

Integrating Agriculture and Nutrition in the XCSEL project

A Concern Worldwide Learning Paper

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Introduction

A consortium comprised of Concern Worldwide (CWW), Welt Hunger Hilfe (WHH) and Organização Rural de Ajuda Mútua (ORAM)ⁱ implemented the “Strengthening Civil Society to enhance livelihoods through supporting economic skills diversification, markets and gender equity in Zambezia” (XCSEL) project in the province of Zambezia from 2015 to 2017. Concern targeted extreme poor communities in extremely remote areas in the districts of Inhassunge and Chinde (including Micaune) while WHH targeted poor communities in peri-urban and less remote areas in the districts of Quelimane and Nicoadala. The project has been implemented integrating 5 different focus areas and associated activities to achieve the objectives:

- Farmer Field Schools (FFS) (CWW and WHH)
- Care Groups (CG) (CWW) and mother’s & father’s nutrition groups (WHH)
- Dialogue Clubs (CWW)
- Farmers’ Associations (FA) (ORAM)
- Village Saving and Loan Associations (VSLA) (CWW and WHH)

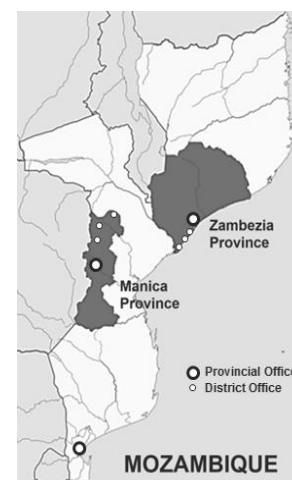
The project’s specific objective is to enable participants to have increased economic welfare and improved nutrition, while generating evidence of good practice to influence government policies and government staff training to enhance the cross-sectoral services for the extreme poor in Mozambiqueⁱⁱ. This learning brief highlights the lessons learned from the integration of agriculture and nutrition activities across all implementation areas, but with a more in depth reflections on the intervention in rural areas given the ambitious goals to reach over 13,000 programme participants with the elaborate integrated project package.


Overview of the XCSEL project structure

The XCSEL project targets integrated actions in agriculture, nutrition and gender developed under the LAND programme in Mozambiqueⁱⁱⁱ. The aim of the integrated approach overall is to break the cycle of poverty and reduce chronic child undernutrition as the basis of improved economic livelihoods and strengthened civil society. Concern coordinated activities in the rural areas of Micaune, Chinde and Inhassunge, while WHH coordinated activities in the peri-urban areas of Nicoadala and Quelimane.

The cross-sectoral approach integrates the community-based delivery platforms for behaviour change: Farmer Field Schools (FFS) for agricultural livelihoods, Care Groups (CG) for Infant and Young Child Feeding (IYCF) and Dialogue Clubs (DC) for gender equality in rural areas^{iv}.

Nutrition and gender sensitive FFS consisting of 25 extreme poor farmers (55% women) aim to improve agricultural productivity and resilience by introducing





climate smart farming techniques, increasing crop diversification and the production of nutrient rich foods in homestead gardens and promoting ways to minimise post-harvest losses. In total 202 FFS were established (146 in rural areas and 56 in peri-urban areas).

The FFS integrate and are linked to the project's nutrition component which applies a social and behaviour change (SBC) approach to promote nutrition relevant behaviours and practices among the target households with reference to the 1,000 days approach. Both organisations targeted women in the 1000 days' category (pregnant or lactating women with children under two years of age). However, in the rural areas, Concern adapted the Care Group approach to the local and operational context of XCSEL where each care group, consisting of 12 volunteers each, regularly disseminates key nutrition messages to a total of 120 neighbour women. Meanwhile in the peri-urban areas, WHH incorporated these women within its peri-urban FFS groups selecting up to 11 men and women to participate in nutrition sessions in a *mother's & father's nutrition group*. After the session, the members would replicate the training to the other members of FFS, who would then disseminate the information to their immediate family and community.

In both area, the trainings' sessions not only included nutrition topics but also some transversal ones such as water usage, hygiene or HIV-aids.

To address the identified need to actively address gender equality, Concern also formed Dialogue Clubs (*'Clubes de Dialogo'*) during the second half of the project implementation, comprising of 10 couples, on average, from the local FFS, CGs and wider community, with an interest in learning about how they can better collaborate to improve their family's wellbeing. These were formed to further link the women only Care Groups with the FFS in rural areas and to enlist men and women jointly in support of behaviours that increase the 'demand for' and 'access to' nutrition sensitive agriculture which also meant challenging men's and women's decision making in the household. Equality messaging was disseminated to all participants in both rural and peri-urban areas.

