Multi-sector, nutrition-sensitive response to drought emergency in Pakistan

Child receiving treatment at OTP site in a targeted village in Umerkot district, Pakistan, 2015

Hondraj/TRDP

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Location: *Pakistan*

What we know: Undernutrition is multi-causal; nutrition-specific and nutrition-sensitive interventions are warranted.

What this article adds: A one-year, integrated, multi-sector project targeted communities at nutrition risk in an emergency response to drought in Sindh, Pakistan. Government departments at district level were engaged throughout. Nutrition-specific interventions involved community-based management of acute malnutrition (CMAM) and infant and young child feeding (IYCF) support. Nutrition-sensitive interventions involved seasonal cash for training, livestock assistance, improvement of communal wells and rain harvesting, and community hygiene outreach. The project aimed to target 80% of households with a malnourished child with nutrition-sensitive interventions in nutritional 'hotspot' villages. Positive impacts on access to CMAM treatment and IYCF support, livestock (milk production), hygiene practices and availability of safer water sources were reported. Beneficiaries increased expenditure on food and non-food items (especially agricultural inputs) and reduced use of costly, informal credit systems. Ambitious targets on water-borne disease and safe water access were not realised due to underestimated and challenging needs. Households successfully supported to build latrines (n=2,500) soon reverted to open defecation. Only one third of nutritionally vulnerable households were targeted by nutrition-sensitive interventions due to cost limitations. Informed by lessons learned, a follow-up project includes more livestock interventions, a community-led total sanitation (CLTS) approach and an exit strategy to sustain the CMAM programme led by government.

Introduction

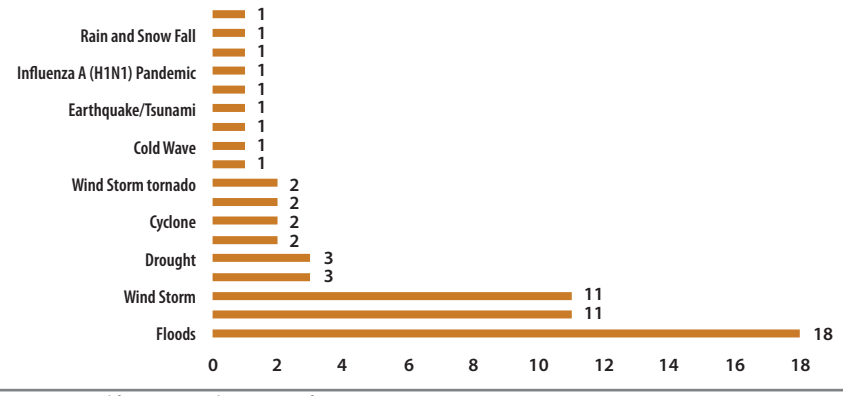
Pakistan, a lower middle-income country with the sixth largest population in the world, has an exceptionally high level of child undernutrition. According to the Global Nutrition Report 2016, stunting prevalence, at 45%, ranks 125 out of 132 countries, while wasting prevalence, at 11%, ranks 107 out of 130 countries (countries ranked lowest to highest); the country is sixth highest out of 185 countries in terms of anaemia prevalence (51.1%) (IFPRI, 2016). Pakistan is ranked 109 out of 118 countries on the Global Hunger Index (countries ranked lowest to highest score) (Global Hunger Index, 2016). One of the major contributing factors to the poor nutrition situation is natural disaster; a consequence of climate change, the country has experienced 63 natural disasters from 1935 to 2011 (Global Hunger Index, 2016) (see Figure 1). The frequency of drought affecting the country is increasing due to a gradual increase in temperatures. Thar Desert in Sindh Province has been most severely affected. It is an area covering 25,246 square kilometres with a population of 1,023,000 residing in two districts (Tharparkar and Umerkot). The area experienced a severe drought from 2013 until 2015 and recovery interventions are still underway.

