



**ACTION
AGAINST
HUNGER**



**RESEARCH
REVIEW**

2017

INTRODUCTION

For over 35 years, Action Against Hunger has been at the forefront of the fight against hunger worldwide. Today, our organisation has an established reputation as an evidence-based organisation, capable of providing high-quality technical and operational support, even in the most challenging contexts.

Research is our primary means of assessing and improving the effectiveness, scalability, and sustainability of our actions; of learning how to respond better and faster to beneficiary needs and vulnerabilities, especially in times of crisis; and of leveraging evidence-based advocacy to produce the change we want to see in the world.

RESEARCH IS FUNDAMENTAL TO ACTION AGAINST HUNGER'S ABILITY TO INNOVATE, LEARN, AND GROW, IN ORDER TO ULTIMATELY BETTER SERVE OUR BENEFICIARIES.

Our operational programmes and research are intrinsically linked. Our research is designed as an integral part of our operations and with the explicit aim of generating evidence that will inform programme design and implementation. This is a constant feedback loop; as new results emerge from our research, evidence-based recommendations influence the next iteration of our programming and, simultaneously, support refinement of our research priorities towards additional evidence gaps. By focusing on learning and improvement via our research activities, we aim to increase our impact – reaching more vulnerable people with more safe and effective treatment than we could have before.

Action Against Hunger's Research Strategy for 2016 – 2020 outlines three priority workstreams for our organisation's research activities. This strategy outlines how our expertise and capacity can be maximised to address critical gaps in the evidence base and where, over the five-year implementation period, we hope to contribute to tangible improvements in policy and practice.

These research workstreams are:

1 Prevention of undernutrition: understanding and addressing the causes of hunger;

2 Treatment of undernutrition: managing and mitigating the consequences of undernutrition;

3 Effectiveness of humanitarian assistance: encouraging preparedness, improving reactivity and a higher quality of response.

In 2017, Action Against Hunger has developed this inaugural Research Review, which is intended to assess and evaluate our progress in research across the organisation. This first report aims to provide an overview of the state of research at Action Against Hunger in 2017, and in this report you will find:

- **AN OVERVIEW OF OUR GLOBAL RESEARCH ACTIVITIES IN 2017:** what we did and where, our partners, and how we are tracking critical components of our research like research uptake, partnerships, & capacity building.
- **A FULL LIST OF ACTION AGAINST HUNGER RESEARCH ACTIVITIES IN 2017.**
- **HIGHLIGHTS OF OUR CURRENT RESEARCH:** case studies providing an in-depth look at projects from our existing research portfolio.
- **RESOURCES & CONTACTS:** for our research work at Action Against Hunger.
- **A FULL LIST OF ACTION AGAINST HUNGER PUBLICATIONS IN 2017.**

