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Farmers–Herders Conflicts in the Bougouriba (Burkina Faso): Beyond Political Ecology, the Dual Challenges of Insecurity and Land Tenure Instability

ABSTRACT

Climatic variability at both global and local scales, compounded by the security crisis affecting Burkina Faso since 2015, has driven new dynamics of agro-pastoral conflicts, particularly in the Bougouriba province. This study aims to analyze farmer–herder conflicts in Burkina Faso through the prism of political ecology and the prevailing national security context. It first examines the contentious dynamics surrounding the control of natural resources, notably land, water, and pasture. It then investigates the climatic, environmental, and socio-political drivers of these conflicts, including widespread insecurity, land tenure precarity, and infrastructural crisis. The study draws on political ecology, conflict proximity theory, fieldwork based on structured interviews with both open-ended and closed-ended questions, and thematic documentary analysis. Conflicts over access to land, grazing, and water are evolving from less violent forms (stereotyping, marginalization, stigmatization, and threats) toward more overt forms (eviction of herders, crises or explicit threats of confrontation between stakeholders, sorcery, cases of livestock poisoning or slaughter, and terrorist attacks or incursions). These conflicts symbolize a dynamic of spatial appropriation, reflecting both the desire and the necessity to control natural resources. They are also justified by the repercussions of climate change/variability on pastoral and agricultural activities (IIF=0.82/1), infrastructure problems (IIF=0.76/1), and security issues (IIF=0.54/1). They disorient herders and stimulate livestock movements toward internal and external fallback sites.

Keywords: Bougouriba, insecurity, farmer–herder conflicts, local land governance, polical ecology, Burkina Faso

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INTRODUCTION

The socio-climatic crises affecting Sub-Saharan Africa are hampering the use of natural resources (water, land, vegetation). They are driving population movements, impacting economic activities (agriculture and livestock farming), and creating unprecedented competition among users. Competition for access to these natural resources gives rise to conflicts (Doligez et al., 2016; Djohy et al., 2022).

The droughts of the 1970s and 1980s (Pale & Da, 2016), combined with the political and security instability that Burkina Faso has been experiencing since 2015, are believed to have stimulated and exacerbated agro-pastoral conflicts in the province of Bougouriba. These conflicts and tensions also reflect emerging political and economic challenges in this region of Burkina Faso. They revolve around access to land, grazing areas, and water resources. Accordingly, this study addresses the following questions: How do territorial issues or natural resource governance contribute to the dynamics of farmer–herder conflicts? What factors influence these conflicts?

Farmer–herder conflicts have been widely discussed in the literature (Bello & Kazibwe, 2021). Political ecology is often invoked to explain these conflicts (Gautier & Tor, 2012; Tor & Ba, 2018; Ogu, 2022). In Burkina Faso, however, only a few studies have addressed this issue (Gonin & Tallet, 2012; Gonin, 2014; Gonin & Gautier, 2015). Furthermore, there is limited research drawing on the local resource governance framework to overcome the limitations of political ecology (Amoah et al., 2025, p. 4).

This study, based on the customary land tenure system, incorporates the dynamics of insecurity and the precarious land tenure of pastoral lands into the analysis of conflicts between farmers and herders. We therefore start from the premise that the weak network of agricultural and pastoral infrastructure in the province further modulates and transforms climatic constraints, thereby giving rise to conflicts. In addition to environmental and resource-related factors, we argue that socio-political factors—characterized by a provincial vacuum in livestock policy, limited pastoral infrastructure development, and territorial issues related to access, use, and control of resources, particularly land—also play a significant role. By documenting conflicts between farmers and livestock breeders in the province of Bougouriba, this study contributes to the ongoing debate on these conflicts.

LITERATURE REVIEW

Climate change refers to any change or modification in the climate over time, whether attributable to human activities or natural variability (IPCC, 2021; IPCC, 2022, p. 11). Under conditions of climate variability, noticeable changes occur in the patterns and distribution of precipitation, fluctuations in temperature, and, consequently, abnormal variations in various climatic parameters.

A changing climate poses numerous potential challenges for both human and natural systems (Jeffrey et al., 2012, p. 3). It disrupts agricultural practices and, in this specific case, impacts and transforms livestock production systems. These profound changes in the way these activities are

carried out can create tensions with far-reaching consequences. Several studies have established links between changing climates and violent conflicts (Banett & Adger, 2007; Clionadh & Henrik, 2007; Qian et al., 2023), or more specifically between climate change and/or variability and conflicts between farmers and herders around the world, particularly in Asia (Devesh et al., 2012), East Africa (Nowag, 2020), West Africa (Bello & Kazibwe, 2021), and especially in Burkina Faso (Gonin & Tallet, 2012; Gonin, 2014, p. 222).

Indeed, variations in climatic parameters such as temperature, rainfall, wind, sunshine, and evapotranspiration negatively affect both agricultural and pastoral activities. These variations can cause flooding, but also—especially when combined with certain farming practices—lead to drying, severe land degradation, and a decline in soil fertility. This, in turn, affects agricultural production through reduced yields and a continuous decrease in cultivated land area (Diallo, 2021). According to Botoni (2003), such climatic variations increase the expansion of agricultural land into areas previously used as natural pasture. They also negatively affect animal productivity (Djenontin et al., 2009; Doti, 2010; Djenontin, 2010). Other sources indicate that these variations disrupt herding systems and stimulate persistent seasonal migration in search of better grazing areas and watering points for livestock (Banoin & Jouvé, 2000; Djohy & Sounon, 2020, p. 18; Djohy et al., 2022). These climatic changes thus threaten stability and the local and regional social climate in West Africa (Brown & Craxford, 2010; Seiyefa, 2019). Several studies present transhumance as a response to climate variability at both regional and continental (African) scales (Scoones, 1995; Gonin & Tallet, 2012).

For other authors, conflicts between farmers and herders result from a combination of socio-economic and political factors that go beyond environmental, ecological, and climatic drivers, as documented particularly in studies on the Sahel (Hellendorff, 2012; Tor & Ba, 2018 and 2024). According to Hellendorff (2012), it is more appropriate to examine environmental impacts and climate variability at a much more local scale rather than at regional or global levels. Buhaug (2015), in his review of the relationship between violent or internal conflicts and climate change, suggests that it is more relevant to speak of indirect or conditional links. Thus, agro-pastoral conflicts may also result from the failure of a long series of pastoral development policies or from policy frameworks that prioritize agricultural activities over pastoral ones.