In order to further strengthen the gains and sustainability of the approach, the XCSEL project has sought to strengthen farmer's position and voice throughout the formation and legalisation of Farmer's Associations to enable them as civil society actors within this approach to support and advocate for better livelihood service provision from the public and private sector.

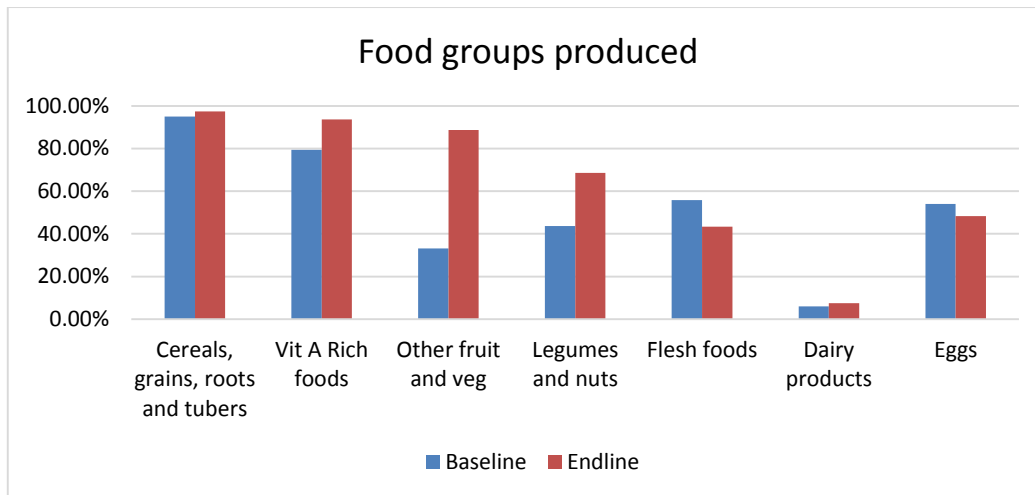
Key results from the integration of agriculture and nutrition

Increased earnings from agricultural production

While the programme participants in the different groups received slightly different packages as is discussed in further detail below, there is a clear increase in income among all participants with a general 146% increase in earnings from agricultural production. In peri-urban areas programme participants earned on average 75% more than at the start of the programme while in rural areas a significant increase of 242% is noted. It is worth noting however that in rural areas there is a notable difference between the different intervention groups whereby FFS members noted average earnings of 1,989 meticais in the past year while care group members earned 1,603 meticais and neighbour women 842 meticais. The increase in neighbour women's earnings are the most notable given that these women received no direct agriculture training or inputs, but their motivation to sell their inputs appears to have increased.

Increased number of food groups produced

The project baseline data indicates an average of 3.6 groups produced across programme participants in rural and peri-urban areas. At the endline stage the number of food groups produced has increased to 4.2 with 72% of participating households managing to grow a minimum of four food groups. As the table below shows agricultural production has indeed become more diverse and there is a notable increase in the production of vegetables as well as legumes and nuts. This increase is in turn reflected in improved dietary diversity among a larger number of participants.



Not only did the programme introduce new cultures, it also promoted the way of using them through cooking demonstrations and trainings (soya milk, soya milk and sweet potato biscuits, fortified porridge etc.).

Improved dietary diversity among children of 6 – 23 months and women of reproductive age

At the baseline 16% of children in the sample achieved minimum dietary diversity. When this is disaggregated by project area this is 27% in peri-urban areas and 11.5% in rural areas. At the endline an average of 40.94% of children across all programme areas achieve minimum dietary diversity while the average number of groups consumed is 3.22. While the average number of groups signifies that there is still some work to be done we note an overall improvement in dietary diversity of 156%. When comparing the different intervention areas, 42.4% of children in rural areas achieve minimum dietary diversity, in comparison to 35.7% in peri-urban areas.

For women of reproductive age (15 – 49) the baseline indicated that women were consuming 3.8 food groups on average (4 in rural areas and 3.37 in peri-urban areas), with 45% of the sampled women achieving minimum dietary diversity. At the endline the average number of food groups has increased to 4.6, the results being largely the same across all programme areas (4.5 in rural areas and 4.74 in peri-urban areas), with 78% of sampled women achieving minimum dietary diversity.

