



Drought Management Initiative: Livestock Component Kenya Project Effectiveness Review

Summary Report



Oxfam GB
Adaptation and Risk Reduction Outcome Indicator

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Photo credit: Alejandro Chaskielberg

Executive summary

Under Oxfam Great Britain's (OGB) Global Performance Framework (GPF), samples of sufficiently mature projects are being randomly selected each year and their effectiveness rigorously assessed. The livestock component of the 'Turkana-Pokot Drought Management Initiative' (DMI) was randomly selected for an Effectiveness Review under the adaptation and risk reduction thematic area in the 2012/13 financial year. DMI was a three-year programme implemented by a consortium of NGOs, which aimed to mitigate the effects of climatic shocks among pastoralist communities in north-western Kenya. Oxfam GB was responsible for implementing the livestock component of this programme in three of the most remote pastoralist communities in the northern part of Turkana County. The activities carried out included establishing pastoralist field schools (PFSs) in each community, to provide members with training on improving livestock management, drought mitigation, and livelihood diversification. In the same communities, the project supported the establishment of village community banks (VICOBA), as well as training community animal-health workers (CAHWs) and setting up village land-use planning committees (VLUPCs).

To assess the effectiveness of this project, a quasi-experimental impact evaluation was implemented. This involved carrying out surveys with households in the three communities supported by the DMI livestock project, as well as with households in three nearby comparison communities. In all, surveys were carried out with 509 households, including households belonging to the PFS and VICOBA groups directly supported by Oxfam, as well as a sample of households from the wider population in the communities. At the analysis stage, the statistical tools of propensity-score matching and multivariable regression were used to control for demographic and baseline differences between the intervention and comparison groups. The imperfect nature of the comparison in this case complicated the process of making inferences about the project's effects, but some conclusions can be drawn with reasonable confidence.

The results provide evidence that the DMI Livestock project had a modest but positive effect on the resilience of households of members of the PFS and VICOBA groups. Despite the project activities having ended more than one year prior to the survey, the majority of PFS and VICOBA members report that regular meetings and training has continued. These group members appear to have more positive attitudes towards innovation and have, in fact, diversified their livelihoods activities since the launch of the DMI Livestock project more than members of the comparison groups. This appears to have had significant positive effects on indicators of household wealth and food security. Overall, approximately 15 to 23 per cent more of the members of the PFS and VICOBA groups scored positively on Oxfam GB's global indicator for adaptation and risk reduction than did the members of groups in comparison communities. However, it is not clear that there had been any effect on the level of resilience among the wider population in the three project communities.

Respondents among the general population in general and the PFS members in particular, also reported improved access to veterinary care from CAHWs in the three project communities. The number of water sources available for livestock was also reported to have increased more among residents of the project communities than in the comparison communities – probably a result of interventions carried out under the water component of DMI. On the other hand, there is no evidence that the population in the project communities are more involved in, or more aware of, community efforts for land-use planning.

Oxfam in general, and the Turkana programme team in particular, are encouraged to consider the following points as a follow-up to this Effectiveness Review:

- Keep monitoring progress of the PFS and VICOBA groups, particularly whether the training and skills provided are eventually disseminated among the wider community.
- Explore whether the model used for community land-use planning structures was the right one to achieve sustainable improvements.

Introduction and purpose

Oxfam GB has put in place a Global Performance Framework (GPF) as part of its effort to better understand and communicate its effectiveness, as well as enhance learning across the organisation. As part of this framework, modest samples of mature projects (e.g. those closing during a given financial year) associated with each thematic indicator area are being randomly selected each year and rigorously evaluated. One key focus is the extent to which they have promoted change in relation to relevant OGB global outcome indicators.

One of the projects randomly selected for the Effectiveness Review under the adaptation and risk reduction thematic area in 2012/13 was the Livestock component of the 'Turkana-Pokot Drought Management Initiative' (KENB44). The Drought Management Initiative (DMI) was a three-year programme implemented by a consortium of NGOs, which aimed to mitigate the effects of climatic shocks among pastoralist communities in north-western Kenya. Oxfam GB was responsible for implementing the livestock component in three of the most remote pastoralist communities in the northern part of Turkana County. The project activities included establishing pastoralist field schools (PFSs) in each community, to provide members with training on improving livestock management, drought mitigation, and livelihood diversification. In the same communities, the project supported the establishment of village community banks (VICOBAs), composed mostly of the same membership as the PFSs, in order to increase the availability of credit and encourage savings in the communities. Further components of the project focused on training community animal-health workers (CAHWs) and setting up village land-use planning committees (VLUPCs).

Evaluation approach

The DMI Livestock project sought to build the resilience of households in four communities in northern Turkana County. From a rigorous impact evaluation perspective, the best way to evaluate such an intervention would have been to restrict the project's implementation to randomly selected geographical areas, leaving other sites for comparative purposes, i.e. as controls. If such an evaluation design had been implemented, the impact of the two projects could have been assessed by directly comparing the intervention and control populations in relation to the resilience characteristics presented in the next section. This is specifically because the randomisation process would have made the two populations comparable in every way, save their exposure to the two projects.

However, Oxfam did not implement the projects in randomly selected geographic areas; the targeted villages were purposively chosen. An alternative impact assessment design therefore had to be pursued. This design is referred to as a quasi-experiment because it attempts to 'mimic' what a randomised evaluation does by purposively identifying a comparison group that is similar to the intervention group, and then statistically controlling for any measured differences between the two.

To implement the design, a household survey was carried out in six communities in northern Turkana County, including the three communities where the DMI Livestock project had been implemented, as well as three nearby communities for comparison purposes. A total of 509 households were interviewed, including 245 which had participated in the PFS and VICOBA groups supported under the project – or in similar community groups in the comparison communities – and 208 households randomly selected from among the wider population of the community. To reduce bias, propensity-score matching (PSM) and multivariable regression were used in the statistical comparison of these two groups.