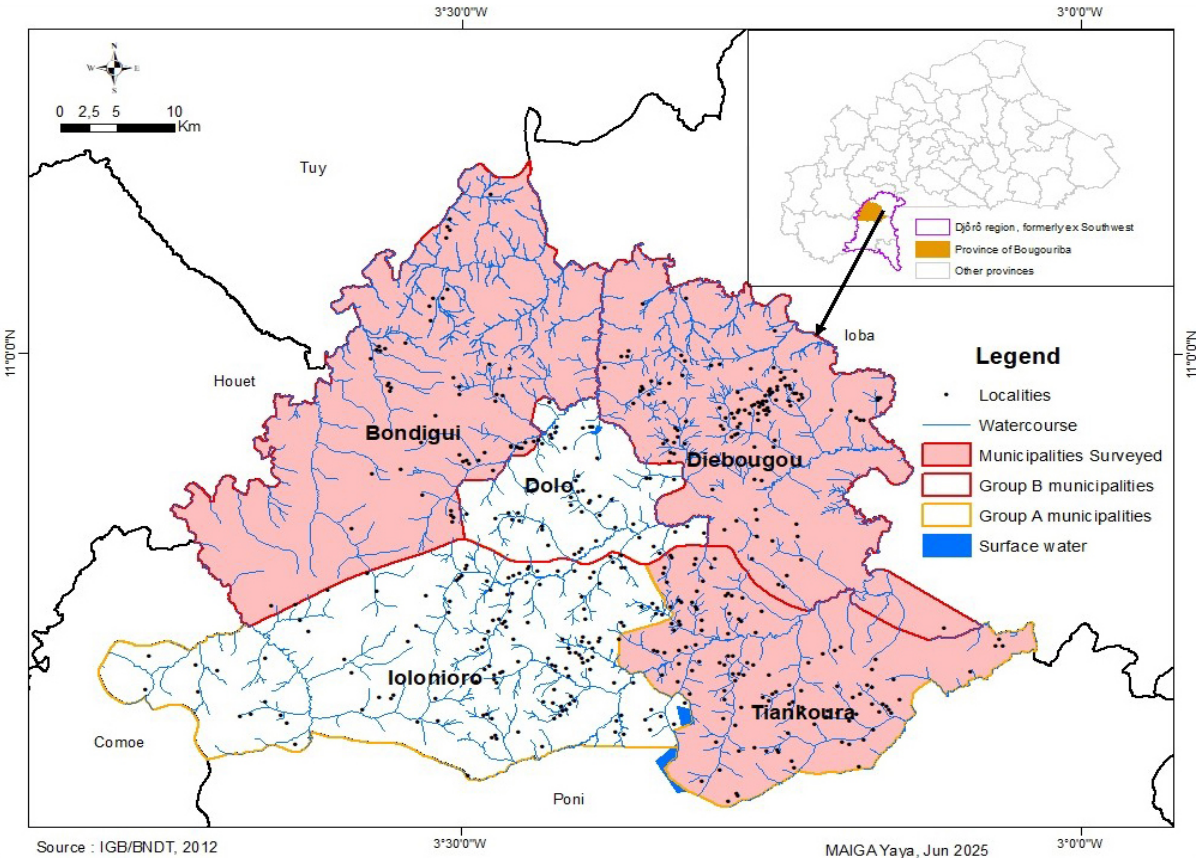
METHODS

Geographical Framework of Research and Methods of Field Data Collection

The area covered by this study is the province of Bougouriba, located in the southwestern part of Burkina Faso between 10°30′ and 11°35′ north latitude and between 2°55′ and 3°45′ west longitude. It comprises the municipalities of Diebougou, Bondigui, Tiankoura, Dolo, and Iolonioro, and is bordered to the north and east by the provinces of Tuy and Ioba, respectively; to the west by the provinces of

Houet and Comoe; and to the south by Poni. The province is bounded and delimited by the Bougouriba River, a tributary of the Mouhoun (Figure 1).

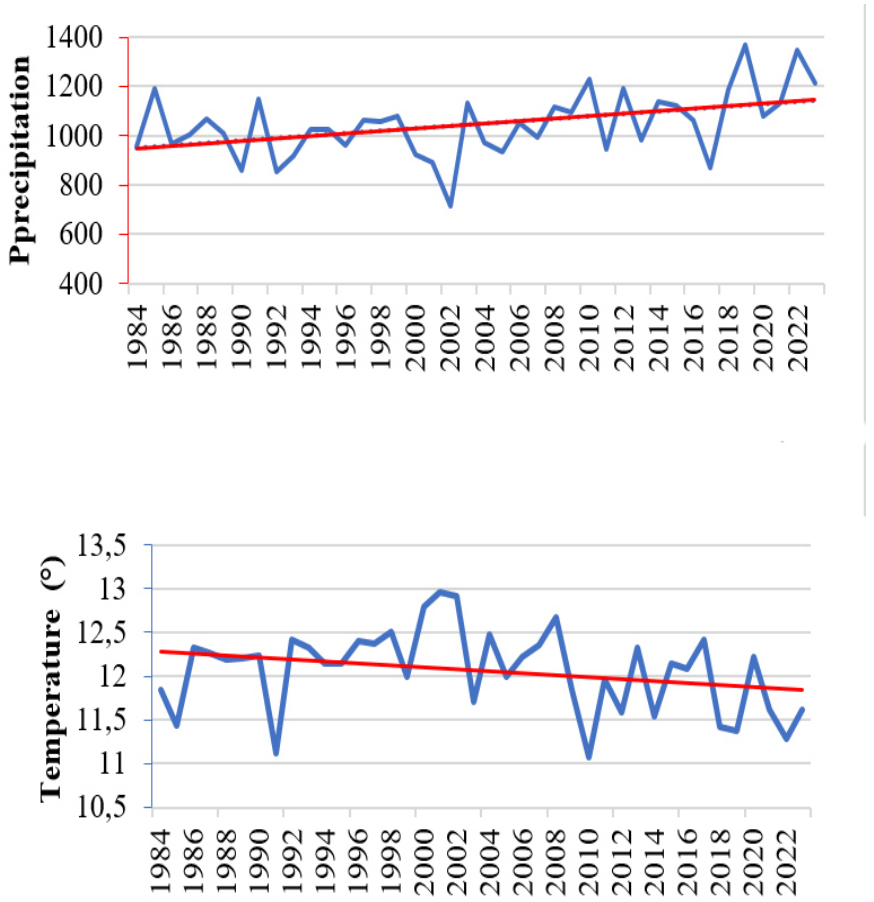
Figure 1. Geographical Location of the Study Area



It had a population of approximately 153,653 according to the latest general population and housing census of 2019 (INSD, 2022). This population growth in the southwestern part of Burkina Faso (also reported in studies by Sangli (2011) and Sangli & Tallet (2012)) can be explained by agricultural and pastoral migration from north to south, as well as the political will to develop hydro-agricultural land in this geographical area of Burkina Faso (Ouédraogo, 1986; Cambrézy & Sangli, 2011, p. 81) and the recent surge in gold mining activity (Bamogo & Sory, 2025). The province is religiously diverse (49.7% local religions, 30.2% Muslim, 12.2% Catholic, 7% Protestant, and 0.20% no religion) and ethnically diverse, with the main ethnic groups being the Dagara, Birifor, Lobi, Gan, Djan, Pougouli, Bwaba, Dagara-Dioula, Fulani, and Mossi (INSD, 2022, p. 5 and 20; Werthmann, 2004, p. 6). Figure 2 shows significant variability in rainfall and temperature from 1984 to 2023 in the research area.

Despite these climatic variations, the work of Some et al. (2024, p. 7) indicates average forage values of 1,875 kg/ha in the southern Sudanese region where the study province is located, compared to 732 kg/ha in the Sahelian region and 1,452 kg/ha in the northern Sudanese region. In fact, approximately 80% of the feed consumed by herbivores in Burkina Faso comes from natural pastures (INERA, 2017 cited by Ouoba-ima, 2015, p. 20).

