“IN SEARCH OF COMMON GROUND” FOR FARMER-GRAZER CONFLICTS IN THE NORTH WEST REGION OF CAMEROON

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***VILLAGE AID BASELINE SURVEY REPORT***









***© August 2014***

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***Acronyms***

|  |  |
| --- | --- |
| *CDENO* | *North West Livestock Development Fund* |
| *DO* | *Divisional Officer* |
| *HPI* | *Heifer International* |
| *MBOSCUDA* | *Mbororo Cultural and Development Association* |
| *MINEPIA* | *Ministry of Livestock, Fisheries and Animal Industries* |
| *MINADER* | *Ministry of Agriculture and Rural Development* |
| *NW* | *North West* |
| *SDD* | *Sub Divisional Delegate* |
| *SDO* | *Senior Divisional Officer* |
| *SNV* | *Netherlands Development Organization* |

**Summary**

The study has been undertaken within the context of the project “In search of Common Ground” that strives to reduce farmer-grazer conflicts between subsistent crop farmers and Mbororo cattle herders in 14 communities of the North West Region of Cameroon. In order to lay down the framework for monitoring and evaluating the outputs and outcome of the project, the study specifically laid emphasis on determining the state of farmer-grazer conflicts, severity, causes, mitigation practices, access to natural resources, institutional support, livelihood practices and the policy environment. A range of statistical indicators were also required to be provided at the end of the study for a consistent measurement of the progress of the project over five years.

**Background characteristics**

* Primary data were collected using structured questionnaires administered to household heads of Mbororo cattle herders and to subsistence farmers in five administrative divisions (Mezam, Momo, Bui, Boyo and Donga Mantung) covering 14 communities. Altogether 840 households were studied among whom where 148 households headed by women. The level of education of the respondents was usually at most low. Most farmers (81%) have no schooling beyond primary school and most grazers (93%) have at most primary or Koranic informal education;
* Most grazers are Mbororos and most farmers are non-Mbororos. The majority of Mbororos are Muslims and the majority of farmers are Christians. Agriculture is an activity carried out mostly by women and was reported as the main activity of 96% of the farmers. By contrast 98% of grazers rear cattle and this is their main source of income.
* Per capita incomes were somewhat lower for the farmers relative to the grazers. The average per capita monthly food expenditure of the farmers (FCFA 3,700) was lower than that of the farmers (FCFA 5,700). Similarly, the average per capita non-food expenditure of the farmers (FCFA 4,300) was lower than that of the grazers (FCFA 5,000) but this difference was not statistically significant.
* The average household size of farmer households was 5.5 and for grazer households was 7.7. The land used was approximately the same for both groups, 1.7ha for the farmers and 1.6ha for grazers. The average cattle herd size for grazers is 42 and very few farmers kept cattle;

**Alliance farming, pasture improvement and biogas**

Alliance Farming has been promoted as a way to improve crop yield and collaboration between farmers and grazers but its use is not widespread and less so for pasture improvement and biogas. There is some way to go to encourage these measures:

* About 28% say they grow crops using cow dung. Farmers claim that crop yield under alliance farming are higher;
* Some of the respondents (154) received training on pasture improvement techniques;
* The main source of cooking fuel is wood for 98% of the households. The use of biogas is very rare (only one of the respondents) and also the use of slurry in crop production (only three of the respondents).

**Land tenure system**

Land tenure is a complicated issue and payments for land lease or to the traditional authorities is often required.

* Most land is inherited (85%) and some is bought (7%);
* In order to access and use land there could be land lease costs or payment to the traditional or administrative authorities, an average in the latter case of FCFA 15,000.

**Access to clean and safe drinking water**

There is competition between humans and cattle over access to water. The management of this is in the hands of water management committees in communities but they do not exist in most of the communities - they need to be put in place and capacity building is urgently needed.

* The main sources of drinking water are streams, rivers and water holes for 60% of farmers and 73% of grazers. Access to clean and safe tap water is relatively rare (11% for farmers and 8% for grazers);
* Streams, rivers and water holes are also sources of drinking water for over 97% of cattle. Cattle contaminate water consumed by humans thereby exposing them to water borne diseases;
* The contamination of water sources exposes people to water borne diseases such as typhoid which were much more frequent in some areas (Nkowe) than others (Baba II);
* Water management committees exist in a few of these communities to manage access to safe and clean drinking water but there was criticism of their effectiveness.

**Incidence and severity of farmer-grazer conflicts**

Farmer-grazer conflicts are common and can be severe. Farmers and grazers have different views about where the problems lie. Only a small proportion of those exposed to conflict actually used the dialogue platform as a source of help for conflict resolution. This is partly because these platforms are yet to be set up in some of the areas covered.

* An overwhelming majority (75%) had been involved in at least one conflict situation over the past three years. The smallest number are in Momo (66%) and the largest number are in Mezam (88%);
* About 91% of farmers say their conflicts were against grazers and 93% of grazers say their conflicts were against farmers. There were a small number of farmer-farmer or grazer-grazer conflicts;
* The farmers say the causes are encroachment and trespass on farm land (77%), whilst the grazers say encroachment on grazing land is the main cause (47%);
* The conflicts have devastating social and economic effects. The farmers said the conflict results in crop damage (85%) whilst the grazers reported cattle injured, killed or stolen (29%) and intimidation (26%);
* It is estimated that a gross amount of about FCFA 55,000,000 has been lost by households exposed to conflicts in the 14 communities in the last three years.

**Sources of support for resolving conflict**

Dialogue platforms are seen as a desirable way to resolve conflicts whilst the agro-pastoral commission seems not to be working effectively.

* Amicable settlement, perhaps via the traditional council is the first source of help. The agro-pastoral commission is used by only 13% and the dialogue platforms by 12%. This contrasts with the preferred modes of conflict resolution where the agro-pastoral commission is preferred by just 3% and the dialogue platforms by 40%;
* The uses of the court, traditional and administrative authorities are the least preferred modes of conflict resolution as the outcome is often lengthy, financially demanding or simply considered unfair;
* The agro-pastoral commission does not perform all functions attributed to it and funds are not allocated for their work by the state as required by the law of 1974. The financial burden is borne by farmers and grazers who have themselves to finance the intervention;

**Outcomes of conflict mitigation**

The statistics here suggest that resolving conflicts is still a difficult issue.

* In practice many cases are abandoned (30%) and others are settled with restitution (37%) or without restitution (18%). Settlement by Traditional Councils or in the courts is relatively rare.

**Visibility of MBOSCUDA**

* The services offered by MBOSCUDA are known to 59% of the respondents;
* MBOSCUDA is well known among the grazers for services in the area of capacity building and literacy, campaigns on Mbororos’ rights and to an extent the resolution of conflicts;
* About 12% of farmers believed the services of MBOSCUDA were very useful whilst 32% of grazers did so.

**Baseline indicators for the measurement of progress and impact**

The statistical indicators will be used throughout the five years of the project to measure project progress. This Baseline Survey provides some indications of where progress can be made.

**Recommendations**

The findings of this Baseline Survey provide a sound basis to make judgments about the next five years of the project and to evaluate its success. It will enable improvements to be made within the project as time goes along. What the survey does is allow us to find out the place we are starting from. Some policy issues have already been raised from the data already collected:

* Access to clean and safe drinking water is essential for both humans and cattle and contamination of water supplies is a serious health risk. Common ground on access to water must be agreed upon. The setting up of water management committees and capacity building within them is essential for this;
* Intensification of agriculture using improved seeds and alliance farming and the promotion of best practice should be encouraged and extended to other farmers and grazers;
* Conflicts are a serious issue with a large numbers involved. The farmers and grazers do not always agree on the causes. When conflicts arise amicable settlement should be encouraged as much as possible. Dialogue platforms have an important role to play here and this is recognized by both farmers and grazers;
* The competent ministerial department needs to make budgetary allocation for the running of agro-pastoral commission. This would limit the extortion of resources from farmers and grazers.

1. **Introduction**

The ethnic Mbororo cattle herders and non-Mbororo subsistence farmers around the world and the North West Region of Cameroon (NWR) are always at loggerheads because they struggle over the use of natural resources such as land and water. These disputes are principally because of competition over the use of land and water resources for agricultural and non-agricultural use (Rashid, 2012; Kelsey & Knox, 2012; Manu et al., 2014), the increase in human & animal population (Gefu & Kolawole, 2002) as well as resource access rights, the inadequacy of grazing resources.

The effects of these conflicts can be very devastating and include loss of human life and assets, insecurity, food crises and sustained poverty. Also, conflict limits the ability of the crop farmers and grazers to live in harmony in the same community (Pelican, 2012). Rashid (2012) reported that conflict has far-reaching economic, production and socio-psychological effects on the households. In fact, farmer-grazer conflict in Bauchi state of Nigeria had negative effects on the families involved and the nation as a whole. The income of families exposed to conflict was far lower than those in non-conflict areas. Significant losses in monetary terms, reduction in production, social insecurity and children not going to school are some of the effects of farmer-grazer conflicts in Bauchi state of Nigeria. The farmers and the grazers also lose financial resources as they are required to pay a fee of US $40 for conflict mitigation services (Sulaiman and Ja’afar-Furo, 2010).

Competition over access to natural resources is at the centre of sustained conflict between ethnic minority Mbororo cattle herders and most of the subsistence farmers in North West Cameroon. This is why the Mbororo Cultural and Development Organisation (MBOSCUDA) and international partners (Village Aid, EU, Comic Relief, etc.) have been working relentlessly to mitigate this cancer worm described as farmer-grazer conflict. Specialised mediation methods have been devised and they are called Dialogue Platforms. The achievements and lessons learnt from these experiences and the identification of stakeholder priorities led to the scaling up of this conflict mitigation initiative to 14 other locations[[1]](#footnote-1) in the North West Region of Cameroon.

This scaling up initiative is the project ‘*In Search of Common Ground’* aims at reducing conflict between Mbororo cattle herders and subsistence crop farmers of the North West Region of Cameroon over a period of five years. It also intends to set up and encourage agricultural interventions that can help reduce the causes of the conflict and competition over scarce resources. It hopes to address two fundamental gaps in existing services: the exclusion of marginalized Mbororos in poverty reduction strategies in Cameroon and the failure to recognize their collective rights to access land, security of persons and property and the improvement of grazing conditions. This has created barriers to accessing vital services and resources like land and water. Secondly, existing government provision for addressing farmer-grazer conflicts (the commission established by the Farmer/Grazer Act of 1978) is allegedly reported to be inadequate (Sone, 2012). It does not address the root causes of farmer-grazer conflicts but rather increases competition and conflict between farmers and grazers through the encouragement of litigation and compensation.

It is hoped that the new projects will lead to:

* a reduced incidence and severity of conflict between crop farmers and cattle herders (through dialogue and collaboration) resulting in more equitable access to natural resources and an improved environment for exercising basic rights
* improved skills in sustainable farming methods leading to better crop and livestock yields, greater cooperation between crop farmers and cattle herders and increased awareness of the need for environmental protection
* equitable access to clean water contributing to reduced conflict between farmers and grazers and more sustainable use of a vital natural and economic resource
* Mbororo people having greater capacity to exercise their rights, leading to more responsive legislation, reduction in human rights violations that they experience and improved opportunities for social and economic development

The Baseline Survey carried out under the leadership of a consultant (Nchinda Valentine), following a competitive selection process undertaken by MBOSCUDA and Village Aid, hopes to lay down the evaluation base for the successful implementation of the project “*In Search of Common Ground”.* It builds on the findings of an expert interview study (Nchinda et al., 2014). The objectives of the Baseline Survey are presented in the paragraph that follows.

**1.1 Objectives of the Baseline Survey**

The ultimate goal of the Baseline Survey was to lay down the framework for evaluating progress to alleviate poverty and reduce conflict in 14 communities. The specific objectives were to:

* determine the livelihood practices of farmer and grazer households in the project area with emphasis on the demographic characteristics and agro-pastoral activities as a base for monitoring progress in alliance farming, pasture improvement practices, water management and energy sources;
* determine the frequency and severity of conflicts between herders and farmers in 14 communities of the North West Region of Cameroon;
* identify existing conflict mitigation mechanisms and level of collaboration among the Mbororos and the farmers/larger community in the project areas;
* determine the extent to which farmer-grazer conflict influences equitable access to waterand sanitation, hygiene and water conservation in the project area;
* determine the gender equity and empowerment practices or lapses under farmer-grazer conflict prone areas for better gender/equality mainstreaming and analysis of gender disaggregated data and
* provide statistical indicators to be used in measuring changes attributable to the current intervention in the future.

