LOTTERY FUNDED

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

MIDTERM EVALUATION REPORT

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Acronyms

AF	Alliance Farming
CBO	Community-Based Organisation
CDENO	North West Livestock Development Fund
CRV	Community Resource Volunteers
DO	Divisional Officer
HELVETAS	Swiss Interco-operation
HPI	Heifer Project International
ISCG	In Search Of Common Ground
MBOSCUDA	Mbororo Social and Cultural and Development Association
MINEPIA	Ministry of Livestock, Fisheries and Animal Industries
MINADER	Ministry of Agriculture and Rural Development
NWR	North West Region
PEO	Paralegal Extension Officer
SDD	Sub Divisional Delegate
SDO	Senior Divisional Officer
SNV	Netherlands Development Organization

Executive Summary

The midterm evaluation has been undertaken within the context of a five-year project 'In Search of Common Ground', which strives to reduce farmer-grazer conflicts between subsistent crop farmers and Mbororo cattle herders in the North West Region of Cameroon. This evaluation assesses project progress in its targeted communities, focusing on: changes in the extent, severity and causes of farmer-grazer conflicts; access to natural resources; institutional support; and livelihood practices. The study replicates a baseline study undertaken at the beginning of the project. Primary data were collected using structured questionnaires administered to household heads of Mbororo cattle herders and subsistence farmers in five administrative divisions (Mezam, Momo, Bui, Boyo and Donga Mantung) covering 14 communities as it was the case for the baseline survey. Altogether, 864 households were studied among whom 160 were headed by women, compared with 840 in the baseline study, of which 148 were headed by women.

Background characteristics

- The level of education of the respondents was generally low. Most farmers (58%) have been educated at the primary level and most grazers (66%) have been educated at primary school or have had informal Koranic education;
- Most grazers are Mbororos and most farmers are non-Mbororos as it was the case at the start of the project. The majority of Mbororos are Muslims and the majority of farmers are Christians. Agriculture still remains the main activity of 96% of the farmers. By contrast 98% of grazers rear cattle and this is their main source of income.
- There were significant differences between the per capita food and non-food expenditures of the farmers and grazers, with grazers spending somewhat more than farmers.
- The average household sizes for farmers and grazers were similar to those at baseline with farmers lower than grazers (5.5 and 7.3 respectively). The estimated land used was 2.6ha for the farmers and 2.9ha for grazers. The median herd size for Mbororos is 40.

Alliance farming, pasture improvement and biogas

Alliance farming has been promoted as a way to improve crop yield, cattle health and collaboration between farmers and grazers, but its use – whilst increasing – is not widespread and less so biogas. There is some way to go to encourage these measures, whilst the use of improved pasture as an alternative to cattle feed source has increased significantly:

- The proportion of farmers growing crops using cow dung increased from 28% at baseline to 33% at midterm. Cow dung is increasingly sourced through alliance Farming. As expected farmers (99%) claim that crop yield under alliance farming are higher;
- The proportion of grazers who have adopted the use of improved pasture increased from 17% at baseline to 45% at midterm;
- The main source of cooking fuel is wood for 99% of the households interviewed at midterm as it was at the baseline. The use of biogas is still very limited (only one of the respondent at baseline and five at midterm). Consequently, the use of slurry in crop production, as a by-product of biogas, is limited (only three of the respondent at baseline and five at midterm).

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 (77%) and some bought (10%), which is similar to the findings of the baseline survey;
- In order to access and use land there can be land lease costs or payment to the traditional or administrative authorities. Land lease costs stood at a median value of FCFA 56,000 thereby showing a small increase of FCFA 6,000 compared to the baseline. The median amount paid to traditional or administrative authorities for land use increased from FCFA 200,000 at baseline to FCFA 250,000 at midterm.

Access to clean and safe drinking water

There has been a marked improvement in access to clean and safe drinking water and a reduction in the incidences of water conflicts. Knowledge about the prevention of water pollution and clean and safe water usage in the communities has also increased significantly. Despite this, there is still competition between people and cattle over access to water. Grazers have not fully shared in the enhancement of clean water supplies that farmers have benefited from. The management of this is in the hands of community water management committees. It is a priority for more to be put in place and for capacity building to be undertaken:

- The improvement in access to clean water has contributed to a drop in water related conflicts (19% at midterm from 44% at baseline);
- The main sources of drinking water are still streams, rivers and waterholes for 55% of households at midterm compared to 66% at baseline. However, it is mainly farmers who have benefited from this reduction, that is now only 38% of farmer households use streams, rivers and waterholes compared to 73% of grazers;
- It is also farmers who have benefited most from access to public taps: whereas around six percent of both groups accessed public taps in the baseline survey, now farmers' access has increased to 41% compared to only 10% for grazers;
- Streams, rivers and waterholes remain the source of drinking water for virtually all the cattle and cows contaminate water consumed by humans which results in water-borne diseases, such as typhoid;
- The proportions of respondents reporting increases in the levels of collaboration and sustainable use of water in the communities increased significantly by 52% from 18% at baseline to 70% at midterm
- The proportion of respondents who reported the contamination of water sources as one of the main causes of typhoid was 21% which was similar to baseline;
- Water management committees exist in some of the communities to manage access to safe and clean drinking water but more need to be put in place and trained.

Incidence and severity of farmer-grazer conflicts

In the interviews everyone was asked whether or not they believed the conflicts had reduced. The most important finding is that people say that conflict has reduced (73% compared with 32% at baseline) and that conflict is less severe than it was before (79% compared with 37% at baseline). There is a larger increase in this positive perception among grazers. Households were also questioned about exposure to conflicts during the last three years. It was found that 64% of households had been involved in a conflict relative to 74% at baseline thereby indicating a 10% drop in the proportion of those involved in conflicts by midterm. This is a major change and an important indicator of improvement.

- It was found that 25% of people said that conflicts occurred rarely relative to 7% at baseline and that there is a larger increase in this positive perception among grazers;
- At baseline, the farmers accused grazers of trespassing on farmlands and grazers accused farmers of encroaching on grazing land. At midterm there was a greater consensus with large numbers (76%) agreeing that trespass by grazers on farmland was the major cause. Women had a similar view;
- The conflicts have devastating social and economic effects. Of those affected, farmers report damage to crops (93%) and grazers report injuries to cattle (24%) and intimidation (20%);
- The value of assets lost due to conflict can be considerable. The largest numbers of respondents are affected by crop damage and by expenditure on conflict resolution itself. The latter includes the costs of restitution, the cost of using the agro-pastoral commission and legal costs.

All respondents were asked about their perceptions of the conflicts and their causes. By midterm the four main reasons given were: destruction of crops by cattle (85% agreeing or strongly agreeing), the lack of effectiveness of the agro-pastoral commission (72%), the government not doing enough (70%) and the benefits that officials receive (60%). The latter three reasons are about government and governance and not about environmental problems as such.

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 10%, a decrease on baseline and the Dialogue Platforms are used by 16%, an increase on baseline. People were also asked about their preferred modes of conflict resolution and the agro-pastoral commission is preferred by just 2% and the Dialogue Platforms by 38%;
- The uses of traditional and administrative authorities and the courts are the least preferred modes of conflict resolution as the process can be 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 progress is being made in resolving conflicts.

- In practice, cases are settled with restitution (45%), settled without restitution (19%) or, in some cases abandoned (26%), with a steady increase in the first category relative to baseline. The settlement of cases by traditional councils or by the courts is relatively rare.

Visibility of MBOSCUDA

MBOSCUDA is increasingly known for its contributions to resolving conflict in the North West Region of Cameroon and people feel that they are better supported as a result.

- The services offered by MBOSCUDA are known to 91% of respondents, a large increase on baseline (59%);

- MBOSCUDA is well known among the grazers for training and literacy classes services whilst farmers recognise MBOSCUDA for its work on conflict resolution;
- About 54% of both farmers and grazers at midterm believe the services of MBOSCUDA are very useful compared to 25% at baseline;
- The numbers who believe that the CBOs have helped strengthen the way MBOSCUDA works with local communities increased to 88%.

Baseline indicators for the measurement of progress and impact

The statistical indicators show milestones and the progress made during the first-half of project execution. These indicators will continue to be used throughout the rest of the project duration to measure progress.

Recommendations

The findings of the midterm evaluation show some progress has been made in reducing the proportion of those exposed to farmer-grazer conflicts in the project communities. It also sets the pace for accountability in the use of resources, progress in the achievement of the milestones and impact assessment in the final two years of the project. The following short and medium term recommendations are proposed in order to strengthen the prospects of fully achieving the project outputs and intended outcomes:

1. Conflicts still remain a serious issue for large numbers. When conflicts arise, amicable settlement should be encouraged as much as possible. Dialogue platforms have an important role to play here as both farmers and grazers recognize them as the most appealing way of conflict resolution after amicable settlement between the parties concerned. Efforts should be made towards sustaining the existence and smooth functioning of the Dialogue Platforms by reinforcing their capacity in conflict prevention and mediation.

2. Measures should be taken to encourage grazers and particularly herdsmen from allowing cattle to trespass on farmlands. This may be included in the awareness campaign messages. The joint construction of fences by farmers and grazers should also be encouraged; around farms to avoid crop destruction by cattle.

3. Grazers are now more aware than are farmers of their role in causing conflict. As well as the use of the Dialogue Platform, actions can be taken to discourage farmers from planting on grazing land.

4. Whilst the Dialogue Platforms have succeeded in bringing people together to discuss problems, respondents say that more work needs to be done to increase collaboration between the farmer and grazer communities. This suggests that there are wider issues to be addressed and further in depth case studies or focus groups need to be carried out;

5. Working with key stakeholders to feed into policy changes with regards to land reform is an important long term goal given that current land tenure arrangements are a major cause of conflict;

6. Efforts should be made to strengthen collaboration between farmers and grazers by promoting best practices especially in the area of equitable usage of water, uptake of improved pasture, alliance farming, and intensification of crop production using slurry, cow-dung and improved seeds.

7. Emphasis should be given to increasing access to clean and safe drinking water for both humans and cattle under non-competitive circumstances. Working with key stakeholders, this should include the construction of clean and safe drinking water sources/catchments, setting up of water management committees where they do not exist and building their capacity to be more effective in carrying out their functions. Grazers should be targeted particularly because access to clean and safe drinking water at present appears to benefit farmers more than grazers;

8. Development of a clear advocacy plan could underpin much of the work towards achieving Strong Organisations. This could provide a springboard for communities to take forward activities long after project funding comes to an end.

1. Introduction

The causes of farmer-grazer conflicts among the ethnic Mbororo cattle herders and non-Mbororo subsistence farmers, particularly in the North West Region of Cameroon (NWR), have been well documented. 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, 2011; Manu et al., 2014, Nchinda et al., 2014a&b), the increase in human and animal population (Gefu & Kolawole, 2002) and resource access rights and the inadequacy of grazing resources.

The effects of these conflicts can be devastating and include loss of assets and human life, insecurity, food crises and sustained poverty. Also, conflict limits the ability of crop farmers and grazers (herders) 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.

A survey carried out in 14 farmer-grazer conflict-prone communities in the North West Region of Cameroon revealed that 85% of farmers had their crops damaged whilst the grazers reported cases of cattle injuries, mortality or theft (29%) and intimidation (26%). The economic losses to households exposed to these conflicts were estimated at FCFA 55,000,000 (Nchinda et al., 2014b). Research in Bauchi State in neighbouring Nigeria demonstrated that the income of families exposed to farmer-grazer conflict was far lower than in non-conflict areas and that the conflict had negative effects on the nation as a whole. The farmers and the grazers were further financially penalised because they were required to pay a fee of US $40 for conflict mitigation services (Sulaiman and Ja'afar-Furo, 2010).

The project *In Search of Common Ground* (hereafter ISCG), was developed by Mbororo Social and Cultural and Development Association (MBOSCUDA) and international partners (Village Aid, EU, Comic Relief, etc.) to mitigate the scourge of farmer-grazer conflict in the NWR. This utilises Dialogue Platforms, a specialised mediation method, previously piloted in four-locations in the area.

ISCG is a five-year project, from August 2013 to July 2018, scaling up this conflict mitigation initiative to 14 other locations[1].

The project has also established and facilitated agricultural interventions to help reduce the causes of the conflict and competition over scarce resources. It addresses two fundamental gaps in existing services. The first is the exclusion of marginalized Mbororos cattle herders (grazers) from poverty-reduction strategies in Cameroon and the failure to recognize their collective rights to access land, to achieve personal and material security and improved 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 Presidential Decree of 1978) is reported to be inadequate (Sone, 2012). Rather than addressing their root causes it exacerbates farmer-grazer conflicts through the encouragement of litigation and compensation.

It is hoped that the ISCG project will lead to:

- 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 this vital natural and economic resource;

- Mbororo people having greater capacity to exercise their rights, leading to more responsive legislation, reduction in their experience of human rights violations and improved opportunities for their social and economic development.