SUMMARY OF OUR GLOBAL PORTFOLIO 2017

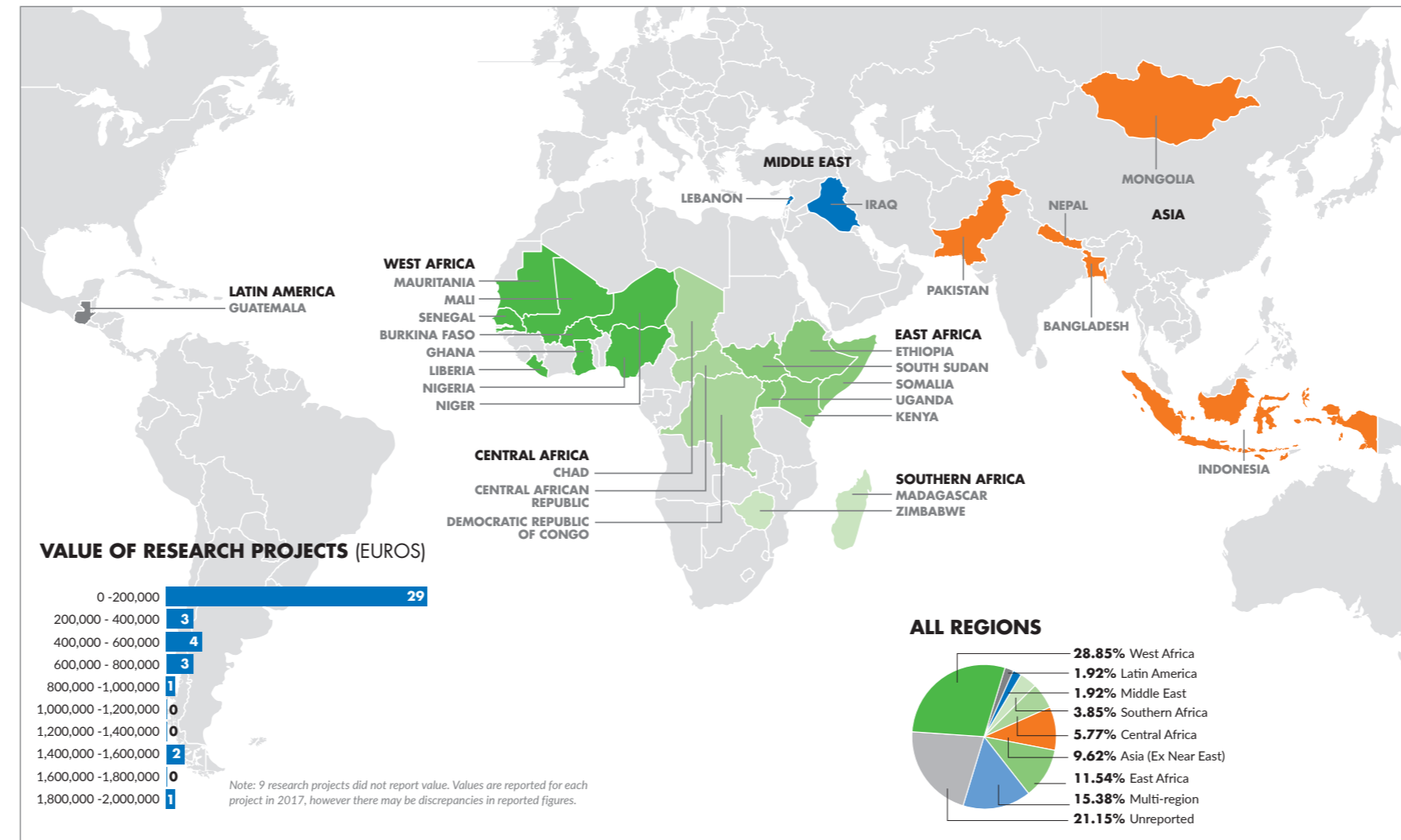
In 2017, Action Against Hunger reported a growing research portfolio, with 52 active research projects over the year, an increase from the 31 projects reported in 2016. Continuing to increase in volume and scope of projects, 23 of these 52 studies were new in 2017. Of the total projects, 17 were completed in 2017.

Our research portfolio in 2017 spanned across 26 countries, accounting for about half of the countries in which Action Against Hunger is operational, including nine of the organisation's ten high burden countries¹. More of our projects were concentrated in sub-Saharan Africa (with 25% based in West Africa and 12% in East Africa). An additional 14% were reported as multi-regional, 10% were focused in Asia, and the remainder were scattered throughout Latin America, the Caribbean, and the Middle East.²

In line with Action Against Hunger's expertise, nutrition continued to be the most commonly researched technical area in 2017. Consistent with previous years, 21 research projects (40%) were dedicated to nutrition and health. Unchanged from last year, one quarter (25%) of projects were