**1.2 Rationale of the study**

Mackay and Douglas (2003) argue that evaluation findings can be used in the improvement of policies and programs. For instance, in Niger, Turner et al. (2011) examined farmer-grazer conflicts in four communities and concluded that they were less likely in the Sahel Region of Niger because of the higher levels of common livelihood interests and cooperation shared by the social groups of the communities. This was an interesting conclusion. The Baseline Survey will provide a picture of the conditions at the start of the project and a basic set of data to measure progress in the third and fifth years of the project.

**1.3 General organization of the report**

The report is organized in four (4) main sections. The first provides background information on farmer-grazer conflicts. It also provides the context of the study and the rationale. The second section is on methodology. The data collection process is described in this section as well as the analysis methods. The results or findings of the baseline evaluation are presented and discussed in the third section. This section provides analysis of how farmer-grazer conflicts affect agriculture and livestock production. It further examines and explores the nature and causes of conflicts and how they affect communities. Mitigation strategies are also discussed. The section also includes key indicators required to measure project. The fourth section presents the conclusions and the implications for project implementation.

**1.4 Literature review on farmer-grazer conflicts in Cameroon and beyond**

This section of the report contains literature on farmer-grazer conflicts in developing countries and Cameroon in particular. It provides information on how farmer-grazer conflicts affect the exposed population and presents some documented causes of the conflicts. The literature further discusses mitigation practices which have produced tangible results.

**Causes of farmer-grazer conflict**

The struggle over the use of natural resources (land and water) accounts for sustained conflict between ethnic Mbororo cattle herders and non-Mbororo subsistence farmers. These disputes are principally due to competition over the use of land and water resources for agricultural and non-agricultural use (Rashid, 2012; Kelsey & Knox, 2012; Manu et al., 2014), increase in human and animal population (Gefu & Kolawole, 2002) as well as resource access rights, inadequacy of grazing resources, values, cultures and beliefs. Disputes over ownership of resources and climate change are also responsible for farmer-grazer conflicts (Sone, 2012; Arias and Ibanez, 2012; Ajuwon, 2004; Fasona and Omojola, 2005). For instance, the migration of the Fulbes to the South due to drought in some countries like Mali and Nigeria resulted in farmer-grazer conflicts (Fonjong *et al.,* 2010). Aredo (2005) concluded that farmer-grazer clashes are due to the destruction of farmlands following seasonal movements of pastoralists and their flocks. This is especially serious in areas with high cattle and human populations, ecological and climate changes. Most causes of conflicts in the North West Region of Cameroon, particularly around Mechum and Donga Mantung administrative areas were attributed to the latter.

Sone (2012) attributes the re-occurrence of farmer-grazer conflicts in the North West region of Cameroon to scarcity of land, climate change and the ‘poor’ application of laws guaranteeing land ownership. This is the case when farmers do not have rights to control land during contention or when wealthy grazers are favoured against the law.

On the other hand, the relationship between the two categories of persons is also important. The dominant relationship characterized by power and authority between the Mbororos and farmers also causes conflict. Fonjong et *al*. (2010) see this issue in terms of power relations whereby the farmers have no financial power to influence administrative decisions, nor do the herdsmen in what is described as the rent-seeking habit of the administration or a system marred by bribery and corruption. In one of the district areas of the North West Region Menjo (2002) reaffirms this by concluding that “…public officials continue to take advantage of the ignorance of the local population to perpetuate their rent-seeking behaviour”.

Moritz (2013) came to the same conclusion following the fact that traditional and administrative authorities shy away from resolving farmer-grazer conflicts in Northern Cameroon because of economic interest.

The production system of both grazers and farmers, the allocation of economic rights over resources and the beliefs, especially given the difference in religious beliefs and culture, are other major causes of these conflicts (Blench, 1984).

Others attribute farmer-grazer tension to the absence of fair compensation frameworks in situations where crops, mostly grown by women, are damaged by herds (Davidheiser et *al.,* 2008). The movement of cattle from one place to the other as a result of low rainfall push crop farmers (mostly women) away from their farmlands. Farmers on their side block cattle routes, corridors or water points leading to cattle scourge, hence conflicts. In addition, farmers encroach onto cattle routes and sometimes on water points thereby exposing their crops to cattle destruction (Fonjong et al., 2010).

As well as this poor pasture management is seen as the principal cause of conflict (Harsbarger and Nji, 1991). The conflicts are particularly frequent in the dry season between December to March.

The administrative policies are also blamed for causing conflict especially in the North West Region of Cameroon. Mbah (undated) examined the roots of conflict from a historic perspective and concluded that land/boundary disputes in the region have their roots in colonial administrative policies that conflicted with inter-village boundaries, as well as failures of post-colonial administrative policies to judiciously address the problem of inter village boundaries.

**The effects of farmer-grazer conflicts**

The effects of these conflicts can be very devastating and range from loss of assets (physical, economic, social, lives), insecurity, food crises to sustained poverty. Conflict also limits the capacity of crop farmers and their neighbouring grazers to integrate with each other (Pelican, 2012). Rashid (2012) also reported that conflict has far-reaching economic, production and socio-psychological effects on the households. In Nigeria words such as ‘settler’, ‘native’, ‘non-native’, ‘host community’, ‘foreigner’, ‘native foreigner’, ‘stranger element’, ‘squatter’, ‘non-squatter’, ‘immigrant’, ‘migrant’, ‘indigene’, ‘non-indigene’ are used daily to describe, stigmatise or stereotype the “other” as a category who “does not belong” (Umar, undated)

Also, it even limits milk production in some parts of the North West Cameroon (Ndambi et al., 2008). In this part of the country, milk production is an activity principally carried out by Mbororo women. This is why Fonjong*et al.* (2010) argue that sustained farmer-grazer conflicts undermine women’s ability to ensure household food security.

Farmer-grazer conflict in Bauchi state of Nigeria had negative effects on the families involved and the nation as a whole. The income of families exposed to conflict was significantly (P<0.05) lower than those in non-conflict areas. Significant losses in monetary terms, reduction in production, social insecurity and children not going to school are some of the consequences of farmer-grazer conflicts in Bauchi state. The farmers and the grazers also lose out financially, the farmers losing out most (Sulaiman and Ja’afar-Furo, 2010).

**Watershed management:** Amidst competition over the use of water and conflict resulting thereof, there is degradation of water quality (World Bank, 2012). In some areas water becomes scarce and continues to deteriorate in both quality and quantity and may soon become a critical limiting factor for economic development, food security, and basic health and hygiene services. Water shortages and quality deterioration due to degraded watersheds are among the problems, which require greater attention especially in the management of watersheds (Global Water Partnership TAC, 2000).

**Mitigation practices and benefits**

In one of the conflict prone areas of the North West region of Cameroon, the use of fodder banks to supplement grazing and the rehabilitation of pastures reduced the age at which animals reach the market (500kg Body Weight) from 7.2 years to 4.1 years (World Bank, 2012). On the other hand, Ndikintum (2008) found out that adopting a night paddock manuring system contributed positively by reducing conflicts between farmers and grazers in Small Babanki. The study also concluded that night paddock manuring benefits both crop farmers and grazers households by means of improving productivity and reducing poverty. Dry season grazing on farm fields followed by crop production in the rainy season (Gefu*et al.,* 2002) is an example of a win-win agreement between grazers and farmers. This arrangement was also used in the rice fields of Ngoketunjia division of the North West region of Cameroon.

Another coping mechanism involves the clear distinction between grazing and farmland. Reduction of herd size and fencing by herdsmen are some of the mitigation practices. For instance, the building of fences and instituting controlled rotational grazing in Tugi community in the NW region of Cameroon (World Bank, 2012). Furthermore, the integration of animals, crops and trees (agro-silvopastoral system) is a sustainable method for land use and diversification of farm produce (Ibrahim *et al*. 2011).

The benefits of these practices are real. Production per hectare for growing animals would increase up to six times if animals had access to rehabilitated pastures and up to ten times if fodder banks were used to supplement grazing in the rehabilitated pastures during the dry season. This also yielded positive internal rates of return (World Bank, 2012). The World Bank innovation transfer initiative funded project in Tugi of the North West region of Cameroon was complemented by capacity building based on a Farmer Field School approach.

Sone (2012) recommends that the ‘government of Cameroon needs to establish structures that ensure the equitable management and ownership of this vital resource, including, if necessary, further amendment of its laws. Gaps in the law and between legal institutions should be filled through reforms that will lead to the rational allocation of land. In addition, the adoption of dialogue, mediation, and conciliation by all stakeholders in landownership disputes is vital for conflict resolution, prevention, and management’.

Efforts are also being made to create a policy environment which is challenges the causes of conflict in Cameroon and the North West Region in particular. This is why Ibrahim (2011) considers the political participation of the Mbororos in the Western Highlands is a step towards facing the problem of conflict, and towards fighting for the interest of the marginalized groups like the Mbororos. These advances among others were also documented in over seventeen countries around the world (IUCN, 2011). Nevertheless, some authors still consider the Mbororos in Cameroon to be a politically marginalized and economically exploited minority.

In order to encourage co-existence in the North West region of Cameroon, grazing areas are distinguished from farmland and transhumance tracks and areas are marked out. Dates of cattle movement are set and announced widely in the North West Region (Dafinger and Pelican, 2002).

Though land right is in the hands of the state in Cameroon a participatory rights-based approach was adopted in the North West Region of Cameroon to empower pastoralists and create an environment for them to fight for their rights over land (Duni et *al.,* 2009).

**1.5 Summary of expert interview findings**

Prior to conducting the Baseline Survey an expert interview study was conducted to inform the design of the study. The major objective of the expert interviews was to gather information that would inform the design of the questionnaires for the Baseline Survey with an emphasis on the agro-pastoral system, causes of farmer-grazer conflicts, severity of the conflicts and mitigation practices adopted by the stakeholders in reducing the incidence of conflicts among farmers and grazers. The findings would also go to increase the validity of the Baseline Survey through the generation of complementary, reliable and in-depth data from the experts. Expert interviews were conducted with 28 knowledgeable experts drawn from five administrative divisions (Mezam, Momo, Bui, Boyo and Donga Mantung) of the North West Region of Cameroon. Among these experts were farmers, grazers, administrators, traditional authorities and delegates of technical ministries.

The analysis shows that food crop and cattle production are carried out on separate pieces of unofficially allocated land. Rearing cattle is a free-range activity principally carried out by sedentary pastoralists. Cattle owned by women and youths are protected in household heads’ herds. Other small ruminants (sheep, goats, etc.) are also reared and are responsible for some damages to crops. Female crop farmers mostly carry out agricultural activities and crops grown include beans, potato, maize and some vegetables. Some of the Mbororos on their side are also involved in backyard agriculture where they hire labour from the camp of crop farmers for agricultural activities. Cases of alliance farming where farmers use cow dung to manure their crops were registered in some of the conflict communities of Baijong (Fundong) and Ashong (Batibo), Binshua (Nkambe) and Ngyenmbo (Mbengwi).

This is particularly so in transhumance areas like Ngyenmbo Success stories were also reported in Kedjom Ketingo (Mezam) where night paddocking led to significant increases in the production of vegetables (huckleberries) as well as contributing significantly in reducing farmer-grazer conflicts. Night paddocking followed by farming on the premises around the habitats of Mbororo grazers are other cases where livestock and crop production are associated. Yields are generally reported to be very high in these situations because of the use of cow dung as manure. The use of improved pastures in animal husbandry is very limited though isolated cases were reported in Baijong, Baba II and Binshua.

The causes of these conflicts are due in part to the farmers and grazers although changes in the natural and policy environment are also responsible. For instance, grazers could be held responsible for the destruction of crops by cattle, the negligence of herdsmen, a failure to construct cattle proof fences, retaliation against farmers, adopting an elite attitude towards farmers and the invasion of pastures by their cattle in communal grazing areas. On the other hand, farmers could also be held accountable for blocking or destroying water points, encroaching into grazing land, failing to construct cattle proof fences, and portraying a dominant power attitude towards the grazers. Furthermore, the policy environment or its application for farmer-grazer conflict is not conducive for the resolution or limitation of conflict. The agro-pastoral commission does not perform all functions attributed to it and funds are not allocated for their functioning by the state as required by the law of 1974. The persistence of farmer-grazer conflicts, in some situations, might be an economic opportunity to the agro-pastoral commission members, that is they may themselves financially benefit. In this situation, the financial burden of a case is normally borne by farmers and grazers who are themselves unlawfully forced to make payments.

There is pressure on the use of natural resources due to growth in human and cattle population. The pressure on the use of land depletes the fertility of the soil and demands more space thereby pushing farmers to go in search of fertile soils in grazing areas. This leads to conflict.

Farmer-grazer conflicts have devastating effects on humans and particularly the property of the disputing parties. This results in instances of cattle injuries, poisoning of animals and the destruction of crops. Furthermore, some sedentary Mbororo grazers are displaced from their homes or community due to farmer-grazer conflicts.

