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This research was funded by the PATH-led and UK Department for International Development (DFID)-funded Nutrition Embedding Evaluation Program (NEEP), with co-funding from the International Food Policy Research Institute (IFPRI) and Save the Children. The research was conducted by IFPRI, University of Malawi Chancellor College, Wadonda Consultants and Save the Children. The authors would also like to thank all the national, district and community partners, particularly the Ministry of Gender, Children, Disability and Social Welfare; the Ministry of Agriculture, Irrigation and Water Development; the Department of HIV/AIDs and Nutrition under the Ministry of Health; and the 60 NEEP communities.

Improving child nutrition and development through community-based child care centres (CBCCs) in Malawi

Summary of presentation¹

By Aisha Twalibu, Natalie Roschnik, Aulo Gelli, Mangani Katundu, George Chidalengwa, Peter Phiri and Helen Moestue

Location: *Malawi*

What we know: Linking nutrition, agriculture and education may benefit child nutrition and development.

What this article adds: Community-based childcare centres (CBCCs) are community-managed rural pre-schools serving 45 per cent of the child population. Provision of mid-morning porridge is a key incentive to attend. Save the Children and University of Malawi Chancellor College developed a nutrition and agriculture training programme for CBCCs to overcome identified challenges to CBCC food provision. Support included provision of seeds and chicks, demonstration gardens, formation of village savings and loans (VSL) groups to help households start small businesses, purchase supplies and for emergency use, and development of nutritious recipes for CBCC and household use. An IFPRI-led cluster randomised trial evaluated the impact of the programme at one year. Preliminary findings include improved caregiver knowledge of nutrition, household and individual dietary diversity; improved diversity of agricultural production; improved pre-school meal quality and frequency; improved dietary intake of both pre-schoolers (children aged 3-6 years) and their younger siblings (children aged 6-4 months); and a protective effect on height-for-age z-scores of children aged 6-24 months. Sector divides were not a barrier at community level.

Background

Community-based childcare centres (CBCCs) are rural pre-schools managed by the community to provide a safe and stimulating learning environment to children aged three to six years and better prepare them for school. There are around 12,000 CBCCs in Malawi, serving approximately 45 per cent of the pre-school population. A key moment in the CBCC day is mid-morning porridge, which is prepared by parents with food contributions from the community. If porridge is not provided, children tend to stay at home and eventually the CBCC closes. A mapping exercise of 690 CBCCs in four districts conducted by the World Bank in 2011, which involved visiting each CBCC, found that half the CBCCs were closed. The main reason cited for closure was lack of food (Newman, McConnell and Foster, 2014). CBCC closure is a particular problem during the lean season when food insecurity is high.

found that some communities were still able to provide food for the CBCCs all year round, against all odds. Community capacity and commitment, leadership, organisation and communication between the CBCC and community were key to CBCC success in acquiring and providing meals. The research also found that, with basic training, communities could prepare more nutritious meals in the pre-schools (rather than basic maize porridge) and that these meals were then replicated at the household level, potentially benefitting other household members, including younger siblings (Katundu, 2014).

The intervention

Building on the findings and experiences described above, Save the Children and University of Malawi Chancellor College developed a nutrition and agriculture training programme for CBCCs. In it CBCCs were

However, separate research conducted by Save the Children in 110 CBCCs in 2014

¹ Presentation at the Action Against Hunger Research for Nutrition Conference, Pavillon de L'Eau, 13th November, 2017.

Box 1 New recipes promoted in the CBCC programme

Parents were trained to prepare a wide range of meals using locally available products, which were then prepared in the CBCCs and in the households, including:

- **Porridges:** maize or rice porridge enriched with groundnut powder, dry fish powder, dry vegetables, mango, soya, millet, beans, carrot and oil.
- **Legume snacks:** pigeon pea sausage, cassava kidos (boiled cassava dipped in eggs and vegetables and fried), soya coffee, sweet potato doughnuts, peanut butter and soya snacks.
- **Vegetable snacks:** pumpkin-leaf meatballs (made with pumpkin leaves, salt and eggs), orange-flesh sweet potato juice, sweet potato leaf juice, dried vegetables (for preservation), pumpkin leaves and amaranthus in groundnut powder and sweet potato leaf snack.
- **Fish products:** dry fish with groundnut powder, dry fish with tomato and onion.
- **Fruit products:** pawpaw, guava and lemon juice, pawpaw relish (unripe pawpaw cooked with groundnut powder, tomato and onion) and banana bread.
- **Soya milk**

used as a platform for training and practising new recipes and agricultural techniques to be replicated at household and community levels. The programme drew together the (WALA) programme (funded by USAID Food For Peace), the CBCCs wraparound programme (funded by the Conrad N Hilton Foundation) and the Malawi recipe book and guide for agricultural production practices (a Government of Malawi publication). National and district-level partners representing early childhood development (ECD), nutrition and agriculture provided input to the programme. The intervention had an agriculture and a nutrition component, described below.