Since the DMI Livestock project was implemented in the three northernmost communities that are accessible within Oxfam's security procedures, the comparison communities necessarily lay further south. While the distances between the project and comparison communities are not great, it does appear from the resulting data that there are some important differences

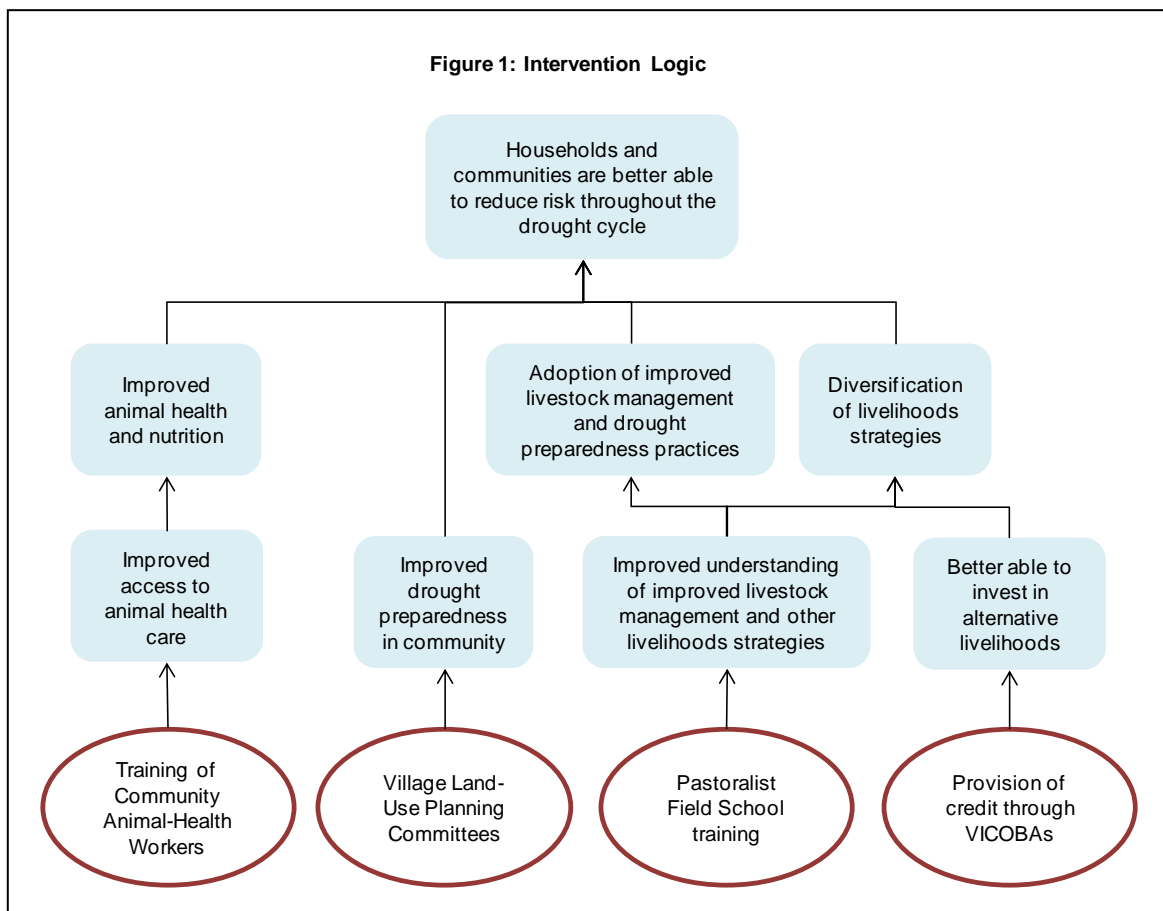
between them. This complicated the process of making inferences about the project's effects. Nevertheless, some conclusions can be drawn with reasonable confidence.

Intervention logic of the project

Figure 2.1 shows a simple characterisation of the theory of change behind the project activities. The project's overall objective was to strengthen the capacity of communities and households to manage risk throughout the drought cycle. The training of community animal-health workers contributes to this through building the health and nutrition of livestock. The village land-use planning committees provided a forum to discuss land-use issues and coordinate with other communities, as well as to facilitate the dissemination of seasonal forecasting and early-warning information.

The pastoralist field schools (PFSs) enrolled groups of individuals in each community in an intensive programme of training on livestock management, drought preparedness and alternative livelihoods strategies. These activities are clearly intended to build the resilience of households to withstand drought. Complementing this, the village community banks (VICOBAs) have provided credit to enable adoption of alternative livelihoods strategies, in order that households can diversify their activities.

An important element of the PFS philosophy is that members not only put the knowledge they have gained into use themselves, but that they should communicate this learning to others in the community. To the extent that that is successful, the PFS intervention should contribute to the resilience not only of members, but also of the wider community. On completing the PFS training programme, members are even encouraged to establish new PFS groups themselves, in order to pass on what they have learned to a new generation of PFS members.



Measuring resilience

Within Oxfam GB, efforts are being undertaken to develop an approach to measuring the resilience of households to shocks and stress and their ability to adapt to change. This approach involves capturing data on various household and community characteristics falling under the five interrelated dimensions presented below.