Stakeholders use Dialogue Platforms, farmer-grazer committees, traditional council, the judiciary and the agro-pastoral commission to resolve farmer-grazer conflicts in the area of study. The first three of these are methods of amicable settlement and are much to be preferred over the latter two. The agro-pastoral commission and the judiciary are the legal entities officially mandated to resolve farmer-grazer conflicts or examine the criminal acts resulting from such conflicts respectively. Mitigation through the agro-pastoral commission and judiciary is often very costly to the disputing parties. This is why other emerging conflict resolution strategies such as the use of dialogue platforms and farmer-grazer committees are recommended.

**Recommendations**

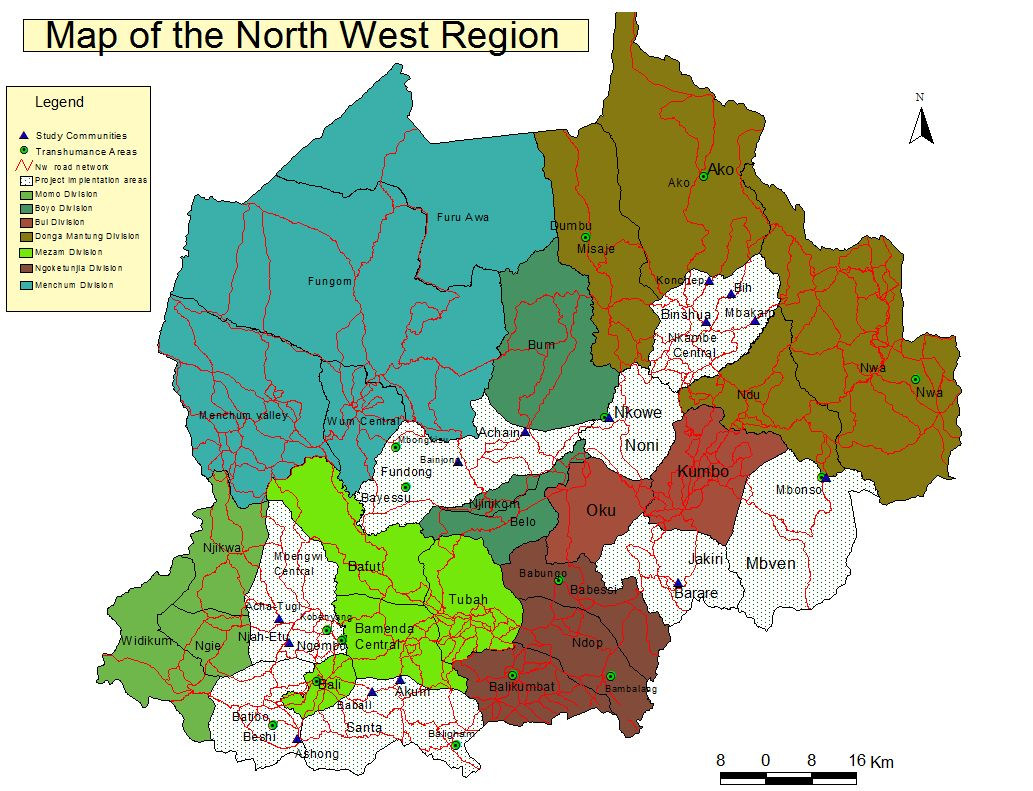
At the end of the expert interview, recommendations were made for the Baseline Study, which would be a statistical study. The Baseline Study should prioritize the causes of conflicts, their severity and (preferred) mitigation practices. More details should be provided on how conflicts could be associated to the current land tenure system, resource extortion by the agro-pastoral commission, cattle and agricultural production data and the characteristics of the agro-pastoral system. It will also be of great importance for a gender perspective to be given to future studies in the subject matter. Meanwhile, the following proposals were made to guide the implementation of the new study:

* Organize exchange visits to learn about the functioning of Dialogue platforms and pasture improvement programs in communities where these exist. It may also pay to share the experience in Baijong where stakeholders agreed to use land in what can be described as communal alliance farming;
* Organize sensitization campaigns to create awareness on the consequences of conflict and encourage mutual existence and equal right over natural resources;
* Advocate for the smooth functioning of the Agro-pastoral commission with emphasis on budgeting their running cost in the state budget of the Ministry of Lands and the full fulfilment of their functions as required by the law;
* Some of the farmer-grazer conflict hotspots earlier identified for the project may be revisited because major hotspots have changed over time in some of the sub-divisions. For instance, Pinyin is a major conflict hotspot than Akum and Baba II in Santa;
* The land tenure law of 1974 deprives youths from having access rights to land by allowing only those who occupied the land before then to apply for land certificates. Moreover, even if you were born before 1974, you need to show evidence that you occupied the land before 1974. This is why it is expected that any new land law (already in process) should be flexible enough to allow youth access right to land. MBOSCUDA should lobby for their contributions to the new law be fully taken into consideration.

1. **Methodology**

**2.1 Choice and description of study area**

The Baseline Survey was conducted in February and March 2014 in 14 communities distributed over five administrative divisions (Mezam, Momo, Bui, Boyo and Donga Mantung) of the North West Cameroon. These areas were chosen primarily because they were areas where farmer grazer-conflicts exist and secondly because they were areas to be reached by the project “In Search of Common Ground”.The communities where respondents were interviewed include Akum, Baba II, Bainjong, Achain, Acha Tugi, Njaetu, Ashong, Mbakam, Konchep, Bih, Binshua, Barare, Mbonso and Nkowe (Figure 1).

Figure 1: Map of conflict hot spots and transhumance communities in North West Cameroon

**2.2 Sampling and data collection**

The sampling method adopted for this survey was random sampling (SRS), stratified into two groups: farmers and grazers. The choice of this method was principally motivated by the fact that these two separate segments of the population were of importance to us in the study. Primary data were collected using structured questionnaires administered to household heads of Mbororo cattle herders (399), and so subsistence farmers (441) in five administrative divisions covering 14 conflict hot spots or communities in the North West region of Cameroon (Table 1). This gives an average of 60 questionnaires per community corresponding to 840 in total. The proportions of respondents interviewed across the divisions therefore depend on the number of communities where questionnaires were administered.

Table 1: Proportion of respondents interviewed in five divisions of the North West Region

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Division** | **Farmers**  **(%)** | **Grazers**  **(%)** | **Total**  **(%)** | **Number of Communities** |
| Mezam | 12.9 | 13.3 | **13.1** | 2 |
| Momo | 21.1 | 22.1 | **21.5** | 3 |
| Boyo | 13.8 | 16.3 | **15.0** | 2 |
| Bui | 22.9 | 19.8 | **21.4** | 3 |
| Donga Mantung | 29.3 | 28.6 | **28.9** | 4 |
| **Total** | **441** | **399** | **840** | **14** |
| **Percent of respondents** | **100** | **100** | **100** | **100** |

**2.3 Data collected**

Data were collected with the assistance of trained enumerators using structured questionnaires developed with preliminary information gathered from secondary sources and expert interviews conducted in the region of study. The data gathered included the socioeconomic characteristics of respondents (gender, age, income level, occupation, marital status, ethnic group, etc.) in the conflict hotspot areas. Livelihood data collected from the respondents include the land tenure system and access to natural resources such as land and water, agro-pastoral system information. These also included water protection activities, Alliance Farming (AF), improved pasture and biogas experiences. The data gathered included information on conflict which was the key element in this study. Data on the incidence and severity of conflict as well as causes and mitigation practices were tracked. Also, included were attitude data concerning the perception of the respondents as to the cause and severity of conflict in the study communities. Aspects of gender were included to capture some gender dynamics when it comes to farmer-grazer conflicts in the study communities. On the other side, data were also gathered on aspects related to the visibility of the actions of MBOSCUDA from the point of view of the respondents. GPS points were taken and used in producing a map on which the conflict areas and transhumance communities were shown (Figure 1).

Table 2 provides information on the sex and marital status and information on households with disabled people. Of the 840 household heads interviewed, 13% had disabled people. The total number of disabled persons reported by the 112 households with disabled persons was 129. The number of households with 1, 2 and 3 disabled persons was 97, 13 and 2 respectively. The disabilities reported by these households included blindness, deaf or dumbness in 44% of the cases. The rest were either paralysed or had mental health problems.

An overwhelming majority of the respondents interviewed were men with female respondents representing only 17.3% of the total sample. Most of the respondents interviewed were married.

Table 2: Proportion of respondents by sex and marital status and households with disabled persons

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Criteria** | **Farmers** | | **Grazers** | | **Total** | | |
| Female | Male | Female | Male | Female | Male | **Total** |
| **Sex of respondents** |  |  |  |  |  |  |  |
| Total | 120 | 321 | 28 | 371 | 148 | 692 | **840** |
| Percent of respondents (row %) | 14.3 | 38.2 | 3.3 | 44.2 | 17.6 | 82.4 | **100** |
| **Households with disabled persons** |  |  |  |  |  |  |  |
| Total | 11 | 50 | 7 | 44 | 18 | 94 | **112** |
| Percent of respondents (row %) | 9.8 | 44.6 | 6.3 | 39.3 | 16.1 | 83.9 | **100** |
| **Marital status of household heads (column %)** | | | | | | |  |
| Married | 50.9 | 86.5 | 53.6 | 90.5 | 51.4 | 88.7 | **82.3** |
| Single | 15.5 | 7.2 | 14.3 | 7.1 | 15.3 | 7.1 | **8.4** |
| Divorce | 7.8 | 1.6 | 0.0 | 0.5 | 6.2 | 1.0 | **1.9** |
| Widowed | 21.5 | 3.8 | 28.6 | 0.8 | 22.9 | 2.2 | **5.8** |
| Separated | 4.3 | 0.9 | 3.5 | 1.1 | 4.2 | 1.0 | **1.6** |
| **Total** | **116** | **318** | **28** | **370** | **144** | **688** | **824** |
| **Percent** | **100** | **100** | **100** | **100** | **100** | **100** | **100** |

NB: Data for sex and disability given as row percentages and for marital status given as column percentages

**2.4 Data analysis**

The data collected were analyzed using STATA version 12. The t-test and chi-square tests were used to test differences for statistical significance, particularly those between farmers and grazers. The determinants of farmer-grazer conflicts, key impact variables such agriculture income earned per hectare of land and cattle size were determined. The project outcome indicators, key variables for the measurement of project progress, were also estimated.

* 1. **Reporting and restitution**

The report was written after the data analysis. The findings of the expert interview were integrated as a section in the Baseline Survey report. MBOSCUDA and Village Aid resource persons reviewed the draft report. The findings of the survey were also presented in a stakeholder workshop that brought together the farmers, grazers, MBOSCUDA, paralegals and delegates from technical ministries such as MINEPIA and MINADER. Feedback from this process was then used to write a final report.

* 1. **Limitations and challenges**

In one of the communities (Bainjong), some of the respondents (grazers) did not want to receive the enumerator. However, this was rapidly sorted out with the support of the coordinator of MBOSCUDA and the paralegal of the area. The study was also carried out during the transhumance period. This made it difficult to reach the grazers who were on transhumance at the time of the study. Nevertheless, the enumerators managed to travel to the grazing area to meet some of the grazers. In situations where the numbers of grazers were fewer than the intended number to be interviewed, respondents were selected from neighboring communities. This happened in Momo division where 12 households interviewed were selected from Kai and Bossa. The terrain was very difficult and rough to cover. Some of the enumerators fell sick or were injured because of the rough terrain. We had to assist in the treatment of the enumerators where necessary. On a general note, the challenges faced during the study were remedied and therefore do not jeopardize the findings of the study.

1. **Results**

**3.1 Socioeconomic and demographic characteristics of the respondents**

The respondents interviewed belong to five different religious affiliations and five ethnic groups (Tables3 and 4). Fifty one per cent of those interviewed were Muslims as opposed to 49% that were Catholic, Protestant, and Animist or of the Orthodox faith. The farmers interviewed were mostly Christians (Catholic and Presbyterians). Other religions such as the Baptist, Jehovah’s Witness and Full Gospel were identified but grouped under the Protestants. Islam was the religion of all Mbororos interviewed.

Table 3: Respondents by religion

|  |  |  |  |
| --- | --- | --- | --- |
| **Religion** | **Farmers (%)** | **Grazers (%)** | **Total (%)** |
| Islam | 10.0 | 95.5 | **50.7** |
| Catholic | 32.8 | 1.0 | **17.7** |
| Protestant | 54.2 | 3.0 | **29.9** |
| Animist | 0.9 | 0.0 | **0.5** |
| Orthodox | 2.1 | 0.5 | **1.3** |
| **Total** | **439** | **398** | **837** |
| **Percent of respondents** | **100** | **100** | **100** |

The general point here is that most grazers are Mbororos (95%) and most farmers are non- Mbororos (93%). Within this report the words Mbororo and grazer are occasionally used interchangeably and, given the large overlap between the two groups this approximation is reasonable even if it is not strictly correct. A slightly different point is that some non–Mbororos also have Islam as their religion.