Learning from integrated programming in XCSEL

Integrating programme design and logistics from the outset


The setup of the multiple integrated components of the project and the logistics required to support its implementation was a particularly complex and challenging undertaking, with the following lessons highlighted:

Ensuring a strong conceptual framework

The logframe and theory of change drew upon learning from implementing a multi-sectoral approach to nutrition during the previous three years of implementation of the LAND approach developed in Manica and Zambezia which was also based on the UNICEF conceptual framework for causes of malnutrition (1990). This also ensured the project focussed on integrated objectives. Formative research^v was carried out across the key sectoral components consisting of contextual analysis for the targeting of the livelihoods component and barrier analysis studies in nutrition which led to formative research on equality/ women’s voice and the piloting of the dialogue clubs.

Multi-sectoral team building

Key to the design and delivery of such an integrated project is an experienced multi-sectoral team of managers, field staff and support staff. Job descriptions, inductions, training and performance management indicators



should all reflect the project’s explicit aim to be coherent and coordinated towards integrated project outcomes. Technical managers and field officers with a technical background in each component of the project with local knowledge are vital to support implementation and monitoring. However the project experience highlights an inherent need for induction, training and team building of all staff (including support staff) on the multi-sectoral characteristics and objectives of the project frequently throughout implementation rather than simply at induction phase in order, to ensure buy-in and ‘joined up’ thinking between all components of the project. This was particularly true between technical staff in either nutrition and agriculture who would sometimes compete for project resources, creating barriers to effectively integrated activity planning.

Integrated support systems:

Logistics and procurement were key factors that required integrated thinking that incorporated input from all components. An example of where this didn’t work so well was when integrating the project’s livestock component. From a livelihoods perspective the procurement of goats considered as economic resilience assets to be grown and sold as potential sources of income while from the nutrition perspective the animals were for consumption of their milk or flesh as animal source foods^{vi}. The result was that the species of goat selected by the agriculture team was a variety that would survive the environment but not produce sufficient milk for consumption.

Design project learning and M&E systems with the differences or innovations in mind

There were differences in targeting, implementation approaches and ultimately results between the two principle partners – Concern and WHH – as well as innovations in the project design that linked the project sectors. The rationale for these differences and innovations and some suggestions for maximising learning from this project are presented below.

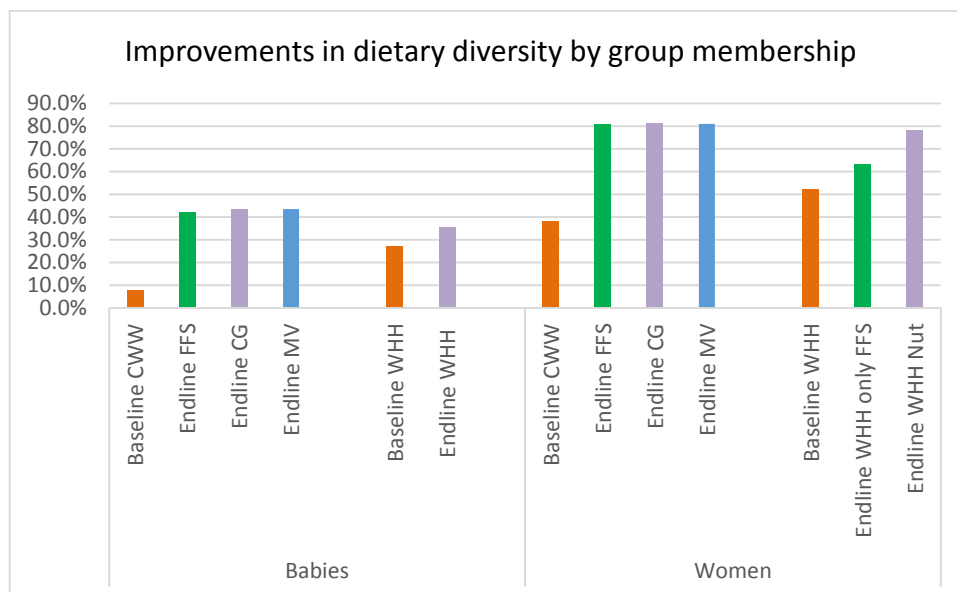
Comparative cost-effectiveness studies between delivery methods would have brought wider insights:

While the objectives and measures of impact in the project logframe are the same, the target groups and the delivery methods used to reach them were different between Concern and WHH. Concern targeted *extreme* poor farmers in rural areas, while WHH targeted poor, more *economically active* farmers in peri-urban zones. Concern was firmly committed to delivering IYCF in line with the Care Group method which had been pioneered in Mozambique^{vii} and had been successful as part of Concern’s LAND programme in Manica^{viii}. WHH had not previously engaged in Care Groups in Mozambique and chose to implement the same IYCF curriculum to women within the FFS only, selecting on average 11 relevant men and women to participate in mothers and fathers for nutrition sessions.