In Thar Desert, 19.1% of children under five years old and 18.9% of pregnant and lactating women (PLW) are acutely malnourished (Concern Worldwide, 2016). Hundreds of children were reported to have died due to malnutrition over the last one and half years and 49% of large livestock and 59% of small livestock have died and/or been sold to try and meet immediate family needs (FSWGP, 2015). In terms of vulnerability, 68% of the population in the Thar Desert area fall under the category of poor and very poor (FSWGP et al, 2015).

Table 1 Project indicators

Component	Indicators
Nutrition-specific	1. Percentage of children with severe acute malnutrition (SAM) having access to appropriate treatment, including therapeutic food. 2. Percentage of children (0-5 months of age) who are fed exclusively with breastmilk.
Nutrition-sensitive	1. Percentage of the target population achieving acceptable food consumption score (FCS) (within last 7 days). 2. The proportion of households in the highest Coping Strategy Index score category has been reduced (Reduced CSI). 3. Prevalence of water-borne and water-related diseases in targeted population.

Figure 1 Frequency of natural disasters in Pakistan from 1935 until 2011



Information sourced from: www.pakresponse.info

Integrated multi-sector intervention

An integrated multi-sector project was developed to support nutrition at-risk communities in response to the continued drought emergency in Sindh, Pakistan. The project was designed by two Alliance2015[1] members; Concern Worldwide and Deutsche Welthungerhilfe (WHH), funded by European Civil Protection and Humanitarian Aid Operations (ECHO). The principal project goal was to improve resilience of the drought-affected population in Sindh Province. More specifically, the project aimed to meet immediate humanitarian needs of drought-affected communities through an integrated nutrition, food security and livelihoods (FSL) and water, sanitation and hygiene (WASH) response in Umerkot and Tharparkar Districts. Tehsil Umerkot in Umerkot District and Tehsil Chachro in Tharparkar District were selected as most severely affected by drought with high global acute malnutrition (GAM) prevalence. The project was implemented from May 2015 to August 2016.

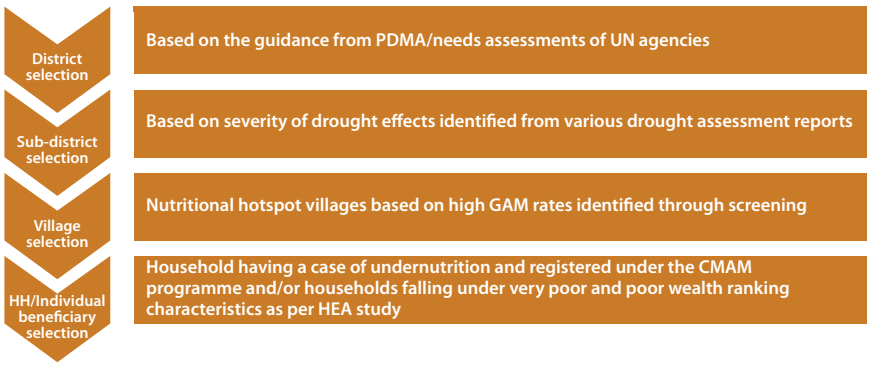
A baseline study was conducted in June 2015 and an endline study in August 2016. A mix of quantitative and qualitative methods was used, including household interviews, collection of health-related data from government health facilities and focus group discussions (FGDs). For both baseline and endline studies, the sample for household interviews was 409 and nine FGDs were conducted with beneficiaries from nine villages.

The project aimed to reduce the prevalence of acute malnutrition through nutrition-specific interventions (community-based management of acute malnutrition (CMAM) and infant and young child feeding (IYCF) support) combined with nutrition-sensitive actions, that addressed important, interdependent factors; specifically maternal, infant and child care practices[2]; hygiene measures; provision of water infrastructure; access to nutritiously rich and diverse diet; and livestock management. Nutrition-sensitive interventions involved:

- Provision of cash through cash for training (CfT) (nutrition, agriculture and livestock management) to the drought-affected malnourished households.
- Provision of livestock assistance, involving vaccination and deworming, livestock management sessions and clinics with the support of the government livestock department.
- Installation of solar-powered, water-pumping systems on existing communal wells.
- Construction of rain-harvesting water ponds.
- Hygiene promotion through community outreach workers.