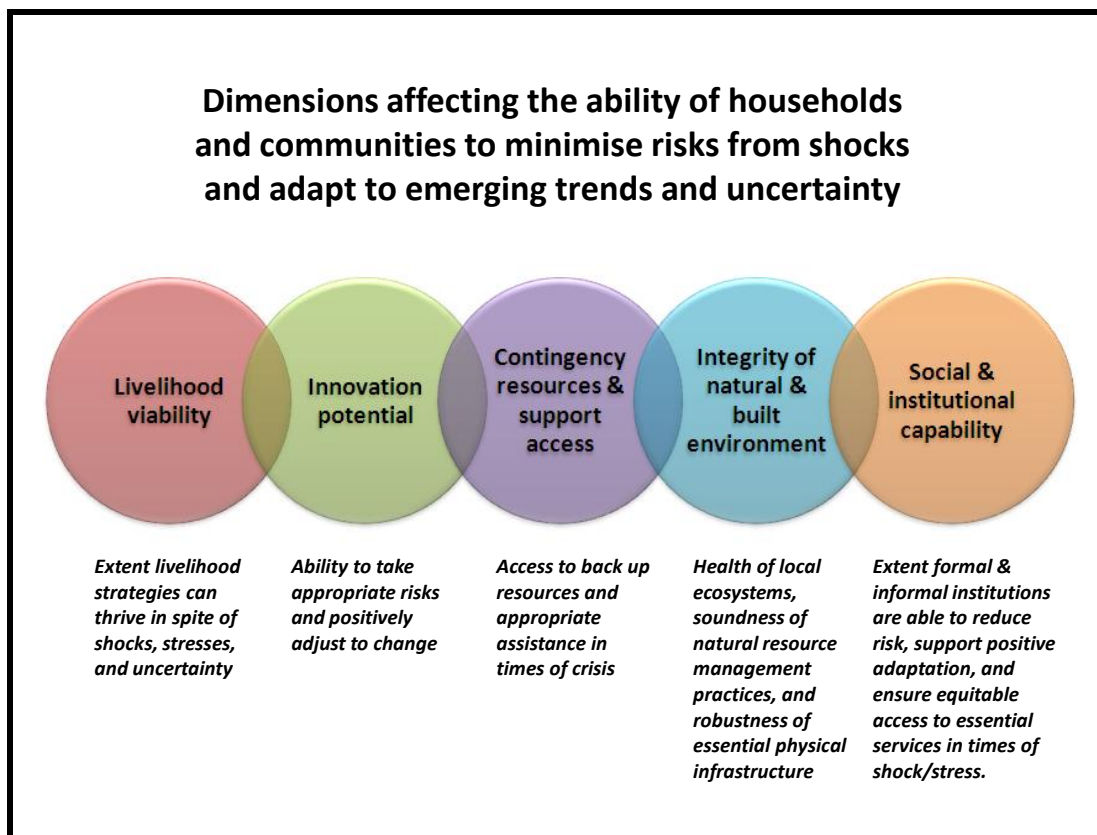


Figure 2: Oxfam GB’s conceptual framework for understanding and measuring resilience

First, if we think about what a household would need in order to cope with current and future shocks, stresses and uncertainty, a viable livelihood is likely to be one of them. If a shock happens, a household dependent on just one precarious livelihood activity is likely to be more negatively affected than another that has one or more less sensitive alternatives to fall back on, *all other things being equal*. In addition, households that are on the margins of survival are less likely to be resilient than their relatively wealthier counterparts. Where longer-term climatic trend prediction information exists, it is also important to assess how viable current livelihood strategies would be given the range of likely future climatic scenarios.

Innovation potential is different and hence separate. It is focused on a household’s ability to positively adjust to change, whether anticipated or not. We can hypothesise that such potential is dependent on factors such as the knowledge and attitudes of relevant household members themselves, their ability to take risks, and their access to weather prediction and market information and relevant technology and resources.

Moreover, there are likely to be times when even households with the most ‘resilient’ and adaptive livelihood strategies will find it tough to get by. Access to contingency resources and external support – e.g. savings, food and seed reserves, social protection, kin and non-kin support networks, and emergency services – are, therefore, likely to be critical in supporting households in coping with shocks and positively adjust to change.

It is further recognised that healthy ecosystems are better able to cope/adjust to climatic shocks/change than those that are relatively more degraded. We may reasonably assume – again, with all other things being equal – that households whose livelihoods are dependent on healthier ecosystems will be in a better position to adjust to climatic shocks/change than those that are not. The presence of appropriate infrastructure (e.g. pit latrines and roads) that is resilient to shocks and stresses (e.g. flooding) is equally important. If critical infrastructure no longer functions or collapses in times shocks and stress, the livelihoods and/or health of community members can be negatively affected.

In most situations it is necessary to look beyond the household level when examining resilience and adaptive capacity. Indeed, it is reasonable to assume that households are better able to successfully adjust to climatic shocks or change when they are part of larger coordinated efforts at the community level and beyond. The social and institutional capability dimension, in particular, is concerned with the effectiveness of informal and formal institutions in reducing risk, supporting positive adaptation, and ensuring equitable access to essential services in times of shock/stress. In the absence of this capability, we can assume that community-level duty bearers will be less effective in fulfilling their responsibilities in supporting community members in reducing risk and/or successfully adapting.

Specific characteristics believed to influence both resilience and adaptation fall under each of the five dimensions. However, no ‘one size fits all’; that is, many of the characteristics appropriate for a particular population may not be so for another. As such, each particular suite of characteristics needs to be appropriately specified given the nature of the population in question and the hazards and change processes to which it is likely to be subjected.

Application of the resilience framework

To make use of the framework described above in measuring resilience, an approach was used which is adapted from that employed by the Oxford Policy and Human Development Initiative (OPHI) and other organisations in the measurement of complex constructs, such as poverty and women’s empowerment.