Table 4: Respondents by ethnic group

|  |  |  |  |
| --- | --- | --- | --- |
| **Ethnic group** | **Farmers (%)** | **Grazers (%)** | **Total**  **(%)** |
| Mbororo | 7.0 | 95.1 | **49.5** |
| Tikari | 54.2 | 1.3 | **28.7** |
| Widikum | 11.7 | 0.5 | **6.3** |
| Moghamo | 20.8 | 2.8 | **12.1** |
| Kom | 6.3 | 0.3 | **3.4** |
| **Total** | **428** | **397** | **825** |
| **Percent of respondents** | **100** | **100** | **100** |

Table 5 provides information on the level of education. A majority of the respondents have either primary level education (43%) or have never been to school (31%). Few attended high school or university. A relatively large number of grazers attended traditional Koranic sessions (24%). These may have been sessions in homes and not formal Islamic institutions. The latter are very rare in the pastoralist communities.

Table 5: Level of education of respondents according to main activity

|  |  |  |  |
| --- | --- | --- | --- |
| **Level of education** | **Farmers (%)** | **Grazers (%)** | **Total**  **(%)** |
| Never been to school | 20.6 | 42.8 | 31.1 |
| Koranic school | 2.6 | 23.9 | 12.7 |
| Primary and Koranic school | 0.5 | 2.1 | 1.2 |
| Primary school | 60.2 | 24.4 | 43.2 |
| Secondary school | 12.1 | 4.2 | 8.3 |
| High School | 2.6 | 1.6 | 2.1 |
| University | 1.4 | 1.0 | 1.2 |
| **Total** | **422** | **381** | **803** |
| **Percent of respondents** | **100** | **100** | **100** |

The socioeconomic characteristics of the interviewed farmers and grazers are presented in Table 6. Although the average age of the farmers and grazers is similar, the average number of years of residence in the community is higher for grazers than for farmers. The farmers and grazers are people who have lived together for close to 40 years. In terms of land ownership or occupancy, the average land size owned by each of the categories of persons interviewed is approximately the same. (It should be noted that in Cameroon, all permanent land users can be defined as occupants. Most of those who permanently occupy and use the land claim to be owners. However, it is only when a title, a legal document, is issued that the person can claim to actually own the land).

Table 6: Respondents socioeconomic characteristics (n=840)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | Farmers | | Grazers | | Level of sig. difference |
|  | **Mean** | Std. Dev. | **Mean** | Std. Dev. |  |
| Age (years) | **47.1** | 15.6 | **46.8** | 15.5 | 0.79NS |
| Duration of stay in community (years) | **37.4** | 20.2 | **41.8** | 18.2 | 0.00\*\*\* |
| Experience in farming or cattle rearing (years) | **27.3** | 16.9 | **31.3** | 17.0 | 0.00\*\*\* |
| Household monthly food expenses (FCFA) | **20,700** | 2.2 | **44,000** | 2.4 | 0.00\*\*\* |
| Household monthly nonfood expenses (FCFA) | **24,000** | 2.9 | **38,000** | 3.0 | 0.00\*\*\* |
| Per capita monthly food expenditure (FCFA) | **3,700** | 2.5 | **5,700** | 2.2 | 0.00\*\*\* |
| Per capita monthly Nonfood expenditure (FCFA) | **4,300** | 3.1 | **5,000** | 2.9 | 0.07NS |
| Land owned (ha) | **1.7** | 2.4 | **1.6** | 2.9 | 0.61NS |
| Cattle size | **12.9** | 2.4 | **42.2** | 2.5 | 0.00\*\*\* |
| Household size | **5.5** | 2.0 | **7.7** | 2.1 | 0.00\*\*\* |
| Number of children (5-17 years of age) | **3.2** | 2.4 | **4.2** | 3.1 | 0.00\*\*\* |
| Number children (<5 years) | **1.8** | 1.1 | **2.3** | 1.4 | 0.00\*\*\* |

**NB:** \*\* represents 1% and \*\*\* represents 0.1% levels of significance. NS means not significant.

Some differences in socioeconomic characteristics exist between the grazers and the farmers. The average household monthly food and non-food expenditures for Mbororos is higher than for non-Mbororos. However, grazer households are large than farmer households and when this is taken into account the difference in non-food expenditure between farmers and grazers is not statistically significant. The average cattle size for Mbororos (42) and the mean cattle size for farmers is based on the very small number who keep cows.

Though the average age of farmers is slightly higher than that of the grazers, the duration of stay of the Mbororos (42 years) is higher than that of the farmers (37 years) whose forefathers were the first settlers in the community. This could be explained by the fact that crop farmers often spend quite some time out of the place of residence than the herders. The grazers and farmers have been living together and sharing the natural resources in these communities for a long time and will certainly continue to do so. Most of the respondents (88%) say they are unlikely to move out of the community. Five per cent 5% of respondents, mostly youths below 30 years of age, say they are likely to move out of the community for various reasons: to search for better living conditions; because of the conflict or reduction in grazing/farming space and, in some cases for education or marriage.

**3.2 Agricultural and grazing practices including alliance farming**

The predominant activities carried out by the households are agriculture for the farmers (96%) and grazing for the Mbororos (98%, Table 7). Only a very small number of grazers report farming as their main activity (and this was also noted in the expert interview survey). On the other hand, only a few farmers also rear cattle and consider this to be their main activity.

Table 7: Main activities of respondents across five divisions of the North West Region

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Division** | **Grazers** | | | | | **Farmers** | | | |
| **In agriculture (%)** | **In cattle rearing (%)** | **\*In other activities**  **(%)** | **Total** | **Percent of respondents** | **In agriculture (%)** | **In cattle rearing (%)** | **Total** | **Percent of respondents** |
| Mezam | 98.2 | 0.0 | 1.8 | **57** | **100** | 0.0 | 100.0 | **53** | **100** |
| Momo | 97.8 | 1.1 | 1.1 | **93** | **100** | 0.0 | 100.0 | **88** | **100** |
| Boyo | 95.1 | 3.3 | 1.6 | **61** | **100** | 4.6 | 95.4 | **65** | **100** |
| Bui | 91.1 | 5.9 | 3.0 | **101** | **100** | 7.6 | 92.4 | **79** | **100** |
| Donga Mantung | 99.2 | 0.0 | 0.8 | **128** | **100** | 0.0 | 100.0 | **114** | **100** |
| **Total (%)** | **96.4** | **2.0** | **1.6** | **425** | **100** | **2.3** | **97.7** | **390** | **100** |

**NB:**\*Other activities are palm wine tapping, petit trading, wageworkers and rearing of other livestock

When the term alliance farming is used here it refers to collaborations between farmers who do crop farming and grazers with cattle whose dung is used as manure. The term agro-pastoral is used when a farmer integrates animal rearing into his own crop farming work (without necessarily collaborating with a grazer). In this section, it is mainly alliance farming that is under discussion.

Agriculture and livestock farming are activities that are often associated because of the benefits that each stands to offer to the other. Approximately, 28% of these respondents claimed they grow crops using cow-dung under alliance farming arrangements. The cow-dung from cattle rearing activities is sourced directly by allowing cattle to graze on crop fields in some of the study areas. In return, the droppings go to fertilize the fields for agricultural production. This mutual arrangement, referred to as alliance-farming, benefits both farmers and grazers. About 9% of all respondents (840) link cattle rearing and agricultural activities. This agro-pastoral farming activity goes on in all the areas covered, though in a limited extent. Transhumance areas are also known areas where alliance farming is practiced following consensual arrangements between the farmers and the grazers. Some of the transhumance areas where alliance farming is practiced are shown on Figure 1.

The farmers that practice alliance-farming in the communities under study also fetch cow-dung for other crop production activities carried out by their households. Table 8 provides details as to how respondents who practice alliance-farming get additional cow dung for other crop cultivation activities. About 41% of these respondents fetch cow-dung from their own farms for crop cultivation in fields other than the ones on which alliance-farming is practiced. In other circumstances, cow-dung is also sourced directly from the fields where alliance farming is practiced as reported by 36% of households under this category. The droppings are then used for crop cultivation in fields where farming alliance was not considered. Cow dung is also often acquired from the grazing land free of charge in most of the cases. This also happens in a situation where alliance farming is not practiced as it is the case in Njaetu among others.

Table 8: Break-down of source of cow dung used by households for farming activities

|  |  |
| --- | --- |
| **Source of cow-dung** | **Total**  **(%)** |
| From own farm | 41.3 |
| After cattle graze on farm\* | 33.6 |
| From grazers free of charge | 18.3 |
| Collected from grazers | 5.1 |
| Bought from grazers | 1.7 |
| **Total**  **Percent of respondents** | **235**  **100** |

NB: The base is the number of farmers practicing alliance farming

Agro-pastoral practices in which crop production is associated to livestock farming (alliance farming) and use of cow dung could benefit both the grazers and farmers. Crop farmers experienced in these practices declared that alliance-farming accounts for high crop yields. About 96% of household heads interviewed and claimed to practice alliance farming said crop yields are higher under alliance farming. Some respondents (1%) claim yield would be lower under alliance farming probably because the livestock may tamper with the soil texture.

Herders generally consider alliance farming to be beneficial to the health of the livestock especially cattle. About 93% of the cattle herders said that cattle are very healthy when they are allowed to graze plant residues. Only 6% do not see any health changes.

The use of cow dung based farming seems to have financial benefits for those that use them (Table 9). The annual income earned (FCFA 170,600) by farmers after using cow dung on farm fields was very much higher than that earned by those who did not use cow dung (FCFA 115,500). The amounts may look small but the important issue is that these are subsistence farmers whose principal production objective is not income generation. Surpluses are often sold in order to raise money for other basic household needs including payment of school fees for children.

Caution is needed however as the difference in earned agricultural income cannot be entirely attributed to the use of cow-dung. Other factors such as farm management practices, institutional characteristics and environmental factors may also account for this difference. Or it may simply be that those with larger farms are more likely to use cow dung in this way. A study over time, for example a longitudinal study, would be a more appropriate way to test for this.

Table 9: Differences in earned agricultural income under cow dung based farming

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | *No cow-dung used* |  | *Cow-dung used* |  | *Combined* | ***Lev of sign.*** |
| Item | Obs. | Mean | Obs. | Mean | Obs. | Mean |
| Agriculture income/yr. | 246 | 115,500 1,100 | 203 | 170,600 2,200 | 449 | 137,700 2,600 | 0.0\*\*\* |
| Agriculture income/yr./ha | 243 | 68,1003,600 | 198 | 92,300 3,300 | 441 | 78,100 3,600 | 0.0\*\*\* |

NB: \* represents 5%, \*\* represents 1% and \*\*\* represents 0.1% levels of significance. The -/+ figures represent 95% confidence intervals.

The estimated annual agriculture income per hectare (92,300 FCFA) earned by the farmers who use cow dung was higher than earned farm income (68,100 FCFA) by those that do (Table 9). The annual mean income from agricultural activities stood at 137,700 FCFA and the mean annual agriculture income per hectare was 78,100 FCFA.

A related analysis (not shown) shows that the estimated income earned per hectare (134,800 FCFA/ha) by the small number of grazers involved in crop farming was approximately twice as high as that earned by the farmers (62,800 FCFA/ha). One of the possible reasons behind the higher earned farm income could be that these farmers have the opportunity to use readily available cow-dung from their own cattle grazing activities for crop cultivation. The fertility on grazing grounds partially accounts for the encroachment of farmers into grazing areas.

**Household cattle structure and rearing system**

Livestock or cattle rearing, as earlier mentioned, is not an activity carried out by all the households interviewed (Table 10). Farmers essentially carry out farming whereas the grazers mostly undertake animal husbandry. The herders practice four types of cattle rearing systems. The extensive cattle rearing system is predominantly practiced by most of the grazers (87%). The other three systems practiced include the semi-intensive (2%), intensive (2%) and nomadic (9%) cattle rearing systems.

The livestock reared by both the grazers include cattle, sheep, goats and other livestock and few farmers keep these animals. Grazers on average have 42 cows, 27 sheep and 18 goats. The number of cattle owned has a very large range indeed, from two to 700.

Table 10: Household average livestock size for farmers and grazers

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Livestock** | **Farmers** | | | | | **Grazers** | | | | |
| Total | **Mean** | Std. Dev. | Min | Max | Total. | **Mean** | Std. Dev. | Min | Max |
| Cattle size | 19 | **12.9** | 2.4 | 2 | 66 | 384 | **42** | 2.5 | 2 | 700 |
| Sheep | 6 | **11.0** | 7.2 | 2 | 22 | 207 | **26.5** | 23.5 | 2 | 150 |
| Goats | 6 | **8.7** | 3.9 | 2 | 14 | 50 | **17.7** | 17.9 | 1 | 80 |
| Other livestock | 4 | **10.8** | 6.5 | 5 | 2 | 137 | **15.1** | 17.4 | 1 | 150 |

**NB:** Where the number of observations is small (<30) the estimate may not be reliable

The youths, women and people with disabilities on the side of grazers rear livestock such as cattle, sheep and goats (Table 11). The livestock were acquired by way of inheritance, as a birth or marriage present, bought or as a combination of the latter. Women, youths and people with disability from the camp of the grazers are involved in the rearing of cattle and small ruminants such as sheep and goats.