[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)

1.1 Evaluation Objectives

This mid-term evaluation assesses progress made since the baseline data were collected at the beginning of the project and evaluates progress made towards achieving project objectives, thus paving the way for final impact assessment in the fifth year. The specific objectives are to:

- determine the changes brought about by the project intervention in causes, frequency and severity of farmer/grazer conflicts in target communities;
- determine the effect of water catchment protection, alliance farming, improved pasture practices and biogas installations on the livelihoods of cattle herders and farmers in the project areas (through the provision of data, statistical indicators and analysis on livelihoods);
- determine changes in the capacity of MBOSCUDA and its related CBOs brought about by the intervention as well as establish the level of collaboration and more efficient and gender-equitable practices;
- determine the environmental and/or political issues that have influenced or directly affected the introduction or implementation of any parts of the project.

1.2 Rationale of the evaluation

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 evaluation results will provide a picture of the conditions three years after the start of the project along with a data-set to help measure outcomes and impact at its end. Additionally, any shortfall in expected outcomes or unexpected findings from the midterm evaluation can then be further explored by undertaking small scale qualitative research, the results of which can then be used in amending or adjusting policies.

1.3 General organization of the report

The report is organized in four 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 which describes the data collection process and the analytical method employed. The findings are presented and discussed in the third section, which covers the aspects of farmer-grazer conflicts that have changed over the period and the extent to which this has affected agriculture and livestock production. It examines and explores changes in the nature and causes of conflicts and how they affect communities along with a discussion of mitigation strategies. The section also includes key indicators required to measure progress in the implementation of the project. The fourth section presents the conclusions and suggestions for project implementation.

2. Methodology

2.1 Choice and description of study area

The Midterm Survey was conducted in February and March 2016 in 14 communities distributed over five administrative divisions (Mezam, Momo, Bui, Boyo and Donga Mantung) of the NWR of Cameroon. These are the same communities that were covered during the baseline survey in February and March 2014 and are all in areas targeted by the ISCG project, which have farmer-grazer conflicts. The communities where respondents were interviewed include Akum, Baba II, Bainjong, Achain, AchaTugi, Njah-Etu, Ashong, Mbakam, Konchep, Bih, Binshua, Barare, Mbonso and Nkowe (Figure 1). Figure 1 also shows some of the transhumance areas where cattle graze during drought periods.

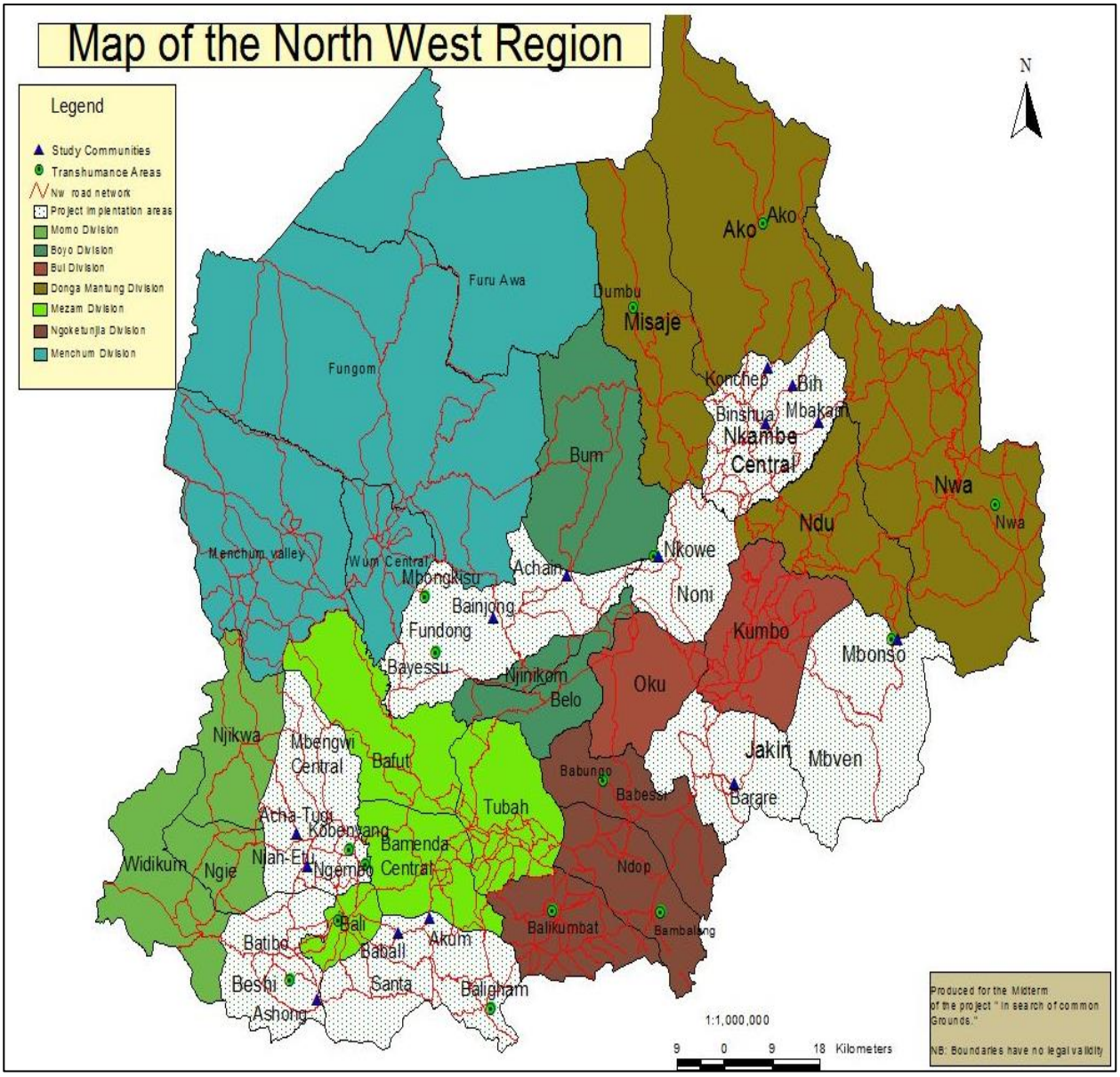

Figure 1: Map of conflict hotspots and transhumance communities in North West Cameroon;

Source: Drawn up by Authors

2.2 Sampling and data collection

A total of 850 households (grazers and farmers) were interviewed in the 14 communities targeted by ISCG project at baseline. At Midterm, we followed up using the same sample and successfully contacted 55% of those previously interviewed and then topped this up to 864 households. The survey used random sampling, stratified into two groups, farmers and grazers, in order to obtain roughly similar numbers in each group to enable a robust analysis to take place. Primary data were collected using structured questionnaires administered to household heads of Mbororo cattle herders (419), and subsistence farmers (445) in five administrative divisions covering 14 conflict hot spots or communities in the NWR of Cameroon (Table 1). This gives an average of approximately 62 questionnaires per community corresponding to 864 in total.

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

Division	**Farmers (%)**	**Grazers (%)**	**All (%)**	**Number of Communities**
Mezam	16.4	13.1	**14.8**	2
Momo	21.3	21.0	**21.2**	3
Boyo	13.3	15.5	**14.4**	2
Bui	21.3	21.5	**21.4**	3
Donga Mantung	27.6	28.9	**28.2**	4
No of cases	**445**	**419**	**864**	**14**
Percent of respondents	**100**	**100**	**100**	

2.3 Data collected

Data were collected with the assistance of trained enumerators using structured questionnaires similar to those used in the baseline study, with minor modifications and additions to enhance clarity and to provide more information. A logical framework developed for the purpose of this evaluation was used to document progress made in the implementation of the ISCG project. The questionnaire was used to gather data on the socioeconomic characteristics of respondents (gender, age, income level, occupation, marital status, ethnic group, etc.) in the conflict hotspot

areas. Information was documented on whether respondents were exposed to conflict, its incidence and severity, what their views on its causes were and on what mitigation practices were seen as successful. Respondents were also questioned on their knowledge of and involvement in services offered in the context of the ISCG project and on their knowledge of and views on the activities of MBOSCUDA.

Livelihood data collected include the land tenure system and access to natural resources such as land and water, along with agro-pastoral system information including water protection activities, alliance farming (AF), improved pasture and biogas experiences. Global positioning system 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 sex and marital status and on households with disabled people. Twelve percent (12%) of the 864 households had disabled people. Thirty-nine percent (39%) of those with disabilities had sight, hearing or speech disabilities; the rest had mobility problems, suffered from paralysis or had mental health problems. A large majority of the respondents interviewed were men with female respondents representing 19% 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

	Farmers		Grazers		Both		
Criteria	Female	Male	Female	Male	Female	Male	**All**
Sex of respondents							
Total	130	315	30	389	160	704	**864**
Percent of respondents (row %)	15.0	36.5	3.5	45.0	18.5	81.5	**100**
Households with disabled persons							
Total	18	48	5	31	23	79	**102**
Percent of respondents (row %)	17.6	47.1	4.9	30.4	22.5	77.5	**100**
Marital status of household heads (column %)							
Married	55.4	90.2	53.3	92.5	55.0	91.5	84.7
Single	12.3	5.7	13.3	6.9	12.5	6.4	7.5
Divorce	6.2	1.6	3.3	0.5	5.6	1.0	1.9
Widowed	26.2	1.9	30.0	0.0	26.9	0.9	5.7
Separated	0.0	0.6	0.0	0.0	0.0	0.3	0.2
No of cases	**130**	**315**	**30**	**389**	**160**	**704**	**864**
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 14. The analysis was done mostly using descriptive statistics. T-test and chi-square tests were used to account for significant differences in measured parameters between the farmers and grazers. In the analysis, the situation at midterm was compared with that at the start of the project (baseline) in order to capture the progress made and the extent to which it was likely to be attributed to the intervention. The project outcome indicators, key variables for the measurement of project progress, were also analyzed using the logical framework.

2.5 Reporting and restitution

The report was based upon extensive data analysis. The draft report was then scrutinized by MBOSCUDA, Village Aid and Concern Universal resource persons. The findings were also presented in a stakeholder workshop, which brought together farmers, grazers, MBOSCUDA, paralegal extension officers (PEOs), international researchers, some civil society organizations and delegates from technical ministries such as MINEPIA and MINADER. Feedback from this process was then taken into consideration in the production of the final report.

2.6 Limitations and challenges

Overall, the challenges faced during the study were mitigated and did not jeopardize the findings of the study in spite of the fact that the terrain was very rough and difficult to cover.. However, there were some minor issues. In one of the grazer communities (Nkowe), some of the respondents were suspicious of the enumerators (as they had been during the baseline study) who they thought might be connected with tax collection. Fortunately, this was rapidly sorted out with the support of the MBOSCUDA coordinator and the area PEO. The study was also carried out during the transhumance period, which made it difficult to reach some of the grazers so the enumerators travelled to the transhumance areas to meet them. In situations where there were fewer respondents than anticipated, the numbers were augmented by substitution in other project communities. This happened especially in Akum and Baba II.

3. Results

3.1 Effectiveness and socio-political context of project execution

3.1.1 Effectiveness

The ISCG project was designed to alleviate poverty in 14 communities of the NWR of Cameroon by: (i) reducing the incidence and severity of conflict between indigenous crop farmers and semi-nomadic Mbororo cattle herders; (ii) improving the livelihoods of farmers and grazers by increasing crop and livestock productivity; (iii) ensuring equitable access to clean water; and (iv) empowering Mbororo people to have greater capacity to exercise their rights.

Some outputs were expected to be achieved incrementally during the life cycle of the project. This section covers the progress made so far.

The following outputs and milestones were achieved: 17 PEOs/CRVs were recruited to provide extension support visits and awareness campaigns in 14 targeted communities; 14 Dialogue Platforms were created; radio advice programs on farmer-grazer conflict resolution were organized; 92 alliance farming pairs were promoted in all the 14 targeted communities; seven demonstration biogas plants were constructed; and seven water catchments with pipe-borne water provision were initiated. In some of the communities water management committees were put in place and in others existing ones were restructured. In addition, 14 pasture demonstration sites, covering approximately 18 hectares, were set up in the project target communities. These milestones were achieved under somewhat challenging socio-political conditions as explained below.

3.1.2 Socio-political context

Cameroon's North West Region is the second largest cattle-rearing region of the country after Adamawa Region. It is also one of the two regions where there are extensive farmer-grazer conflicts. The framework to mitigate farmer-grazer conflicts in the North West Region and in Cameroon as a whole is spelled out in Decree *No 78/263* of July 3, 1978 in which powers are bestowed on the Agro-Pastoral Commission. Representatives of different technical ministries and traditional authorities in each district or division constitute this commission, which is chaired by

the Divisional Officer of each sub division. Besides this regulated framework are other local initiatives such as Dialogue Platforms (including those established by ISCG), traditional councils or private sector initiatives. When the Agro-Pastoral Commissions, Dialogue Platforms or traditional authorities are unable to resolve conflicts and if – but only if – there are criminal elements of the farmer-grazer conflict then the judiciary can be involved (Nchinda et al., 2014a).