Concern sought to retain the high coverage of the Care Group approach with each care group member committing to community outreach, each disseminating the IYCF messaging to 10 eligible women within the wider community in accordance with the care group approach. This meant that a total of 3,300 women were reached with IYCF messaging in each of the three rural areas with oversight and technical support from 2 nutrition officers and 10 volunteer nutrition promoters. This high coverage plays a key role in the method as it attempts to achieve a critical mass/ tipping point for the practising of the new behaviours being introduced^{ix}. These differences and innovations added a further level of complexity to the integrated XCSEL project which was addressed from a *project and risk management* perspective through mitigating measures such as partner coordination.

The table below compares the results based on the group membership of the children’s households and the membership of the responding women aged between 15 and 49 in order to assess whether there is a notable difference in the results based on the ‘package’ received. As the table indicates there is very little difference between groups in the rural areas where a much greater number of participants was reached, all show a significant increase in dietary diversity, while in the peri-urban areas dietary diversity was already much better

from the start of the programme, but the improvements they are not as significant. What is interesting however is the fact that although peri-urban groups are fully integrated, the lower levels of dietary diversity among FFS only members suggests that the nutrition messaging does not trickle down as easily as might have been expected.



Whilst this provides an interesting insight into the different results, it would be necessary to a more thorough study of the different delivery methods to understand better the impact of the variation in approach on the results and cost-benefit.

Results based monitoring and management has been helpful in managing complexity and unintended consequences from the project

Concern chose to target men and women in the FFS *separately* from the targeting of women in the ‘1000 days’ category that formed the Care Groups, while WHH targeted ‘1000 days’ women in the first instance to form the core membership of the FFS to which men were added. In the Concern case, targeting women *only* provided a safe space for women to learn and exchange ideas on IYCF but also had the unintended impact of reinforcing the notion in the community that nutrition and child feeding and rearing was ‘women’s business’. This provided the rationale for incorporating a strong ‘Engaging Men’ approach into the project to encourage shared responsibilities between women and men, which has been very well received by the project participants. To support this flexibility, the M&E of the project was backed up by a results based management approach that ensured that indicators were tracked on an annual basis and the implementation methodology adjusted when necessary as per the example of the ‘Engaging Men’ being introduced.

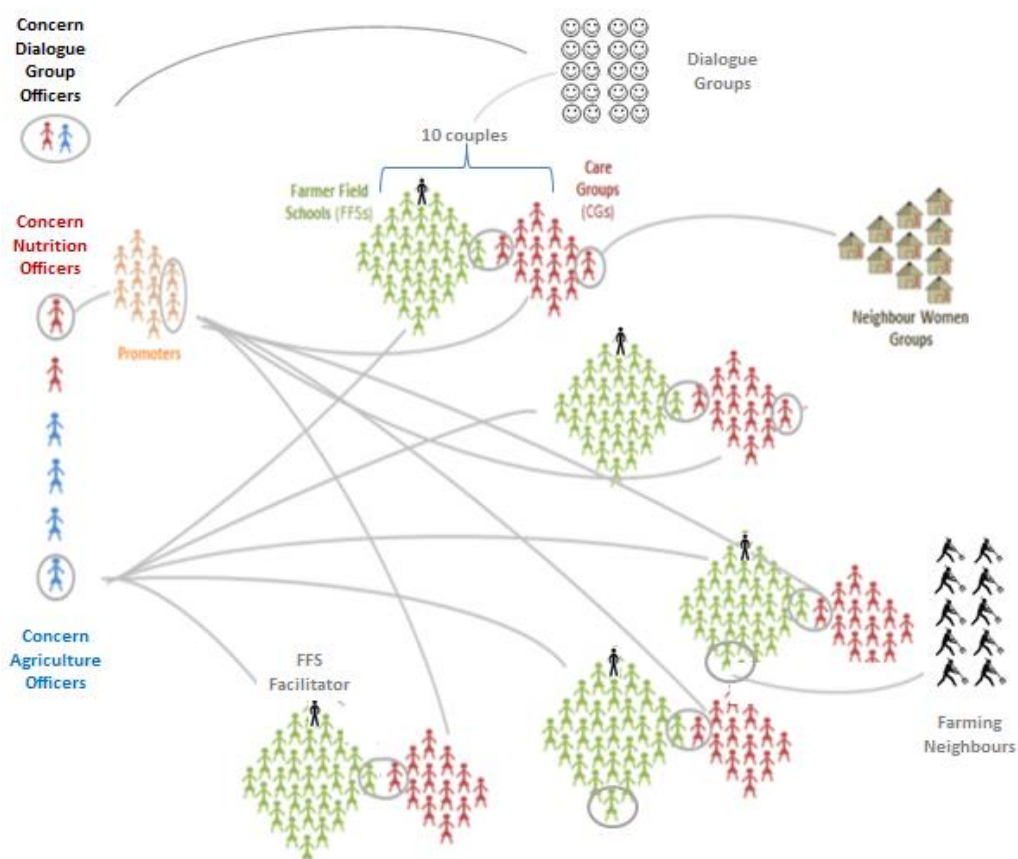
Achieving high coverage with the Care Group approach