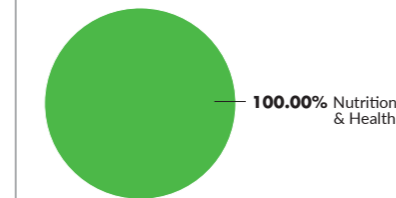
multi-sectoral and there was a rise in the proportion of research projects on food security & livelihoods (up from 6.5% in 2016 to 9.6% in 2017). In 2017, the value of Action Against Hunger's ongoing, multi-year research portfolio was reported to be €12.1 million³ as additional investment accompanied the rise in reported research activities. The median value of our research projects was €81,000 (in contrast to €46,400 in 2016)⁴ with funding per project ranging from €10,000 to €2 million⁵. This reflects the reality of adjusting the size and scope of our research to the specific contexts where it is conducted and to the questions that need to be addressed. Examples of our larger research projects include MAM'OUT (€2 million) and MANGO (€1.5 million) both in Burkina Faso.

¹ Action Against Hunger's ten high burden countries: Burkina Faso, Chad, DRC, Mali, Mauritania, Myanmar, Niger, Nigeria, Pakistan, South Sudan.
² 25% of projects did not record a country or region.
³ Approximately USD (\$) 15.7 million (average exchange rate for 2017, source: oanda.com)
⁴ Median values have been calculated on the basis of the funding reported for ongoing research projects for 2016 and 2017.
⁵ We aim to improve our reporting each year and there was a higher completion rate for reporting on this indicator in 2017. It should be noted that these numbers are strongly sensitive to reporting bias and errors across years so while we report these indicators across years, comparison is limited.

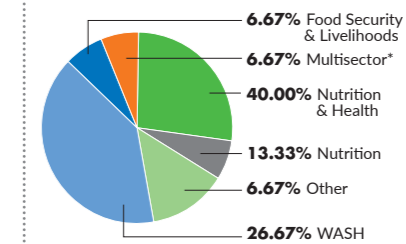


RESEARCH PROJECTS (BY # OF PROJECTS)

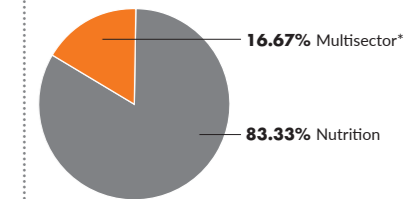
LATIN AMERICA



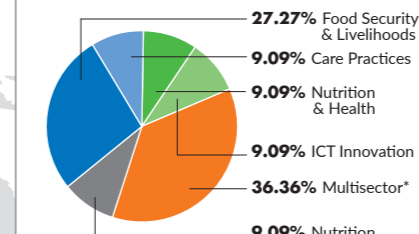
WEST AFRICA



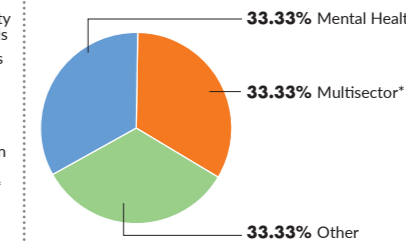
EAST AFRICA



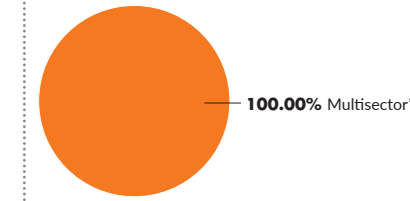
UNREPORTED



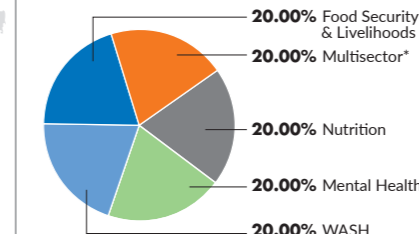
CENTRAL AFRICA



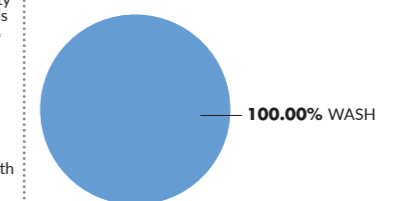
SOUTHERN AFRICA



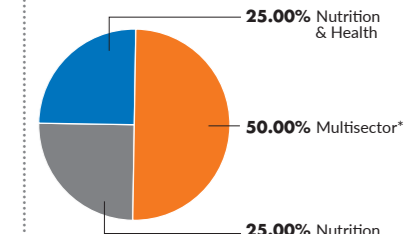
ASIA (EX. NEAR EAST)