The project is implemented in an environment where other Civil Society Organisations are also carrying out activities to reduce these conflicts. For instance, Dialogue Platforms were also created by the Archdioceses of Bui division due to extensive farmer-grazer conflicts in some communities. Similarly, in Momo division, MBONGOP TRUST also created Dialogue Platforms to handle farmer-grazer conflicts. The traditional authorities are also important stakeholders used in the mitigation of farmer-grazer conflicts.

The technical ministries notably that of Livestock, Fisheries and Animal Industries not only issue grazing permits but also take action in reducing farmer/grazer conflicts. They undertake training to encourage the use of improved pastures. They have technical services responsible for the extension of pasture improvement technologies to rural communities. The North West Livestock Development Fund (CDENO) for instance, is a specialized partly state-controlled institution whose mission includes contributing to the conservation and improvement of pastures and the development of basic grazing infrastructure such as drinking troughs, cattle dips, etc. Some projects with related activities were earlier implemented in the project catchment areas by institutions such as CDENO, HELVETAS Cameroon, HPI, SNV in communities such as Ashong, AchaTugi, Baba II, Baijong and Binshua including the Tugi Silvo-pastoral project. Water points and water catchments were constructed in some of these communities (Ashong, Mbakam and Bih) and trained water committees were put in place. This explains why some of the water committee members who were interviewed claimed to have been trained even though the ISCG project team had not yet organized such training at the time of the evaluation. Some other initiatives have already been taken towards the construction and use of biogas plants in the NWR of Cameroon. SNV and HPI have both undertaken such initiatives in ISCG project communities. Experience from previous projects notably the *Pilot Project on Domestic Biogas in the Western Highlands of Cameroon*, executed by HPI, shows how this technology was used in generating cooking gas and manure (slurry) for agriculture (alliance farming).

As well as the complexities of disentangling the impact of ISCG from these previous initiatives in assessing the survey's findings, the project's policy and political environment also affects any assessment of its effectiveness. First, it must be noted that the initiative to set up Dialogue Platforms is "informally" endorsed by the administration of the region and the heads of agro-pastoral commissions. This is particularly so because the agro-pastoral commissions, headed by the DOs, are the only legally recognised forums for handling farmer-grazer conflicts. The administrators who head the agro-pastoral commissions have the powers to dissolve any group that has no legal recognition such as DPs. Some DPs do have formal recognition but even those without this status are collaborating with DOs, many of whom actively encourage the DPs.

However, some "big" herders and political figures often described as *big wigs* were reported to have colluded with these administrators to work against actions taken by MBOSCUDA within the framework of the ISCG project aimed at conflict mitigation. These groups were reported to have attempted through the media to label MBOSCUDAs actions to be against public interest as described in some newspapers[2]. Threats of extreme physical violence to MBOSCUDA field staff were also recorded. Fortunately, the MBOSCUDA management with the support of the administration was subsequently able to get the situation under control. It should be noted that these extremely difficult circumstances probably related more to MBOSCUDA's human rights activities, which are completely outside the remit of the ISCG project.

3.2 Socio-economic and demographic characteristics of the respondents

Generally, the characteristics of those interviewed at midterm are similar to those interviewed in the baseline survey. Fifty five percent of those interviewed at midterm were interviewed in the baseline survey. All those interviewed are from the same communities as those previously interviewed. The respondents belong to five different religious affiliations and five ethnic groups (Tables 3 and 4). Fifty two per cent of those interviewed were Muslims as opposed to 48% who were Catholic, Protestant, and Animist or of the Orthodox and traditional faith. The farmers

[2] (see *Chronicle No 438 of 22 Dec. 2015 p. 5-8; The independent Observer No 077 of Dec. 2015 p. 5-7 & Life Time No 00123 of 22 Dec. 2015 p. 5-9)*

interviewed were mostly Christians (Catholic and Presbyterians). Other Christian denominations such as Baptist, Jehovah's Witness and Full Gospel were identified but grouped under Protestants. Islam was the religion of all Mbororos interviewed whereas some non–Mbororos also have Islam as their religion.

Table 3: Respondents by religion

Religion	Farmers (%)	Grazers (%)	All (%)
Islam	11.5	94.7	**51.9**
Catholic	33.7	1.0	**17.8**
Protestant	51.9	3.8	**28.6**
Animist	0.2	0.0	**0.1**
Orthodox	1.8	0.2	**1.0**
Traditional	0.9	0.2	**0.6**
No of cases	**445**	**419**	**864**
Percent of respondents	**100**	**100**	**100**

The general point here is that most grazers are Mbororos (95%) and most farmers are non-Mbororos (89%). 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.

Table 4: Respondents by ethnic group

Ethnic group	Farmers (%)	Grazers (%)	All (%)
Mbororo	7.6	92.6	49.4
Tikari	57.9	3.6	31.2
Widikum	18.8	1.0	10.0
Moghamo	15.3	2.9	9.2
Kom	0.5	0.0	0.2
No of cases	**432**	**418**	**850**
Percent of respondents	**100**	**100**	**100**

Table 5 provides information on the level of education of the respondents interviewed at midterm. A majority of the respondents have either a primary level of education (38%) or have never been to school (19%). Few attended high school or university. Fifty eight percent (58%) of farmers have the primary level of education but a relatively large number of grazers attended traditional Koranic sessions (49%). These may have been sessions in homes and not formal Islamic institutions. The latter are very rare in pastoralist communities.

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

Level of education	Farmers (%)	Grazers (%)	All (%)
Never been to school	18.2	20.6	19.4
Koranic school	4.1	48.8	25.7
Primary school	58.1	17.0	38.2
Secondary school	13.0	8.3	10.7
High School	4.8	4.1	4.5
University	1.8	1.2	1.5
No of cases	**439**	**412**	**851**
Percent of respondents	**100**	**100**	**100**

The socioeconomic characteristics of farmers and grazers are presented in Table 6. The average age of the farmers interviewed is significantly higher than that of grazers. The grazers interviewed at mid-term are two years younger than those interviewed at baseline. On the other hand, farmers interviewed at mid-term are 2.5 years older than those at baseline. The average number of years of residence in the community is higher for farmers than for grazers though with no significant difference. The farmers and grazers are people who have lived in close proximity for close to 40 years. In terms of land ownership or occupancy, the average area of land size owned by grazers is slightly higher than that owned or occupied by farmers. At baseline, it was also established that the area of land exploited by grazers was more than that of farmers. Grazers mostly occupy land on the hills where grazing activities take place whereas farmers occupy land at lower altitudes in each of the communities. 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=864)

Variable	Farmers		Grazers		Level of sig. difference
	Mean*	Std. Dev.	Mean*	Std. Dev.	
Age (years)	49.6	15.3	44.6	14.8	0.00***
Duration of stay in community (years)	39.2	1.0	37.4	18.5	0.23NS
Experience in farming or cattle rearing (years)	26.7	16.0	25.5	15.2	0.23NS
Household monthly food expenses (FCFA)	31,031	39,593	53,434	50,571	0.00***
Household monthly non-food expenses (FCFA)	50,158	121,909	79,805	131,440	0.00***
Per capita monthly food expenditure (FCFA)	5,642	20,838	7,320	26,616	0.00***
Per capita monthly non-food expenditure (FCFA)	9,120	64,163	10,932	69,179	0.02**
Land owned (ha)	2.6	1.0	2.9	3.0	0.00NS
Size of herd (*based on Median)	24		40		0.00***
Household size	5.5	1.9	7.3	1.9	0.00***
Number of children (5-17 years of age)	3.2	5.8	3.8	2.6	0.00*
Number children (<5 years)	1.7	1.4	2.0	1.4	0.00***

NB: *** represents 1%, ** represents 5% level of significance.

Some differences in socioeconomic characteristics exist between the grazers and the farmers, as it was the case at baseline. The average household monthly food and non-food expenditures for Mbororos are higher than that of non-Mbororos. This was the same situation established at baseline. Despite the fact that grazer households are larger than farmer households, the difference in per capita food and non-food expenditures between farmers and grazers is statistically significant. Grazers' food expenditure was significantly higher than that of farmers own at baseline. There is also a significant difference in non-food expenditure between the farmers and grazers at

midterm. The median herd size for farmers is based on the very small number of farmers who keep cattle. The median herd size for grazers is 40.

As the average age of farmers is significantly higher than that of the grazers, the farmers' reported length of stay in their community (49.6 years) is similarly significantly higher than that of the Mbororos (44.6 years) even though the Mbororos' forefathers were the first settlers in the community. The grazers and farmers have been living in close proximity and sharing natural resources in these communities for a long time and will certainly continue to do so. Most of the respondents (89%) say they are unlikely to move out of the community, as was the case at baseline. Three per cent (3%) of respondents, mostly people below 40 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.

3.3 Agriculture and grazing practices including alliance farming

The predominant activities carried out by households are agriculture for the farmers (96%) and grazing for the Mbororos (98%, Table 7) as it was the case at baseline. Only a very small number of grazers report farming as their main activity (and this was also noted at baseline). 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

	Farmers					***Grazers***			
Division	**In agriculture (%)**	**In cattle rearing (%)**	***In other activities (%)**	**No of cases**	**Percent of respondents**	**In agriculture (%)**	**In cattle rearing (%)**	**No of cases**	**Percent of respondents**
Mezam	100.0	0.0	0.0	**73**	**100**	7.3	92.7	**55**	**100**
Momo	95.8	3.2	1.0	**95**	**100**	6.8	93.2	**88**	**100**
Boyo	86.4	11.9	1.7	**59**	**100**	9.2	90.8	**65**	**100**
Bui	90.5	4.2	5.3	**95**	**100**	10.0	90.0	**90**	**100**
Donga Mantung	98.4	1.6	0.0	**128**	**100**	0.0	100.0	**123**	**100**
Total (row %)	**96.4**	**2.0**	**1.6**	**450**	**100**	**1.6**	98.4	**421**	**100**

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

The term alliance farming used here refers to collaboration between farmers who do crop farming and grazers with cattle whose dung is used as manure. Crop and livestock farming are activities that are often associated because of the benefits that each stands to offer to the other. Approximately, 33% of farmers claimed they grow crops using cow-dung under alliance farming arrangements. This shows an increase of 5% compared to 28% at baseline. 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 benefits both farmers and grazers.

The farmers who claim to practice alliance farming in the communities under study also fetch cow-dung for crop production activities carried out by their households. Table 8 provides details as to how respondents get cow-dung for crop cultivation activities. At baseline, 41% of the respondents who used cow-dung fetched it from their own cattle farms. This proportion dropped (by 27%) to 14% at midterm. This drop corresponds to a 23% increase in the proportion of farmers who use cow-dung on farms after cattle graze on them (alliance farming). This increase probably indicates that many more farmers and grazers are committed to practicing alliance farming. Cow-dung is also often acquired from the grazing land free of charge in some cases as it was the situation at baseline.

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

Source of cow-dung	**Baseline Total (%)**	**Midterm Total (%)**
From own farm	41.3	13.9
After cattle graze on farm	33.6	56.5
From grazers free of charge	18.3	15.2
Collected from grazing land	5.1	12.2
Bought from grazers	1.7	2.1
No of cases	**235**	**237**
Percent of respondents	**100**	**100**

Alliance farming can benefit both farmers and herders. Crop farmers experienced in these practices declared that alliance farming results to high crop yields. About 99% of the 285 alliance farming crop-growing respondents interviewed at midterm said crop yields are higher under alliance farming compared to 96% at baseline. Herders generally consider alliance farming to be beneficial to the health of the livestock especially cattle. About 91% of the cattle herders involved in alliance farming at baseline said that cattle are very healthy when they are allowed to graze on crop residues. This compares with 95% of all cattle herders at midterm reporting improved health of their cattle.

Cow-dung based farming seems to have financial benefits (Table 9). The annual income earned (FCFA 173,000) by farmers after using cow-dung on farm fields was higher than that earned by those who did not use cow-dung (FCFA 155,000) although the difference was not statistically significant. 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. It is also necessary to control for exogenous and environmental factors in order to establish the true effect of the use of cow-dung on earned agricultural income.

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

		No cow-dung used		*Cow-dung used*		*All*	
Item	Obs.	Mean	Obs.	Mean	Obs.	Mean	***Lev. of sign.***
Agriculture income/yr.	181	155,000∓30,000	276	173,000∓40,000	457	166,000∓35,000	NS
Agriculture income/yr./ha	175	73,300∓24,000	274	81,600∓24,000	449	78,300∓ 11,000	NS

NB: NS implies not significant. The -/+ figures represent 95% confidence intervals.

The estimated annual agriculture income per hectare (81,600 FCFA) earned by farmers who use cow-dung was higher than that of those that do not (73,300 FCFA). The annual mean income from agricultural activities stood for those that used cow-dung was estimated at FCFA 173,000 compared to FCFA 155,000 for those that do not use cow-dung. These figures are more or less the same as those registered at baseline.