Table 11: Mean number of livestock owned by women, youths and disabled people by grazers

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Livestock** |  | **Total** | **Mean** | **Std. Dev.** | **Min** | **Max** |
| **Cattle** |  |  |  |  |  |  |
|  | Women | 129 | 12.0 | 14.5 | 1 | 100 |
|  | Youths | 133 | 22.0 | 30.2 | 1 | 200 |
|  | Disabled | 4 | 13.8 | 13.7 | 1 | 30 |
| **Sheep** |  |  |  |  |  |  |
|  | Women | 64 | 6.2 | 5.6 | 1 | 25 |
|  | Youths | 79 | 15.3 | 20.1 | 1 | 150 |
|  | Disabled | 2 | 7.5 | 3.5 | 5 | 10 |
| **Goat** |  |  |  |  |  |  |
|  | Women | 6 | 11.7 | 8.7 | 2 | 24 |
|  | Youths | 13 | 15.9 | 20.1 | 1 | 80 |
|  | Disabled | 0 | - | - | - | - |

**NB:** Where the number of observations is small (<30) the estimate may not be reliable

**Pasture improvement**

Some of the respondents (154) interviewed received at least some training on pasture improvement techniques. Table 12 provides information on the extent of training received on pasture improvement. The training was offered to the grazers by the ministry of livestock, NGOs, family members or friends. Two carbohydrates-rich grass varieties mostly grown include Bracharia and Guatemala. There is also Stylosanthes that grows together with Bracharia in some areas of the region.

Table 12: Training on pasture improvement and ownership of pastures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Training on pasture improvement** | | | |  |
| **Own improved pasture** | **No training**  **(%)** | **Some Training**  **(%)** | **A great deal of training**  **(%)** | **Total** | **Percent of respondents** |
| No pasture fields | 71.6 | 24.4 | 1.1 | **95** | **100** |
| A little | 11.4 | 81.4 | 7.1 | **95** | **100** |
| Some | 5.7 | 88.6 | 5.7 | **35** | **100** |
| A large amount | 0.0 | 9.4 | 90.6 | **32** | **100** |

**NB:** Improved pasture fields reportedly owned by respondents range from 0.01ha to 100ha.

The average area of land allocated for improved pasture stands at 1.4 hectares with differences across the divisions. The trained grazers in Bui division have the highest mean pasture fields of seven hectares followed by Boyo and Donga Mantung divisions with one hectare each.

**Sources of cooking fuel**

Fuel wood is the principal source of cooking fuel for 98% of the respondents (Table 13). Very small proportions (2%) of the respondents use fuel wood alongside gas or sawdust. Only one person, living in Baijong reported the use of biogas as the main source of cooking fuel for the household. About 29% of those practicing alliance farming are conscious of the fact that cow dung could be used in generating cooking gas. Similar experiences in the use of biogas, among others, exist in Mezam and Donga Mantung divisions following previous support provided by SNV and HPI.

Table 13: Main source of cooking fuel and slurry use

|  |  |
| --- | --- |
| **Source of fuel** | **Total**  **(%)** |
| Fuel wood | 98.2 |
| Biogas | 0.1 |
| Gas | 0.1 |
| Fuel wood, gas or sawdust | 1.6 |
| **Total**  **Percent of respondents** | **827**  **100** |

Whilst the use of biogas was extremely limited many people were aware of its use and potential. About 12% of the farmers and 45% of grazers are aware that cow dung could be used to generate cooking gas.

**Use of slurry**

Slurry is a by-product of the biogas process and is potentially very useful as a fertilizer as an alternative to more expensive chemical products. Only three persons from Akum, Baijong and Mbakam reported the use of slurry in crop production and these three cases were recorded in Mezam, Boyo and Donga Mantung divisions. These respondents said that, with slurry fertilization, crop yield was high. It is worth recalling that efforts toward the use of slurry from biogas plants for crop production were promoted in the region by HPI and SNV.

**3.3 Land tenure system in farmer-grazer conflict areas**

In Cameroon, all land is owned by the state unless the competent ministerial department issues a land title that transfers the ownership. Individuals who exploit land without titles are considered caretakers and the right to exploit the land could be passed on from one generation to the other. Land is therefore obtained mostly by inheritance as reported by 85% of the respondents. The proportion of respondents that reported having bought land is 7%. The rest of the respondents get land from their friends or the traditional and administrative authorities.

Table 14: Ways through which households acquire land

|  |  |
| --- | --- |
|  | **Own land** |
| **Source of land** | **%** |
| By inheritance | 84.7 |
| Bought | 7.1 |
| Provided by Fon/Ardo | 5.5 |
| Provided by the administration | 0.7 |
| By Inheritance, purchased or given by  Fon/Administration | 1.7 |
| Begged from Fon, Administration or Friends | 0.3 |
| **Total** | **709** |
| **Percent of respondents** | **100** |

The supposed owners of land in most of the cases do not have land titles (80%). Grazers may apply for land permits which allow their cattle to graze there but this is not ownership in the full legal sense. The number of respondents with permits or land certificates varies from one division to the other with the highest numbers of cases registered in Donga Mantung (59), Momo (40), Bui (19), Mezam (13) and Boyo (11) divisions. These numbers represent 8%, 6%, 3%, 2% and 1.5% of the respondents interviewed in each of these divisions respectively.

The respondents that get access to land through the traditional or administrative authorities often have to make a payment for this (Table 15). This cost described as ‘allegiance fee’ is charged annually, in most cases, or paid to the authorities at the time land is acquired. The median amount of money last paid to the authorities by this category of respondents stood at FCFA76,000.Some of the respondents claimed to have paid median annual amount of FCFA 15,000 to the authorities each year (as lease) for the use of land. The median amount spent in satisfying the financial request of the authorities annually (the allegiance fee) was FCFA 15,000.

Table 15: Annual amounts (FCFA) spent by farmers and grazers for access to land

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Farmers** | | **Grazers** | |  | **Total** | | |
| **Variable** | **Total** | **Median** | **Total** | **Median** | **Total** | **Median** | **Min** | **Max** |
| Last amount paid to traditional or administrative authorities for land use (FCFA) | 47 | 20,000 | 23 | 350,000 | **70** | **76,000** | 5,000 | 2,000,000 |
| Land lease cost (FCFA) | 28 | 11,000 | 4 | 110,000 | **32** | **15,000** | 2,500 | 500,000 |
| Amount paid to authorities annually as allegiance (FCFA) | 18 | 6,500 | 14 | 20,000 | **32** | **15,000** | 1000 | 180,000 |

NB: Small number of observations, that is those less than 30, may not provide reliable estimates; Median values are used here because of outliers (extreme values)

The amount of money spent to access the use of land appears to be higher for grazers than the farmers. This difference might be because grazers require larger pieces of land for grazing than the farmers need for their livelihoods. These grazers have an official fee to pay annually to the Ministry of Livestock for the use of grazing space or for grazing permit.

There are gender differences in the ownership of assets, especially land, over which farmer-grazer conflicts arise. Of the number (726) that owned land, 17% were women and 83% men. An overwhelming majority of these self-declared landowners do not have titles or permits. Only 17% of households headed by females and 21% of households headed by males claim to have titles and/or permits for the land at hand.

**3.4 Access to clean and safe drinking water in farmer-grazer conflict areas**

Access to clean and safe drinking water is a serious issue in conflict prone communities of the North West region of Cameroon (Table 16). A limited number of respondents have access to safe drinking water. A majority of the respondents depend on stream, river or water from boreholes for drinking. The average number of minutes per trip spent by (mostly) women and children to go fetch drinking water from these streams, rivers or water holes varies from one division to the other with the highest recorded in the following divisions: Donga Mantung (20mins.) and Bui (20mins.) followed by Momo (15mins.), Boyo (10mins.) and the least by Mezam (5mins.). However, in some situations, it takes up to 180 minutes to fetch water from these streams, rivers or waterholes.

The situation is particularly serious during the dry season when some of the water sources dry up and these inhabitants have to depend on unsafe water from water holes (Figure 2). Though the struggle over access to clean and safe drinking water is a contributory factor in conflicts, this situation is, in general, serious and affects all the members of the communities (Table 16). The main sources of drinking water for 60% of farmers and 73% of grazers are streams, rivers and water holes. Farmers are slightly more likely to have a tap at home than grazers.

Table 16: Main sources of water for cattle and household consumption

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Farmers**  **(%)** | **Grazers**  **(%)** | **Total**  **(%)** |
| **Source of household drinking water** |  | | |
| Stream, river or water hole | 60.3 | 72.8 | **66.2** |
| Public tap | 5.3 | 5.9 | **5.5** |
| Tap in the household | 11.2 | 7.6 | **9.5** |
| Harnessed or protected water source, | 0.0 | 0.5 | **0.2** |
| Unprotected well or pump well | 20.1 | 12.0 | **16.2** |
| Well | 0.7 | 0.3 | **0.5** |
| Mineral water | 0.5 | 0.5 | **0.5** |
| Stream river or water hole and Public Tap | 2.1 | 0.5 | **1.3** |
| **Total** | 324 | 291 | **831** |
| **Percent of respondents** | 100 | 100 | **100** |
|  |  |  |  |
| **Main source of water for cattle** |  |  |  |
| Stream, river or water hole | 97.0 | 97.9 | **97.7** |
| Harnessed or protected water source | 0.8 | 1.0 | **1.0** |
| Tap in the household | 1.5 | 0.3 | **0.6** |
| Stream, River or Water hole and Public tap | 0.8 | 0.8 | **0.8** |
| **Total** | 132 | 390 | **522** |
| **Percent of respondents** | 100 | 100 | **100** |

The analysis also shows that cattle and humans compete over the source of drinking water (Figure 2). The study was during the dry season. Streams, rivers and waterholes are sources of drinking water for both cattle and human beings and this is exacerbated during the dry seasons when some of the water sources dry up. Figure 2 shows sources of drinking water for both animals and humans looking alike during the dry season in two of the communities exposed to dry season hazards



Figure 2: Source of drinking water for humans (left) and cattle (right) under drought conditions in some conflict areas

The competition over the use of water for livestock and agricultural activities by the inhabitants of the communities leads to water contamination (Table 17). Water contamination seems to be more of a problem for grazers with 77% reporting contamination compared with 63% of farmers. The main cause of water contamination is livestock activities. Climate change and drought is one of the factors reported by a sizable number of respondents.

Table 17: Extent of water contamination and related causes

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **Farmers**  **(%)** | **Grazers**  **(%)** | **Total**  **(%)** |
| 1. **Drinking water contaminated** |  |  |  |
| Never | 37.1 | 23.2 | **30.6** |
| Rarely | 10.2 | 17.8 | **13.8** |
| Sometimes | 41.2 | 44.3 | **42.7** |
| Often | 8.3 | 11.6 | **9.9** |
| Very often | 3.1 | 3.0 | **3.0** |
| **Total**  **Percent of respondents** | **420**  **100** | **370**  **100** | **790**  **100** |
| 1. **Causes of water contamination** | |  |  |
| Livestock activities | 48.5 | 25.4 | **36.7** |
| Agricultural activities | 2.9 | 9.5 | **6.3** |
| Livestock and agricultural activities | 23.8 | 31.3 | **27.7** |
| Climatic Conditions; Drought, Dry season | 23.8 | 31.0 | **27.5** |
| Strangers or unknown persons | 0.8 | 2.8 | **1.8** |
| **Total**  **Percent of respondents** | **239**  **100** | **252**  **100** | **491**  **100** |

The contamination of water sources exposes the community members to different water borne diseases such typhoid as well as stomach upsets that might be symptoms of related infections (Table 18). Of the 369 households reporting such problems, 23% reported cases of typhoid (see annex, Table 35). The respondents also considered cough, catarrh and malaria incidence to be connected to the poor nature of water available for households. This is more severe in some communities than others.