Nutrition-sensitive targeting was largely determined by the nutrition-specific component, whereby households with children enrolled in the CMAM programme were referred to the FSL and WASH services. The project aimed to reach at least 80% of households out of the nutrition caseload in nutrition 'hotspots' and support them through FSL and WASH interventions (see Figure 2). Geographic targeting within the selected tehsils[3] also followed the nutritional hotspot approach. This involved screening all children aged 6-59 months to calculate a village GAM prevalence; those with the highest GAM rate were selected for the intervention. The remainder of the FSL and WASH-related beneficiaries were identified from the same nutritional hotspot villages using the vulnerability criteria guided by the Household Economy Analysis (HEA) study (i.e. very poor and poor households by wealth ranking). Integrated indicators were designed for the project (see Table 1).

Figure 2 Nutrition-sensitive geographic targeting process



Implementation process and impact of the project

CMAM/IYCF programme

Concern Worldwide implemented a nutrition-specific response, targeting children under five years old and PLW, involving CMAM service set-up, community mobilisation for uptake of health and nutrition services, and behaviour change communication (BCC) for improved IYCF and care practices. Quality treatment was provided to severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) cases and moderately malnourished PLW at the community level through mobile teams. SAM children with complications were treated in the stabilisation centres (SCs) established with the support of Concern Worldwide in the district headquarter hospitals. Orientation sessions (one-to-one and in groups) were held for mothers of malnourished children, caregivers, PLW and other women on

[1] http://alliance2015.org/

[2] IYCF activities were mainly nutrition-specific, however, some IYCF messages were also covered by nutrition sensitive actions.

[3] An administrative division denoting a sub-district.

Table 2 Nutrition-sensitive messages by sector

Topics	Key messages
Nutrition	• What is nutrition and malnutrition? (pictorial examples), anthropometric measurement (mid-upper arm circumference (MUAC)) and importance of nutrition for human body growth. • Different types of nutrients and their role in growth (showing pictures of different food items containing major nutrients). • Sources of nutrients (such as vegetables, fruits, dried fruits, fish, lentils). • Importance of hand-washing, when, how to do hand-washing (illustrated pictures) and importance of water in personal hygiene. • How food and water become contaminated and how to keep them safe from contamination. • Food items for PLW and children, importance of breastfeeding, especially newborn infants. • Water-borne diseases, water treatment methods/ techniques at local level and their benefits.
Agriculture	• Seasons (kharif, rabi) and crops/vegetables which are mainly grown in Tharparkar region, seasonal calendar. • Diversified food options, e.g. bajra (millet) production and utilisation. • Kitchen gardening: simple methods to grow certain vegetables at home in pots, wild foods naturally grown in the area (such as mushrooms and water melons) and how to tend to vegetables and their nutritional value.
Livestock	• Types of livestock, feeds, fodder and natural pastures available in drought areas (illustrated by pictures). • Importance of livestock for nutrition (milk), livestock space (open grazing), shade (protection from direct sun), watering and local livestock diseases. • Vaccination and deworming calendar (calendar in local language dispatched in community for future reference) and livestock feed management at local level. • Formulation of nutritive feeds from locally available resources for livestock.

topics such as breastfeeding, complementary feeding, ante- and post-natal care and personal hygiene. Breastfeeding corners were established at each CMAM static site for privacy and to provide mothers with counselling on IYCF-related issues. Mother support groups were also formed in each union council, comprising eight to ten women. These women were trained on screening of children and PLW and delivery of key messages on nutrition, FSL and WASH issues to women from their areas. During the project life, 61,693 children under five years of age and 27,494 PLW were screened. A total of 6,071 SAM cases, 11,395 MAM children and 9,201 malnourished PLW were treated in the CMAM programme.