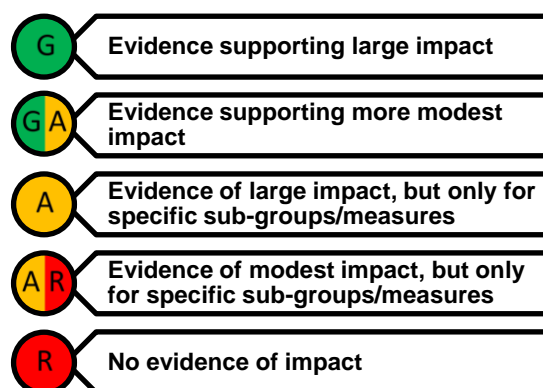
Firstly, under each of the five dimensions of resilience, specific characteristics were identified that are believed to be important to household resilience in the agro-pastoral context in northern Turkana County. The full list of 22 characteristics used is shown in the summary results table. Some of these characteristics – such as access to credit and savings, or receipt of training on drought preparedness – are closely linked to the project interventions. Other characteristics were not directly linked to the objectives of the project, but were included in order to provide an overall view of resilience among the surveyed population.

For each characteristic of resilience, a benchmark was defined, based on what it means for a household to be faring reasonably well in relation to the characteristic in question. For example, a household was defined to score positively in terms of livelihood diversification if household members were engaged in three or more different livelihoods activities, with no more than 60 per cent of household income coming from livestock. The survey data was then compared to these definitions, to determine whether each household scored positively in terms of each of the characteristics. An aggregate index of resilience was then defined as the proportion of characteristics in which each household scored positively. It should be noted that, in this aggregate measure, each of the 22 characteristics is given equal weight.

The Oxfam GB global indicator for resilience was defined to be positive for any household that scored positively in more of the characteristics than a ‘typical’ household in the area. For these purposes, the ‘typical’ household was taken to be the median household surveyed in the comparison communities.

Summary of results

The following summary table provides a snapshot of the key findings of the Effectiveness Review. A short narrative description related to each outcome then follows to unpack each key finding. A separate report that provides a more detailed and technical description of the evaluation design, process, and results is also available. The table on the following page summarises the extent to which there is overall evidence that the two projects successfully built resilience, disaggregated by dimension and characteristic. A simple five-point ‘traffic light’ system is used. This key shows what the various traffic lights represent.



Summary of results

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Overall results

Households of members of the supported PFS and VICOBA groups demonstrate significantly higher levels of resilience than do the corresponding comparison households. There is no difference in the resilience index between the general population in the project and comparison communities.

| Dimension | Characteristic | PFS & VICOBA group members | | | General population | | |
|--|---|----------------------------|---|--|--------------------|--|--|
| | | % deprived | Positive difference with comparison group | Difference likely to be a result of project activities | % deprived | Positive difference with comparison group* | Difference likely to be a result of project activities |
| Livelihood viability G | Livelihood diversification | 46% | Yes | Yes | 57% | No | No |
| | Livestock diversification | 22% | Yes | No | 25% | Yes | No |
| | Herd size | 57% | Yes | No | 65% | No | No |
| | Crop diversification | 64% | No | No | 74% | No | No |
| | Access to deworming and vaccination | 27% | No | No | 20% | No | No |
| | Access to curative veterinary care | 52% | Yes | Yes | 49% | Yes | Yes |
| | Access to early-warning information | 60% | No | No | 60% | No | No |
| | Drought preparedness practice | 23% | Yes | No | 30% | Yes | No |
| | Livestock lost to drought | 77% | No | No | 68% | No | No |
| | Household food security | 91% | Yes | Yes | 91% | No | No |
| Household wealth status | 62% | Yes | Yes | 78% | No | No | |
| Innovation potential A | Attitudes towards new livelihood practices | 46% | Yes | Yes | 49% | No | No |
| | Awareness of climate change | 70% | No | No | 67% | No | No |
| | Access to credit | 29% | Yes | Yes | 46% | No | No |
| | Use of livestock price information | 79% | No | No | 78% | No | No |
| Access to contingency resources and support A | Group participation | 16% | No | No | 73% | No | No |
| | Savings | 63% | Yes | Yes | 75% | No | No |
| | Ownership of fungible livestock | 19% | Yes | No | 43% | No | No |
| | Remittances or formal earnings | 78% | Yes | No | 78% | No | No |
| Natural and built environment G | Availability of water for livestock/consumption | 57% | Yes | Yes † | 54% | Yes | Yes † |
| Social & institutional capability A | Participation in community decision-making | 30% | No | No | 28% | No | No |
| | Receipt of training on drought preparedness | 47% | Yes | Yes | 80% | No | No |

* A positive difference among community members, beyond that accounted for purely by the PFS and VICOBA group members.

† Access to water was not an activity directly of the DMI Water project.

Applicability: These results apply to all the households in the three communities of Kokuro, Lokamariyang and Napak who were represented among the membership of the PFS and VICOBA groups, and who had an adult member available to be interviewed at the time of the fieldwork in July 2012. The results for the general population apply to all households in those three communities who had some adult member available to be interviewed at the time of the fieldwork.

Impact assessment findings

Overall results

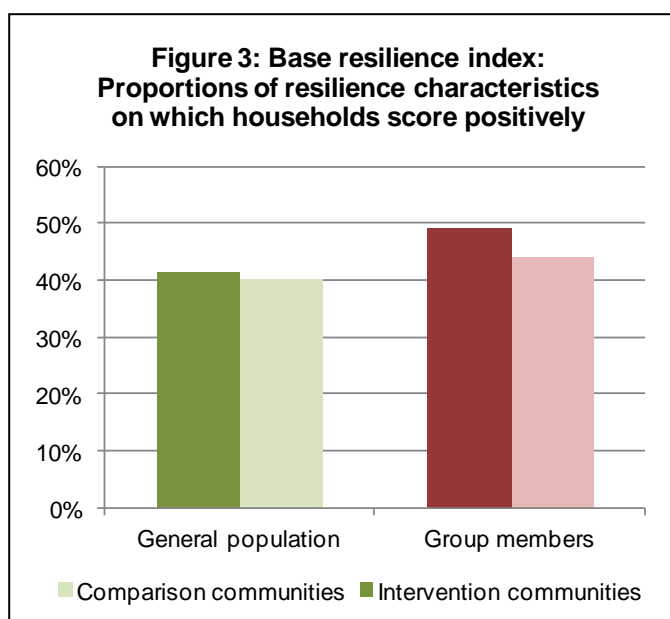
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As described above, the indices of resilience are defined from 22 different characteristics, all of which were assessed by means of a survey at household level. The proportion of characteristics in which each household scored positively was calculated: this measure is known as the *base resilience index*.