3.3.1 Household livestock composition and rearing systems

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 herders mostly undertake animal husbandry. Four cattle rearing systems were identified: The extensive (low input) cattle rearing system consists of allowing cattle to browse in free-range throughout the production cycle. This is different from the intensive (high input) system in which cattle are provided with all their feed requirements. The Semi-intensive rearing system is a mix of the two systems. In this system cattle are provided with supplementary feed in addition to free-range browsing over the production cycle. The systems just described differ from the nomadic rearing system whereby the grazer has no permanent residence hence move from one location to the other with his cattle. The findings show that the herders practice four types of cattle rearing systems. The extensive cattle rearing system is predominant among grazers (87%). The other three systems they use are the semi-intensive (2%), intensive (2%) and nomadic (9%) cattle rearing systems.

Livestock reared by both the herders and farmers include cattle, sheep, goats and horses. Herder households on average rear 66 cows, 23 sheep and 11 goats. The number of cattle owned has a huge range, from 4 to 1,100 (Table 10). Both livestock composition and rearing systems have remained unchanged compared to the situation at baseline.

Table 10: Household average livestock numbers for farmers and herders

Livestock	Farmers					Grazers				
	No of cases	**Mean**	Std. Dev.	Min	Max	No of cases	**Mean**	Std. Dev.	Min	Max
Cattle	17	**25.9**	19.9	2	80	409	**66.4**	100.0	4	1,100
Sheep	3	**18.0**	24.5	1	60	247	**23.0**	19.6	1	150
Goats	6	**6.1**	4.4	1	12	61	**11.3**	15.6	1	90
Other livestock	4	**10.0**	13.7	1	30	114	**6.1**	6.1	1	30

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

Young people, women and people with disabilities rear livestock such as cattle, sheep and goats (Table 11). The average number of cattle owned by youths (11.7) is barely higher than mean number of cattle owned by women (9.3). The livestock were acquired by way of inheritance, as a birth or marriage present, bought or as a combination of these. The cattle reported to be owned by women and youths are reared under the cover of grazer household heads (Nchinda et al., 2014a).

Table 11: Livestock owned by women, young and disabled people in herder households

Livestock		Number of respondents	Mean	Std. Dev.	Min	Max
Cattle						
	Women	186	9.3	12.5	1	105
	Youths	167	11.7	16.6	1	150
	Disabled	2	10	7.1	5	15
Sheep						
	Women	110	6.3	5.3	1	30
	Youths	103	8.6	8.1	1	50
	Disabled	0	0	0	0	0
Goats						
	Women	10	6.6	4.4	2	15
	Youths	13	15.1	26.7	2	100
	Disabled	0	0.0	0.0	0.0	0.0

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

3.3.2 Pasture improvement

Approximately 149 respondents interviewed in the current study 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 in the context of this project and also 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* (legume) that grows together with *Bracharia* in some areas of the region. An increasing proportion of grazers adopt the use of improved pasture as an alternative to cattle feed source. The proportion of grazers who adopted the use of improved pasture doubled from 17% at baseline to 36% at midterm.

Table 12: Training on pasture improvement and ownership of pastures (n=331)

Own improved pasture	Training on pasture improvement				
	No training (%)	**Some Training (%)**	**A great deal of training (%)**	**No of cases**	**Percent of respondents**
No pasture fields	53.8	44.0	2.2	**182**	**100**
A little	5.6	89.9	4.5	**89**	**100**
Some	2.6	81.6	15.8	**39**	**100**
A large amount	0.0	61.9	38.1	**21**	**100**
Overall percent	31.5	61.8	6.7		**100**
No of cases	104	204	22	**331**	

NB: Improved pasture fields reportedly owned by respondents range from 0.25 hectare to 12 hectares

The average area of land allocated for improved pasture stands at 1.5 hectares for those grazers who were trained. The trained grazers in Boyo division have the largest area of mean pasture fields (2.1ha) followed by those of Mezam (1.8ha), Momo (1.5ha), Bui (1.3ha) and least by those of Donga Mantung (0.98) divisions respectively.

3.3.3 Sources of cooking fuel

Wood is the principal source of cooking fuel for 99% of the respondents (Table 13). This is approximately the same proportion as at baseline. One percent (1%) of the respondents use wood alongside gas or sawdust. At the time of the evaluation, only seven biogas plants were constructed

in seven different project communities (reported by MBOSCUDA). Those who reported biogas as a source of cooking came from Achain, Nkowe, Binshua and Ashong. So far, five people reported the use of biogas as the main source of cooking fuel for the household compared to one identified in Bainjong at baseline. About 84% of those practicing alliance farming are conscious of the fact that cow-dung could be used to generate cooking gas. This proportion was 29% at baseline. On a general note, 74% of all those interviewed at midterm are now aware of the fact that cow-dung could be used in generating cooking gas. Some experience in the use of biogas, also exist in Mezam and Donga Mantung divisions following previous support provided by SNV and HPI.

Table 13: Main source of cooking fuel

Source of fuel	**Baseline (%)**	**Midterm (%)**
Wood	98.2	99.0
Biogas	0.1	0.6
Gas	0.1	0.1
Wood, gas or sawdust	1.6	0.0
Sawdust	0.0	0.3
All	**827**	**816**
Percent of respondents	**100**	**100**

3.3.4 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 five persons from Akum, Achain, Binshua, Bainjong and Ashong reported the use of slurry in crop production and these cases were recorded in Mezam, Momo, Boyo and Donga Mantung divisions respectively. These respondents said that crop yield was high with slurry fertilization. At baseline only three respondents reported the use of slurry with high agricultural yields. It should be recalled that only seven biogas plants were set up at the time of the evaluation. It is also worth recalling that efforts towards the use of slurry from biogas plants for crop production were promoted in the region by HPI and SNV.

3.4 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 can be passed on from one generation to the other. Land is therefore obtained mostly by inheritance as reported by 85% of the respondents at baseline and 77% at midterm evaluation (Table 14). At baseline seven percent (7%) and at midterm 10% of respondents reported having bought land. The proportion of those allocated land by traditional authorities has doubled. The rest of the respondents get access to land from their friends or the traditional or administrative authorities.

Table 14: Household land acquisition

Source of land	Own land	
	Baseline %	**Midterm %**
By inheritance	84.7	76.5
Bought	7.1	9.6
Provided by Fon/Ardo*	5.5	11.2
Provided by the administration	0.7	1.3
By inheritance, purchased or given by Fon/Administration	1.7	0.8
Begged from Fon, Administration or Friends	0.3	0.5
No of cases	**709**	**605**
Percent of respondents	**100**	**100**

*Fon here refers to traditional rulers of respective communities non-Mbororo and Ardo the leader of the Mbororo people in the targeted communities

The putative owners of land in most of the cases do not have land titles (80%). Grazers may apply for grazing permits, which allow their cattle to graze there, but this is not ownership in the full legal sense. Approximately 31%[3] of the 610 respondents claiming ownership of land at midterm

[3] This percentage appears higher than expected. Respondents probably consider sales agreements as permits or titles thereby inflating the proportion of those in question.

reportedly have permits or titles for their land. The number of respondents with permits or land certificates varies from one division to the other with the highest numbers of cases registered at baseline in Donga Mantung (59), Momo (40), Bui (19), Mezam (13) and Boyo (11) divisions. These numbers represent 7%, 5%, 2%, 2% and 1% of all the respondents interviewed at the time. At midterm, the highest numbers of cases were registered in Momo (73), Bui (39), Boyo (32), Donga Mantung (31) and Mezam (13) divisions. These represent 9%, 5%, 4, 4% and 2% of all the respondents interviewed at midterm for each of the divisions respectively.

The respondents who get access to land through the traditional or administrative authorities sometimes have to make a payment for this. 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 FCFA 20,000. Respondents claimed to have paid a median amount of FCFA 56,000 to the authorities each year (as lease) for the use of land. The median amount spent in satisfying the financial request of the traditional and administrative authorities annually for land use is estimated at FCFA 250,000. It is worth noting that all grazing permit holders are expected to obtain grazing permits for the land for which they are allocated for grazing. These permits are not land titles and are renewable every 10 years.

Table 15: Annual amounts ('000 FCFA) spent by farmers and grazers for access to land

	Farmers		**Grazers**		**All**			
Variable	**No of cases**	**Median**	**No of cases**	**Median**	**No of cases**	**Median**	**Min.**	**Max.**
Last amount paid to traditional or administrative authorities for land use (FCFA)	28	200	**15**	**300**	**43**	**250**	6	2,200
Land lease cost (FCFA)	43	50	**39**	**60**	**82**	**56**	1	500
Amount paid to authorities annually as allegiance (FCFA)	35	10	**46**	**50**	**81**	**20**	1	400

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 as was the case in the baseline survey. This difference might be because grazers require larger areas of land for grazing than the farmers need for their livelihoods. These grazers also 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 678 respondents who owned land, 13% were women and 87% men. An overwhelming majority of these self-declared landowners do not have titles or permits. Only 14% of households headed by females and 24% of those headed by males claim to have titles and/or permits for the land at hand.

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

Access to clean and safe drinking water was a serious issue in conflict prone-communities in the NWR of Cameroon at the start of the project. The provision of pipe-borne water was one of the expected outputs of the project. Following its initiation, this situation has improved markedly for farmers but less so for grazers (Table 16). The marked improvement in the provision of pipe-borne water has contributed to a drop in the incidences of conflict due to improved access over the use of water as reported by 19% of respondents at midterm compared to 44% at baseline. Whilst the proportion of those accessing drinking water from streams, rivers or boreholes has reduced, the proportion of those with access to safe and clean drinking water from taps has increased by almost three-fold overall; four-fold among farmers but only double among grazers. This can partly be attributed to the project providing pipe-borne water in some of the targeted communities. However, overall most respondents still depend on streams, rivers or boreholes for household drinking water, although this figure is just over a third among farmers but over 70 percent among grazers (Table 16). So, grazers have not fully shared in the enhancement of clean water supplies that farmers have benefited from.

Despite the dependence on streams, rivers or boreholes for household drinking water, the proportions of respondents reporting increases in the levels of collaboration and sustainable use of water in the communities increased significantly by 52% from 18% at baseline to 70% at midterm. This could partly be explained by the awareness created about practices that promote safe water usage and prevention of water pollution. In fact, 97% of the respondents at midterm reported an increase in knowledge about the prevention of water pollution and clean & safe water usage in the communities. This compares to only 16% at baseline.

The average number of minutes per trip spent by (mostly) women and children to fetch drinking water from these streams, rivers or boreholes at baseline was 14 minutes and at midterm is 15 minutes. At baseline, the number of minutes spent per trip to fetch water varied from one division to the other with the highest recorded in the following divisions: Donga Mantung (20 mins.) and Bui (20 mins.) followed by Momo (15 mins.), Boyo (10 mins.) and the lowest in Mezam (5 mins.). The situation at midterm had not improved: Bui (20 mins.), Mezam (16 mins.), Donga Mantung (14 mins.) and the lowest in Momo (13mins.) and Boyo (13mins.).

Accessing water is particularly problematic during the dry season when some of the water sources dry up and inhabitants have to depend on unsafe water from water holes. 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 members of the communities (Table 16). The main sources of drinking water for 66% of the respondents at baseline and 55% at midterm were streams, rivers and water holes. This shows an overall 11% drop in the proportion of those that depend on streams, rivers and boreholes for drinking water. However, the reduction is entirely among farmers (60% to 38%); among grazers there has been no change (73%, 73%).

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

	Baseline			Midterm		
Source of household drinking water	**Farmers (%)**	**Grazers (%)**	**All (%)**	**Farmers (%)**	**Grazers (%)**	**All (%)**
Stream, river or water hole	60.3	72.8	**66.2**	37.6	72.7	**54.6**
Public tap	5.3	5.9	**5.5**	40.5	10.3	**25.9**
Tap in the household	11.2	7.6	**9.5**	19.4	15.6	**17.5**
Harnessed or protected water source,	0.0	0.5	**0.2**	2.0	0.7	**1.4**
Unprotected well or pump well	20.1	12.0	**16.2**	0.5	0.2	**0.4**
Well	0.7	0.3	**0.5**	0.0	0.5	**0.2**
Mineral water	0.5	0.5	**0.5**	0.0	0.0	**0.0**
Stream river/ water hole and public Tap	2.1	0.5	**1.3**	0.0	0.0	**0.0**
No of cases	438	393	831	444	417	**861**
Percent of respondents	100	100	**100**	100	100	**100**
Main source of water for cattle						
Stream, river or water hole	97.0	97.9	**97.7**	98.8	97.1	**97.9**
Harnessed or protected water source	0.8	1.0	**1.0**	0.9	1.7	**1.3**
Tap in the household	1.5	0.3	**0.6**	0.0	0.2	**0.1**
Stream, River or water hole and Public tap	0.8	0.8	**0.8**	0.3	1.0	**0.7**
No of cases	132	390	**522**	338	417	**755**
Percent of respondents	100	100	**100**	100	100	**100**

The analysis also shows that livestock and people still compete over the source of drinking water. Streams, rivers and waterholes are sources of drinking water for both and this competition is exacerbated during the dry season when some of the water sources dry up.

The competition over the use of water for livestock and agricultural activities among the inhabitants of the communities leads to water contamination (Table 17). However, this problem appears to have reduced substantially as only six percent (6%) of the respondents at midterm reported water contamination to occur often or very often compared to 13% at baseline. Moreover, double the number of respondents claim never to have had drinking water contaminated at midterm than at baseline (31%, 54%). The main cause of water contamination at both baseline and midterm is livestock activities. Climate change and drought are factors reported by a sizable number of respondents to be at the origin of water contamination.