The immediate results show that Concern and WHH have achieved similar gains in nutrition outcomes among their respective target groups and it can be surmised that the use of a different targeting method between Concern and WHH hasn’t negatively impacted the quality of the behaviour change curriculum delivered to the groups. Concern has however, achieved far higher beneficiary numbers at relatively the same cost so can be considered comparatively more cost-effective, insofar as the project results are also very similar. Wider and longer term results can however be expected from Concern’s implementation of the modified Care Group approach and its impact on stunting given the training and active involvement of local women as agents for change in their communities. Although this would which require a longer term study in order to be quantified and properly understood. Some of the immediate learning from this innovation are as follows:

The Designing for Behaviour Change (DBC) approach enabled the integrated programming

In order to maximise its reach in the communities in a cost-effective way, Concern's implementation of the project used the DBC approach to design a cascading training structure specifically for the nutrition intervention which created many avenues for the integration of nutrition with livelihoods component through the linking of the various groups and stakeholders. The integrated structure of the FFSs, CGs and DCs and the cascading approach that links (from left to right) Concern field staff, Groups, and Communities is depicted here:

Linking Farmer Field Schools, Care Groups and the Dialogue Clubs




Relying on volunteer training and community engagement:

The cascade training model aims to create a supportive environment and enabling effective community-level interactions with a wide coverage yet keeping supervisory structures reasonably low. Engaging local participants as volunteers to aid the project, especially on the scale to which this was achieved in the modified Care Group approach, is very important to integrated programming which would otherwise have higher supervision costs. This was especially important given the additional workload for field staff engaged in cross sectoral activities linking the programme components and participants. For example, agriculture officers and lead farmers are expected to train Care Group mothers in the healthy harvest approach while nutrition officers accompany Promotoras to carry out cooking demonstrations in the FFS. Understanding the capacities and limitations of change agents, beneficiaries and staff and incorporating the extra start-up costs needed for the more in-depth inductions and Training of Trainers (TOT) is a key learning from the approach.

Adapting the approved IYCF curriculum to the low literacy context:

The Government/ UNICEF approved materials as prescribed in the Mozambican context were applied in the intervention design but adapted for training of the poorest of the poor as volunteers to be 'change agents' as they generally have very low levels of education and literacy. The project's solution was to train via a modular



approach, simplifying the messaging and running single topic trainings each month. Whereas previously, the nutrition promoters would be given training on the full IYCF curriculum lasting up to a five days' during the inception phase, followed by a three day refresher training annually. By the end of the second year, simple, single topics were covered per month with refresher training provided by Concern's Nutrition Officers. This ensured clearer and more accurate knowledge transfer to participants. It is also worth noting that while XCSEL counts and measures 7 food groups for children, and 10 food groups for adults in its results indicators, the nutrition team focused the training on the 'traditional' four food groups in order to facilitate messaging alongside provision of seeds and plants help participants achieve a greater variety in line with the ten groups. This was furthermore accompanied by cooking demonstrations using the participants' produce enabling them to appreciate these new ingredients and understand how easily they can achieve varied diets.