Figure 2. Year-on-Year Variation in Rainfall and Temperature in Bougouriba



Source: National Meteorological Agency (ANAM), Gaoua Station, 2024

The demographic sample was constructed using graph sampling. The province, comprising five communes, was divided into two groups (Figure 1): Group A (Tiankoura and Iolonioro, with an indigenous Lobi population) and Group B (Diébougou, Bondigui, and Dolo, primarily Djan and Pougoulis) (Savonnet, 1975; Nebie, 1988, p. 261). This grouping was based primarily on shared community and socio-ethnic characteristics among the entities within each group, which are reflected in land tenure systems, conflict management practices, and, most importantly, the integration between indigenous groups and migrants, particularly herding groups in the case of this study. These groups thus constituted the sampling units. Within each large group, the study municipalities were selected, taking into account differences in sensitivity among municipalities within the same group. The surveys were conducted with a total sample of 100 people distributed among the municipalities of Diebougou (40 interviewees), Bondigui (40 interviewees), and Tiankoura (35 interviewees) over a five-month period (May, June, July, August, and September 2025). This involved identifying individuals who were victims or witnesses of farmer–herder conflicts by establishing contact as the data collection progressed. The interviewees comprised 45 livestock farmers, 45 crop farmers, and 5 administrative authorities: Presidents of the Special Delegation (PDS) with the status of Mayor in

the context of Burkina Faso's political transition; Village Development Councillors (CVD); the chief of the Diebougou municipal police; and an agent from the provincial département of agriculture and livestock. In addition, there were 2 decentralized technical agents from the agriculture and livestock sector, 2 livestock leaders, and a land chief.

The questionnaire, consisting of closed and open questions, focused on the nature, types, resurgence, and factors of agro-pastoral conflicts, as well as access to, use of, and control over natural resources (land, water, pasture), and conflict resolution mechanisms. In addition, the purpose of the survey was explained to each participant to encourage participation, while ensuring the anonymity of respondents through the use of codes. The geographic surveys involved collecting the geographic coordinates of agro-pastoral infrastructure (such as livestock markets, vaccination posts, boreholes, and watering holes) using a GPS, followed by the extraction of infrastructure data through the vectorization of old mapping reports of agro-pastoral infrastructure. Thus, these GPS points did not include livestock trails. This is justified by the near-absence of livestock trails on the ground and terrain difficulties, such as the discontinuity of these trails' routes in the landscape. Added to this is the absence of markers on the ground, and at times even of visible paths allowing for the identification of these trails, despite the guidance provided by livestock officers and the local population.

Data Analysis Methodology

The secondary data were obtained through a rigorous literature review (review articles, other publications, NGO reports, and pastoral and agricultural texts and policies) focusing on the interactions between climate change/variability and farmer–herder conflicts, the socio-political determinants of agro-pastoral conflicts, and political ecology. The qualitative data from open-ended questions were transcribed and analyzed using content analysis, which allowed for the reconstruction of narratives, the inclusion of quotations from respondents as illustrations, and the reinforcement of these accounts through interpretation. This qualitative data was further enriched by quantitative results and analytical theories. Descriptive statistics (cumulative frequencies, rates, frequencies, and factor importance indices) served as the basis for the analysis of quantitative data collected through closed-ended questions. The citation frequency is expressed as follows: Fc=f /N, where *f* represents the number of respondents for the typology or factors of agro-pastoral conflicts and *N* the total number of respondents.

Furthermore, the factors contributing to agro-pastoral conflicts were identified and then classified based on the calculation of the degree or index of importance of the factors (IIF). This classification followed a process involving asking participants to identify factors (predefined, with the option for respondents to add to or extend the list) and to rate the degree or level of importance or involvement of the identified factors on a scale of 1 to 5. This data collection method thus compels respondents to refine their answers and allows them to define their perceptions based on their daily experiences. The method (through these scales) has the advantage of preventing participants from making arbitrary

choices. The stage of capturing respondents' perceptions and levels of certainty through classification on a scale of 1 to 5 is essential for calculating the IIF. This allows factors to be compared by classifying them in the form of a hierarchy of causes or factors. Although borrowed from civil engineering to identify the causes of errors in construction (Assaf & Sadiq, 2006), this index was also used by Yanogo (2023) to determine the importance of market gardening systems in a context of climate variability in Burkina Faso.

$$\mathrm{IIF} = \frac{a}{5*N} \sum_{i=0}^{n} n$$

where IIF is the factor importance index, a is the weighted constant of the responses (which varies on a scale of 1 to 5), n is the frequency of responses, and N is the total number of responses. The index varies from [0 to 1].

The analytical framework of this work relies primarily on political ecology (Bassett, 1988; Bassett & Peimer, 2015) to analyze farmer–herder conflicts in the research area, placing the environment, space, and natural resources (forage, land, and water) at the heart of these conflicts. This framework allows us to juxtapose access to natural resources such as land, pastures, and water with conflicts between these two user groups. In other words, the concept of political ecology is used to examine the dynamic relationships that exist between farmer–herder conflicts (in their various forms) and resource scarcity, considering issues of access rights and resource control (Gautier & Tor, 2012, p. 6). The aim is therefore to gain a better understanding of conflicts between farmers and herders by examining the interactions between power, governance, nature, and human societies. The political ecology approach invoked in this study also provides a framework for analyzing local land governance to support this perspective.

Thus, similar to the geography of conflict (described below), this approach in the social sciences places the environment and local communities in interaction (Kull, 2012, p. 2). The data analysis also draws upon the proximity theory of conflicts, particularly its geographical approach (Sénécal, 2005). This geographical approach to Gilles Sénécal's proximity conflict theory places actors or subjects in interaction with their environment (Touraine, 1974). While the theory is generally used in urban planning and development, our aim is to leverage space to understand agro-pastoral conflicts in the study area within a specific context of insecurity and climate variability. Thus, this theoretical approach places space at the heart of conflicts, which may be open, tense, or latent.

The proximity underlying these conflicts between agriculture and livestock farming is explained in this specific case by the mobility of animals/herders, as well as by the relative stability resulting from the sedentarization of livestock farmers. Thus, livestock farming, by virtue of its proximity to agriculture, immediately enters into competition with the latter for various natural resources. As Melé (2013) states, this proximity is not simply a matter of measurable distance, a close neighbor, or a clearly defined territory. Beyond conflicts arising from the proximity of these two activities, conflict

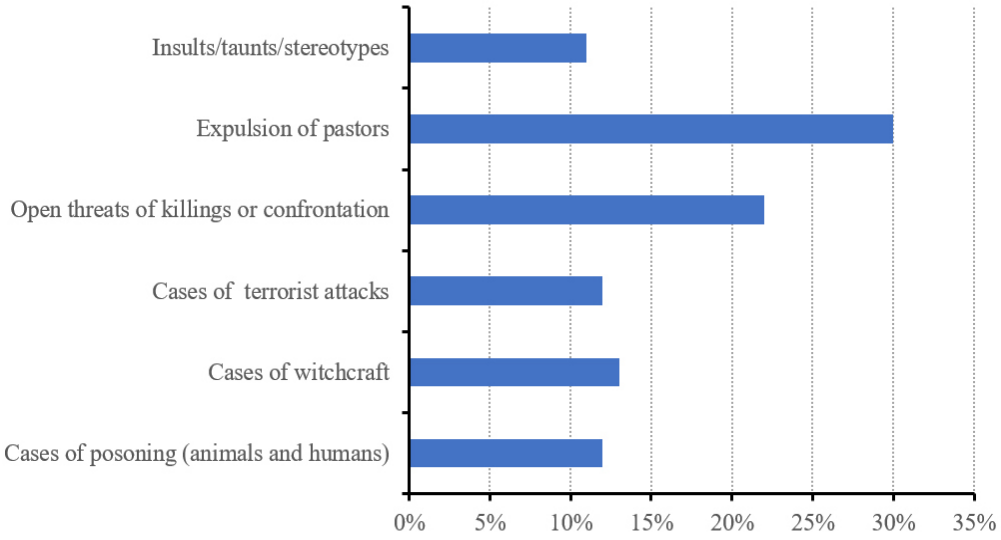
theory, according to Melé (2013) and Coser (1982), also makes it possible to identify potential avenues for resolution or mechanisms for regulating these social tensions.