Interviewed households scored positively, on average, on 41 per cent of the characteristics. Figure 3 shows the average base resilience index scores, with the darker-shaded bars representing the results in the project communities, and the lighter-shaded bars representing the results in the comparison communities. It can be seen that the base resilience index is approximately the same in the project communities and in the comparison communities. However, the households who were participating in groups (either the PFS or VICOBA groups in the project communities, or the groups identified for comparison purposes in the non-project communities) showed more positive results. Specifically, the households of PFS and VICOBA members scored positively on 49 per cent of the characteristics, while the corresponding comparison households scored positively on 44 per cent of the characteristics. The various statistical models used to control for baseline and demographic characteristics all agree that there is a significant positive difference between the members of the supported and comparison groups.

The Oxfam GB global indicator is defined to be positive for any households that have a resilience index score greater than the median of the comparison group. In this way, the global indicator reflects whether a household scores positively in more characteristics than a 'typical' household in the comparison group. On this measure, there is again no clear difference between the general population in the project and comparison communities, but there is a clear positive effect among the households of PFS and VICOBA group members. The proportion of PFS and VICOBA group members scoring positively on the global indicator is estimated to be between 15 and 23 percentage points higher than among the comparison group members.

While the overall resilience index provides an overview, it is essential to know the situation of the population in relation to each of the characteristics, and which characteristics are driving the difference between the PFS and VICOBA members and the comparison population. The following sections therefore consider the various characteristics, and the contribution that each makes to household resilience.



Dimension 1: Livelihood viability



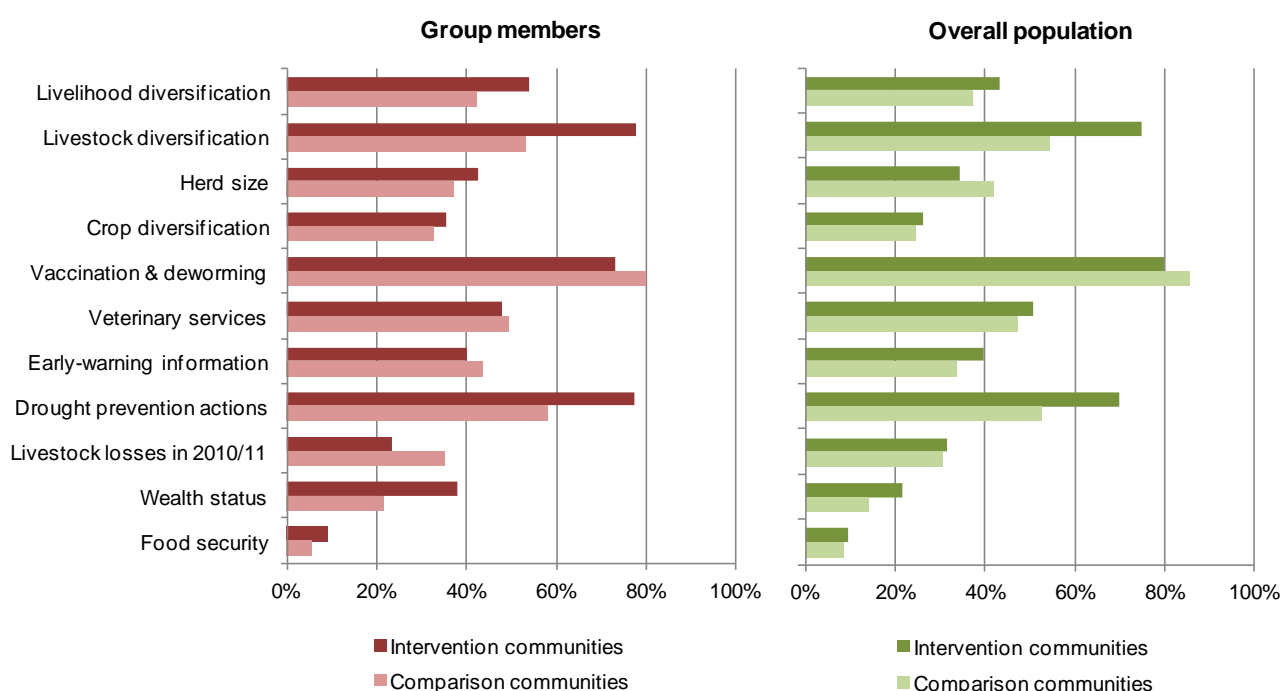
The first dimension included in the resilience index is that of livelihood viability: To what extent is there evidence that households in the intervention villages possess livelihoods that are more resilient to shocks than the comparison households?

On average, surveyed households scored positively in 41 per cent of the characteristics of livelihood viability. This proportion was higher among households in the project communities than among those in the comparison communities: this applies both among the PFS and VICOBA group members, and also (unlike for the overall resilience index) among the general population in the project villages. The difference in the proportion scoring positively is variously estimated at between six and nine percentage points among the group members, and between four and six percentage points among the general population.