Table 18: Severity of symptoms or water borne diseases such as typhoid, stomach upset & Malaria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Community** | **Not at all**  **(%)** | **Sometimes**  **(%)** | **Often**  **(%)** | **Overall total** | **Percent of respondents** |
| Akum | 94.3 | 5.7 | 0.0 | **53** | **100** |
| Baba II | 98.1 | 1.9 | 0.0 | **53** | **100** |
| Bainjong | 31.3 | 50.0 | 18.8 | **16** | **100** |
| Achain | 75.0 | 65.0 | 15.0 | **60** | **100** |
| Acha Tugi | 57.9 | 40.4 | 1.8 | **57** | **100** |
| Njaetu | 71.4 | 26.8 | 1.8 | **56** | **100** |
| Ashong | 33.3 | 60.0 | 6.7 | **30** | **100** |
| Mbakam | 29.4 | 62.7 | 7.8 | **51** | **100** |
| Konchep | 36.5 | 48.1 | 15.4 | **52** | **100** |
| Bih | 20.8 | 69.8 | 9.4 | **53** | **100** |
| Binshua | 34.3 | 45.7 | 20.0 | **35** | **100** |
| Barare | 44.1 | 28.8 | 27.1 | **59** | **100** |
| Mbonso | 73.5 | 14.3 | 12.2 | **49** | **100** |
| Nkowe | 0.0 | 43.3 | 56.7 | **60** | **100** |
| **Total** | **46.9** | **39.0** | **14.0** | **684** | **100** |

Unlike Akum and Baba II where water borne diseases appear not to be an issue, higher proportions of respondents in communities such as Nkowe, Bih, Achain, Bakam, Ashong and Konchep (in this order) reported the incidence of symptotic or water borne diseases often or sometimes. Access to water could be one of the major factors responsible for the occurrence of these diseases or symptoms.

**Water committee& Competence**

Water committees do not exist in all communities. About 63% of grazers report that they do not have water management committees as opposed to 45% of farmers. This is particularly so for Bih, Achain, Konchep and Mbonso but also in Barare and Njaetu.

Where these water management committees do exist they are considered to be satisfactory (very competent or efficient) by 58%, with a larger degree of satisfaction amongst farmers (68%). A small number (8%) found them unsatisfactory (incompetent or very incompetent). Training the water management committees, where they exist alongside newly instituted committees is required to accompany the process of providing access to clean and safe drinking water.

**3.5 Incidence and severity of farmer-grazer conflicts**

The analysis of data collected from the respondents of these communities show that an overwhelming majority (75%) of them experienced farmer-grazer conflicts over the past three years. Out of the 618 respondents that reported to have had at least a conflict situation in the past three years, their distribution in the various divisions is shown in Table 19.

The base for the responses in this section is 618, the number reporting a conflict. Some people had been involved in more than one case and here the most serious incident is commented upon.

Table 19: Proportion of respondents who experience farmer-grazer conflicts by division, over the last three years North West region of Cameroon

|  |  |  |
| --- | --- | --- |
| **Division** | **Involved in conflict**  **(%)** | **Total** |
| Mezam | 15.5 | 96 |
| Momo | 18.4 | 114 |
| Boyo | 13.3 | 82 |
| Bui | 25.1 | 155 |
| Donga Mantung | 43.9 | 271 |
| **Total** | **100** | **618** |

The average number of conflict situations faced by each of the conflict-exposed respondents over the past three years appears to be greater in Donga Mantung, Momo and Boyo Divisions with an average of 1.73 conflicts reported by grazers in Momo Division (Table 20).

Table 20: Average number of conflicts encountered by a respondent over the past three years

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Farmers** | | | **Grazers** | | |
| **Division** | **Mean** | **Min** | **Max** | **Mean** | **Min** | **Max** |
| Mezam | 1.18 | 1 | 2 | 1.11 | 1 | 2 |
| Momo | 1.57 | 1 | 3 | 1.73 | 1 | 3 |
| Boyo | 1.70 | 1 | 3 | 1.61 | 1 | 3 |
| Bui | 1.16 | 1 | 3 | 1.36 | 1 | 3 |
| Donga Mantung | 1.52 | 1 | 3 | 1.72 | 1 | 3 |
| **Overall mean** | **1.43** | **1** | **3** | **1.55** | **1** | **3** |
| **Total** | **277** |  |  | **247** |  |  |

Ninety one percent of farmers said that Mbororo grazers were the ones with whom they had conflict (Table 21). On the other hand, 93% of grazers reported that the conflict they had was with the crop farmers. Though an overwhelming majority of conflicts is between farmers and grazers, a small number of conflict cases were also recorded among the farmers and grazers, for example four percent of farmers had conflicts with other crop farmers and another 4% with non-Mbororo grazers. Similarly, 7% of grazers reported conflicts with Mbororo grazers.

Table 21: Conflict opponents of farmers and grazers in the North West region of Cameroon

|  |  |  |  |
| --- | --- | --- | --- |
| **Conflict Opponent** | **Farmers (% )** | **Grazers**  **(%)** | **Total (%)** |
| Crop farmer | 4.1 | **92.7** | 46.0 |
| Mbororo grazer | **90.9** | 6.6 | 51.1 |
| Non-Mbororo grazer | 4.4 | 0.7 | 2.6 |
| Fisherman | 0.3 | 0.0 | 0.2 |
| Unknown cattle grazer | 0.3 | 0.0 | 0.2 |
| **Total** | **320** | **287** | **607** |
| **Percent of respondents** | **100** | **100** | **100** |

**Economic status of those involved in farmer-grazer conflicts**

The households exposed to conflicts were generally wealthier than the ones that were not exposed to conflicts as shown by a series of indicators (Table 22).

Table 22: Some economic characteristics of households exposed to farmer/grazer conflicts over the last three years

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Household exposed to conflict** | | | | **All respondents** | |
| **No** | | **Yes** | |
| **Mean** | **Std Dev.** | **Mean** | **Std Dev.** | **Mean** | **Std Dev.** |
| Months Food expenditure (FCFA) | 27,000 | 2,400 | 31,000 | 2,450 | 30,000 | 2.5 |
| Month’s Non-food expenditure (FCFA) | 26,500 | 3,100 | 31,200 | 3,000 | 30,000 | 3.0 |
| Mean land size (ha) | 1.6 | 2.3 | 1.7 | 2.6 | 1.7 | 2.5 |
| Household cattle size | 30.7\*\* | 2.8 | 41.2\*\* | 2.6 | 38.1 | 2.7 |
| Food expenditure/capita | 4,200 | 230 | 4,700 | 240 | 4,500 | 2.4 |
| Non-food expenditure /capita (FCFA) | 4,000\* | 300 | 4,800\* | 300 | 4,600 | 3.0 |
| Agric. income/ha (FCFA/ha) | 73,200 | 420 | 78,500 | 330 | 77,300 | 3.5 |

NB:\* represents 5% and \*\* represents 1% levels of significance.

Figure 3 provides periods during which farmer-grazer conflicts occur. The figure shows that conflicts occur throughout year but are particularly frequent during the months of April, May and June. The peak months of conflict correspond to the period when agricultural activities are being carried out in the areas under study. This is also the wet season when cattle could easily browse around.

Figure 3: Respondents’ opinion on the months of the year when farmer-grazer conflicts take place

**3.6 Causes of Farmer-Grazer conflicts**

Table 23 provides information on the main causes of farmer-grazer conflicts. Farmers and grazers give different reasons. A greater proportion of farmers consider encroachment into farmland and trespass of cattle as the main causes of conflict. The herders on the other hand consider encroachment into grazing land and farmland as the main reasons. The farmers are therefore accusing the grazers of trespass and encroachment whilst the grazers on their side are accusing farmers of encroaching on to their grazing land.

Table 23: Main causes of farmer-grazer conflicts in North West Cameroon

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Principal cause of conflict** | **Farmers**  **(%)** | **Grazers**  **(%)** |  | **Total**  **(%)** |
| Encroachment on farm land | 37.8 | 18.3 |  | 28.5 |
| Encroachment on grazing land | 10.3 | 46.6 |  | 27.5 |
| Trespass on farm land | 39.4 | 10.7 |  | 25.7 |
| Encroachment and Trespass on Farmland | 10.3 | 7.6 |  | 9.0 |
| Trespass on grazing land | 1.3 | 6.6 |  | 3.8 |
| Blocked access to water source | 0.0 | 1.4 |  | 0.66 |
| Encroachment and Trespass on Grazing land | 0.3 | 1.0 |  | 0.7 |
| Civil matter e.g. disputed divorce matter | 0.0 | 0.3 |  | 0.2 |
| Encroachment on Grazing land and Trespass | 0.6 | 3.8 |  | 2.1 |
| Encroachment into Grazing Land and Blockage of water source | 0.0 | 1.0 |  | 0.49 |
| Cattles were driven from Grazing Land | 0.0 | 0.3 |  | 0.2 |
| All the above including legal/admin. Failures | 0.0 | 1.4 |  | 0.7 |
| Poisoning of Cattle | 0.0 | 1.0 |  | 0.5 |
| **Total**  **Percent of respondents** | **320**  **100** | **290**  **100** |  | **610 100** |

The main causes of farmer-grazer conflicts reported by female-headed households were essentially connected to the use of land (Table 24). Encroachment on farmland is the major cause given followed by trespass on farmland and encroachment on grazing land. These were the same reasons given by all the respondents. Whilst the respondents overall ranked trespass on farmland as the fifth major cause, women ranked this second. Interestingly, the women never reported poisoning of cattle, civil matters or expulsion of grazers as causes of conflict.

Table 24: Causes of conflict reported by women

|  |  |
| --- | --- |
| **Principal cause of conflict** | **Total**  **%** |
| Encroachment on farm land | 34.2 |
| Trespass on farm land | 27.5 |
| Encroachment on grazing land | 21.7 |
| Encroachment and Trespass on Farmland | 12.5 |
| Encroachment on Grazing land and Trespass | 1.7 |
| Encroachment and Trespass on Grazing land | 0.8 |
| Encroachment into Grazing Land and Blockage of water source | 0.8 |
| All the above including legal/admin. failures | 0.8 |
| **Total** | 120 |
| **Percent of respondents** | 100 |

**Perception of farmers and grazers on the causes of conflicts**

In order to obtain an overall view people were asked about their perceptions of the conflicts overall, whether or not they had been involved in conflict. Although some respondents believe that the conflicts are not as severe as they used to be a large number disagreed or strongly disagreed (46%) and an even larger number disagreed that the number of conflicts was reducing (57%).

Perceptions about trends in and causes of conflict are given in Table 24 and ties in perfectly well with the previous findings. The leading cause of conflict is seen as the destruction of crops by cattle with 95% of the respondents agreeing with this statement whilst a somewhat smaller 67% believe that the encroachment of farmers onto grazing land is the cause. The household heads feel the agro-pastoral commission and the government is not doing enough in the resolution of farmer grazer conflicts in the North West region of Cameroon (see table for details).

Table 25: Proportion of respondents that strongly agree to strongly disagree with stated farmer-grazer conflict related statements

| **Conflict related Questions** | **% that disagree or Strongly disagree** | **% that agree or Strongly agree** | **Total** |
| --- | --- | --- | --- |
| **Causes of farmer grazer conflict** | | | |
| Destruction of crops by cattle | 4.5 | 95.3 | **837** |
| The carelessness of herdsmen | 13.3 | 82.0 | **829** |
| Encroachment of farmers onto grazing land | 29.2 | 67.7 | **836** |
| Movements of cattle during transhumance | 36.4 | 51.6 | **833** |
| Blocked access to water sources and cattle corridors by the farmers | 43.8 | 46.8 | **825** |
| Killing or poisoning of cattle by farmers | 64.1 | 32.2 | **828** |
| Financial influence (benefits) do not worsen farmer-grazer conflicts | 60.7 | 24.1 | **806** |
| **Land tenure system and management** |  |  |  |
| Land tenure and land ownership issues are a major contributor to the conflict problem | 40.9 | 46.4 | **814** |
| The Agro-pastoral Commission is less effective than the Dialogue Platforms in resolving disputes | 29.0 | 50.6 | **825** |
| The government (DO/SDOs) don’t do enough to tackle these conflicts | 37.5 | 50.1 | **829** |

**NB:** The row percentages do not sum up to 100 because some respondents did not know

**3.7 Effects of farmer-grazer conflicts**

The effects of conflicts can be very devastating for both the farmers and the grazers but in different ways (Table 26). An overwhelming majority of the farmers (85%) have had their crops damaged by cattle. On the side of herders, especially the Mbororos, 28% reported that cattle were injured, killed or stolen and 26% reported intimidation.