MIDDLE EAST



MULTI-REGION



RESEARCH PARTNERS

IN-COUNTRY

ASSOCIATION SAHÉLIENNE DE RECHERCHE APPLIQUÉE POUR LE DÉVELOPPEMENT DURABLE
CENTRE FOR HUMANITARIAN CHANGE
CERMES (CENTER FOR MEDICAL AND HEALTH RESEARCH)
ICDDR,B
INRSP (INSTITUT NATIONAL DE RECHERCHE EN SANTE PUBLIQUE)
INSTITUT DE RECHERCHE EN SCIENCES DE LA SANTÉ (IRSS)
INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH
ISIOLO COUNTY HEALTH MANAGEMENT TEAM
JIDAN FOUNDATION
KENYA MINISTRY OF HEALTH
NATIONAL NUTRITION DIRECTION OF THE MINISTRY OF HEALTH MAURITANIA
NATIONAL NUTRITION DIRECTION OF THE MINISTRY OF HEALTH NIGER
NATIONAL NUTRITION DIRECTION OF THE MINISTRY OF HEALTH, MALI
ROYAL INTERNATIONAL UNIVERSITY SONGHAI
UNIVERSITÉ DE OUAGADOUGOU
UNIVERSITY OF BANGUI
UNIVERSITY OF TAMPERE
UNIVERSITY OF ZIMBABWE
WASH ACTION MONGOLIA

RESEARCH DONORS

HUMANITARIAN INNOVATION FUND
GRAND CHALLENGES CANADA
INNOCENT FOUNDATION
EUROPEAN CIVIL PROTECTION AND HUMANITARIAN AID OPERATIONS
POST CODE LOTTERY
LA FONDATION ACTION CONTRE LA FAIM

INTERNATIONAL

3IE
AGROPARISTECH
BRIXTON HEALTH
CENTERS FOR DISEASES CONTROL AND PREVENTION
COMPLUTENSE UNIVERSITY OF MADRID
CONCERN WORLDWIDE
ENN
GHENT UNIVERSITY
GRANDUATE INSTITUTE OF GENEVA
INSTITUT DES SCIENCES SOCIALES
INSTITUTE OF TROPICAL MEDICINE ANTWERP
IRC
JOHNS HOPKINS UNIVERSITY
MICHIGAN UNIVERSITY
SAVE THE CHILDREN
SOCIAL SCIENCE AND HUMANITY RESEARCH COUNCIL CANADA
TUFTS UNIVERSITY
UNICEF
UNIVERSITÉ DE LILLE
UNIVERSITÉ LYON II
UNIVERSITÉ PARIS DESCARTES - PARIS SORBONNE CITE
UNIVERSITY COLLEGE LONDON
UNIVERSITY MEDICAL CENTER
UNIVERSITY OF BERGEN
UNIVERSITY OF COPENHAGEN
UNIVERSITY OF LANCASHIRE
UNIVERSITY OF MARYLAND
UNIVERSITY OF WORCESTER

PARTNERSHIP & CAPACITY BUILDING

In 2017 Action Against Hunger collaborated with over 45 partners globally on our research projects. The organisation continues to foster these partnerships, working collaboratively on the design, implementation, and dissemination of our research. Our partners came from a variety of academic, research, non-governmental, multilateral, private and public institutions. Academic and/or research institutions were reported as the primary partner type for over half (57%) of our research portfolio. While the majority (60%) were internationally based partners, partnerships with organisations based in countries where Action Against Hunger has a presence continue to be important. Finally, a total of 23 graduate degrees were supported across 19 research projects in 2017.