Table 17: Extent of water contamination and related causes

Description	Baseline			*Midterm*		
	Farmers (%)	**Grazers (%)**	**All (%)**	**Farmers (%)**	**Grazers (%)**	**All (%)**
Drinking water contaminated						
Never	37.1	23.2	**30.6**	60.5	48.2	54.4
Rarely	10.2	17.8	**13.8**	14.1	16.9	15.5
Sometimes	41.2	44.3	**42.7**	21.4	27.7	24.5
Often	8.3	11.6	**9.9**	3.5	5.5	4.5
Very often	3.1	3.0	**3.0**	0.5	1.7	1.1
Total	**420**	**370**	**790**	**430**	**415**	**845**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**
Causes of water contamination						
Livestock activities	48.5	25.4	**36.7**	68.5	57.5	**62.5**
Agricultural activities	2.9	9.5	**6.3**	3.6	5.0	**4.4**
Livestock and agricultural activities	23.8	31.3	**27.7**	11.5	8.5	**9.9**
Climatic Conditions; Drought, Dry season	23.8	31.0	**27.5**	15.2	27.0	**21.6**
Un-identified persons	0.8	2.8	**1.8**	1.2	2.0	**1.6**
No of cases	**239**	**252**	**491**	**165**	**200**	**365**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**

The contamination of water sources exposes community members (34%) to different water-borne diseases such as typhoid, and malaria as well as stomach upsets that might be symptoms of related infections (Table 18). At baseline 369 households reported water-borne diseases; this had reduced to 273 at midterm. Of these, 23% were reported to be typhoid at baseline, compared with 21% at midterm. Respondents also considered coughs, catarrh and malaria to be connected to the poor nature of water available for households.

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

Community	Not at all (%)	Sometimes (%)	Often (%)	No of cases	Percent of respondents
Binshua	35.3	39.2	25.5	51	**100**
Bih	56.4	34.5	9.1	55	**100**
Acha Tugi	64.3	26.8	8.9	56	**100**
Barare	44.1	47.5	8.5	59	**100**
Nkowe	46.4	46.4	7.1	56	**100**
Akum	78.5	15.4	6.2	65	**100**
Konchep	69.0	25.9	5.2	58	**100**
Achain	42.6	52.5	4.9	61	**100**
Baba II	82.2	13.3	4.4	45	**100**
Bainjong	73.3	25.0	1.7	60	**100**
Njah-Etu	71.2	28.8	0.0	52	**100**
Ashong	98.3	1.7	0.0	58	**100**
Mbakam	91.5	8.5	0.0	59	**100**
Mbonso	64.4	35.6	0.0	59	**100**
All	**65.6**	**28.7**	**5.7**	**794**	**100**
No of cases	521	228	45	794	**100**

In the baseline survey, water-borne diseases appeared not to be an issue in Akum and Baba II. However, at midterm they were reported to be a cause for concern in Binshua but not in Njah-Etu, Ashong, Mbonso and Mbakam. In the baseline survey (Nchinda *et al.,* 2014), higher proportions of respondents in Nkowe, Bih, Achain, Mbakam, Ashong and Konchep (in this order) reported the incidence of water-borne diseases often or sometimes. At midterm, the proportion of respondents reporting incidences (often) of water-borne diseases range from a high to low in Binshua, Bih, Acha Tugi, Barare, Nkowe, Akum, Konchep, Achain, Baba II and Bainjong (Table 18). Access to water could be one of the major factors responsible for the occurrence of these diseases or symptoms.

Presence of water management committees in communities and their competence

The management of water resources in targeted communities is often in the hands of selected community members otherwise known as water management committees. At the time of the midterm evaluation, water management committees have been created in Bih, Makam, Konchep and Achain. Other water management committees have been restructured notably those of Njah-Etu, Ashong, Binshua and Bainjong and Baba II, although these committees have not yet been trained by MBOSCUDA. These committees do not exist in four of the targeted project communities. Other actors have also been supporting the strengthening of the capacity of water management committees in some of the areas covered. This is particularly so because 52% of the respondents claim water management committee members were trained[4] even though the project team had not done any training at the time the evaluation was conducted. Creating water management committees in communities where they do not exist is a major priority. In terms of competences of the water management committees, 85% of respondents at midterm who are aware of the existence of these committees in their communities consider them to be very competent or efficient. Training new and existing water management committees will go a long way to accompany the process of providing access to clean and safe drinking water.

3.6 The effects of ISCG intervention on principle causes, frequency and severity of farmer/grazer conflicts in the North West region of Cameroon

3.6.1 Frequency of conflict

The analysis of data collected from the respondents of these communities at midterm show that 64% were involved in a conflict over the past three years, compared with 74% in the Baseline Survey (Table 19). There has been a general drop in the proportion of respondents involved in conflicts over the past two years across all the divisions with the exception of Boyo division where the situation has remained unchanged. Overall, the proportion involved in conflict dropped by

[4]Water management committees were previously trained out of the context of the project

10%. In fact, this drop in the proportion of those involved in conflicts corresponds to the views of 73% of the respondents who agree or strongly agree that the frequency of conflicts has reduced over the past two years. Similarly, 79% of respondents' view at midterm reported that the severity of conflicts has reduced compared to 37% at baseline.

Table 19 shows the distribution by division of the 618 respondents reporting conflicts at baseline and the 551 at midterm. Some people had been involved in more than one conflict but in this table only the most serious incident is included.

Table 19: Changes in the proportions of respondents that experienced farmer-grazer conflicts by division, over the last three years in the North West region of Cameroon

	Baseline		***Midterm***		
Division	**Involved in conflict (%)**	**No of cases**	**Involved in conflict (%)**	**No of cases**	**Change (%)**
Donga Mantung	70.4	171	51.6	126	-18.8
Bui	86.6	155	68.1	126	-18.5
Momo	65.1	114	58.2	106	-6.9
Mezam	88.1	96	86.7	111	-1.4
Boyo	66.1	82	66.1	82	0.0
All	**73.6**	**618**	**63.8**	**551**	**-9.8**

Generally, the average numbers of conflicts have dropped in the areas targeted by the ISCG project. The average number of conflict incidents faced by each of the conflict-exposed respondents over the past three years appears to have decreased in three of the five divisions (Donga Mantung, Momo and Boyo). The average number of conflicts increased in Mezam and Bui divisions (Table 20). However, it is worth noting that the variability in the number of conflicts registered is wide and that these changes may not provide a clear trend in the occurrence of conflicts in the areas.

Table 20: Average numbers of conflicts for exposed respondents across different divisions of the North West Region of Cameroon

Division	Baseline					Midterm					Δ
	No of house-holds reporting conflict cases	Average no of conflicts	Std. Dev.	Min	Max	No of house-holds reporting conflict cases	Average no of conflicts	Std. Dev.	Min	Max	
Mezam	91	4.4	3.9	1	20	111	5.3	5.5	1	50	+
Momo	103	5.3	5.1	1	30	106	3.4	2.2	1	15	-
Bui	114	3.9	1.9	1	11	126	7.8	9.4	1	50	+
Donga Mantung	149	6.8	5.6	1	30	126	2.9	2.0	1	10	-
Boyo	67	5.3	6.7	1	50	82	3.6	3.2	1	16	-
All	524	5.3	4.9	1	50	551	4.7	5.8	1	50	-

Δ=change (increase (+) or decrease (-) in average number of conflicts in the past three years

The above questions were asked of about 550 households involved in conflict. At the same time all respondents (about 860) were asked about their perceptions of the frequencies of conflicts (Table 21). The proportion of those who reported that farmer-grazer conflicts occur "very often" decreased by 27% overall and reduced by 22% and 33% for farmers and grazers respectively. Conversely the proportion who said that conflicts occurred rarely has increased from 7% at baseline to 25% at midterm and there is a larger increase in this positive perception among grazers than farmers.

Table 21: Frequency of farmer-grazer conflicts

	Baseline			*Midterm*		
	Farmers	**Grazers**	**All**	**Farmers**	**Grazers**	**All**
Very often	63.6	**52.9**	**58.6**	42.2	20.1	31.6
Often	29.8	39.2	34.2	39.6	48.2	**43.7**
Rarely	6.6	7.2	7.2	18.2	31.7	24.7
No of cases	**440**	**393**	**833**	**445**	**417**	**862**
Total (%)	**100**	**100**	**100**	**100**	**100**	**100**

3.6.2 Conflict opponents

Seventy percent (70%) of farmers and 57% of grazers interviewed at midterm were involved in at least one conflict during the period of implementation of the project. The reported conflict opponents are the same as those registered at baseline (Table 22). 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 4% of farmers had conflicts with other crop farmers and another 4% with non-Mbororo grazers at baseline.

Table 22: Respondents' perception on the frequency of farmer-grazer conflicts

Conflict Opponent	**Baseline**			**Midterm**		
	Farmers (%)	**Grazers (%)**	**All (%)**	**Farmers (%)**	**Grazers (%)**	**All (%)**
Crop farmer	4.4	**92.7**	46.2	8.5	**94.9**	46.2
Mbororo grazer	**91.2**	6.6	**51.3**	**86.5**	4.7	**51.0**
Non-Mbororo grazer	4.4	0.7	2.6	5.0	0.0	2.8
No of cases	**320**	**287**	**607**	**304**	**235**	**539**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**

3.6.3 Causes of conflict

Table 23 provides information on the main causes of farmer-grazer conflicts identified at baseline and at midterm. The results show a remarkable change as far as respondents' understanding of the causes of conflicts is concerned. At baseline the farmers were accusing the grazers of trespassing on farmlands and, on the other hand, grazers were accusing farmers of encroaching on grazing land. At the midterm evaluation, a high number (76%) of all the parties agreed that the principal

cause of farmer-grazer conflicts in the North West of Cameroon was cattle trespassing on farmland. Only 9% said that encroachment by farmers on grazing land was a cause.

Thus, in the midterm evaluation the grazers recognized their role in causing conflict over trespass and encroachment on farm lands. Farmers however did not see themselves as part of the problem in the same way and did not believe encroachment and trespass on grazing land by farmers was a major cause of conflict either at baseline or at midterm.

Table 23: Principal causes of farmer/grazer conflicts

Principal causes of conflict	**Baseline**			**Midterm**		
	Farmers (%)	**Grazers (%)**	**All (%)**	**Farmers (%)**	**Grazers (%)**	**All (%)**
Encroachment on farm land	37.8	18.3	**28.5**	8.2	5.6	7.1
Encroachment on grazing land	10.3	**46.6**	**27.5**	1.0	19.7	9.1
Trespass on farm land	**39.4**	10.7	**25.7**	**85.9**	**62.2**	**75.6**
Encroachment and Trespass on Farmland	10.3	7.6	9.0	0.0	0.4	0.2
Trespass on grazing land	1.3	6.6	3.8	4.6	8.6	6.3
Blocked access to water source	0.0	1.4	0.6	0.3	0.9	0.6
Encroachment and Trespass on Grazing land	0.0	0.0	0.0	0.0	2.2	0.9
Civil matter e.g. disputed divorce matter	0.3	1.0	0.7	0.0	0.0	0.0
Encroachment on Grazing land and Trespass	0.0	0.3	0.2	0.0	0.0	0.0
Encroachment into Grazing Land and Blockage of water source	0.6	3.8	2.1	0.0	0.0	0.0
Cattles were driven from Grazing Land	0.0	1.0	0.5	0.0	0.0	0.0
All the above including legal/admin. Failures	0.0	0.3	0.2	0.0	0.0	0.0
Poisoning of Cattle	0.0	1.4	0.7	0.0	0.0	0.0
No of cases	**320**	**290**	**610**	**304**	**233**	**537**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**

NB: Trespass and encroachment refer to cattle movement and human occupancy of land respectively

The main causes of farmer-grazer conflicts reported by most female-headed households were essentially connected to the use of land (Table 24). Eighty-eight percent (88%) of female-headed households interviewed at midterm reported that trespass of cattle on farmland is the major cause of farmer-grazer conflicts as indicated in the preceding paragraph. This is different from the results at baseline where women cited encroachment of grazing activities on farm land as the cause. Interestingly, the women never reported poisoning of cattle and civil matters as causes of conflict.

Table 24: Causes of conflict reported by women

	Baseline	Midterm
Principal cause of conflict	**All %**	**All %**
Encroachment on farm land	**34.2**	8.0
Trespass on farm land	27.5	**88.4**
Encroachment on grazing land	21.7	2.7
Encroachment and Trespass on Farmland	12.5	0
Encroachment on Grazing land and Trespass	1.7	0
Encroachment and Trespass on Grazing land	0.8	0
Encroachment into Grazing Land and Blockage of water source	0.8	0.9
All the above including legal/admin. failures	0.8	0.0
No of cases	120	121
Percent of respondents	100	100

3.6.4 Changes in the perception of farmers and grazers on the causes of conflicts

The awareness campaigns within the project appeared to have helped the stakeholders understand the causes of conflicts. This probably also accounts for the changes in their perception on the subject matter and the related land tenure system. At baseline, an absolute majority of respondents agreed or strongly agreed that conflicts were caused by the destruction of crops by cattle, carelessness of herdsmen, encroachment onto grazing land by farmers and movement of cattle during transhumance (Table 25). The perception at midterm is different as the majority of respondents now think that the principal cause of conflicts is the destruction of crops by cattle.