Table 26: Effects of conflict on parties in conflict and their families

|  |  |  |  |
| --- | --- | --- | --- |
| **Effects of conflict** | **Farmers (%)** | **Grazers**  **(%)** | **Total**  **(%)** |
| Crops damaged by cattle | 85.4 | 11.2 | **53.8** |
| Cattle injured, killed or stolen | 1.4 | 28.5 | **12.9** |
| Theft/damage to property | 5.9 | 3.3 | **4.8** |
| Arson | 0.7 | 2.8 | **1.6** |
| Intimidation | 1.7 | 26.2 | **12.2** |
| Physical Attack | 2.4 | 9.8 | **5.6** |
| Extortion | 0.7 | 6.1 | **3.0** |
| Illegal retention | 0.3 | 3.7 | **1.8** |
| Rape | 0.0 | 1.4 | **0.6** |
| Cattle injured, killed/stolen, intimidation, attack & illegal detention | 1.4 | 7.0 | **3.8** |
| **Total** | **288** | **214** | **502** |
| **Percent of respondents** | **100** | **100** | **100** |

The effects of these farmer-grazer conflicts from the economic point of view were devastating. Table 27 contains the median asset values lost by households that were exposed to conflict over the last three years. Affected households spent on average FCFA 42,500 each in the conflict resolution process. Crops valued at FCFA 75,000 on average were destroyed in each farmer’s field by cattle. In a smaller number of cases affecting grazers funds were lost as a result of livestock lost (FCFA 300,000) or injured cattle being treated (FCFA 200,000). Overall, on the basis of figures presented in Table 27, it is estimated that a gross amount of approximately 55 million FCFA was lost by households due to conflicts over the past 3 years.

Table 27: Value of assets lost and crops destroyed in conflict prone areas in FCFA for the past three years

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Total** | **Median** | **Min** | **Max** |
| Expenditure on conflict resolution | 320 | 42,500 | 100 | 5,000,000 |
| Expenditure human injuries | 17 | 50,000 | 5,000 | 1,000,000 |
| Value shelter loss | 7 | 50,000 | 20,000 | 850,000 |
| Value of crops | 277 | 75,000 | 2,000 | 3,000,000 |
| Value of property | 21 | 100,000 | 16,000 | 1,000,000 |
| Value farm loss | 12 | 25,000 | 10,000 | 400,000 |
| Value livestock lost | 23 | 300,000 | 20,000 | 1,800,000 |
| Value of agricultural tools | 1 | 30,000 | 30,000 | 30,000 |
| Treatment of cattle injuries | 49 | 200,000 | 5,000 | 1,500,000 |
| Other expenditure | 1 | 10,000 | 10,000 | 10,000 |

Female-headed households attribute the contamination of water essentially to agriculture and livestock activities (Figure 4). Interestingly, both male and female headed households suggest changes in climate conditions and droughts are responsible for inaccessibility to clean and safe drinking water.

Figure 4: Percent of male and female households citing different causes of water contamination (n=83)

**3.8 Sources of Support for Resolving Conflicts**

Friction over the use of land especially leads to conflict. When this occurs, farmers primarily seek help from different sources. The information provided on Table 28 shows amicable settlement is the most used mode of conflict mitigation (33%). The traditional authorities and the agro-pastoral committee come second and third, with only 12% using the dialogue platforms. The findings for farmers and grazers are similar. Litigation is rare.

Table 28: Respondents’ first source of help for most serious conflict situation experienced

|  |  |  |  |
| --- | --- | --- | --- |
| **Source of help** | **Farmers** | **Grazers** | **Total** |
| Amicable settlement by conflicting parties | 30.2 | 36 | 32.9 |
| Traditional council | 25.1 | 17.1 | 21.3 |
| Agro-pastoral commission | 10.5 | 15.4 | 12.8 |
| Dialogue Platform | 11.8 | 12.6 | 12.1 |
| Did nothing at all | 14.8 | 8.1 | 11.8 |
| Both Traditional Council & Agro-pastoral commission | 5.4 | 2.5 | 4.0 |
| Litigation (court) | 1.6 | 6.3 | 3.8 |
| Relations | 0.6 | 1.8 | 1.2 |
| **Total**  **Percent of respondents** | **315**  **100** | **286**  **100** | **601**  **100** |

**Preferred mode of conflict resolution**

The above results are in contrast to those in Figure 5 which show the method of conflict resolution respondents would prefer to use. Whilst, not surprisingly, most would prefer amicable settlement (52%) it is the dialogue platform, which is then the most popular choice (40%). The other modes of conflict resolution are much less preferred and litigation least of all.

Figure 5: Respondents’ preferred modes of conflict resolutions (n=597)

**3.9 Outcomes of conflict mitigation support sources**

In most cases, the parties in conflict settle their dispute amicably without restitution (Table 29). This is the first major outcome when they seek help as reported by 36% of respondents. In the second place, the disputes are often abandoned or, thirdly, settled amicably without restitution.

Table 29: Outcome for the source of help for conflict resolution

|  |  |  |  |
| --- | --- | --- | --- |
| **Conflict Resolution Outcome** | **Farmers**  **(%)** | **Grazers**  **(%)** | **Total**  **(%)** |
| Amicable settlement with restitution | 28.4 | 45.0 | 36.5 |
| Action abandoned | 41.1 | 17.1 | 29.6 |
| Amicable settlement with no restitution | 19.2 | 16.4 | 17.8 |
| Legal / administrative settlement with restitution | 3.8 | 9.6 | 6.6 |
| Legal / administrative settlement with no restitution | 4.6 | 7.9 | 6.1 |
| Pending in Court, or Further Appeal or further appeal or still in process | 3.1 | 1.1 | 2.2 |
| Traditional Council settlement | 0.0 | 2.9 | 1.2 |
| **Total**  **Percent of respondents** | **292**  **100** | **280**  **100** | **572**  **100** |

The traditional and administrative authorities resolved the remaining cases. It was noted during data collection that these conflicts were so serious in one of the communities in Bui division that youths and Christian groups were brought together to address the farmer-grazer disputes.

The findings above may suggest that farmers and grazers are continuously at loggerheads. Whilst disputes are widespread there is also a view that farmers and grazers collaborate with each other and 63% of respondents believe this to be the case (Figure 6). The picture is therefore nuanced and mixed.

Figure 6: Proportion of respondents that strongly agree or disagree as to whether there is collaboration between the grazers and the farmers

**3.10 Visibility of MBOSCUDA actions in conflict prone areas of the North West Region of Cameroon**

Reducing the endemic problem of farmer-grazer conflict in the North West region of Cameroon is one of the major preoccupations of MBOSCUDA. In the present study, one of the aims was to assess the extent of MBOSCUDA’s role both in conflicts and in other areas. First, it must be noted that 78% of the respondents (831) interviewed know something about MBOSCUDA although without necessarily knowing the scope of their activities. However, only 59% of these respondents knew about the services offered by MBOSCUDA. Table 30 provides information about the services offered by MBOSCUDA from these respondents’ point of view.

Table 30: Proportion of farmers and grazers with knowledge on services offered by MBOSCUDA

|  |  |  |  |
| --- | --- | --- | --- |
| **Services offered** | **Farmers**  **%** | **Grazers**  **%** | **Total**  **%** |
| Training/literacy classes | 23.1 | 35.6 | 31.0 |
| Access to loans | 1.6 | 1.9 | 1.8 |
| Awareness campaign on rights of Mbororos | 9.9 | 30.1 | 22.7 |
| Resolution of conflict | 25.8 | 13.1 | 17.8 |
| Social & Economic Opportunities | 5.5 | 7.4 | 6.7 |
| Awareness campaign on rights of Mbororos, resolutions of conflicts, social and economic opportunities | 1.1 | 2.2 | 1.8 |
| No idea | 33.0 | 9.6 | 18.2 |
| **Total** | **182** | **312** | **494** |
| **Percent of respondents** | **100** | **100** | **100** |

The results from the table show that MBOSCUDA is well known among the grazers for services in the area of capacity building and literacy, campaign on Mbororos rights and to an extent the resolution of conflict. Unlike the grazers, farmers know MBOSCUDA first for services in the area of conflict resolution then followed by organization of training or literacy classes.

**Women, youths and people with disabilities**

Table 32 shows the proportion of females and males that know about the services offered by MBOSCUDA. The males first knew MBOSCUDA for capacity building services followed by the organization of awareness campaigns. Conflict resolution comes as the third service respondents reported is offered by MBOSCUDA. On the other hand, the females knew MBOSCUDA in the area of capacity building and campaigns for Mbororos rights. Conflict resolution is considered as the third major service offered by MBOSCUDA.

Table 32: Proportion of females and males with knowledge of services offered by MBOSCUDA

|  |  |  |  |
| --- | --- | --- | --- |
| **Services offered** | **Females**  **%** | **Males**  **%** | **Total**  **%** |
| Training/literacy classes | 24.6 | 32.0 | 23.8 |
| Access to loans | 1.4 | 1.9 | 1.4 |
| Awareness campaign on rights of Mbororos | 24.6 | 22.4 | 17.4 |
| Resolution of conflict | 14.5 | 18.4 | 13.7 |
| Social & Economic Opportunities | 2.9 | 7.3 | 5.1 |
| Awareness campaign on rights of Mbororos, resolutions of conflicts & social and economic opportunities | 0.0 | 2.1 | 1.4 |
| No idea | 31.9 | 16.0 | 23.3 |
| **Total** | **69** | **425** | **494** |
| **Percent of respondents** | **100** | **100** | **100** |

Figure 7 provides information about the extent of support reported by 36% of the respondents that know the scope of activities of MBOSCUDA. They said that MBOSCUDA has been playing a large role in supporting them towards conflict resolution. It was reported that 69% think MBOSCUDA’s actions had helped them and this was particularly true for males. If we look separately at farmers and grazers then, for the subset of people who know about MBOSCUDA, 70% of grazers find the services of MBOSCUDA useful but, at the same time, 57% of farmers are also very positive (Figure 8).

Figure 7: Respondents’ opinion on the extent of MBOSCUDA's support in conflict resolution (n=521).

Figure8: Usefulness of MBOSCUDA's services (frequencies in brackets) (n=532)

**3.11 Baseline indicators for the measurement of progress and impact**

The project outcome indicators are shown in Table 31. The indicators with respect to outcome 1 show that farmer-grazer conflicts are still common and have not reduced in the communities studied. An absolute majority of the respondents are aware of the causes. Thirty three percent of the respondent reported that there is greater collaboration between the farmers and the grazers especially as concerns the use of natural resources and carrying out of their activities of farming and grazing. Only a small proportion (17%) of those exposed to conflict actually used the dialogue platform as a source of help for conflict resolution. This is probably because these platforms are yet to be set up in some of the areas covered.

The sustainable use of natural resources (outcome 2) is an important issue in conflict mitigation. This is why Alliance Farming has been promoted as one of the ways to sustainably manage the natural resources over which the farmers and grazers fight for their livelihoods. Majority of farmers interviewed reported that Alliance Farming accounts for an increase in crop yields. On the other hand, only 36% of grazers reported improvement in the health of cattle as a result of Alliance Farming. A much lower proportion of grazers (17%) adopted the use of improved pasture as an alternative to cattle feed source. Of the total number of respondents interviewed on this (80), only 28% reported they are using Alliance Farming. So, there is some way to go in promoting measures for the sustainable management of natural resources and building collaboration between the grazers and the farmers.

Table 31: Baseline indicators for the project “In search of common grounds”

| **Project outcome** | **Indicator** | **Percent** | **Number of cases** | **Total** |
| --- | --- | --- | --- | --- |
| **Outcome 1:**  Conflict Resolution: a reduced incidence and severity of conflict between crop farmers and cattle herders (through dialogue and collaboration) resulting in more equitable access to natural resources and an improved environment for exercising basic rights | Percentage of people who know about the causes of conflict between communities and the consequences for those involved | 73% | 610 | 840 |
| The number who have used the Dialogue Platform to resolve farmer/grazer conflicts | 17% | 103 | 618 |
| The percentage who have used the DP and believe it is a more effective mediation method than the alternative farmer-grazer commission | 57% | 59 | 103 |
| The percentage of respondents who report that there is now greater collaboration between communities | 33% | 275 | 829 |
| The percentage of people who say that the number of conflicts has reduced | 32% | 268 | 825 |
| The percentage of people who say that the severity of conflicts has reduced | 37% | 301 | 817 |
| **Outcome 2:**  Sustainable Natural Resources: improved skills in sustainable farming methods leading to better crop and livestock yields, greater cooperation between crop farmers and cattle herders and increased awareness of the need for environmental protection | The level of knowledge/skills relating to Alliance Farming, Improved Pasture and Biogas   * Alliance Farming, * Improved Pasture and * Biogas |  | * 235 * 67 * 3 | * 840 * 67 * 3 |
| The number of households who have taken up Alliance Farming (AF) | 28% | 235 | 840 |
| The number of households who have taken up improved Pasture (IP) | 17% | 67 | 390 |
| The percentage of farmer households practicing AF who have reported improved crop yields | 51% | 225 | 440 |
| The percentage of of grazer households who have reported improved cattle health | 36% | 144 | 390 |
| Construction of Improved Pasture demonstration plots | 0 | 0 | 0 |
| Construction of Bio-gas demonstration plots | 0 | 0 | 0 |
| **Outcome 3:**  Clean and Safe Water: equitable access to clean water contributing to reduced conflict between farmers and grazers and more sustainable use of a vital natural and economic resource | The level of knowledge about practices that promote safe water usage and prevent water pollution | 16% | 135 | 840 |
| Levels of collaboration and sustainable water usage in communities | 18% | 154 | 499 |
| Levels of efficiency of local water management structures | 58% | 206 | 350 |
| The number of people reporting incidence of conflict over water and improved access | 29% | 224 | 840 |
| Number of members of Water Management Committees who have been trained | 0 | 0 | 0 |
| Proportion of conflicts in the conflict database that include issues relating to access to water | / | / | / |
| **Outcome 4**  Strong Organizations: Mbororo people have greater capacity to exercise their rights leading to more responsive legislation, reduction in human rights violations that they experience and improved opportunities for social and economic development | The percentage of people involved in conflict who had a great deal of support from MBOSCUDA in conflict resolution | 16% | 101 | 618 |
| The percentage who believe that the CBOs have helped strengthen the way MBOSCUDA works with local communities |  |  |  |
| The number of Mbororo women who believe that MBOSCUDA has helped them to increase participation in resolving conflict | 78% | 21 | 28 |
| The percentage of farmers and grazers who have an increased awareness and understanding of Mbororo rights through the work of MBOSCUDA and CBOs | 63% | 404 | 840 |

As far as access to clean and safe drinking water is concerned, the findings of the survey show that humans and cattle compete over access to water from same sources. The management of this important resource is in the hands of water management committees in communities where they exist. These committees are rated to be efficient by 58% of the respondents from the communities where the committees exist. However, it may be noted that water management committees do not exist in most of the communities and need to be put in place. The capacity of these committees needs to be strengthened as only a small proportion of the respondents have the level of knowledge about practices to promote safe water usage and prevent water pollution.