Food security and livelihoods (FSL) programme

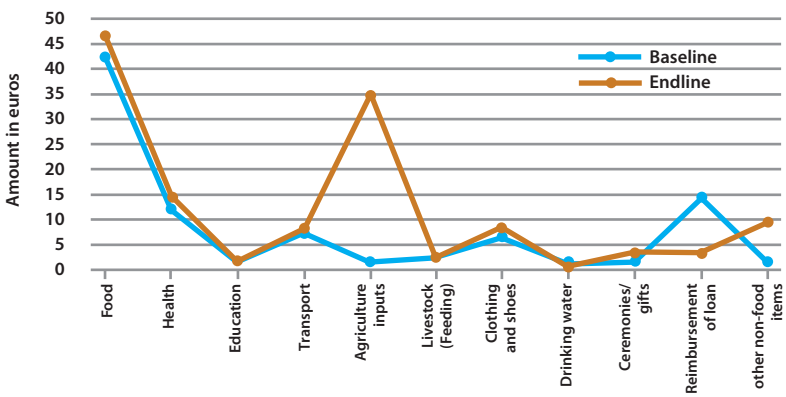
Food security and livelihoods-related interventions were designed to increase access of the targeted beneficiaries to adequate and diversified food through appropriate activities. The main activities under the FSL component were cash-transfer programing and livestock assistance.

Cash for training (CfT)

CfT targeted drought-affected malnourished households (referred from the nutrition programme), PLW and the most vulnerable people (those with disabilities and older people). It was designed to cover the extreme lean periods (September to November and March to August) when daytime temperatures can reach 50 degrees Celsius. The cash assistance was conditional on attending awareness sessions that delivered nutrition-sensitive key messages on nutrition, livestock and agriculture management; these focused on critical behaviours identified through a baseline knowledge, attitude and practices (KAP) survey (see Table 2). Each selected beneficiary received two days training on nutrition-sensitive messages followed by cash disbursement of PKR 6,000 (54 euros) per cycle through electronic mobile payment (Jazz Cash). There were three cycles so each beneficiary received a total of PKR 18,000 (162 euros). The cash amount was calculated based on the World Food Programme (WFP) food basket value for Pakistan. Cash disbursement was conducted in clusters near to the beneficiaries' household, given the poor roads and transport facilities. The training time and duration was flexible in consideration of the target groups.

The baseline study found that, on average, beneficiaries were spending 88 euros on all monthly household expenses, including food, non-food and other expenses. At endline, monthly household expenditure was 128 euros, a rise of 40 euros, which is attributed to the cash assistance. Trend analysis shows that beneficiaries increased expenditures on food, health, agriculture inputs, clothing and other non-food items. The major area of increased expenditure was buying agricultural inputs for the forthcoming cropping season, while there was a considerable reduction in loans repayment; this suggests that those receiving cash switched to cash purchase in favour of the traditional structural credit system[4] (see Figure 3). A total of 15,288 female individuals (PLW/child caregivers) were covered under this activity; males accounted for 6% (n=908) of beneficiaries.

Figure 3 Comparison of monthly expenditures (baseline and endline)



Livestock vaccination and de-worming

In Tharparkar and Umerkot most household livelihoods depend on rearing livestock (mainly small livestock). Heightened disease prevalence in drought conditions results in livestock mortality or weaker animals, for which there is a lower net return compared to healthy animals. To improve livestock immunity and good animal health, vaccination and deworming activities were planned with the support of the government livestock department for all targeted households in the area. Vaccination/deworming campaigns were organised at each village level where all small livestock (goats/sheep) and large livestock (cattle) were treated. The livestock of surrounding villages and communities were also covered to avoid any disease outbreak that may affect the project targeted areas. A total of 125,957 animals (102,468 small and 23,489 large) were reached through this activity. Beneficiaries reported positive impact on their livestock due to the vaccination/deworming assistance: 100% of beneficiaries mentioned increase in milk production.

Water, sanitation and hygiene (WASH)

The WASH component involved both household and communal interventions for the population covered by the nutrition component.