RESULTS

From the Nature to the Dynamics of Farmer–Herder Tensions in the Bougouriba Region

A variety of forms of agro-pastoral conflicts can be identified in the province of Bougouriba (Figure 3), although some relations between farmers and herders are marked by hospitality in Africa (Komi, 2018, p. 77). As a reminder, an agro-pastoral conflict, in the context of this study, is any violent, open, or latent conflict centered on pastoral and agricultural practices. These conflicts may involve two or more individuals or communities with opposing needs, ideas, beliefs, values, interests, or objectives. They are characterized by tensions, emotions, disagreements, and polarization.

Figure 3. Types of Agro-Pastoral Conflicts in the Province of Bougouriba



Source: Field survey, 2025, Laboratory work

According to Figure 3, the types or forms of agro-pastoral conflicts range from mild or less violent forms (n=11; 11%), focused on insults, taunts, stereotypes, stigmatization, and threats, to 89% of violent and open manifestations. These include evictions/persecution of herders/sorcery (n=43; 43%) and crises or open threats of confrontation between stakeholders, especially on the part of victims or farmers in cases where they have observed herders' animals grazing on their land (n=22; 22%). These stereotypes may contribute to the marginalization of the Fulani herding minority. In addition to these forms of open declarations or conflict arising from tensions, there were also cases of livestock poisoning (12%; n=12). This involves poisoning field boundaries using local or traditional methods or

products. As a reminder, the typologies or forms of conflict manifestation presented in Figure 1 above were predefined (with some flexibility) in the questionnaire sent to the informants.

In addition to these violent types of conflict, there are also terrorist incursions (n=12; 12%), which are reported in some media outlets and online sources[2]. Thus, the communes of Diébougou, Bondigui, and Iolonioro stand out from typical agro-pastoral conflicts, as they are also marked by terrorist incursions and probable or potential terrorist camps in the past (2018, 2019, 2020, 2021, and 2022) in certain localities such as Nahirindon, Intiédougou, Nabéré, Nabalê, Darodine, Zanawo-Pougouli, Diarkadougou, and Bonfesso in Bondigui; and Moulé, Tiédia, and Dioukargo in Diébougou. These documented terrorist incursions—although difficult to attribute to a specific social group—are believed to have reignited tensions between farmers and herders. They are classified as farmer–herder conflicts in this study because they are believed to have contributed to increasing pressure on the herder community, particularly the Fulani, in the study area. We do not, therefore, intend to characterize these terrorist attacks recorded in the past as conflicts directly pitting farmers against herders.

This mounting pressure on Fulani herders is believed to have driven them to migrate, as evidenced by the interview excerpt above, reflecting large-scale displacement of the predominantly pastoralist Fulani population. These same observations are also reported by 2.5/3 of those interviewed in Bondigui, who acknowledge the departure of the pastoral population from the commune, particularly from wooded areas such as Mougué, Nahirindon, Intiédougou, Nabéré, Nabalê, Darodine, Zanawo-Pougouli, Diarkadougou, and Bonfesso. “Today, when you look here in Bondigui, many Fulani have left for Ivory Coast and Ghana” (Excerpt from an interview with a herder leader in Bondigui, 19/08/2025).

The statistics and types of conflicts listed above also demonstrate the dynamic nature of farmer–herder conflicts within the provincial territory. This is evidenced by Daré’s description of the various sources of tension surrounding water sources in the Bougouriba sub-basin (2016, p. 10). While the study area is rarely documented by international NGOs focused on violent conflicts, our field investigations reveal a region experiencing a rise in conflicts related to land and natural resources (gold, water, land, and pasture). Thus, three-quarters of the field accounts indicate a resurgence of conflicts between farmers and herders from 2010 to 2023 and a relative lull during the years 2024–2025.

The nature of the conflicts also appears to have changed with the terrorist attacks perpetrated in the study province between 2018 and 2023, notably with accusations of ethnic bias, with Fulani herders being the most frequently targeted. We cite as an example the 2013 conflict between farmers and herders in the village of Dankotanzour in Navièlgane (Diebougou), which arose following damage caused by a herder’s cattle in a farmer’s field and was also documented by the media outlet “all Africa” (http://fr.allafrica.com/stories/201311120510.html). The subsequent lull in conflict is attributed to the mass exodus of Fulani herders following pressure exerted on this group. Furthermore, excluding

[2] https://www.lobspaalga.com/2022/06/28/offensive-dans-la-bougouriba-au-moins-22-terroristes-tues-et-de-larmement-recupere/
https://filinfos.net/2022/06/28/securite-au-moins-22-terroristes-neutralises-dans-la-bougouriba/

terrorist attacks, Brottem's study (2021, p. 2) shows a trend of escalating clashes between farmers and herders in Burkina Faso (including the southwestern region) from 2010 to 2021.

These agro-pastoral conflicts in the Sahel are hardly a recent phenomenon (Grünewald, 2023). They are the result of several latent conflicts, internal rivalries, and longstanding disputes (Haidara, 2023, p. 367), including land conflicts that can quickly evolve into conflicts between social or occupational groups, particularly farmers and herders. These may sometimes take the form of self-defense groups, as in the Dogon region of Mali (Poudiougou, 2024; Tor & Ba, 2021), or involve rallies, alliances, counter-alliances, and alignments. Thus, conflicts, due to their social nature, become territorialized, shift, and expand in scale as their centers of action change. These territorial alliances, which characterize conflicts over agricultural or pastoral land, are described by Audouin & Gonin (2014, p. 3) in southern Burkina Faso.

Furthermore, the pressures exerted on herders and the occupation of former fallow land as grazing land or cattle trails without the landowners' consent represent forms or territorial expressions of one group's control over another. These power dynamics surrounding access to, use of, and control over land or natural resources are also reflected in discourse through terms such as "foreigners," "natives," "this is our land," and "we also need land for our animals." Indeed, herders are often stigmatized as outsiders, unlike indigenous farmers. As in Mali (Tor & Ba, 2018, 2024), this reflects a transposition of land-based power relations into the arena of agro-pastoral conflicts.