Other data, for example the annual earned income per hectare from agriculture, the number of cattle or investment can be used to place the above indicators into context and will be relevant for later stages of the evaluation. It may also be useful to review the way these SMART indicators have been calculated and constructed to ensure they are fit for purpose.

Three questions were asked of a subset of the survey population and were specifically designed to do so. The three questions were on: collaboration and sustainable water usage, levels of efficiency of local water management structures and Mbororo women who believe that MBOSCUDA has helped them. These indicators may not give an overall view of the levels of the indicator within the whole community.

1. **Conclusion and way forward**

**4.1 Conclusion**

The struggle over the use of natural resources remains the root cause of farmer-grazer conflicts in the North West region of Cameroon. “In search of Common Grounds” is a project designed to reduce these farmer-grazer conflicts resulting from competition over the use of resources in this part of the country. It is within this context that this study was carried out. Its purpose was to help evaluate the effectiveness of the project and its impact on the communities of the North West region of Cameroon.

The results of this survey re-emphasized the serious nature of the farmer-grazer conflicts in the targeted communities. Farmers and grazers from these communities cohabitate and they use common natural resources such as land and water for livelihood improvement. The findings corroborate those of the expert interviews that informed the design of the baseline. The survey found that approximately 75% of the 840 households interviewed were exposed to farmer-grazer conflicts, at least once, in a three year period. The cattle herders use common land and depend on the same sources of water for their livelihood as the crop farmers. The victims are poor with an average monthly food expenditure of FCFA 30,600; monthly non-food expenditure of FCFA 31,200, 1.74ha of land as the average land size and a mean cattle size of 41 for the grazers. The estimated per hectare annual income earned from subsistence agriculture by conflict-exposed households stood at FCFA 78,500 only.

Farmer-grazer conflicts in the study communities were principally caused by the encroachment or struggle over the use of space for agriculture or cattle grazing on the side of the crop farmers and cattle rearers respectively. This corroborates with the findings of Manu et al. (2014) in which they attributed causes of farmer grazer conflicts in 24 communities, other than the one studied, to competition over land, cattle trespass and encroachment. Encroachment into grazing land by farmers is also because they are in search of fertile soil on which crops could be grown. The main source of water for both cattle and household consumption are streams, rivers and water holes. These sources of water resource are also a root cause to farmer-grazer conflicts as 65% of households involved in conflicts use them as sources of drinking water. Moreover, these very points are a source of drinking water for cattle as reported by 97% of the herders who were exposed to conflict. The ultimate outcome in such a circumstance could only be the contamination of water sources, water borne diseases and conflicts over the use of these water sources.

Conflict could therefore be very devastating to the lives of exposed households. Contaminated water sources, for instance, were responsible for the outbreak of diseases reported by 43% of the sampled population. Conflicts in these areas have been responsible for damages of crops (53%), cattle injuries/loss (13%) and intimidation (12%). The losses due to damages on crops were estimated at a median value of FCFA 75,000 for 63% of the crop farmers. Women are the leading farmers in these communities and are therefore the ones affected most when it comes to crop damages. Cattle losses were valued at FCFA 300,000 for the 6% of the herders affected. On average, conflict exposed households spent FCFA 42,500 in the conflict resolution process. It is estimated that the losses of assets incurred due to farmer-grazer conflicts over the last three years was well above FCFA 55 million for 63% (390) of households exposed to conflict in the study area.

In order to minimize the consequences of farmer-grazer conflicts, the stakeholders use different mitigation practices with limited results. These mitigation practices start from the parties concerned and then reach out to mediators outside the communities. The farmers and grazers alike use and highly prefer to settle all conflict issues arising amicably with or without restitution. This may take the form of dialogue platforms, on the spot agreement between the concerned and to a limited extend the mediation of a third party. It must be noted here that the role played by the agro-pastoral commission is relatively small as the commissions do not have a running budget from the competent ministerial department. Though 12% of the respondents seek help from the commission, only 1.5% of conflict-exposed households prefer to use the services of the agro-pastoral commission. In a situation where the parties in conflict seek to resolve their problem through the commission, it often results in an amicable settlement, legal matter or abandonment. The expert interview like the baseline survey revealed that some limited form of extortion of funds, though not in all the divisions covered, may occur when the parties in conflict seek support from the traditional, administrative and legal authorities. This is attributed to the fact that the agro-pastoral commission runs without a budget and transfers the costs of mediation to the disputing parties. Legal fees or some charges must also be supported by the parties in conflict when they opt for legal pursuit or the mediation of the traditional authorities. Consequently, some of the funds paid to the authorities by parties in conflict are service fees and might not necessarily be regarded as corrupt practices. In as much as few cases of malpractices exist on the side of the authorities, it is also incumbent to understand that some service fee has to be paid.

In order to address the root causes of conflicts, different mitigation or coping mechanisms were adopted in the communities. The sustainable management of access to clean and safe drinking water is handled by water management committees in 8 of the 14 project communities. However, these committees have different levels of inefficiencies requiring additional capacity building or institution of these committees where they do not exist. Alliance farming is practiced with the use of cow-dung as a source of soil fertility improvement hence better yields and income. The cow-dung used for soil fertility improvement is obtained by way of associating crop cultivation with cattle rearing or is fetched from grazing fields with the knowledge of the grazers who are essentially Mbororos. This explains why the respondents feel there is some degree of collaboration between the sedentary grazers and the crop farmers as expressed by 63% of the respondents.

The strength behind the collaboration between the grazers and farmers has been due to the support of NGOs, ministerial departments and especially MBOSCUDA. This is why the household respondents that know MBOSCUDA feel that their assistance in the resolution of farmer/grazer conflicts is useful or very useful as acknowledged by 46% and 37% of the interviewed persons respectively. A number of these respondents therefore think the support services of MBOSCUDA were a great deal (25%) or to an extent (41%) substantial in the resolution of conflicts. The strength of support from MBOSCUDA comes from the presence of paralegals backed by the coordinating office from Bamenda. Nevertheless, more still has to be done especially within the framework of the project as recommended in the section that follows

**5.2 Way Forward**

MBOSCUDA and other stakeholders need to do more to reduce the endemic problem of farmer-grazer conflict and its effects on the livelihood of the farmers and grazers as well. The findings of this baseline survey serve as a good base for an appropriate outreach strategy for conflict reduction and performance measure. The interested parties need to capitalize on the existing efforts geared at mitigating conflicts and particularly the root causes of conflict for livelihood improvement:

* Appropriate measures need to be taken for the communities to have access to clean and safe drinking water points not only for humans but for cattle. Common grounds on access to water resources must be agreed upon or water provided where necessary. The institution and building of the capacities of water management committees where they do not exist or inefficient may be required to sustainably get access and use water resources;
* Best practices should be encouraged and extended to other farmers and grazers. Alliance farming and use of improved pasture should be encouraged;
* Intensification of agricultural activities alongside appropriate inputs such as improved seeds, alliance farming among others may reduce the pressure on land for agro-pastoral activities;
* The competent ministerial department needs to make budgetary allocation for the running of agro-pastoral commission. This will not only limit the extortion of resources from farmers and grazers but would permit the commission to function thereby allowing them to organize more sensitization campaigns, reallocation of space for farming and grazing activities;
* The project and other stakeholders should engage in a campaign to create awareness and lobby for support from all the stakeholders including policy makers that need to take their responsibilities;
* The management of the project “In search of Common Grounds” should use the result of this baseline to improve project implementation. The development or review and use of appropriate strategy and monitoring tools or framework should be given the due attention.
* Amicable settlement should be encouraged as much as possible. This may be through the use of Dialogue Platforms, existing mitigation committees;
* Exchange visits should be organized in order to learn about best practices such as the functioning of Dialogue Platforms, night paddocking and pasture improvement programs where they exist;
* Some of the farmer-grazer conflict hotspots earlier identified for the project may be revisited because major hotspots have changed over time in some of the sub-divisions. For instance, Pinyin is a major conflict hotspot than Akum and Baba II in Santa.

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**Appendices**

**Other Tables**

Table 32: Proportion of respondents with land titles or permits

|  |  |  |
| --- | --- | --- |
| **Source of land** | **No title or permit**  **(%)** | **Title or permit**  **(%)** |
| By inheritance | 82.2 | 17.8 |
| Bought | 58.0 | 42.0 |
| Provided by Fon/Ardo | 78.4 | 21.6 |
| Provided by the administration | 20.0 | 80.0 |
| By Inheritance, Purchased or provided by Fon/Administration | 77.8 | 22.2 |
| Begged from Fon, Administration or Friends | 100.0 | 0.0 |
| **Total** | **530** | **135** |
| **Percent of respondents** | **100** | **100** |

Table 33: Action taken by the other person in a conflict situation

|  |  |  |
| --- | --- | --- |
| **Opponents source of help** | **Farmers**  **(%)** | **Grazers**  **(%)** |
| Did nothing at all | 58.1 | 14.0 |
| Opted for amicable settlement | 17.5 | 28.1 |
| Used the Dialogue Platform | 14.2 | 21.6 |
| Reported to the traditional council | 4.0 | 11.2 |
| Reported to the agro-pastoral commission | 1.7 | 11.9 |
| Sort litigation (court) | 14.2 | 10.1 |
| Reported to the agro-pastoral Commission | 1.0 | 2.5 |
| Gave Bribes | 0.3 | 0.3 |
| Help from relations | 0.0 | 0.4 |
| **Total** | **303** | **278** |
| **Percent of respondents** | **100** | **100** |

Table 34: Extent of support of MBOSCUDA in conflict resolution by gender

|  |  |  |  |
| --- | --- | --- | --- |
| **Extent of support** | **Females**  **(%)** | **Males**  **(%)** | **Total**  **(%)** |
| A great deal | 16.0 | 26.0 | 25.0 |
| To some extent | 55.0 | 39.0 | 41.0 |
| Not at all | 29.0 | 35.0 | 35.0 |
| **Total** | **56** | **465** | **521** |
| **Percent of respondents** | **100** | **100** | **100** |

Table 35: Diseases often borne by respondents’ family because of water contamination

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Not at all**  **(%)** | | **Sometimes**  **(%)** | | **Often**  **(%)** | | **Total**  **(%)** | |
| **Disease/symptom** |  |  |  |  |  |  | **Total** | **Percent of respondents** |
| Stomach upset |  | 2.1 |  | 69.1 |  | 28.8 | **243** | **100** |
| Typhoid |  | 2.3 |  | 74.4 |  | 23.3 | **86** | **100** |
| Cough & Catarrh |  | 4.0 |  | 76.0 |  | 20.0 | **25** | **100** |
| Stomach upset & Typhoid |  | 0.00 |  | 93.3 |  | 6.7 | **15** | **100** |
| **Total** |  | **2.2** |  | **71.8** |  | **26.0** | **369** | **100** |

1. Akum, Baba II, Bainjong, Achain, AchaTugi , Njaetu, Ashong, Mbakam, Konchep, Bih, BinshuaBarare, Mbonso and Nkowe (distributed in eight sub-district areas of the NWR of Cameroon) [↑](#footnote-ref-1)