Figure 4 shows a breakdown of the proportions of households scoring positively on each of the characteristics of livelihood viability. Some differences between households in the project and comparison communities are clear from this chart. Firstly, the livelihoods of the supported group members were significantly more diversified than were those of group members in the comparison communities. From examining the recalled baseline data collected in the survey, this difference in diversification seems to have come into effect over the lifetime of the project. In particular, members of the supported groups had taken up agriculture and non-agricultural income-generating activities over the lifetime of the project at a greater rate than members of the comparison groups. In all the communities, households had generally seen the proportion of their income deriving from livestock decrease since 2008, but this decrease was lower among the supported group members than among the comparison group members. That is, not only do the supported group members appear to have diversified their livelihood activities, they also appear to have experienced less of a decline in their income from livestock – suggesting perhaps that their livestock activities have become relatively more lucrative.

On the other hand, there is no significant difference between the project communities in terms of livelihood diversification among the general community members who had not participated

Figure 4: Proportions of households scoring positively on characteristics of livelihood viability



in the PFS or VICOBA groups.

The diversity of livestock types owned by households was generally reported to have decreased since 2008, but this decrease was smaller among households in the project communities. The *number* of animals owned by the average household in the survey was also reported to be much smaller in 2012 than in 2008. Members of the supported PFS and VICOBA groups appear to have been slightly better off than comparison households in terms of herd size at the time of the survey. However, when examining the *change* in the numbers of animals owned since 2008, it is less clear whether there has been a positive effect.

Approximately a quarter of the households surveyed reported having grown some crops during the year prior to the survey. This proportion was approximately the same among in the project and comparison communities, and there is no evidence of a difference between them in terms of the diversity of crops grown.

The vast majority of households (83 per cent overall) scored positively on access to vaccination and deworming for livestock. As expected, there are no differences between the project and comparison households in this respect: Oxfam's vaccination and deworming programmes in the area have covered the comparison communities as well as those supported under the DMI Livestock project.

On the other hand, more of the households in the project communities reported having good access to veterinary care than did those in the comparison communities. This difference is largely due to better access to community animal health workers (CAHWs) in the project communities, and may reflect that 155 CAHWs were trained under the DMI Livestock project. It is also interesting to note that, although 80 per cent of households reported having received support from a veterinary extension worker during the 12 months prior to the survey, only 27 per cent of these said that support from extension workers was always available when required, compared to 61 per cent of those who used a CAHW.

The survey also asked about respondents' access to early-warning or seasonal-forecasting information, both from personal contact with extension workers and from the radio. Three-quarters of respondents reported having received early-warning or seasonal-forecasting information in person, and around 70 per cent from the radio. There are no indications that supported households were better off than comparison households in terms of their access to this information.

The fact that the dry season of 2010/11 was particularly severe in the project area, and that the project activities had been in place for approximately two years by that time, allows an assessment to be made of whether the project enabled supported communities to better withstand that experience. To that end, respondents were asked what actions they took to reduce the risks of losses during that dry season, as well as how many livestock they lost in the event (including both animals that died and those that were weakened and had to be sold at a low price).

There was a very clear difference between the project and comparison communities in terms of the number of drought-prevention actions taken in advance of the 2010/11 dry season. In particular, households in the project communities reported destocking cattle and investing in drought-resistant livestock at approximately twice the rate of households in comparison communities. There are also substantial differences in the numbers who reported storing animal feed ahead of time, requesting assistance from relatives elsewhere, and sending family members to an urban area to seek work. However, despite them having taken these steps to prepare for drought, households in the project communities appear to have lost on average *more* livestock due to drought in that year than did households in comparison communities. It seems unlikely that the project should have had a negative effect on households' ability to cope with drought. Instead, it appears that the 2010/11 dry season affected the supported

communities more severely than the comparison communities. It is possible that the grazing lands used by the project communities are located in generally more exposed locations – which probably also means that households in these communities routinely take a wider range of drought-preparedness actions than do those in the comparison communities. Unfortunately this implies that no conclusions can be drawn about the success of the DMI Livestock project from the results on drought preparedness actions or on the losses that year.

The remaining two characteristics of livelihood viability are indicators of a household’s overall income and hence wellbeing: a wealth index and the household’s experience of food insecurity. Levels of food security reported in the survey were very poor, but are slightly better among the PFS and VICOBA group members than among comparison group members. The index of household wealth is also higher among households of PFS and VICOBA group members. It is possible that the apparent diversification into alternative livelihoods activities among the PFS and VICOBA group members has led to this improvement in wealth indicators.

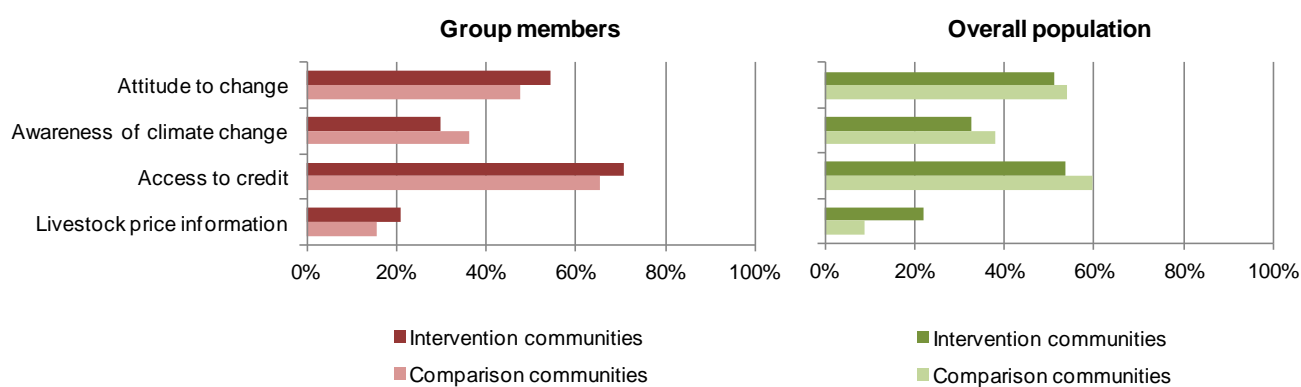
Dimension 2: Innovation potential



Compared to the livelihood viability dimension, fewer characteristics were examined in this Effectiveness Review for the other four dimensions of resilience. In particular, four characteristics were collected relating to livelihood innovation potential.

