resources
Don't have enough water
Lack of grass
Limited grazing resources

Shortage of water	Soil degradation
Lack of grazing	Deteriorating environmental conditions
Land shortage	Land shortage and degradation
Lack of pasture	Land degradation

Degradation

Environmental degradation	Environmental change
Rangeland degradation	Environmental insecurity
Climate-induced degradation of pasture	

Poor governance

Policies, institutions and processes

Poor and exclusive governance system

Failed land governance	A policy context that stimulates land-use change and/or conflicts in use
Poor leadership and governance	Failure of political leadership
Gaps in governance	Political instability
Governance fails	
Failing and exclusive (local) governance system	
Exclusionary governance	
Biased local governance	
Weak or non-existent governance structures	
Weakened local and national governance	
Weak governance	A policy context that stimulates land-use change and/or conflicts in use
Poor governance	Failure of political leadership
Failure of governance	Political instability
Absence of governance	
Biased governance	

Policy – biases for or against certain groups

Partial postcolonial policy	
State policy biases	
Anti-pastoral environment	
Anti-pastoral policy environment	
Official bias against pastoralists	
Anti-pastoral policy	
Laws which undermine pastoral production systems	
Biased agro-pastoral policies of the colonial and post-colonial governments	
Agro-pastoral policies that favoured Fulani	

Policy – general problems

Weak land tenure policy	National policies and laws focusing on agricultural modernisation
Weak and changing policies on land rights	Anti-grazing law
Changes in land tenure laws	Grazing ban
Modernisation policies	Open grazing prohibition
Irrational land-use policies	Herder unfriendly national policies
Weak policy and institutional frameworks	Policy bias
Presence of policies	Biased policy
Absence of clear rules	

Policy – pluralism

Legal pluralism
Overlapping land-use rights
Given the same rights
Competing authorities
Concurrence of customary and formal laws
Overlapping rights

Biased institutions
Institutional bias

Institutions – weak or biased institutions

Inability of the elders to manage this immigration
Eroded traditional authorities
Institutional weakness
Institutional failure
Decline of traditional mediation mechanisms
Farmers control local governing bodies
Partiality of state officials and traditional leaders in resolving conflict
Failure of the federal government to prosecute
Inadequate government protection
Ambiguity around how formal and informal institutions interact
Weakening of community based dispute management
Weak community based dispute management
Deterioration of systems to resolve these conflicts
Customary authorities were much weakened
Declining influence of traditional rules
Failure of indigenous conflict resolution
Ineffective law enforcement
Ineffective security and law and order
Eroded traditional institutions
Weak institution
Decline of traditional
Weakened traditional

Process – changes in the livestock sector

Absentee herd owner
New patterns of cattle ownership
Increase in the value of cattle
Early herd arrival
Changes in livestock mobility patterns
Shifts in livestock ownership
High financial value of cattle
Disappearance of socio-professional specialisation

Process – modernisation

Modernisation of the livestock industry
Agricultural modernisation (modernisation)
Modernisation ideology

Process – bias

Priority to agricultural development at the expense of pastoralism
Favouring agriculture
Promotion of agriculture
Favour agriculture
Favour of agricultural development
Favoured agriculture
Favour of settled communities
Favouring agriculture
Favouring farmers
Favour crop production

Process – commercialisation and privatisation

Capitalism
Marketisation
Commodification
Commoditisation
Value driven land market transactions
Commercialisation of agricultural

Land commercialisation	Disappearance of grazing resources
Increasing commercialisation	Shrinking and disappearance of transhumance corridors
Private landownership	Large-scale conversions of dry season pastures
Individualisation of land rights	Burning of pasture land
Economic interests	Loss of pasture resources
Market liberalisation	Reduction in areas and accessibility
Commercialisation of crop residues	Water and grazing have been lost to competing land use
Economic opportunities have changed dramatically	Grazing areas have been lost
Private land ownership	Encroachment on farmlands
Process – land-use change and effects	
Land-use change	Room for grazing reserves and migration corridors has decreased
Rapid land-use change	
Land cover change	
Large-scale agricultural development	
Large-scale commercial agriculture	
Agricultural encroachment	
Expansion of agricultural land	
Expansion of agriculture	
Expansion of commercial agriculture	
Agricultural expansion	
Expansion of cultivated areas	
Steady expansion of (agricultural fields; the agricultural frontier)	
Expansion of farms and settlements	
Expansion of crop land	
Farming across cattle routes	
Cultivate on cattle corridor	
Expansion of cropped fields	
Unregulated expansion of agricultural land	
Expansion of land under cultivation	
Field enlargement	
Encroachment upon grazing grounds	
Encroachment on key pastures	
Loss of key pastures	
Loss of key dry season grazing	
Process – absence of accountability	
Persistence of impunity	
Impunity	
Process – politicisation	
Politicisation	
Political and ethnic manipulation	
Political manipulation	
Patronage	
Political calculations	
Politicisation of ethnicity	
Social and institutional manipulation	
Politicise/politicize	
Government connivance	
Manipulation of the sociopolitical diversity of communities	
Social manipulation of ethno-religious biases	
Diversity has been manipulated and exploited by various actors	
Instrumentalisation of identities	
Political struggles to maintain control	
Orchestrated actions for higher political purposes	
Manipulation for political gain	