45+

PARTNERS
COLLABORATED ON OUR
RESEARCH PROJECTS



23

GRADUATE DEGREES
SUPPORTED ACROSS
19 RESEARCH PROJECTS



65

PUBLICATIONS
18 PEER-REVIEWED

RESEARCH DESIGN & SET-UP

Our aim is to ensure that our research projects are robust and as rigorous as possible given the practicalities of implementation in a given context. As a general principle, we encourage all relevant projects to register on an online trial registry, obtain all relevant ethical approvals, and publish final protocols, where appropriate. Of the 52 research projects reported in 2017, 36% were registered on an online trial registry, 25% had published protocols, and 62% had obtained ethical approval either at national level or from the associated university's institutional review board.

RESEARCH DISSEMINATION & UPTAKE

Research uptake is a core element of Action Against Hunger's International Strategic Plan (ISP) for 2020 and of our research activities. As such, it is tracked as a key indicator with a target for 90% of all research to have an uptake strategy by 2020. In 2017, only one in five research projects (19%) had both developed a research uptake strategy and secured funds to implement it in 2017. A higher proportion of projects (60%) reported a research uptake strategy had been developed, but in many cases funding to roll out the strategy had not been secured.

Although Action Against Hunger is committed to generating evidence that contributes to changes in policy and practice, this demonstrates a lack of progress in creating and resourcing research uptake strategies. There is a need to renew our focus to ensure proper planning for research uptake, including the strategic design of the approach and allocated funding that can realistically support it throughout implementation. Learning from the successes and challenges of projects with well-designed and fully funded research uptake strategies will be to ensure that we are maximizing the potential contributions

of our research internally and externally. Our publications from Action Against Hunger research projects more than doubled in 2017. We produced 65 publications, compared to 31 in 2016. These publications ranged from peer-reviewed articles to literature made available online or in print with the aim to share our research methods and findings on a variety of platforms and in a timely manner. The organisation had a further 13 publications pending at the end of December 2017. See page 8 for a list of the organisation's research projects and Annex 1 for a list of our publications in 2017.



RESEARCH PORTFOLIO 2017



PREVENTION OF UNDERNUTRITION

FOOD SECURITY AND LIVELIHOODS

- Applied research programme on land and water based adaptive farming practices in Bangladesh. *Bangladesh.*
- Health gardens and income generating activities.
- Impact of health gardens versus AGR.

MENTAL HEALTH AND CARE PRACTICES

- Baby Friendly Spaces +. *Ethiopia.*

MULTI-SECTOR

- Cultivate Africa's future (CultiAF). Reducing maize-based aflatoxin contamination and exposure in Zimbabwe. *Zimbabwe.*
- Prevention of maternal depression and child undernutrition.
- Impact evaluation of a multi-sectorial programme on undernutrition Pib study). *Madagascar.*
- Domiciliary factors of SAM (DDMAS).

NUTRITION AND HEALTH

- Central America - Youth in action: Developing a counselling system/model led by Chorti Maya youth to improve maternal & child health in communities of the municipality of Jocotan, department of Chiquimula. *Guatemala.*
- Study on assessing the resilience of health systems in the Sahel: Case studies in Mali and Niger. *Mali and Niger.*
- Joint study to identify strategic lines for the implementation of integrated nutrition and family planning projects in Mali (Kita) and Niger (Mayahi). *Mali and Niger.*
- Research on food assistance for nutritional impact (REFANI). *Niger, Pakistan and Somalia.*
- Evaluation of multiannual and season cash transfers to prevent acute malnutrition (MAM'OUT). *Burkina Faso.* and family planning projects in Mali (Kita) and Niger (Mayahi). *Mali and Niger.*
- Research on food assistance for nutritional impact (REFANI). *Niger, Pakistan and Somalia.*

PREVENTION OF UNDERNUTRITION

WASH

- Evaluation of multiannual and season cash transfers to prevent acute malnutrition (MAM'OUT). *Burkina Faso.*
- Moringa leaves as handwashing product for water and soap scarce contexts. *Ghana.*
- Water filters in Tapoa. *Burkina Faso.*
- Adaptation of a low-cost home filtration system. *Burkina Faso.*
- Urban and peri-urban solid waste recyclers: A case from Mongolia. *Mongolia.*

OTHER (SECTOR)

- Use of autonomous sensors, wireless data collection and cloud services for the monitoring of WASH infrastructures and improved water governance.