The surveyed households scored positively on 40 per cent of the four characteristics included in the index of livelihood innovation potential. This proportion was found to be slightly higher among the members of the supported PFS and VICOBA groups, but there is no clear difference among the general population between the project and comparison communities.

Figure 5: Proportions of households scoring positively on characteristics of innovation potential



A breakdown of the results for the four dimensions is show in the chart above. Around half of the sample demonstrated positive attitudes towards changing livelihoods practices, but only around a third did so for attitudes to climate change. The proportion of group members with positive attitudes towards changing livelihoods practices was clearly higher in the project communities than in the comparison communities. On climate change, the overall population in the project communities (though not the group members) appear to have statistically significantly worse attitudes than the comparison communities. It is not clear why this should be, and again it seems unlikely that this represents an effect of the project.

An important characteristic enabling households to experiment with innovations in their livelihoods activities is access to credit. The DMI Livestock project sought to address this through the creation of the village community banks (VICOBA). To test this, survey

respondents were asked whether, in the event that they needed 5000 shillings to invest in a business opportunity, which sources they would be able to borrow this from. Households were coded with a positive score for access to credit if they reported that they would have at least two potential sources of credit. Overall, 71 per cent of the supported group members met this benchmark, compared to 65 per cent of the comparison group members. As would be expected, this difference is concentrated among those who reported being members of the VICOBA groups.

On the other hand, among the population of the communities as a whole, *fewer* households in the project communities scored positively on access to credit than did the population of the comparison communities. Again, this difference between the communities does not seem likely to reflect an outcome of the project activities. Rather, this probably reflects an existing difference between the project and comparison communities in terms of availability of credit services. If so, then the positive results on access to credit that were found among the VICOBA members are likely to *underestimate* the true effect of the project.

The final characteristic examined under the innovation potential dimension is access to livestock pricing information. There is no evidence of an effect on this measure among the PFS and VICOBA group members. However, in another surprising result, there appears to be a positive effect on this among community members as a whole. Again, it does not seem likely that this represents an effect of the project: perhaps the livestock pricing system is used more among the comparison communities for reasons unrelated to this project.

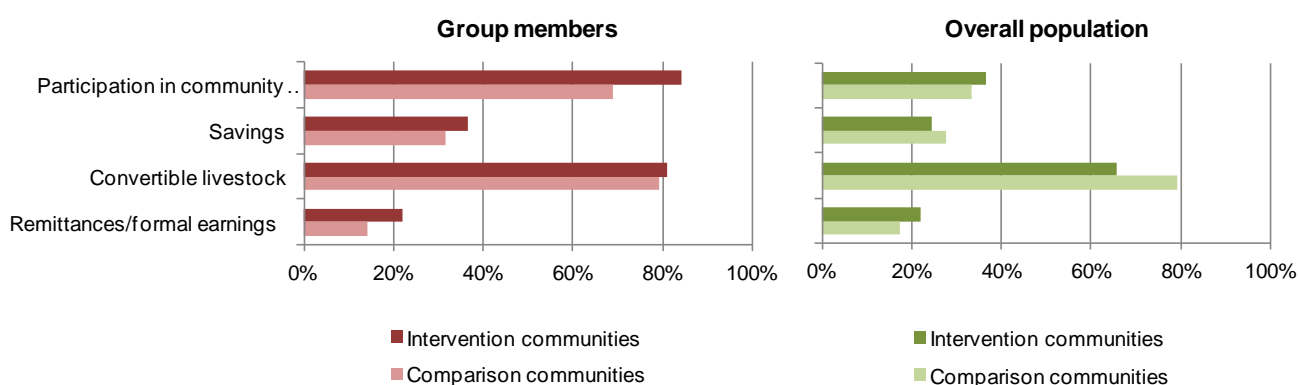
Dimension 3: Access to contingency resources and support

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Four characteristics were used to create an index of households' access to contingency resources and support. Significantly more members of the supported PFS and VICOBA groups score positively on this measure than do group members in comparison communities. However, among the general population, the proportions scoring positively are in fact lower in project communities than in comparison communities.

The first characteristic included in access to contingency resources and support is the household's participation in community groups. More of the members of supported PFS and VICOBA groups reported participating widely in community groups than did the corresponding comparison households. This result holds even when their membership of the PFS and VICOBA groups is excluded: that is, PFS and VICOBA participants appear to be engaging slightly more in other community groups as well. At the level of the community as a whole, there are no indications of any effect on group participation.

Figure 6: Proportions of households scoring positively on characteristics of access to contingency resources and support



The availability of household savings was evaluated by asking households how long they would be able to survive using their savings. Around a third of the group members and half of households in the general population scored positively on this measure, meaning that they could live from their savings for more than seven days. There is a slightly positive difference among the supported group members compared to the comparison group members – though the fact that there is no clear change since 2007/08 undermines confidence that this is a result of the project.

Of course monetary savings in a pastoralist community may be less important as a buffer against crises than small livestock, which can be sold or traded easily if the need arises. Consistent with the measures on livestock ownership found under Outcome 1, members of the PFS and VICOBA groups were found to be better off than members of the comparison groups in this regard. However, among the population as a whole, fewer of the households in the supported communities scored positively than in the comparison communities.

The final characteristic included in this dimension is the availability within the household of remittances or formal employment. Approximately 15 per cent of the survey respondents reported receiving remittances from relatives outside the community during the 12 months prior to the survey, and six per cent reported that some household member was receiving regular earnings. Although there were some differences between the project and comparison communities in this regard, this is clearly not thought to have been a result of the DMI Livestock project.