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

Conflict related Questions	Baseline		Midterm	
	% that agree or Strongly agree	No of cases	% that agree or Strongly agree	No of cases
Causes of farmer grazer conflict				
Destruction of crops by cattle	95.3	**837**	85.0	**863**
The carelessness of herdsmen	82.0	**829**	45.4	**863**
Encroachment of farmers onto grazing land	67.7	**836**	32.4	**864**
Movements of cattle during transhumance	51.6	**833**	24.2	**863**
Blocked access to water sources and cattle corridors by the farmers	46.8	**825**	38.0	**864**
Killing or poisoning of cattle by farmers	32.2	**828**	32.0	**863**
Financial influence (benefits) do worsen farmer-grazer conflicts	60.7	**861**	59.5	**806**
Political ecology factors				
Land tenure and land ownership issues are a major contributor to the conflict problem	46.4	**814**	56.5	**862**
The Agro-pastoral Commission is less effective than the Dialogue Platforms in resolving disputes	50.6	**825**	71.8	**858**
The government (DO/SDOs) don't do enough to tackle these conflicts	50.1	**829**	70.3	**859**

As far as the land tenure and management systems are concerned, there are even higher numbers that agree or strongly agree that the policy environment and formal conflict resolution set-ups are contributing factors to farmer-grazer conflicts or ineffectiveness in its resolution. Table 25 provides these details thereby re-emphasising the fact that the government and particularly the agro-pastoral commission are not doing enough to tackle conflicts (claimed by 72% of respondents). The policy environment and particularly the land ownership and tenure system is also regarded as a contributing factor as reported by 57% of the respondents. Moreover, an increasing proportion of respondents (50% at baseline and 70% at midterm) claim the administrators (DOs and SDOs) are not doing enough to tackle these conflicts.

3.7 Changes in the effects of farmer-grazer conflicts.

Table 26 shows the effects of conflicts and the different proportions of farmers and grazers reporting such effects. The order of the three main effects of farmer-grazer conflicts has not changed between baseline and midterm. First and foremost, a majority of grazers and farmers agree, at midterm, that the major effect of conflicts is the destruction of crops by cattle. Secondly, cattle injury, killing and theft were effects of farmer-grazer conflicts reported by the respondents both at baseline and midterm. Thirdly, intimidation was also one of the main effects of conflicts especially among the grazers both at baseline and midterm.

Table 26: Effect of Conflict On Parties In Conflict And Their Families

Effects of conflict	Baseline			Midterm		
	Farmers (%)	Grazers (%)	All (%)	Farmers (%)	Grazers (%)	All (%)
Crops damaged by cattle	85.4	11.2	**53.8**	92.8	8.3	**56.4**
Cattle injured, killed or stolen	1.4	28.5	**12.9**	2.6	23.9	**11.8**
Theft/damage to property	5.9	3.3	**4.8**	0.3	2.6	**1.3**
Arson	0.7	2.8	**1.6**	0.7	0.9	**0.8**
Intimidation	1.7	26.2	**12.2**	1.3	20.4	**9.6**
Physical Attack	2.4	9.8	**5.6**	0.7	6.1	**3.0**
Murder/Man slaughter	0.0	0.0	0.0	0.3	0.0	**0.2**
Extortion	0.7	6.1	**3.0**	0.0	1.7	**0.8**
Illegal detention	0.3	3.7	**1.8**	0.7	0.0	**0.4**
Rape	0.0	1.4	**0.6**	0.0	0.0	0.0
Cattle injured, killed/stolen, intimidation, attack & illegal detention	1.4	7.0	**3.8**	0.0	4.8	**2.1**
Destruction of Farm Land by Cattle	0.0	0.0	**0.0**	0.3	4.8	**2.3**
Nothing	0.0	0.0	**0.0**	0.3	26.5	**11.6**
No of cases	**288**	**214**	**502**	**304**	**230**	**534**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**

The small reduction reported from the analysis in Table 26 translates into a change in the value of assets and crops resulting from the effects of farmer-grazer conflicts. The cost of the conflicts to those involved is an interesting and important one both in the numbers involved and the costs

incurred (Table 27). A large number of farmers (274) were affected by crop losses and a large number of grazers (144) were affected by the cost of conflict resolution itself. When it comes to costs then the losses due to crop damage are on average CFA 150,000 for each farmer. On the other hand when livestock is lost the cost to the grazers is very high, CFA 440,000 and treatment of cattle injuries is costly also. These losses do not cancel each other out but appear to be of the same order of magnitude overall. Aggregating over the whole sample we find a net cost to farmers of CFA 46,100,000 and a net cost to grazers of CFA 38,900,000. Aggregating over the whole population would result in a much bigger figure. The conflict affects everyone in the community.

Table 27: Value of assets lost and crops destroyed in conflict-prone areas in (*000) FCFA over the past three years

	Farmer		Grazer		All	
Variable	**Mean**	**No of cases**	**Mean**	**No of cases**	**Mean**	**No of cases**
Expenditure on conflict resolution	**43**	**88**	**83**	**144**	**68**	**232**
Expenditure human injuries	80	1	171	8	161	9
Value shelter loss	200	1	125	2	150	3
Value of crops	**151**	**274**	**96**	**30**	**145**	**304**
Value of property	100	2	102	9	101	11
Value farm loss	75	2	0	0	75	2
Value livestock lost	65	1	440	36	430	37
Value of agricultural tools	13	2	0	0	13	2
Treatment of cattle injuries	98	2	172	33	168	35

3.7 Changes in Sources of Support for Resolving Conflicts

Competition over the use of land leads to conflict. Some shifts in the different sources of help were registered at midterm compared to the situation at baseline (Table 28). The analysis shows that an increasing proportion of parties in conflict opted for amicable settlement, increasing from 33% at baseline to 39% at midterm. The number that used the Dialogue Platforms increased slightly whilst the numbers using the agro-pastoral commission fell.

Of those who had used the Dialogue Platforms in conflict resolution a high proportion, 83% believe it is a more effective mediation method than the farmer grazer commission and this is higher than at baseline (49%, Table 33).

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

	Baseline			Midterm		
Source of help	**Farmers**	**Grazers**	**All**	**Farmers**	**Grazers**	**All**
Amicable settlement by conflicting parties	30.2	36.0	**32.9**	33.1	46.6	**39.0**
Traditional council	25.1	17.1	**21.3**	25.2	13.8	**20.2**
Agro-pastoral commission	10.5	15.4	**12.8**	8.0	12.5	**9.9**
Dialogue Platform	11.8	12.6	**12.1**	16.9	14.2	**15.7**
Did nothing at all	14.8	8.1	**11.8**	12.6	8.6	**10.9**
Both Traditional Council & Agro-pastoral commission	5.4	2.5	**4.0**	1.3	0.4	**0.9**
Litigation (court)	1.6	6.3	**3.8**	1.7	3.9	**2.6**
Mediation of relatives	0.6	1.8	**1.2**	1.3	0.0	**0.8**
No of cases	**315**	**286**	**601**	**302**	**232**	**534**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**

When people were asked about their preferred modes of conflict resolution the results were very different (Fig 2). The agro-pastoral commission was preferred by just 2% and the Dialogue Platforms by 38%. This suggests that there is considerable scope for the setting up more Dialogue Platforms and that if they were set up they would be used by large numbers of people. The use of the courts is the least preferred mode of conflict resolution as the outcome is often lengthy and financially costly.

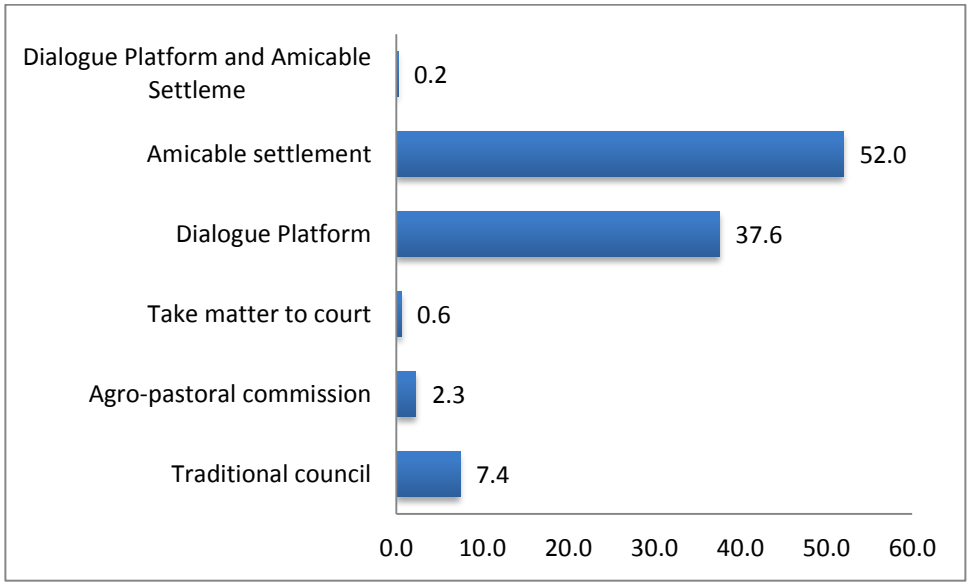

Figure 2: Respondents' preferred modes of conflict resolution (n=527)

3.8 Outcomes of conflict mitigation support sources

In most cases, the parties in conflict settle their dispute amicably with restitution as reported by 37% and 45% of the respondents at baseline and midterm respectively (Table 29). Amicable settlement with restitution increased most among the grazers. The various actions undertaken in the context of the ISCG project may be contributing factors. In the second place, the disputes are often abandoned or, thirdly, settled amicably without restitution both at baseline and at midterm. However, it is noted that an increasing proportion of the respondents settle their disputes with restitution. The traditional and administrative authorities resolved the remaining cases. The findings above suggest that farmers and grazers are still often at loggerheads.

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

	Baseline			Midterm		
Conflict Resolution Outcome	**Farmers (%)**	**Grazers (%)**	**All (%)**	**Farmers (%)**	**Grazers (%)**	**All (%)**
Amicable settlement with restitution	28.4	45.0	**36.5**	33.8	59.5	**45.4**
Action abandoned	41.1	17.1	**29.6**	37.2	12.6	**26.1**
Amicable settlement with no restitution	19.2	16.4	**17.8**	21.2	16.2	**18.9**
Legal / administrative settlement with restitution	3.8	9.6	**6.6**	3.7	8.6	**5.9**
Legal / administrative settlement with no restitution	4.6	7.9	**6.1**	1.5	1.8	**1.6**
Pending in Court, or Further Appeal or still in process	3.1	1.1	**2.2**	2.6	1.4	**2.0**
Traditional Council settlement	0.0	2.9	**1.2**	0.0	0.0	**0.0**
No of cases	**292**	**280**	**572**	**269**	**222**	**491**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**

Respondents were also asked about the collaboration between farmers and grazers. There has been a remarkable increase between baseline and midterm in the proportion of respondents that reported an increase in collaboration between grazers and farmers towards the sustainable usage of water in communities (52%). Also, there has also been an overall reduction in the proportion of respondents reporting conflicts (from 74% to 64%). Nevertheless the numbers that strongly agree that there is little collaboration between farmers and grazers as a general statement has increased from 20% at baseline to 26% at midterm (Figure 3). This is a perplexing finding and might be accounted for by the raising of expectations between baseline and midterm through the activities of ISCG. It is an issue that would benefit from further study, perhaps via small-scale focus-group research.