In contrast to our field findings, studies by Tor & Ba (2009) and Cold-Ravnkilde & Ba (2022) in Mali argue that terrorist incursions provide opportunities for armed groups to restore power to pastoral leaders, giving them control over land, resources, and people. Some authors, such as Tor & Ba (2018, 2024), add that social crises, dispossession, and the eviction of herders from their lands by farmers are contributing factors to terrorist attacks, which appear more akin to attempts to reclaim pastoral lands lost by herders. Grünewald (2023), for his part, explains the emergence of radical or terrorist groups in the Sahel region of Africa as a result of power struggles over territory. According to Sougnabe (2002), the management of natural resources and space characterizes conflicts between farmers and herders.

These conflicts, by virtue of their diversity and nature, place the power dynamics employed by each group to access natural resources at the heart of the analysis of agro-pastoral conflict typologies within the research context. The race for agricultural and pastoral land involves a diverse range of actors—young and old, indigenous and migrant (of all generations), farmers and herders, men and women—engaged in competition and rivalry, sometimes muted, sometimes violent, all acting in the name of the interests of one side or the other. These struggles or claims for access to natural resources (Kull, 2012, p. 6), also referred to as the appropriation of space, are an integral part of political ecology. These appropriations of space are what Gautier & Hautdidier (2012, p. 244) call "territories of practice." Indeed, according to the latter, the repeated (even if seasonal) use of a territory or space for everyday activities such as the exploitation of natural resources (land, water, pasture) leads to territorial claims, appropriation, and, therefore, resistance in all its forms (passive or violent) if these

spaces are threatened. These issues of access to agricultural and pastoral land are transformed into dynamic drivers of conflict (Gonin, 2008; Sokemawu, 2011, p. 56; Nana, 2018; Maiga, 2023).

From Climate Pressure to the Scarcity of Agro-Pastoral Resources: The Role of Climatic Factors in Farmer–Herder Conflicts

Like the forms themselves, the factors driving agro-pastoral conflicts are also diverse, according to field surveys. Table 1, which presents the degree of importance of the factors driving the dynamics of agro-pastoral conflicts, places climatic factors at the top, with a relative importance index of 0.82/1. Indeed, climatic factors, through their sub-factors, are identified in field surveys as key contributors to agro-pastoral conflicts in the research area. Climate change and variability affect the availability of natural resources, contribute to the degradation of farmland, disrupt and stimulate animal life cycles, redefine pastoral routes, encourage the expansion of cultivated fields, and thus lead to conflicts between farmers and herders (Table 1).

Table 1. Index of Relative Importance of Factors Contributing to Agro-Pastoral Conflicts in Bougouriba

Factors	Weight	1	2	3	4	5	Total	Index of factors importance IFI
		Very Low	Low	Medium	High	Very High		
Climate change/Variability	n	3	8	10	31	48	100	0,82
	a	3	16	30	124	240	413	
Infrastructure/development	n	3	12	20	30	35	100	0,76
	a	3	24	60	120	175	382	
Safety and ethnicity	n	15	30	35	10	10	100	0,54
	a	15	60	105	40	50	270	

Source: Fields surveys, 2025, Laboratory work

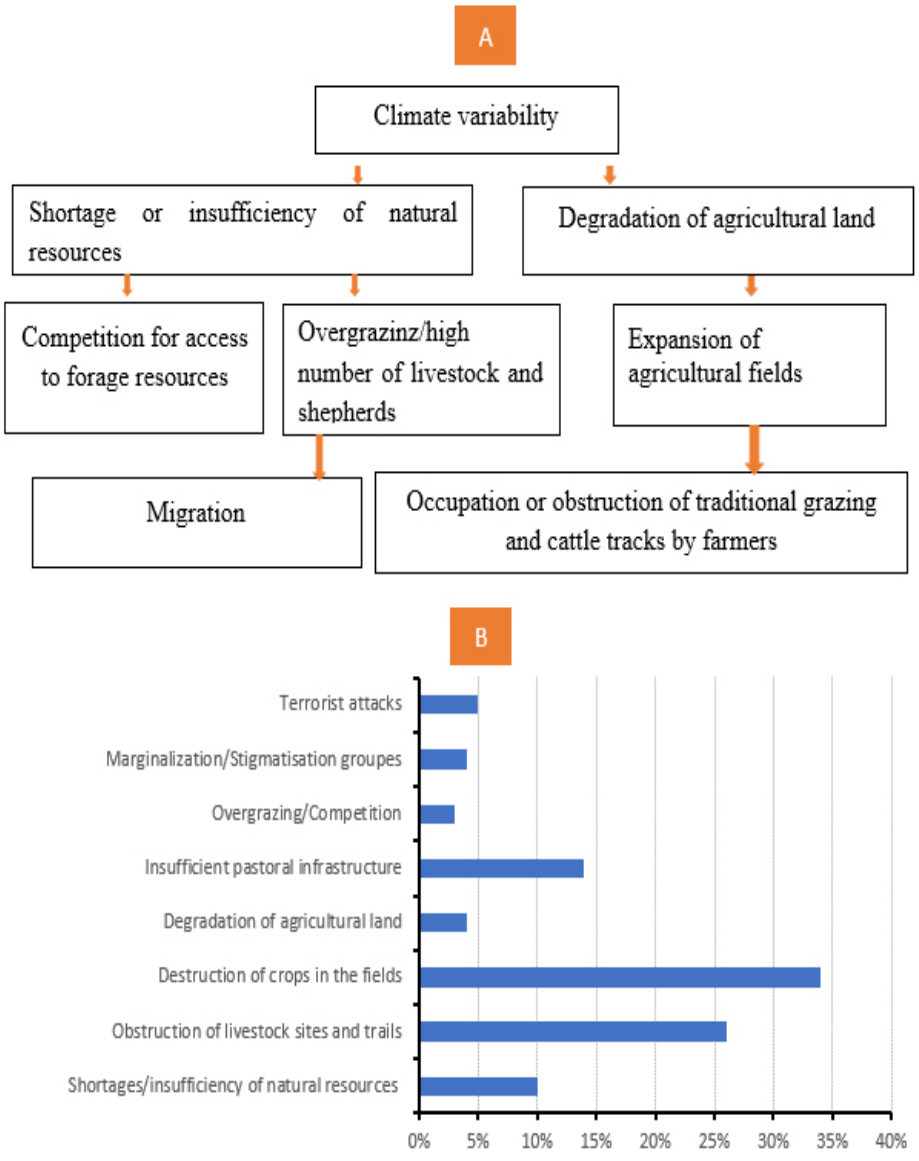
Furthermore, Figure 4A illustrates the causal relationships between climate-related factors and sub-factors in agro-pastoral conflicts, revised based on field observations. The climate-linked drivers of these conflicts include the degradation of farmland (4%); the expansion of cropland and the encroachment upon or obstruction of traditional grazing lands and livestock tracks by farmers (26%, Figure 5A); the gradual degradation of natural resources (10%); competition for fodder resources or overgrazing (3%); and crop destruction resulting from livestock grazing (34%, Figure 5B). These factors thus reflect the wide range of climatic effects on pastoral and agricultural activities.