Access to drinking water

Communal and household-level schemes were designed to improve community access to drinking water. In some villages, mostly females were responsible for collecting water from deep-dug wells (around 300ft) by pulling ropes in groups or using animals (donkey, camel). This laborious task and distance to the dug wells were creating health hazards for women, especially PLW, so solar-powered water-pumping machines were

[4] A traditional conventional credit system prevails in the area, which communities use to get food and non-food items/or cash for household expenditure. It commands a high interest rate and whenever borrowers need a new loan (cash or in kind) they must adjust the existing loan.

installed on a total of 12 dug wells. An additional 100 villages were identified from the hotspots for rehabilitation of depression sites[5]. Local villagers were engaged in the rehabilitation work through cash for work. The project also assisted 1,350 households from the same villages who had SAM cases, for construction of household underground water tanks. The tank is dual-purpose; for household water storage and to harvest rainwater during rains.

Endline review found that, on average, a household collected four litres of water for drinking, three litres for cooking and seven litres for washing, an overall increase of 4.5 litres from baseline. In terms of water sources, more than half of the respondent households utilise wells without solar pumps in both districts and 22% use hand pumps, mainly in Umerkot. More than 90% of the sampled households believe that it is safe to collect water from these points or sources. All the households have containers to store and fetch water, with each household having at least three containers (as at baseline); improvements were seen at endline regarding cleaning the containers.

Hygiene promotion

Hygiene promotion was integrated into all project-awareness sessions. Key messages included critical times and appropriate methods for handwashing, personal and household hygiene and water treatment at household level. Hygiene-promotion campaigns, celebration of WASH-related days, hygiene-promotion activities in schools, and hygiene-promotion messages through trained community outreach workers were some of the main approaches adopted to improve behaviours. In total, 34,500 families were reached through the hygiene-promotion component.

At endline, 11% of households reported washing their hands during all five critical times (compared to none at baseline), of whom 44% used soap and the remainder used local sand and water. At baseline, 95% of targeted beneficiaries had no latrines; at endline, 28% had latrines and were using them. Most (97%) realised the importance of latrines and the health hazards of open defecation.

Construction of low-cost latrines

The baseline study found that around 28% of the population had pit latrines in use. A total of 2,500 families were identified from the nutritional hotspot villages who did not have latrines and were defecating in the open. These families were supported for construction of low-cost latrines; latrine construction material was provided while they contributed voluntary labour. Despite this assistance and sensitisation on the importance of latrine use, use of latrines has not improved as much as anticipated. Although all 2,500 households constructed latrines and initially used them, many reverted to open defecation.

Coordination mechanism

The coordination mechanism for the project was developed at national, provincial and district levels. Existing Nutrition Working Groups (chaired by UNICEF under the Ministry of Health) and Food Security Working Groups (chaired by FAO and WFP under the Ministry of National Food Security and Research) at national and provincial levels were on board from project design until end. Project progress was continuously shared with the working groups through a '4W' (who, what, where and when) matrix and other reporting mechanisms. In addition, the Pakistan Humanitarian Forum (PHF)[6], the Provincial Disaster Management Authority Sindh (PDMA)[7] and Sindh Nutrition Cell[8] were kept closely informed. The active coordination hub for the project implementation was at district level; district-level coordination is led by district commissioners, who lead all interventions of government departments, non-governmental organisations (NGOs) and civil society organisations (CSOs). Formal memoranda of understanding (MoU) were signed with district livestock and health departments to ensure close coordination and engagement in the project implementation process. Regular coordination meetings were held with the relevant district departments and formal monthly progress reports were submitted.

Project tasks were distributed among three local partner NGOs; one led on the nutrition-specific component and two delivered the nutrition-sensitive component. A coordination mechanism was developed at field level consisting of project management and technical staff of the partner NGOs and Concern Worldwide and WHH field teams. Regular monthly meetings helped address operational issues on the ground. Field visits of the ECHO country team and experts from regional and head office also provided guidance and assistance on emerging project needs.