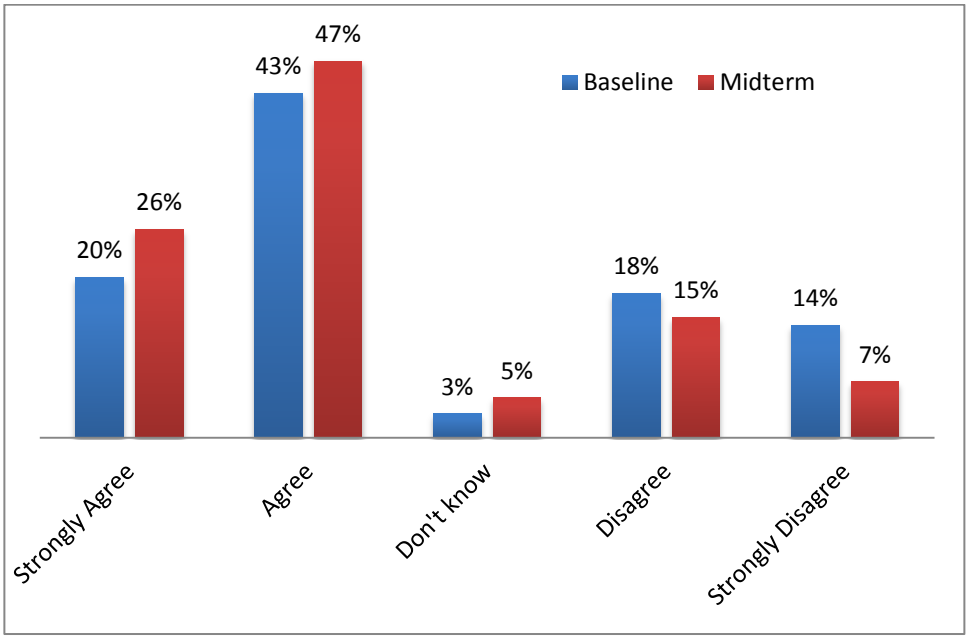

Figure 3: Proportion of respondents that agree or strongly agree there is little collaboration between grazers and farmers (n=829 & 862 for baseline and midterm respectively)

Table 30 provides some livelihood indicators of conflict-exposed respondents interviewed at the time of midterm evaluation. The respondents exposed to conflicts are less wealthier than those not exposed to conflict as indicated by the per capita (non-)food expenditures. Whilst the mean farm size for both groups was the same, the herd size of grazers exposed to conflicts is smaller than that of non-conflict exposed respondents.

Table 30: Livelihood indicators for 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)	46,484	3,520	47,580	3,609	47,125	2,546
Month's Non-food expenditure (FCFA)	80,885	13,900	60,685	6,190	69,080	6,823
Mean land size (ha)	3	0.3	3	0.3	3	0.2
Household cattle size	43	7.8	32	4.2	37	4.1
Food expenditure/capita	6,325	391	6,716	475	6,553	321
Non-food expenditure /capita (FCFA)	10,373 *	1,667	9,293*	996	9,741	904
Agric. income/ha (FCFA/ha)	65,609 *	9,520	95,637*	20,430	83,158	12,586

NB: *** represents 1%, **,* represent 5% and 10% levels of significance.

3.9 Changes in the visibility of MBOSCUDA actions in conflict prone areas of the North West Region of Cameroon

One of the ultimate outcomes of the ISCG project is to build the capacity of MBOSCUDA to become a 'centre of excellence' in promoting and defending Mbororo rights. This includes building the capacity of community based organisations so that paralegal extension services are delivered closer to the communities. Hence, reducing the endemic problem of farmer-grazer conflict in the North West region of Cameroon is one of MBOSCUDA's strategic goals. This section of the report provides the communities' appreciation of the services offered by MBOSCUDA and the visibility of the organization.

The analysis shows that the proportion of respondents who know about MBOSCUDA increased by 17% midway into ISCG project implementation. The numbers who know about the services offered by MBOSCUDA increased from 59% at baseline to 91% at midterm. Table 31 provides information about the services offered by MBOSCUDA from the respondents' point of view. The most recognized service appears to be conflict resolution as reported by 34% of the respondents interviewed at midterm. Unlike the grazers who put training and literacy first, the farmers consider conflict resolution the most important role played by MBOSCUDA.

Table 31: Proportion of farmers and grazers with knowledge on services offered by MBOSCUDA

Services offered	***Baseline***			***Midterm***		
	Farmers (%)	**Grazers (%)**	**All (%)**	**Farmers (%)**	**Grazers (%)**	**All (%)**
Resolution of conflict	25.8	13.1	**17.8**	42.6	25.8	**34.0**
Training/literacy classes	23.1	35.6	**31.0**	19.5	29.0	**24.4**
Social & Economic Opportunities	5.5	7.4	**6.7**	24.0	16.9	**20.3**
Awareness campaign on rights of Mbororos, resolutions of conflicts, social and economic opportunities	11.0	32.3	**24.5**	7.9	21.6	**14.4**
Access to loans	1.6	1.9	**1.8**	1.3	1.2	**1.3**
No idea	33.0	9.6	**18.2**	5.8	5.5	**5.6**
No of cases	**182**	**312**	**494**	**380**	**403**	**783**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**

Women, youths and people with disabilities

Table 32 shows the proportion of females and males that know about the services offered by MBOSCUDA. Conflict resolution is the highest ranked service offered by MBOSCUDA as reported by a majority of male and female respondents at midterm. In fact, the proportion of those that reported MBOSCUDA's role in conflict resolution doubled among both gender groups and the entire sample as a whole. At midterm, respondents see conflict resolution as first and most important responsibility of MBOSCUDA; this is a major improvement from the third position at baseline.

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

Services offered	***Baseline***			***Midterm***		
	Females (%)	**Males (%)**	**All (%)**	**Females (%)**	**Males (%)**	**All (%)**
Training/literacy classes	24.6	32.7	31.0	17.7	25.8	24.4
Access to loans	1.4	1.9	1.8	0.7	1.4	1.3
Awareness campaign on rights of Mbororos	24.6	22.8	22.7	11.0	11.3	11.2
Resolution of conflict	14.5	18.8	17.8	39.0	32.9	34.0
Social & Economic Opportunities	2.9	7.5	6.7	22.1	19.9	20.3
Awareness campaign on rights of Mbororos, resolutions of conflicts, social and economic opportunities	0.0	2.1	1.8	2.9	3.3	3.2
No idea	31.9	16.3	18.2	6.6	5.4	5.6
No of cases	**69**	**425**	**494**	**136**	**647**	**783**
Percent of respondents	**100**	**100**	**100**	**100**	**100**	**100**

Figure 4 provides information about respondents' perceptions of support services offered by MBOSCUDA at baseline and midterm. Many more respondents (irrespective of sex or activity) claim MBOSCUDA has been playing an important role in supporting them towards conflict resolution. In fact, the proportion of respondents who had "a great deal" of support from MBOSCUDA doubled from 23% at baseline to 52% at midterm. The proportion increased three folds among female respondents and two folds among the male respondents (Figure 5).

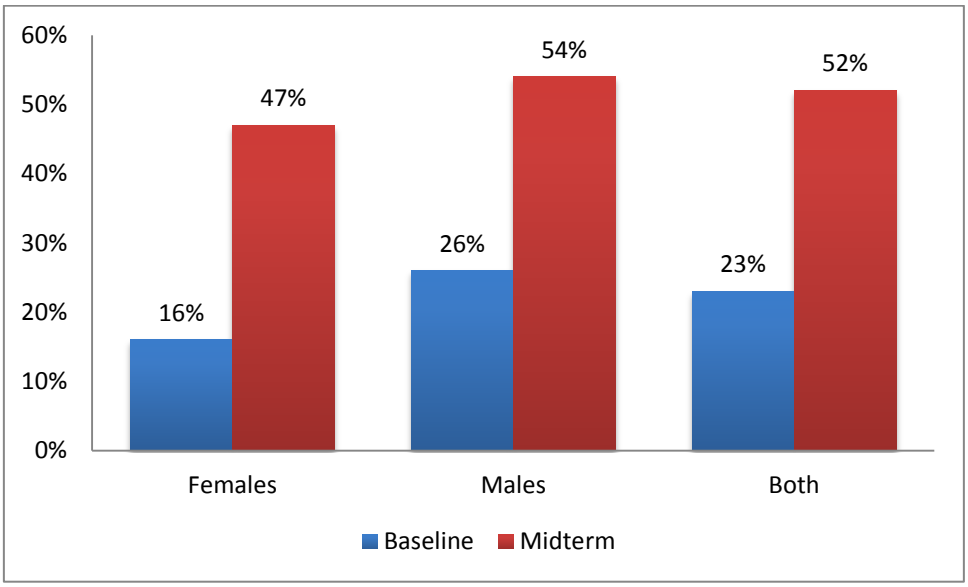

Figure 4: Percent of respondents claiming that MBOSCUDA is helping "a great deal" in increasing their participation in conflict resolutions

The proportion of respondents that believe that the services of MBOSCUDA are very useful in conflict resolution has doubled compared to the situation at the start of the project (Figure 5). Farmers have a positive view as well as grazers. . In fact, the percentage of respondents involved in conflict who had "a great deal" of support from MBOSCUDA to resolve their conflict increased significantly from 23% at baseline to 52% at midterm. All the Mbororo women interviewed at midterm testified that MBOSCUDA helped them participate in conflict resolution and altogether 86% of respondents at midterm have the view that MBOSCUDA helped them understand Mbororos' rights. This is particularly so because 88% of all the respondents believe MBOSCUDA's services were strengthened through the use of CBOs as this was one of their outreach strategies.

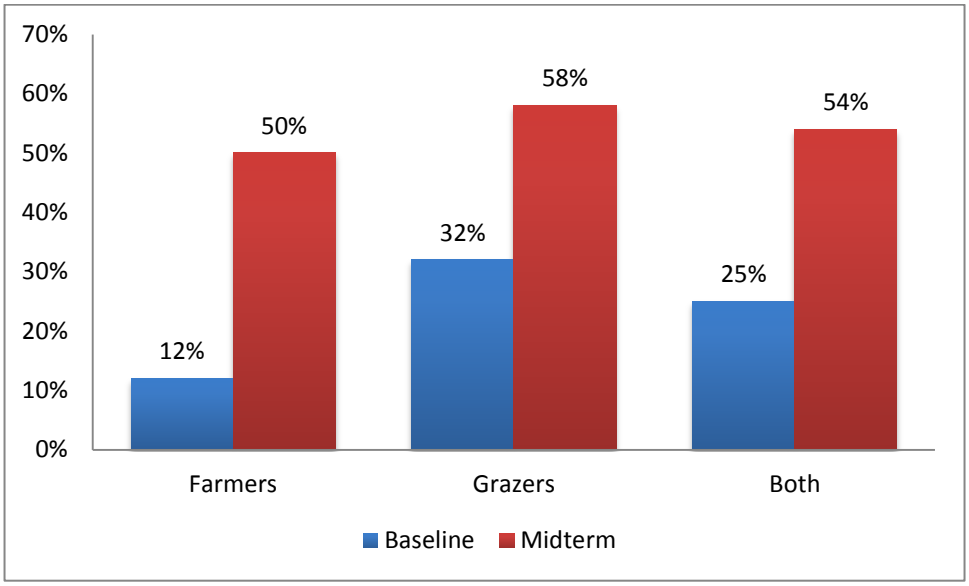

Figure 5: Percent of respondents claiming that MBOSCUDA's services are "Very Useful"

3.10 Milestones

A large number of interventions have been put in place in the project. These are the project inputs. These interventions result in project outputs and outcomes and the indicators which measure these are shown in Table 33. These are required for the Big Lottery Fund so that project progress can be assessed. (Qualitative research was also carried out in year two of the project. A separate process evaluation was also carried out which focuses on project implementation and these studies are reported elsewhere).

The main rationale for the Midterm study is to test whether changes have taken place and for this purpose a random sample survey is essential in order that the findings reflect the views and experiences of all farmers and grazers living in the intervention areas. Monitoring is also taking place at MBOSCUDA. This is in the form of a Conflict Database on all cases (over 400) which MBOSCUDA has dealt with since the project began. The specific details of each conflict event are stored on this database up to the time that the conflict is resolved or the case is abandoned. However, this may only be a partial view of what is happening in the area since MBOSCUDA does not deal with all cases and so we are dependent on the random sample survey to provide the answers we need.

With such a complex web of factors it is almost impossible to reduce the conflicts to a simple equation between inputs, outputs and outcomes. If a simple input led to a simple outcome then the problems could be easily solved but the world is usually more complex than that. The statistical study provides an essential analysis of what has been done and what has been achieved and this is summarised below for each of the four sets of project outcomes.

(i) Conflict resolution

The overall purpose of the project is to reduce conflict between farmers and grazers and this is a serious challenge given nine decades (at least) of such problems. The inputs in this area include the following:

- Dialogue platforms set up (14 in project communities and 12 others);
- Training of Dialogue Platform members (460) and building capacity for existing members (190);
- Dialogue platform meetings (370);
- Sharing of best practice through exchange visits;

What progress has been made in this area (Table 33)? Progress has been made in both knowledge and perceptions of conflict. It was found that knowledge of the causes of conflict has increased and that the use of Dialogue Platforms has also gradually increased.

There still seems to be an issue about the general levels of collaboration between farmers and grazers. This may reflect the heightened awareness that people have of the relationships between the communities as a result of the two years of the project. This needs to be investigated. There is now general agreement that the major causes of conflict is trespass on farmland by grazers (76% said this, Table 23). The most important finding is that people say that conflict has reduced (77% compared with 32% at baseline) and they also say that conflict is less severe than it was before (79% compared with 37% at baseline). These are important results due not only to the fact that people perceive change is taking place but also because the changes appear to be large.

(ii) Sustainable natural resources

The inputs in this area include the following:

- Alliance farming: Awareness and sensitisation campaigns (100), training on agriculture for stakeholders (100) and training on agriculture for community members (460);
- Improved pastures: Setting up demonstration plots (14), distribution of Bracharia seeds (450kg) and community sensitisation meetings (14);
- Biogas; Setting up biogas demonstration units (7) and sensitisation meetings for 460 community members.