PREVENTION OF UNDERNUTRITION AND IMPROVED ASSISTANCE IN EMERGENCIES

MULTI-SECTOR

- Wash'em. *The Democratic Republic of Congo and Iraq.*

NUTRITION AND HEALTH

- Modelling early risk indicators to anticipate malnutrition (MERIAM). *Kenya, Niger, Nigeria, Somalia, Uganda.*
- Study on improving frameworks and coordination mechanisms for the prevention and management of health and nutrition emergencies in the Sahel: Case studies from Niger and Mali. *Mali and Niger*

PREVENTION AND TREATMENT OF UNDERNUTRITION

NUTRITION AND HEALTH

- Malnutrition and infant infections in Africa (MALINEA) - MAM treatment. *Central African Republic, Madagascar, Niger and Senegal.*
- Malnutrition and infant infections in Africa (MALINEA) - psychosocial evaluation. *Central African Republic, Madagascar, Niger and Senegal.*



TREATMENT OF UNDERNUTRITION

FOOD SECURITY AND LIVELIHOODS

- Analysis of seasonal variations in weight gain of 6-24 month-old children in Tapoa, Burkina Faso (Apr. 2014 – Oct. 2015). *Burkina Faso.*

MENTAL HEALTH AND CARE PRACTICES

- Social representations of severe acute malnutrition and health seeking behaviours.
- Follow-up of severely malnourished children (FUSAM): Effectiveness of a combined nutrition psychosocial intervention on health and development. *Nepal.*

MULTI-SECTOR

- Nutritional effect assessment project (NEAP).
- Benefits of adding a household WASH component to routine outpatient SAM management (Quadi'Nut). *Chad.*
- Modelling and alternative nutrition protocol generalisable to outpatient (MANGO). *Burkina Faso.*
- Biomedical investigations for optimised diagnosis and monitoring of severe acute malnutrition (Opti'Diag). *Bangladesh, Burkina Faso, Indonesia and Liberia.*
- Evaluating the effectiveness of safe drinking water in SAM treatment (PUR). *Pakistan.*

NUTRITION AND HEALTH

- Development of a standard tool, method and approach to analyse the process of integration and ownership of the management of SAM in health systems in West Africa.
- SAM mobile photo diagnosis. *Senegal.*
- Pilot study treatment of SAM with CHWs in Niger and Mauritania (C-Project Phase 1). *Mauritania and Niger.*
- Scaling up the treatment of severe acute malnutrition by community health workers in Mali (C-Project Phase 2). *Mali.*
- The combined protocol for acute malnutrition study (ComPAS). *South Sudan.*
- Estimation of mortality risks associated with the different SAM diagnosis criteria.

LEGEND: ACTION AGAINST HUNGER HEADQUARTER LEADING ON RESEARCH PROJECT

- FRANCE
- SPAIN
- UNITED STATES

TREATMENT OF UNDERNUTRITION

WASH

- Integrated community case management Kenya (iCCM). *Kenya.*
- Click-MUAC. *Kenya.*

- Evaluation of an intervention to improve the water quality of the households of children in outpatient care for severe acute malnutrition, Matam, Senegal. *Senegal.*

IMPROVED ASSISTANCE IN EMERGENCIES

FOOD SECURITY AND LIVELIHOODS

- Observatory of resilience (CLERSE).

MENTAL HEALTH AND CARE PRACTICES

- Mother to child transmission of trauma. *Central African Republic and Chad.*
- Comparative study on the effectiveness of two treatment interventions for trauma. *Central African Republic.*

WASH

- WASH service improvement: Smart distribution metering and grey water management. *Lebanon.*

OTHER (WORKSTREAM)

MULTI-SECTOR

- Cost-effectiveness analysis.
- Trust. A global collaboration to improve adherence to high ethical standards around the world.
- Uptake supporting REFANI Pakistan and the WASH'Nutrition 2017 guidebook.