Table 3 Achievements of the project against set indicators

Indicator	Target value	Baseline value	Final progress value
% of children with SAM having access to appropriate treatment, including therapeutic food	>50% (Sphere standards)	0%	55%
% of children (0-5 months of age) who are fed exclusively with breast milk	65%	36%	75%
% of the target population achieving acceptable food consumption score (FCS)	38%	0%	58%
Reduction of proportion of households in the highest coping strategy index score category (Reduced CSI)	20%	34%	59%
Prevalence of water-borne and water-related diseases in target population	<50% of population report	<22% of population report	<27% of population report

Results/impact of the project

Endline review of project indicators shows the project exceeded targets for indicators relating to SAM treatment, exclusive breastfeeding, food consumption score (FCS) and household poverty ranking (see Table 5). While prevalence of water-borne illness at baseline (<22%) was already below the target value (<50%), it increased during the life of the project.

Lessons learned

Integrated, multi-sector, nutrition-sensitive programming to address the issues of malnutrition

Although many interventions have been implemented in the targeted area to address the drought situation, all were 'nutrition-blind' with no nutrition objectives. This was the first integrated, multi-sector intervention to respond to the current drought situation. The successful implementation and the results of the intervention indicate that multi-sector interventions with a nutritional lens are an appropriate and effective way to tackle the drought situation, quickly achieving results on factors associated with undernutrition in Pakistan. A SMART survey has just been completed in the area (June 2017) and is under analysis.

Strong coordination among relevant stakeholders (UNICEF, WFP, Nutrition Cell, government line departments and local NGO partners)

The coordination, activism and support from the government reflected the commitment of the state towards tacking undernutrition issues in drought-affected areas of the country. There was active involvement of many stakeholders, including UNICEF, WFP, Provincial Nutrition Cell, government line departments and international and local NGO partners. Well-designed and hierarchical coordination from national to district level with government departments and other stakeholders contributed to the effectiveness of the intervention.

Pooling different expertise of humanitarian sector brings drastic results

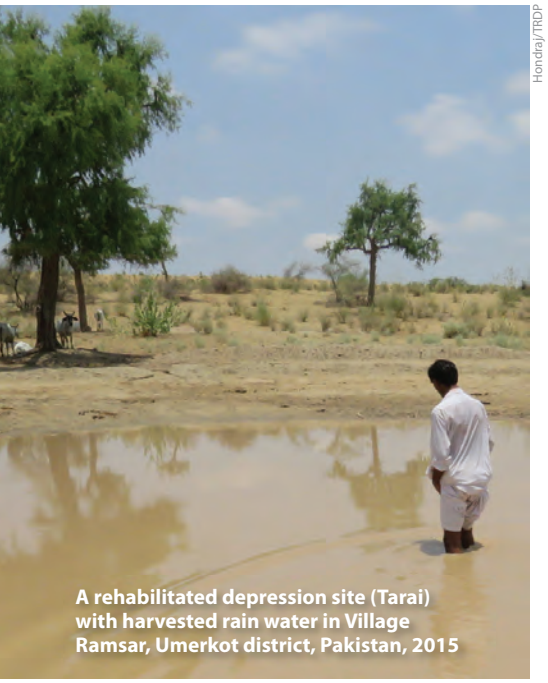
The nutrition-specific and nutrition-sensitive activities were implemented by different local partners, playing to their respective strengths. There was good collaboration: partners who implemented the nutrition-specific interventions

[5] Natural places where rainwater gathers from the surrounding sand dunes. The land of that site is compressed and therefore its water-holding capacity is increased. Rainwater stands for long periods at such a site, locally called *tarai* (depression site).

[6] PHF is the coordination forum consisting of all the humanitarian international non-governmental organisations (INGOs) working in Pakistan.

[7] PDMA is a government body which takes the lead on all the disaster/humanitarian related work in the Province.

[8] The Cell is led by Department of Health, Government of Sindh and UNICEF.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A rehabilitated depression site (Tarai) with harvested rain water in Village Ramsar, Umerkot district, Pakistan, 2015

were responsible for identifying nutritional hotspot communities and beneficiaries to the nutrition-sensitive partners.

Synergies of the project with other interventions in the area

WHH and Concern Worldwide have other long-running interventions in the area that aim to build resilience of the communities while responding to the emergency situation. Synergies were developed between the humanitarian and development programmes. For example, long-term WHH nutrition-sensitive programmes funded by Germany were also covered by the CMAM and nutrition-sensitive programmes.