The progressive depletion of fodder resources for livestock is at the origin of crop destruction by animals. This situation increases pressure on carrying capacity and competition among herders, leading to migration or conflict. On the other hand, with regard to sub-factors, the obstruction of livestock tracks is explained by cropland expansion, which is itself driven by the degradation of farmland linked to climate variability and unsustainable agricultural practices (Figure 4-A), all of which contribute to a decline in forage species. The excerpt from an interview with S. M., a farmer from Diebougou (Kompiela-Wapali), helps to elucidate this situation: “We can’t sow from May or

June anymore (the usual start of the rainy season here in Bougouriba) because the animals might destroy everything... During this time, the plants that the animals eat are very rare because the rains are so infrequent... That is when we don't get along very well with the herders."

Furthermore, this interview excerpt highlights a start of the rainy season characterized by agro-pastoral conflicts driven by climate variability. Using data from the Gaoua station (located in close proximity to Bougouriba), Yaméogo (2024, p. 25) also demonstrated a high degree of variability in the onset of the rainy season across southwestern Burkina Faso.

Figure 4. Tree Diagram Showing Family Tree (A)
and Factors Contributing to Agro-Pastoral Conflicts in Bougouriba (B)



Source: Field surveys and laboratory work, 2025

Thus, resource scarcity—particularly with regard to water, useful grazing species, and the progressive decline of soil fertility, explained by erratic weather patterns—increases pressure on land (both

animal and human) and, therefore, heightens tensions between farmers and herders who compete for and converge on the same spaces (Figure 4A) and the same natural resources (Tiamiyu & Yanogo, 2023, p. 129). A similar study conducted in the Tchaourou district of Benin also reveals a progressive disappearance of woody forage species, attributed to cropland expansion (Djohy & Sounon, 2020, p. 17). Climate change and variability thus function as indirect or causal factors that trigger conflicts through their adverse and collateral effects on agricultural and pastoral activities.

Figure 5. Obstruction of Animal Passageways by Crops in Bondigui



Source: Taken by Maiga Y., 2025

The analysis of agro-pastoral conflict factors observed in the study area places the environment and natural resources at the core of the disputes. The increasing scarcity of these natural resources (driven by climate variability and anthropogenic pressure) locks both activities into a vicious cycle of competition. This geographical proximity between the two sectors readily gives rise to conflicts, whether overt or latent in nature (Sénécal, 2005). Space, the primary substrate for both pastoral and agricultural practices, has consequently become a locus of conflict. Figure 4-A illustrates the causal relationships between climatic factors and sub-factors, which, through their impact on agricultural and pastoral activities, give rise to conflict. These factors act as catalysts, triggering conflicts through their effects on pastoral and agricultural activities.

Climatic factors thus shape the rural landscape through deforestation, the destruction of vegetation cover, the reduction of natural pastureland, and the expansion of agricultural land. These analyses corroborate previous studies that identify the indirect role of climate change and variability as triggers of agro-pastoral conflicts (Clionadh & Henrik, 2007; Brown & Crawford, 2010; Devesh & Shanker, 2012; Seiyefa, 2019; Nowag, 2020; Bello & Kazibwe, 2021; Qian et al., 2023). Bontogho (2025), in analyzing the impact of land tenure and land use dynamics on conflicts between farmers and herders in the Pama, Manga, and Ouahigouya regions of Burkina Faso, concludes that the expansion of agri-

cultural land and the mining boom intensify competition for land and are therefore major drivers of conflicts related to pastoralism.

Land Tenure Insecurity, Infrastructure, and Security Challenges: Drivers of Farmer–Herder Conflicts in the Bougouriba Region

Regarding infrastructural and security factors in agro-pastoral conflicts (with importance indices of 0.76/1 and 0.54/1, respectively), these rank second and third. These factors are underpinned by the inadequacy of agro-pastoral infrastructure, which fosters conflict through competition not only between farmers and herders but also among herders themselves.

According to the local livestock administration, the study area comprises approximately twenty pastoral wells, boreholes, and *boulis* or artificial ponds (Figure 6). It also includes a 30-kilometer network of livestock track —currently obstructed by agricultural encroachment and human settlements—as well as 200 hectares of grazing lands spanning Kobja, Mougue, Nabéré, and Nabalê, which are presently undergoing development or rehabilitation[3]:

> ...For instance, there are two livestock tracks in Bondigui. The first was developed by the PNGT 2[4] project, covering a distance of 25 km and connecting Bondigui, Nabéré, and Intiédougou. The second is a traditional track of about 15 km linking Bondigui, Obro, and Mougué. Unfortunately, everything is obstructed by farm fields, and it is impossible to identify them accurately today because the markers have disappeared some have been torn out (certainly by either farmers or herders).

Interview extract, C. I., Livestock Officer (Bougouriba). In addition, D. K., one of the representatives of the leading livestock farmers in Bougouriba, adds that:

> Is it even possible to find animal tracks here that people still respect? Everything is occupied, either by fields or by houses. We try as best we can to pass through with our livestock (in other words, to carve out our own passage track) .... There were tracks dating back to the revolution of Thomas Sankara that stretched from Houndé all the way here. But today, those animal routes are no longer visible.

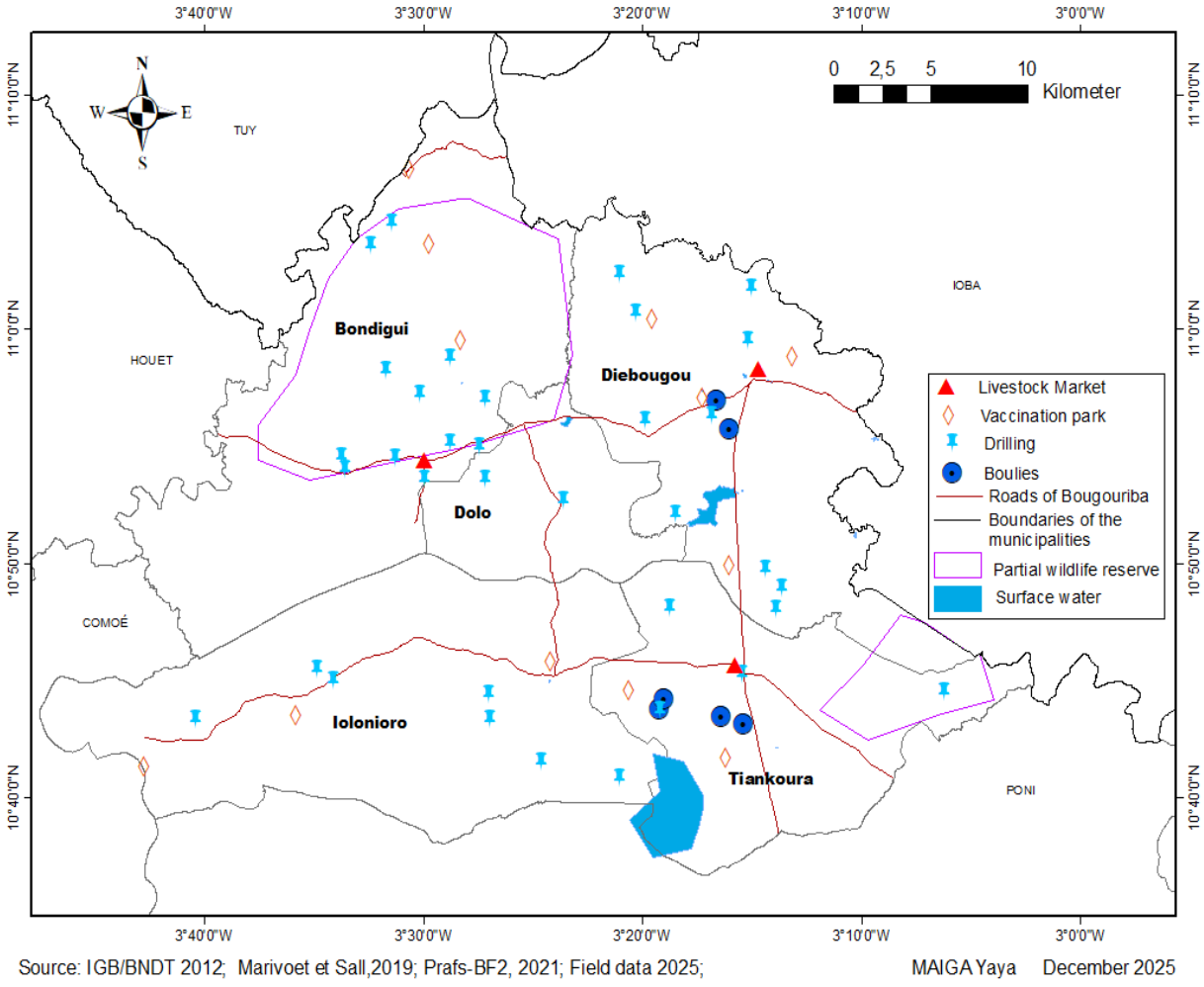
These interview excerpts further indicate that traditional tracks, even if they existed in the past, are now largely obstructed and, in some cases, erased from the landscape. This situation contributes significantly to exacerbating tensions between farmers and herders. Furthermore, these obstructions highlight the land tenure insecurity of pastoral sites and routes, which particularly affects pastoral systems and limits herders' and their livestock's access to vital pastoral resources (Banaon, 2016).