Political interests	Process – inequality
Complicity	Inequality
Process – marginalisation	Unequal representation
Pastoral marginalisation	Structural inequalities
Marginalising pastoralists	Economic inequalities
Marginalised; marginalized	Growing social inequalities
Marginalisation	Social inequality
Process – exclusion	Process – power differentials
Exclusion	Power imbalances
Exclude	Power differences
Exclusion of certain groups	Uneven playing field
Under representation of pastoralists	'At the expense of' (comes up often as a phrase – usually reflecting inequality)
Neglecting pastoral grievances	Lost power and wealth
Years of neglect	Power vacuum
Lack of broader stakeholder consultation	Political vacuum
Limits local farmers and Fulani herders' access to agro-pastoral decision-making	

Corruption

Corruption	Groups with interests in corrupt practices
Corrupt	Elite
Corruption	Influential elite
Bribery	Urban elite
Rent-seeking	Political and military elite
Bribe	Political elite
Paying off judges	Traditional elite
Neopatrimonial	
	Concealment of stolen funds
	Conceal stolen or illegally acquired assets
	Conceal illicit wealth

Pastoral mismanagement

Mismanagement of land

Mismanagement of land
Mismanagement (must be checked in context)

Crop destruction

Crop destruction
Crop damage
Destroying crops
Destroy crops
Damage to farmers' crops
Livestock invading farms
Destruction of crops
Destruction of farms
Destruction of farmland
Crop and water bodies' destruction
Damage of crops
Damage to crops
Damage to fields
Young herders failing to adequately supervise animals

Overgrazing

Overgrazing
Overgraze
Over graze
Indiscriminate grazing
Inappropriate resource use

Overstocking

Overstocking
Overstock

Too many livestock and pastoralists

Large number of cattle and herders
Large cattle holdings
Large cattle herds
Growth in human and animal populations
Increase in cattle population
Increase in cattle numbers
Growth in cattle numbers
Human and livestock population growth
Rapid increase in number of herders
Growing number of Fulani herders
Increasing number of herders
Massive herds

Increased migration

Influx of thousands of cattle
Altered the pattern of pastoralists' migration
Migrate
Pastoralists from other counties come to graze
Acceleration of transhumance

Influx of other unidentifiable Fulani pastoralists
Increased migration of pastoralists
Immigration of herders south
In-migration

Deteriorating relationships and ethnic bias

Deteriorating relationships

Deteriorating relationship
Deteriorating relations
Broken relationship
Are deteriorating in ways
Fractured relations
Worsening relations between farmers and herders
Deterioration in relations
Relations between farmers and herders have deteriorated

Ethnic bias

Identity (must be checked in context)
Ethnicity (must be checked in context)
Identity discrimination
Discrimination
Cultural differences
Ethnic bias
Ethnic difference
Politics of belonging and citizenship
Cultural and ethnic differences
Entrenched prejudices

Breakdown of trust

Mistrust
Lack of trust
Loss of trust
Erode trust
Mutual suspicion
Deep suspicion
Breakdown of inter-communal trust
Declining trust

Negative stereotypes
Citizenship construction of pastoralists
Hardened anti-Fulani sentiment
Fulani as objective and homogenous security threats
Herdsmen-farmer prejudices
Ethnicisation
Negative attitude
Sectarian narratives
Deep identity-based divisions

Lack of respect

Herders did not respect farmers
Not respected
Little respect

Dividing communities along ethno-religious lines

Animosity

Animosity
Hostility increased

Negative labels

Outsider
Stranger
Migrant
Foreigner
Alien
Intruder

Fear

Afraid of pastoralists
Fear

Unaddressed grievances

Sense of injustice
Inter-communal grievances

Historical grievances

Historical grievance	Colonialisation
Historical grievances	Colonialisation
Histor* (keyword must be checked in context)	Colonial
Settling old scores	Post colonial

Population growth and displacement

Population growth	Displacement
Population explosion	Population growth
Population expansion	Growth in population
Growth in human and animal populations	Increasing population
Human and livestock population growth	Rising human and cattle populations
Growing population	Large-scale and long-distance displacement

Violence and resultant human insecurity

Broader violence unrelated to farmer–pastoralist conflict	Cattle raiding	Human insecurity
Regional conflict	Chronic instability	
Terrorism	Pastoralist militia	
Terrorist	Criminality	
Insurgent	Violent extremism	
Insurgency		
Counterinsurgency		
Organised crime		
Banditry		
Extremist		
Recruit		
Armed groups		
Increasing violence in the country's far north		
Growth of ethnic militias		
Rise of militias		
Criminal groups		
Bandit violence		

Crowded here because of insecurity	Weapons proliferation
Negative effects of protracted conflict and instability	Arms
Limitations on pastoral mobility due to security concerns	Weapons Arms proliferation Proliferation of small arms Availability of illicit firearms

Climate change

Climate change	Drought
Climate change	Changes in precipitation
Changing climate	Patterns of rainfall had changed
Other descriptions of climate	Rainfall patterns have changed
Climate variability	Climate-induced
Climatic variability	Climate insecurity
Variable climate	Climate security
Desertification	

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