Agriculture component

Two three-day agricultural production trainings were conducted in each CBCC community by trained Agriculture Extension Development Officers (AEDOs) prior to planting times (December and August) and targeting parents, CBCC management committee representatives, lead farmers and community agents (community focal points for the project). The training focused on land preparation; selection of nutritious crops (local orange maize, orange-flesh sweet potatoes, soya beans, pigeon peas, cowpeas, groundnuts, green leafy vegetables, carrots, spinach and tomatoes); production techniques; pest and disease management; manure making and application; harvesting; storage; and processing. The CBCC garden was used as a demonstration site and a place to try new agricultural production techniques and learn ways to utilise the foods. The trained household members (mostly women caregivers) worked in the garden with regular support from AEDOs. Households and CBCCs received crop and vegetable seeds and sweet potato vines. They were also trained in chicken production and each CBCC and household received 30 chicks and ten chicks respectively to boost production (and consumption) of animal-source foods.

Village savings and loans (VSL) groups were formed to help households save and access funds

to start small businesses, purchase supplies for the CBCC and use in case of emergency. The VSL groups were also used to discuss business management and nutrition. Farmers were subsequently organised into groups to increase their bargaining power when purchasing inputs, such as seeds and fertilizer, and to sell their produce.

Nutrition component

Nutrition training was conducted by AEDOs and government nutrition assistants trained by University of Malawi Chancellor College targeted CBCC management committee members, CBCC caregivers (teachers), lead farmers and parents. The training focused on essential nutrition and hygiene practices; nutritious food selection in different seasons; food storage, preservation and preparation; CBCC meal planning; and adaptation for the household and younger children. Trainings combined theory and practice, including recipe presentations and preparation in small groups, and discussions of their nutritional value and alternatives when certain foods are unavailable. Since parents take turns preparing CBCC meals, parents continued to practise new recipes at the CBCC, which could then be replicated at home, receiving ongoing support from community agents. Box 1 describes the recipes promoted. The most popular ones taken up in the CBCCs were the enriched porridges (with groundnut, vegetable and fish powder) and sweet potato doughnuts. The others were mainly taken up at household level.

The evaluation

With funding from the PATH led, DFID-funded NEEP programme, IFPRI and Save the Children, a cluster randomised trial was set up to evaluate the impact of the CBCC nutrition and agriculture intervention on pre-school meals (frequency and quality), household production and diets and the nutritional status and development of pre-school children and their younger siblings. The evaluation was led by IFPRI in partnership with University of Malawi Chancellor College and Save the Children.

The study was conducted in 60 rural communities with CBCCs supported by Save the Children's ECD programme in Zomba district. The evaluation combined quantitative and qualitative methods with two rounds of surveys timed one year apart, including child, caregiver, household, community and CBCC-level data collection. The 60 communities were randomly assigned to the intervention (described above) or a control group. The evaluation targeted all children aged 0-6 years in the 60 selected communities and their parents. The primary reference group was children aged 3-6 years at baseline; the secondary reference group was their younger siblings aged 6-24 months at baseline. Study outcomes included individual dietary intake and dietary diversity scores, household food production (quantity and diversity), anthropometry and child development. A total of 1,200 households were surveyed (20 per community). The study protocol has been published and can be consulted for further details (Gelli et al, 2017). A follow-up survey was conducted at the end of 2017 to examine longer-term trends and is currently under analysis.

Preliminary findings

Preliminary results (in press) found that, within one year of implementation, the intervention improved caregiver knowledge of nutrition, household and individual dietary diversity, diversity of agricultural production, and pre-school meal quality and frequency. It also improved dietary intake of both the pre-schoolers (3-6 year-olds) and their younger siblings (aged 6-24 months), driven by a higher frequency of consumption of nuts, pulses, fruit and vegetables. Most surprisingly, the intervention had a protective effect on height-for-age z-scores of children aged 6-24 months, preventing the steady decline observed in the control group.

Lessons learned

This project showed that community pre-schools can provide an effective platform for behaviour change and scaling up nutrition and agricultural practices. CBCCs are highly valued by the community because they provide childcare and prepare young children for school. Since food insecurity is one of the main underlying barriers to CBCC success, integrating agriculture and nutrition capacity-building activities within the CBCC helps address multiple problems (food insecurity, malnutrition and developmental delays) at the same time, supporting the goals of three sectors that tend to work in parallel (education, nutrition and agriculture). Unlike primary schools, CBCCs are small (around 40-50 children per centre) and entirely community-managed. The community therefore has the mandate and incentive to find solutions and, in most cases, has a system in place to provide daily meals to children in the CBCCs. This intervention is simply building the capacity of the community to improve what it is doing already. The strong community and parent engagement and ownership means the benefits trickle down to the household and younger siblings and promote long-term sustainability. Although working across sectors comes with several challenges, particularly around coordination of a large number of stakeholders with different agendas, we have found that the sector divides are predominantly at national or programme level, not at community level.

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A three-minute video of the intervention is available at <https://vimeo.com/219710521>

A short blog about the intervention can be read at: <http://bit.ly/2uqLPY7>

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