The analysis of the map reveals a geographical area that is nearly devoid of pasture and marketing infrastructure, alongside a critical shortage of livestock trails. Conversely, it indicates an acceptable density of watering and veterinary health facilities (Marivoet & Sall, 2019, p. 8). However, the use

[3] These ongoing developments are part of the Regional project to support pastoralism in the Sahel (PRAPS)
[4] National Land Management Program – Phase II (PNGT2)

of these water supply infrastructures for agricultural, domestic (dishwashing, drinking), fishing, and gold mining purposes threatens their sustainability and their capacity to meet the various agricultural and pastoral needs of the province. This documented absence of agro-pastoral facilities—specifically grazing areas and secured livestock tracks—is attributed, according to field reports, to the prevailing climate of insecurity currently affecting Burkina Faso.

Figure 6. Agro-pastoral Infrastructure in Bougouriba



Source: IGB/BNDT 2012; Marivoet et Sall,2019; Prafs-BF2, 2021; Field data 2025; MAIGA Yaya December 2025

In fact, the presence of terrorist camps in forests and wooded areas has, in some cases, slowed the development of grazing areas in the province under study, as evidenced by this excerpt from an interview with C. I., a livestock officer in Bougouriba: "In reality, the PRAPS project intended to rehabilitate approximately 2,000 hectares of grazing land within the Nabéré forest area; however, due to the security context, the project's ambitions were revised." This limited coverage of agro-pastoral infrastructure in the study area can also be explained by the agricultural orientation of the South-Sudanian zone of Burkina Faso and, consequently, by the prioritization of development projects toward agricultural activities.

Indeed, development policies in the study area appear to favor agriculture over livestock farming, thereby marginalizing the pastoral sector, as evidenced by the limited coverage of the provincial

territory by grazing areas and the near absence of livestock trails. Interview excerpts such as "the authorities' failure to establish breeding programs or livestock reserves; lack of livestock trails; delays in developing grazing sites; problems with watering sites for animals; etc."—highlighted by nearly all herders—also reveal the infrastructure-related problems in the study area that contribute to conflicts between herders and farmers. As for farmers, although they recognize the need for grazing sites (as temporary or occasional herders or small-scale livestock keepers), they remain concerned and hesitant because their primary activity is farming.

The lack of adequate watering infrastructure (surface water or artificial water sources) in the province does not facilitate the storage of rainwater for the benefit of agro-pastoralists. Without opposing the demarcation of classified or managed forests, one may ask how it is possible that such sites exist or are planned by decision-makers, yet livestock reserves are absent in the study area. The recorded migration of Fulani herders to the commune of Diébougou (due to the national security situation) has also contributed to exposing the infrastructure crisis facing Bougouriba. According to field reports, internally displaced Fulani herders have, in response, transported their livestock to Côte d'Ivoire, Galgouli, and Bâtié.

This infrastructure crisis is further exacerbated by a local land tenure system that is more agricultural than pastoral. Indeed, local or customary land governance is dominated primarily by indigenous populations and native farmers, who are the landowners. These include the first occupants and the first waves of migrant farmers. Pastoral lands, as well as sites of existing or planned agro-pastoral development, are mostly negotiated with these indigenous and native farmers, who are the custodians of land, local authority, and ritual practices. It is also these communities that temporarily or occasionally host migrant Fulani herders, offering them land for settlement in the form of farming hamlets when conditions are favorable for the sharing of natural resources.

Thus, in the name of customary authority and land rights, sites traditionally used for grazing are being converted into settlements or exploited for agro-sylvo-pastoral activities by relatively wealthy individuals who have negotiated or purchased land from landowners. The interview excerpt below further illustrates this emerging dynamic of precariousness in pastoral lands—the few remaining traditional grazing sites that struggle to persist amid increasing human pressure and growing demand for land for various uses (housing, commerce, agro-sylvo-pastoral activities, etc.): "As far as I know, grazing land is very scarce here these days; everything is in the process of being titled (titling or demarcation), and all the land is now used for farms (mostly agricultural). The Diebougou–Gaoua road used to be used for grazing, but now it's all farms and homes..." (Excerpt from an interview with a livestock farmers' leader, Diebougou).

The same applies to traditional livestock trails, whether established through negotiation or developed by the authorities; they rarely persist in the landscape, as they are blocked by crops or fall victim to the actions of individuals—often farmers and landowners—who remove the markers or signposts delineating these routes. This land tenure dynamic also explains the occupation of lowland areas or natural surface water sites by vegetable crops, especially during the dry season, which are

used by herders as fallback sites in search of water for their herds. All of this reflects a local land power structure dominated by agriculture rather than pastoralism.

Beyond conflicts between herders and farmers, local land governance can also be a source of disputes between indigenous and migrant farmers, between gold miners and farmers, or even within the same groups, as illustrated by the land dispute that broke out in 2018 between an indigenous farmer (Lobi) and Moossé migrants in Toména (Iolonioro).

According to Grünewald (2023, p. 13), the absence of agro-pastoral infrastructure in certain areas, its underdevelopment, or its deterioration in others are additional factors contributing to conflict. Similarly, Gonin and Gautier (2015, p. 2), through an analysis of political discourse and official reports dating back to the colonial era, followed by field research, demonstrated the territorial marginalization of herders in western Burkina Faso. Daré (2016, p. 10), for his part, identified the lack of water sources and access routes to water and forage as constraints on agro-pastoralism in the Bougouriba sub-basin, which may escalate into violent conflicts. Furthermore, the study by Thor et al. (2025) demonstrates the contribution of pastoral infrastructure (particularly demarcated pastoral zones) to conflict prevention in the Sondré-Est pastoral zone in Burkina Faso. Indeed, they report a symbiotic relationship and cooperation between these two groups following the implementation of pastoral intensification methods by herders in that zone. However, Gonin A. and Gautier (2015, p. 8) argue that this resolves only part of farmer–herder conflicts, as these livestock policies favor sedentary livestock systems at the expense of transhumance or large-scale pastoralism.