Although the project achieved its intended results, some of the project areas were not as successful as anticipated. Some of these areas are elaborated below:

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A newly constructed household water tank (for water storage and rain water harvesting) in Village Lala-Bah, Umerkot district, Pakistan, 2015

Imbalance between nutrition-specific and nutrition-sensitive interventions

There was 100% coverage of nutrition-specific interventions; however only 32% of the nutrition-specific beneficiaries were covered by the nutrition-sensitive component. This was due to cost; nutrition-specific components cost 1.6 euros per beneficiary, whereas 10.3 euros were spent per beneficiary for nutrition-sensitive interventions.[9] This suggests that nutrition-sensitive interventions need greater investment to ensure reach.

Reduction in open defecation practices

It was planned to tackle open defecation practices through hygiene promotion and latrine construction. However, increasing awareness of the health hazards of open defecation and latrine construction yielded poor results. Changing ingrained behaviours requires a long-term strategy that is difficult to realise in a short-term emergency project.

Prevalence of water-borne and water-related diseases in targeted population

This was the first multi-sector intervention by WHH and Concern that ambitiously aimed to reduce water-related disease prevalence in the target population. However, the field realities were not fully appreciated at the time of intervention design and baseline. The water shortage in the area and resulting utilisation of turbid and contaminated water (as the only source) continued throughout the implementation period. Project scope was limited by resources, so the extensive water-related needs of all populations could not be catered for.

The main enabling factors which contributed to smooth implementation of the project were:

- Donor commitment to address recurrent drought and malnutrition.
- Local human resource pool (qualified local staff for project implementation were available in the area.
- Presence of relevant government line departments at grass-roots level, with active participation and interest of district administration in the project.
- Interest of provincial government in nutrition issues.
- Sensitivity to and involvement of the community; the project was designed to address immediate needs of the communities.
- Supportive social and cultural norms; Muslim and Hindu communities are equally represented in the area and welcomed the intervention, irrespective of diverse norms and religions.
- Streamlined procurement regulations to enable easier procurement by partners.

The main constraints faced by the project related to weather, access and the short project duration. Extreme weather conditions (high temperatures), poor communication infrastructure (no proper link roads) and difficult, costly and time-consuming transportation were major hindrances that project staff faced. Establishing a new multi-sector intervention within a short timeframe was challenging; a quarter of the project time was taken up with inception and preparation.

Conclusion

Within a short timeframe a multi-sector project, involving nutrition-specific and nutrition-sensitive interventions and cross-sector coordination, was successfully established in a drought-affected community and achieved impact. As this project was funded by ECHO for the short-term (emergency response funding), Concern Worldwide and WHH planned to mobilise more funding to maintain the response with a view to reducing undernutrition prevalence to below emergency thresholds. At the end of the project term, Concern Worldwide continued the nutrition-specific (i.e. CMAM) component, pending development of a follow-up project (the nutrition-sensitive component was not extended). This helped to stabilise the undernutrition situation in the area by avoiding a break in service. A one-year, follow-up project has been designed and informed by lessons learned, which has since been approved for ECHO funding.

New elements include the scale-up of the livestock assistance component. The first project only involved deworming, while the new project includes livestock vaccination (the government livestock department administers the vaccination and the project provides community mobilisation and logistics arrangements). Animal health clinic days have also been added; again, the government livestock department provides veterinary doctors and the project arranges the clinics in rural areas. Given the poor return on the household latrines intervention, this component has been dropped from the next phase. Instead, a community-led total sanitation (CLTS) approach has been added to galvanise communities on the issue of open defecation, along with awareness-raising and sensitisation. To complement this, a pool of outreach workers for hygiene promotion will be deployed in all targeted villages. A clearer exit strategy has been formulated; on completion of the ECHO-funded phase, the CMAM programme will be continued by government through one of its World Bank-funded nutrition programmes.

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[9] Cost per beneficiary was calculated by distributing the whole budget 'programme + administrative' per sector into the total number of beneficiaries covered.

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