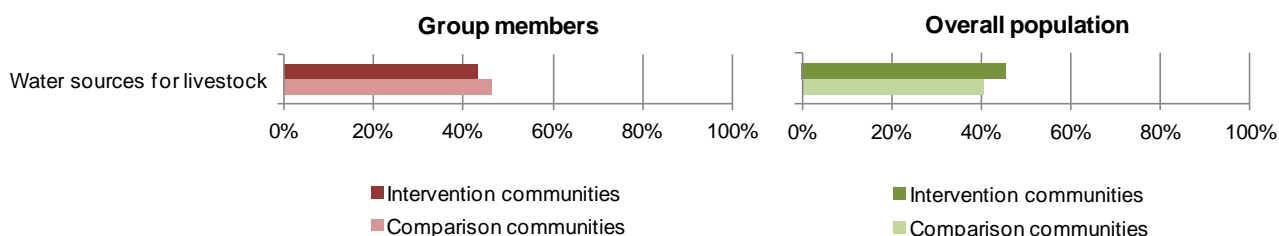
Dimension 4: Integrity of the natural and built environment



In this Effectiveness Review, only one dimension was considered under the integrity of the natural and built environment: availability of water sources for livestock. There was a substantial difference between the project and comparison communities in terms of how the number of water sources available in their normal grazing lands had changed since 2008. Households in project and comparison communities reported an increase in the number of water sources over that period, but that this increase was larger among the supported communities than the comparison communities.

This finding may represent an outcome of the water component of the Drought Management Initiative, under which Oxfam drilled boreholes and rehabilitated water sources across Turkana County. The communities in north Turkana being covered by the DMI Livestock project were particularly targeted for intervention under the DMI Water project.

Figure 7: Proportions of households scoring positively on the single characteristic of integrity of the natural and built environment

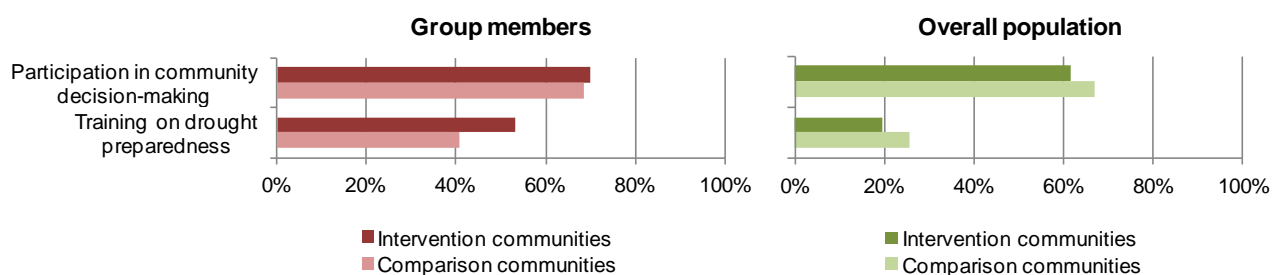


Dimension 5: Social capability

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The final dimension of resilience considered in this Effectiveness Review is the capability of institutions in the community. Only two characteristics are included under this dimension: participation in community-level planning, and the receipt of drought preparedness training. More of the supported PFS and VICOBA group members scored positively on this measure than the comparison group members, but the project communities as a whole appear to fare significantly worse on this measure than the comparison communities.

Figure 8: Proportions of households scoring positively on characteristics of social capability



Involvement of community members in land-use planning is something that the DMI Livestock project tried to influence through the establishment of Village Land-Use Planning Committees (VLUPCs). There is no sign of a result on this characteristic, even among the PFS and VICOBA members. In fact community participation in land-use planning is significantly *lower* in the project communities than in the comparison communities (though the size of the difference is not great).

The other major way in which the DMI Livestock project was intended to affect community-level capacity was through the establishment of the PFS and VICOBA groups themselves. These groups were intended to become sustainable institutions that could continue delivering training and providing access to finance after the end of the period of direct support from the project. Further, the PFS methodology encourages members who have received training directly in a PFS to propagate the training messages among their neighbours.

It is already clear from the results presented above that the PFS and VICOBA structures have been successfully established within the three communities supported by the DMI Livestock project. As would be expected, more members of these groups reported having received regular, group-based training on drought preparedness or livestock management during the 12 months prior to the survey than did the members of the comparison groups. However, among the households in the supported communities as a whole, the numbers reported having received such training was lower than in the comparison communities.

The intention in establishing PFS and VICOBA groups is that the members should disseminate the training messages they have received to their neighbours in the community. For this reason, the survey also asked respondents about discussions with others about training they had received. Unfortunately the results did not show any difference between the project and comparison communities in this regard, so did not provide evidence that the dissemination of training messages had yet occurred at the time of the survey.

Programme learning considerations

- ***Keep monitoring progress of the PFS and VICOBA groups, and whether the training and skills provided are eventually disseminated among the wider community.***

It is clear from the results that the PFS and VICOBA groups continued to function well after the end of the Oxfam project, and appear to have brought significant benefits to their members. It will be useful to conduct further follow-up research – perhaps two to three years after the end of the project – to track the further progress of these groups. In particular, it will be important to understand whether the PFS and VICOBA groups continue to operate and meet regularly, whether their membership has expanded, and (as intended under the PFS model) whether the training has started to be disseminated among other community members.

- ***Explore whether the model used for community land-use planning structures was the right one to achieve sustainable improvements.***

The results of this Effectiveness Review lend weight to the judgement made in the final evaluation of the DMI Livestock project that, without further follow-up, the activities of the village land-use planning committees (VLUPCs) may not be sustained. While reasonably high numbers of survey respondents in the project communities agreed that they are involved in decision-making on land-use planning within the community, the proportion was actually higher in the comparison communities. This may suggest that there could be something to learn from the comparison communities in this respect.