Furthermore, the security situation is believed to have contributed to a deterioration in the social climate between herders and farmers through the emergence and intensification of mistrust, isolation, and reservation between the two groups. Alliances are now forming within the same communities, taking the form of groups and subgroups willing to defend their own members, which does not facilitate the resolution of incidents (such as herds grazing in farmers' fields, shootings, or the poisoning of animals by farmers) that may escalate into violent conflicts.

This sense of mistrust or defiance is also fueled by the lingering effects of past incidents that did not favor one of the two groups, as indicated in this excerpt from an interview with K.M., a farmer from Bondigui: "For example, some Fulani's animals wandered into my field; we took the matter to the prefect, but I didn't like the way it was handled." Furthermore, these shared alignments may be interpreted as forms of inter-ethnic solidarity, characterized by a retreat into identity and kinship. These dynamics are also shaped by notions of indigeneity, outsiders, and migrants. According to Ogu (2022), the interplay between citizenship, ethnicity, and marginalization plays a crucial role in shaping conflicts between farmers and herders. Hellendorff (2012) adds that the environment is only one of several factors exacerbating tensions, alongside socioeconomic and, above all, political factors. Bello & Kazibwe (2021), for their part, also identify ethnic and religious factors as drivers of agro-pastoral conflicts.

Thus, in addition to the climatic variability that already undermines these two activities by paving the way for increased competition, there is a national and local security context that affects the social

climate and also hinders the development of pastoral infrastructure. Furthermore, these analyses further corroborate environmental and climatic determinism (natural, environmental, and climatic constraints, or the scarcity of forage, land, and water resources, as well as floods) and socio-political factors (including insecurity and agro-pastoral policies). These elements are increasingly highlighted by proponents of political ecology approaches (Gautier & Tor, 2012). Natural resources (water, land, pasture), when linked to human activities such as livestock raising and agriculture in an environment characterized by a variable climate that negatively impacts these activities, create intense competition over these resources. These natural resources thus become the subject of conflict, triggering competition among stakeholders.

Climate variability thus intertwines with crises of inequality and pre-existing socio-spatial divisions between Fulani herders (labeled as foreigners or migrants) and indigenous or first-generation farmers. Understanding the contestation of inequalities, marginalization, and injustices related to access to and control over natural resources is therefore the strength of political ecology analysis, according to Tschakert (2012). Several other sources (Djohy & Sounon, 2020; Bone et al., 2024) present all the aforementioned motives as drivers of rivalry between farmers and herders. Furthermore, Tor & Ba (2018 and 2024) explain conflicts between farmers and herders in Mali using approaches rooted in political ecology, emphasizing the disastrous consequences of environmental and biodiversity degradation under the impact of climate change and variability.

Additionally, agro-pastoral policies have long marginalized and discriminated against pastoral activities (Bonnet, 2013). Combined with population growth and ecological crises, the fluctuating role of the State—manifested through modest pastoral infrastructure development (Thébaut & Batterbury, 2001)—has contributed to the isolation and precariousness of pastoralism, as well as the degradation of existing facilities such as wells and boreholes (Habibou et al., 2018). This disparity in development policies between agriculture and livestock farming induces vulnerabilities within the pastoral sector, creating sources of conflict. Indeed, the flourishing and development of western and southwestern Burkina Faso are largely attributable to these public agricultural policies (Ouédraogo, 1986; Gonin, 2014, p. 35).

CONCLUSIONS

This study highlights a diversity of agro-pastoral conflicts within the research area. Although these conflicts are all inherently linked to agricultural and livestock activities, they differ in nature and manifestation. They encompass subtle or less violent forms (insults, taunting, stereotyping, stigmatization, and threats) as well as violent and overt manifestations (evictions and persecution of herders, crises or open threats of confrontation during crop raiding by livestock, sorcery, and cases of livestock poisoning). These conflicts stem from the repercussions of climate change and variability on agricultural and pastoral activities, the limited spatial coverage of agro-pastoral infrastructure, and the security context at both the national level (since 2015) and the local level (between 2018 and 2022).

The analysis of the drivers of agro-pastoral conflict in the study area thus places the environment and natural resources at the core of these tensions. Furthermore, socio-political dynamics—manifested by the current security crisis and the scarcity of pastoral development policies—provide a framework for understanding the ongoing conflicts between farmers and herders. These issues have a greater impact on the livestock-raising community because, in addition to the climatic crises that are certainly undermining these two activities, there are risks of marginalization and the expropriation of pastoral lands or farming hamlets that were historically negotiated with indigenous farmers and landowners.

In the current context of climatic variability and security crises, the recorded agro-pastoral conflicts stimulate the migration of herders and livestock mobility toward neighboring countries (Côte d'Ivoire and Ghana) and other provinces within Burkina Faso (Poni, Noumbiel, Ioba, Sissili, and Cascades). Furthermore, these tensions trigger internal movements toward refuge sites—such as mountain ranges, wooded or forested areas, urban lowlands, and the rivers and watercourses of the Bougouriba province—particularly during the peak cropping season. These dynamics disrupt the agricultural landscape through the unplanned expansion of cultivated fields.

In the process of resolving agro-pastoral conflicts, stakeholders engage a diverse range of actors and institutions. These include support from farmer and herder leaders, as well as technical assistance from agricultural and livestock extension agents. Furthermore, defense and security forces—specifically the Police, Gendarmerie, and Forestry Service—are involved alongside administrative and customary authorities, such as the Special Delegations (PDS) and Village Development Councils (CVD). Recourse is also made to the formal judicial system through the Diebougou High Court (Tribunal de Grande Instance). These entities are mobilized based on the nature and intensity of the conflict, as well as the interests and objectives of the complainants. This behavior often reflects a strategy of "forum shopping"—for instance, a herder injured by a farmer would be more inclined to report the matter to the police rather than seeking mediation through the Village Development Council (CVD).

Consequently, stakeholders are encouraged to prioritize endogenous and traditional mechanisms—such as customary authorities or Village Development Councils (CVD)—to achieve amicable settlements. The second tier involves the Prefecture (represented by the Special Delegation/PDS), which may commission agricultural or livestock extension agents to conduct formal damage assessments and propose technical solutions. Should these fail, defense forces are engaged to ensure security, with the modern judicial system serving as the final recourse for legal enforcement. This tiered approach facilitates the rapid internal resolution of moderate disputes while simultaneously addressing the challenges posed by the geographical distance of state institutions in remote localities.

In the field of conflict management, given that proactive intervention constitutes the most effective strategy, the government—through the ministries responsible for agriculture, livestock, and the environment—should prioritize developing conservation strategies for high-palatability forage species currently threatened by climatic extremes. Furthermore, emphasis should be placed on the development of pastoral infrastructure (particularly grazing reserves) and the establishment of secured livestock tracks.

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