Delivering the 'full package' to beneficiaries can require trade-offs

One of the big challenges of integrated programmes is to ensure beneficiaries are not only targeted by one sector but benefit from a full package of activities from each of the sectors. In order to deliver this in the XCSEL project this has required some trade-offs to be made, which should be fully considered at the outset of any integrated project and be needs based:


Achieving a balance between coverage and consistency:

In the WHH areas, the beneficiaries received livelihoods and nutrition interventions within the platform of the FFS, ensuring a high integrity of the groups within a more limited set of beneficiaries. In the Concern areas, the project has sought to provide a full package of interventions to a wide number of beneficiaries by linking the FFS with the CGs and with (and through) the Dialogue Clubs at various levels but with some inconsistency in the package received. For example the project struggled to expand nutrition activities in rural areas where new FFS groups were formed in the second year following the graduation of FFS' who had completed the agricultural cycle and become registered as Farmer's Associations. This was due to the continuous support required for the ongoing care groups given the nature of such a behaviour change intervention, and meant that some communities with an FFS only received basic nutrition messaging on the four food groups. Whilst the XCSEL project managed to deliver a package of interventions to all its beneficiaries involved, the existence of multiple groups and somewhat different target groups means that not all beneficiaries received the interventions in the same way but ultimately the similar results indicate the delivery method has not impacted immediate results (though in the case of the Care Groups and DCs may have longer term impact as the programme leaves behind dedicated agents change who have forged strong linkages across their communities).

The 'hardware' element of the project is essential to promoting behaviour change:

Linkages to the livelihoods part of the project, especially the provision of tools and inputs, are vital in order to ensure a household can turn a behaviour change 'nutrition component' into practice. Promoting dietary diversity during a CG session is of little practical use if the households do not have foods from the food groups promoted available or if they do not have access to them. Some Care Groups have benefited from vegetable seeds and being linked to an FFS with a view of increasing availability of foods from the recommended food groups that then could be consumed (or partially sold in order to purchase other foods) ^x. Care Group members cite the benefits of the introduction of the healthy harvest approach from the FFS along with training, farming tools and seeds as highly relevant. As the results also show, these were well received by the participants, although an additional focus on food preservation would have been of great benefit to all participants to enable them to further extend the period in which they have access to a variety of foods during the lean season. This has started during the project particularly in peri-urban areas where trainings were organized on how to produce tomato paste, mango jam or how to dry cabbage, carrot or beetroot. However given that preservation of food is not a common practice this would require clear planning from the start, follow up once the trainings have been implemented and further cooking demonstrations to facilitate application.

The extra work of 'integrating' the project in practical ways increases sustainability:



The sustainability of the multi-sectoral activities has been increased with the introduction of specialised volunteers from the Care group Promoters, FFS Facilitators, and DC Facilitators being supported to conduct cross-group training to ensure that FFS and CG members receive exposure to the full package of knowledge and practices being promoted by the project. Likewise, the presence of multiple groups in the same vicinity is highly visible in the community and group members are informally sharing good practices with their neighbours. The introduction of the behaviour change approaches via the Care Groups, mothers and fathers for nutrition groups and Dialogue Clubs in some communities has shifted the emphasis from nutrition and gender ‘sensitive’ and ‘mainstreaming’ approaches in livelihoods to the targeting of nutrition and gender ‘transformative’ outcomes in their own right that reinforce improved livelihoods and the benefits of the multi-sectoral project in the longer term.

Conclusion

Concern and WHH took very different approaches to implementing the two key components of the project – improved agricultural practices and production, and behaviour change for improved nutrition. WHH established new participant groups that had access to all the project components, with a select number of participants taking part in focused nutrition sessions. Meanwhile, Concern scaled up ongoing work with FFS’ in the rural areas and established Care Groups for women in the 1000 days’ category who would learn and disseminate key nutrition messages through a wide-reaching cascade training approach reaching over 10,000 people directly. Despite these notable differences in approach the results appear to be very similar, showing significant gains from diversification of crops and regular dissemination of Infant and Young Child Feeding (IYCF) messaging. However there is a lot to be learned as the key points below demonstrate:

1. ***Integrate your programme design and logistics from the outset, ensuring a strong conceptual framework*** with a multi-sectoral theory of change and integrated objectives. **Multi-sectoral team building** must ensure buy-in and ‘joined up’ thinking between all team components of the project including **integrated support systems**.
2. ***Design project learning and M&E systems with the differences or innovations in mind in order to effectively capture the nuances, strengths and weaknesses of the intervention.*** **Results based monitoring and management has been helpful in managing complexity and unintended consequences from the project** and the introduction of the ‘Engaging Men’ approach to gender equality which has been very well received.
3. ***The modified Care Group approach achieved high coverage with good results, enabled alongside other programme component through the application of the DBC approach.*** The **cascade training structure** for the nutrition intervention created many avenues for the integration of nutrition with the livelihoods component through the linking of the various groups and stakeholders. The cascade training structure **relies on volunteer training and community engagement** and is very important to integrated programming which would otherwise have higher implementation costs and lower local ownership. **The low literacy context** however requires understanding of the capacities and limitations of change agents, beneficiaries and staff to deliver the behaviour change curriculum.
4. ***Delivering the ‘full package’ to beneficiaries can require trade-offs. Achieving a balance between coverage and consistency*** could mean that not all beneficiaries received the interventions in the same way so must be managed fairly based on need. Behaviour change messaging must also be accompanied by the relevant tools to enable **diversified production and diets** so they can turn a behaviour change ‘nutrition component’ into practice. Incorporating training on food preservation would have extended the benefits of the participants’ diversified production.
5. **The extra work of truly ‘integrating’ the project in practical ways should increase sustainability** and is worth the investment at start-up and throughout the project, especially in the longer term where communities can be transformed through the informal sharing of good practices with neighbours.

ⁱ Sources for this paper include qualitative findings from interactions with programme beneficiaries, staff and partners from a recent field visit in 2017, field visit reports from technical advisors (in nutrition, livelihoods, gender etc) that have supported the project during its implementation, and quantitative survey data from the programme, and reports to various programme donors.

ⁱⁱ This forms one of four learning briefs that Concern aims to disseminate to inform relevant working groups, policy makers and practitioners in Mozambique. It will be shared with Provincial Government counterparts, local agribusiness, donors, and NGO partners with the intention that the recommendations are adopted by District Agriculture (DPA) and District Health (DPS) extension / outreach workers, and also reflected in the design of any follow on projects/programmes currently under development by the Government of Mozambique, NGOs / CSOs and donors.

ⁱⁱⁱ The LAND programme was funded by Irish Aid, UKAid/ DFID, the European Union, Concern US, and Fondation Ensemble. It has implemented in Manica and Zambezia Provinces in central Mozambique, in some of the poorest districts in Mozambique (Manica Province: Barue, Guro and Tambara; Zambezia Province: Inhassunge, Chinde and Micaune). Districts were chosen based on the contextual analysis exercise in 2012, which identified and described the extreme poor living within Manica and Zambezia Provinces. The programme was implemented in partnership with the Beira Agricultural Growth Corridor (BAGC) Public-private partnership, the local government (Technical Secretariat for Food Security and Nutrition Coordination - SETSAN), the international NGOs Promundo-US and Welthungerhilfe, and the local civil society organisations HOPEM and ORAM.

^{iv} Concern Worldwide developed and piloted the Engaging Men, dialogue clubs in 15 communities in Chinde and Inhassunge during the final year of implementation.

^v Quantitative baseline surveys in late 2013 identified key behaviours, which were subsequently explored further using the Designing for Behaviour Change (DBC) method in early 2014. The latter research consisted of a series of 'Barrier Analysis surveys' that investigated and compared the barriers/ motivators of those who practiced a particular behaviour ('doers', *executantes*) and those who did not ('non-doers', *não-executantes*). Later in 2015 a gender analysis was conducted in Manica that informed the Gender component.

^{vi} The focus on the production of animal source foods was to be a critical source of nutrition because they make up three of the seven food groups, including sources of milk and flesh meat.

^{vii} Dr. Pieter Ernst and World Relief/Mozambique developed the traditional Care Group approach in 1995. Since then, World Relief and Food for the Hungry have pioneered and championed the approach

^{viii} Concern first used the Care Group approach under the DFID/ Irish Aid funded Linking Agribusiness and Nutrition in Mozambique project in Manica Province 2013 - 2016

^{ix} Concern reached 13,580 direct participants through the cascading approach; WHH reached 1,043 direct participants

^x FFS produce 4.26 food groups while CGs and MVs produce 3.72 and 3.76, hence there is little difference in nutrition outcomes but earnings are lower among CGs and MVs than in FFS.