OTHER (SECTOR)

- Politics of famine. *Nigeria.*

CASE STUDIES

The following section showcases research projects conducted by Action Against Hunger in 2017. These case studies include ongoing work, demonstrating how we design and implement innovative research, as well as how we capture the lessons learned and findings to ultimately support research uptake and impact using the evidence generated.

INNOVATION AND NEW APPROACHES

Action Against Hunger is committed to tackling the hardest questions and producing meaningful and usable evidence. Our fit-for-purpose approach for designing our research ensures we are achieving this. These case studies highlight ongoing research demonstrating the way that we design and implement our research at Action Against Hunger, including testing innovative approaches with new research methods.

CASE STUDY 1

MODELLING EARLY RISK INDICATORS TO ANTICIPATE MALNUTRITION (MERIAM)

RESEARCH WORKSTREAM:
PREVENTION OF UNDERNUTRITION
AND EFFECTIVENESS OF
HUMANITARIAN ASSISTANCE

BACKGROUND

It is no coincidence that fragile and conflict-affected states have some of the highest rates of hunger, acute malnutrition, and child mortality in the world (UNICEF 2011). Weak systems and structures, as well as limited resources challenge the ability of governments to improve child nutrition, whilst a detrimental combination of stresses and shocks (e.g. conflict, disease, natural disasters, etc.) can quickly exacerbate the number of children affected by acute malnutrition, both directly and indirectly. Despite recent efforts to improve early warning systems for food insecurity in these contexts, current approaches to detect declines in nutrition security are still underdeveloped and only able to detect a nutrition crisis after it has already begun.

OVERVIEW OF THE STUDY

To be effective for nutrition, an early warning system must be able to identify an impending nutrition-related crisis and trigger a timely response before segments of the population, especially those most vulnerable, become acutely malnourished. In other words, the system must be sensitive to changes in the 'leading' indicators of nutritional vulnerability, able to detect localised increases in nutritional risk for developing acute malnutrition, and have the capacity to differentiate how shocks and stresses (either singularly or in combination) will impact upon this relative risk in the short- and medium-term. However, to-date, the nutrition community has been unable to identify what these leading indicators are, let alone successfully use them to anticipate nutritional risk, or integrate them into early warning systems.

The Modelling Early Risk Indicators to Anticipate Malnutrition (MERIAM) consortium – funded by UK Aid from the UK Government, led by Action Against Hunger

in collaboration with the University of Maryland, the Graduate Institute, and Johns Hopkins University – aims to address this challenge head-on by:

- a identifying the leading indicators of acute malnutrition;
- b forecasting an increased risk of acute malnutrition and the key drivers of that risk; and,
- c generating scenarios that demonstrate how stresses and shocks affect this risk at a local level.

MERIAM deploys a complementary combination of innovative methodologies – both econometric and computational modelling – and leverages a variety of existing and accessible data sets to rigorously capture causal factors of acute malnutrition. Taken together, these aspects allow the project to dynamically model the fluctuation of acute malnutrition in contexts where this information is most urgently required. By better understanding the leading risk factors for acute malnutrition, MERIAM can forecast *who* may be most at-risk of becoming wasted, *when* they are likely to become wasted, and *where* (in what geographical area they reside). These aspects provide vital information to policymakers and practitioners, allowing for an earlier, proactive humanitarian and development response to be delivered to those most vulnerable to becoming undernourished. MERIAM aims to provide a timelier and cheaper alternative to traditional nutrition surveillance mechanisms, and also an alternative that is able to provide information and analysis on nutritional risk even in geographical areas that may not be immediately accessible (e.g. due to security considerations) to humanitarian actors.