What has been the result of this large amount of activity by MBOSCUDA in terms of help to both grazers and farmers? The survey shows that the number of households taking up alliance farming has increased by 5 percentage points and that the number of households taking up improved pasture techniques has increased by 19 percentage points. Ninety-nine percent (99%) of farmer households engaged in alliance farming report improved crop yields and 95% of grazer households engaged in alliance farming report improved cattle health.

(iii) Clean and safe water

The inputs in this area include the following:

- Awareness and sensitisation campaigns (14 meetings) and training on safe water (240 participants);
- Water Catchment Protection set up in Ashong, Mbakam and Bih (three areas) and water stand taps provided (13);
- Water Management Committees (10 created or restructured).

What are the outcomes here? Clean water is crucial to the health of adults and children in these communities and the findings of the survey show that some remarkable advances have been made. The level of knowledge about safe water use has increased by 81 percentage points. Levels of collaboration about water usage have increased (by 52 percentage points) as well as the efficiency

of local water management structures (by 27 percentage points). Most importantly, the numbers reporting incidents of conflict over water has reduced from 44% to 19%, a very large change.

(iv) Strong organisations

MBOSCUDA is the organisational focus of this project although it has, at the same time, developed links with farmer organisations such as NORWEFOR (the North West Farmers Organisation). The inputs in this area include the following:

- Staff (seven staff and 10 Community Resource Volunteers) and vehicles (Hilux 4x4 and nine motor cycles);
- Training programmes for staff (on risk assessment, personal safety, conflict mediation and organisational development, IT training and the use of social media tools),
- Community education campaigns (53) and capacity building for grazers' organisations;
- Awareness campaigns (5,000 leaflets and 24 radio programmes).

What has been the result of this, given the importance of building up an established community organisation into something even stronger? The indicators all point in a positive direction. This shows the contribution MBOSCUDA has made in working with local communities to resolve conflict. The percentage of people involved in conflict who said they had a great deal of support from MBOSCUDA increased by 29 percentage points. All Mbororo women interviewed (100%) at midterm testified that MBOSCUDA helped them participate in conflict resolution. MBOSCUDA continues to decentralize the services they run using community volunteers and by building the capacity of grassroots organisations (CBO's) to reach as many communities as possible. The results show that this is working well. The number of people who believe that the CBOs have helped strengthen the way MBOSCUDA works with local communities is 82%.

Table 33: BLF indicators –two years six months' progress

Project outcome	Indicator	Baseline			Midterm		
		Percent	Number of cases	All	Percent	Number of cases	All
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	[a]82%	508	618	97%	537	555
	The number who have used the Dialogue Platform to resolve farmer/grazer conflicts	[a]12%	73	601	15.4%	84	545
	The percentage who have used the DP and believe it is a more effective mediation method than the alternative farmer-grazer commission	[a]49%	36	73	83%	70	84
	The percentage of respondents who report that there is now greater collaboration between communities	33%	275	829	30%	194	862
	The percentage of people who say that the number of conflicts has reduced	32%	268	825	73%	626	862
	The percentage of people who say that the severity of conflicts has reduced	37%	301	817	79%	681	861
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 *1.* Number practicing Alliance Farming, *2.* Number with Improved Pasture farms and 3. Number with Biogas plants		• 235 • 67 • 3	• 840 • 67 • 3		• 285 • 149 • 5	• 864 • 331 • 5
	The number of households who have taken up Alliance-farming (AF)	28%	235	840	33%	285	864
	The number of households who have taken up improved Pasture (IP)	17%	67	390	45%	149	331
	The percentage of farmer households practicing AF who have reported improved crop yields	[a]96%	262	272	99%	249	252

	The percentage of grazer households who have reported improved cattle health	[a]91%	217	239	95%	162	171
	Construction of Improved Pasture demonstration plots	0	0	0	100%	14	14
	Construction of Bio-gas demonstration plots	0	0	0	50%	7	14
Outcome 3:	The level of knowledge about practices that promote safe water usage and prevent water pollution	16%	135	840	97%	768	796
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	Levels of collaboration and sustainable water usage in communities	18%	154	499	70%	554	794
	Levels of efficiency of local water management structures	58%	206	350	85%	385	453
	The number of people reporting incidence of conflict over water and improved access	44%	224	509	19%	148	768
	Number of members of Water Management Committees who have been trained	0	0	0	52%	109	210
	Proportion of conflicts in the conflict database that include issues relating to access to water	/	/	/	0.01%	4	444
Outcome 4	The percentage of people involved in conflict who had a great deal of support from MBOSCUDA in conflict resolution	[a]23%	101	443	52%	303	583
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 who believe that the CBOs have helped strengthen the way MBOSCUDA works with local communities	/	/	/	88%	732	830
	The number of Mbororo women who believe that MBOSCUDA` has helped them to increase participation in resolving conflict	78%	21	28	100%	29	29
	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	86%	739	864

NB: [a]Figures differ from those in baseline report because of corrected inconsistencies in number of cases and non-responses

4. Conclusion

This evaluation study is a statistical survey of 864 farmers and grazers, the second of a set of three surveys reporting throughout the course of the project and triangulated with qualitative and case study research. This is the most comprehensive evaluation of its kind ever carried out. There are two main issues to be asked in conclusion. Have conflicts reduced and how successful have the Dialogue Platforms and new agricultural practices been in helping to bring about this change?

On the first question of conflict reduction it was found from an analysis of all those involved in conflict that the number of households involved had significantly reduced from 74% to 64%. There was also a strong view when all the respondents were questioned that the number and severity of the conflicts had reduced. These are very positive outcomes.

On the second question on the success of the interventions, the survey shows results for the new Dialogue Platforms which have been set up as planned. This model of conflict mediation appears to be very successful. The use of Bracharia seeds, the introduction of alliance farming to a greater degree than before and the setting up of demonstration sites for biogas (albeit on a small scale) have all been important. Progress on water catchment protection is crucial to the health of men, women and children and this progress has been sound. As well as this the capacity of MBOSCUDA has been improved by increasing the number of staff and by training and MBOSCUDA has set up community education and awareness programmes which have reached large numbers in both farmer and grazer communities. The survey found that such innovations were positively received.

4.1 Lessons learnt

- Amicable settlement and Dialogue Platforms are increasingly preferred by communities and are more effective in addressing conflict;

- A higher proportion of people believe that the policy environment and formal conflict resolution set-ups are contributing factors to farmer-grazer conflicts. People claim that administrators (DOs and SDOs) are not doing enough to tackle conflicts;
- There are important spill-over effects of the ISCG project. For instance, Dialogue Platforms were reported to have been created in communities outside of the project. This may be an indication of the interest other conflict-prone communities have in the use of Dialogue Platforms to resolve prevalent farmer-grazer conflicts. It is therefore likely that other conflict-prone communities would welcome the ISCG conflict resolution approach;
- A change in the perception of the causes of conflicts happened faster for grazers. Grazers recognized their role in causing conflict over trespass and encroachment on farm lands, whereas, the farmers did not fully reciprocate;
- The blame for the trespass of cattle on farmland has shifted from grazers to herdsmen who are sometimes hired youths or children of grazers;
- Interventions benefit some groups more than others; the provision of clean water has mainly benefited farmers;
- Community dialogue is being strengthened by introducing a range of ways farmers can share resources. Water catchment protection has had a positive bridge-building effect; collaboration in the sustainable use of water increased by 52%. Despite this, there appears to be issues with the general levels of collaboration. This suggests that there are wider issue to be addressed.
- Adoption of sustainable and shared agricultural practices takes time. Biogas has had the lowest take-up by communities and may be more difficult to take to scale.

4.2 Recommendations

The findings of the midterm evaluation show that some progress has been made in reducing the proportion of those exposed to farmer-grazer conflicts in the project communities. In order to strengthen the prospects of fully achieving the project outputs and intended outcomes, the following short and medium term recommendations may be implemented:

Outcome 1

1. Farmer- grazer conflicts are a serious issue affecting large numbers of people. The use of Dialogue Platforms is increasing and they are seen by many as a preferred option to the Agro-pastoral Commission and the Traditional Councils. Efforts should be made to maintain and develop existing Dialogue Platforms and to promote them in more areas. Such efforts will include exchange of information on best practices, increasing awareness campaigns and greater involvement by key stakeholders and communities.
2. There is much greater agreement than before that trespass on farmland is the main cause of conflict. The blame for this has shifted from grazers themselves to herdsmen who use children or youths to tend the cattle. The focus should therefore be on awareness and practical steps to reduce trespass on to farmland by cattle. Awareness can be enhanced by educating inexperienced herdsmen and recruiting experienced elders to work alongside their youthful colleagues. Practical measures include construction of stock-proof fences and the use of night paddocks.
3. This change in perception was larger for grazers as they recognized their role in causing conflict over trespass and encroachment on farm lands. However, the farmers did not fully reciprocate. For grazers, trespass by farmers on grazing land continues to be a source of conflict. Grazers are now more aware than are farmers of their role in causing conflict. As well as the use of the Dialogue Platform, actions can be taken to discourage farmers from planting in grazing land.
4. Whilst the Dialogue Platforms have succeeded in bringing people together to discuss problems, respondents say that there is more work to be done to increase collaboration between the farmer and grazer communities. This suggests that there are wider issues to be addressed and further in-depth case studies and/or focus groups should be carried out.

Outcome 2

5. Little has changed with respect to land tenure and it could be argued that this is the major underlying cause of conflict between farmers and grazers. Working with key stakeholders to feed into any policy changes with regards to land reform will be an important long term goal.

6. Increasing agricultural activities alongside the use of appropriate inputs such as improved seeds, alliance farming, intensification of crop production using slurry, cow-dung among others may reduce the pressure on land as well as strengthening collaboration between farmers and grazers.

Outcome 3

7. The level of collaboration around water usage has increased. Clean water has a high bridge-building potential between the communities and more needs to be done to improve access to clean and safe drinking water for both people and animals. This should include the construction and maintenance of drinking water sources and catchment areas, setting up of water management committees where they do not exist and building the capacity of these committees to sustainably manage water resource. Grazers should be targeted particularly because farmers appear to have better access to clean and safe drinking water than grazers. Increasing support from, and formalising partnership with, MINEE and other stakeholders will be important here. Formalising partnership accords with MINEE will be of great help in sourcing technical expertise to support these water projects.

Outcome 4

8. MBOSCUDA is actively advocating for positive changes, primarily through practice and leading by example, and has achieved a great deal since the start of the project. Its approaches are now widely accepted by the engaged communities (grazers and farmers), as well as, crucially, other institutional stakeholders. A clear plan for advocacy work could underpin much of the work towards achieving Strong Organisations and could also enable further scale-up of interventions.

References

Gefu, J.O. and A. Kolawole (2002). "Conflict in Common Property Resource Use: Experiences from an Irrigation Project". Paper Prepared for 9th Conference of the International Association for the Study of Common Property. Indiana. [Retrieved in October 2005 from *http://d/c. dlib. Indiana.edu/achive/00000823/00/gefuj080502.pdf*]

Kelsey Jones-Casey and Anna Knox (2011). Farmer Herder Conflicts in the Face of Environmental Degradation, World Resources Institute & Rural Development Institute. Focus on Land in Africa Brief

Manu, I.N., Bime, M.J., Fon, DE, Nji, A. (2014). Effects of farmer-grazer Conflicts on rural development: a socio-economic analysis. Scholarly Journal of Agricultural Sciences, 4(3), 11-120. ISSB 2276-7118.

Nchinda, V.P., Che, M.A., Ijang, P., Shidiki, A.A. and Chi, N. (2014a). Expert Interview Report for the project: "In Search of Common Grounds for Farmer-Grazer Conflicts in the North West Region of Cameroon". *MBOSCUDA*-Cameroon (unpubished).

Nchinda, V.P., Che, M.A., Ijang, P., Shidiki, A.A. and Chi, N. (2014b). Baseline Survey Report: "In Search of Common Grounds for Farmer-Grazer Conflicts in the North West Region of Cameroon". *MBOSCUDA*-Cameroon (unpubished).

Pelican, M. (2012). Friendship among Pastoral Fulbe in North West Cameroon. *African Study Monographs*, 33(3): 165-188.

Sone, P.M. (2012) Conflict over landownership: The case of farmers and cattle graziers in the northwest region of Cameroon. *African Journal on Conflict Resolution*, Vol. 12 (1): 83-101.

Sulaiman, A. and Ja'afar-Furo, M.R. (2010). Economic Effects of Farmer-Grazer Conflicts in Nigeria: A Case Study of Bauchi State. *Trends in Agricultural Economics,* 3(3): 147-157. ISSN 1994-7933.

Rashid SolagberuAdisa (2012). Land Use Conflict Between Farmers and Herdsmen – Implications for Agricultural and Rural Development in Nigeria, Rural Development - Contemporary Issues and Practices, Dr. Rashid SolagberuAdisa (Ed.), ISBN: 978-953-51-0461-2, InTech, Available from: http://www.intechopen.com/books/rural-development-contemporary-issues-and-practices/land-use-conflictbetween-famers-and-herdsmen-implications-for-agricultural-and-rural-development-in