IMPLICATIONS

By better understanding why individuals or communities are at risk of becoming undernourished, MERIAM is better able to identify how to minimise and/or mitigate this risk. These aspects provide vital information to policymakers and practitioners, allowing for improved targeting of human and financial resources towards the most appropriate, efficient and effective interventions in that context. Finally, MERIAM's models will identify likely stressors or shocks, as well as how these may have an impact on resilience, behaviours, coping mechanisms, and nutrition outcomes. This information will improve diagnosis and analysis of nutrition vulnerability, as well as identify those factors that either support or inhibit nutritional resilience in a given context.

For more information on the study, please contact:

Ellyn Yakowenko
Associate Director of Research USA

eyakowenko@actionagainsthunger.org

CASE STUDY 2

MODELLING AN ALTERNATIVE PROTOCOL GENERALISABLE TO OUTPATIENT: THE MANGO STUDY TO IMPROVE SAM TREATMENT IN BURKINA FASO

RESEARCH WORKSTREAM: TREATMENT OF UNDERNUTRITION

BACKGROUND

Action Against Hunger invests in operational research in order to improve the quality of services provided to beneficiaries, and to identify better and more adequate solutions tailored to local contexts and to contribute towards the body of global evidence which inform WHO policies. Working in the field can come with challenges - studies don't always go to plan, so lessons are learnt and adjustments are often made during the implementation period. This was the case in 2017 for the Modelling an Alternative Nutrition protocol Generalisable to Outpatient (MANGO) research project in Burkina Faso.

In Burkina Faso, the population relies mainly on agriculture for a living; staple crops include maize, cow pea, millet, rice and sorghum. Repeated food insecurity episodes, food price increases, and epidemics of diarrhoea, malaria and meningitis affect the population and lead to high maternal, infant, and child mortality. Improvements have been made in the last ten years in the health sector with a decentralisation of services and strengthening of supply chains. Nevertheless, malnutrition rates remain high, signalling a serious situation and the need for an urgent response.

Ready to Use Therapeutic Food (RUTF) is the main food commodity purchased and delivered for the treatment of uncomplicated severe acute malnutrition. However, it is expensive and difficult to maintain continuous supplies to

the health centres where treatment is delivered. Current scientific evidence on the physiological requirements of a child with SAM is limited. Anecdotal observations from other countries have suggested that the current dosage of RUTF recommended by the World Health Organisation (WHO) may be more than necessary to support recovery from an episode of SAM.

OVERVIEW OF THE STUDY

Recognising this opportunity to build the evidence on the optimum and most cost-effective dosage of RUTF to treat SAM, Action Against Hunger partnered with University of Copenhagen (Denmark), Centre for Disease Control and Prevention (USA), and University of Ouagadougou in 2016 to launch the MANGO Study in Burkina Faso. The study is currently ongoing and expected to have available findings in 2019.

The MANGO Study aims to test a reduced RUTF dose versus the standard dosage using an individually randomised non-inferiority clinical trial design. While complex and expensive, this trial design is considered to be a high-quality design, with the aim to produce robust evidence that can be considered by WHO in the development of guidelines and policies.

Study participants were children 6-59 months of age with uncomplicated SAM in the rural areas in Fada N'Gourma district in the east of Burkina Faso. They were eligible to be included in the study if they passed the standard appetite test, part of the Burkina national protocol. Included children were randomly assigned to one of

two groups: 1) a group receiving the standard treatment dosage of RUTF; and 2) a group receiving a reduced treatment dosage of RUTF. The study will test the reduced dosage through the following assessments:

- Weight gain velocity and standard SAM treatment indicators (recovery, default, death, referral, duration of stay);
- Measurement of blood iron and vitamin A status upon admission among children with SAM and after treatment at discharge;
- Measurement of body composition using Body Impedance Analyse (BIA);
- Measurement of food intake of children with SAM after 3 weeks of the treatment ;
- Evaluation of perceptions around RUTF among families of children with SAM, communities and staff;
- Measurement of cost of each treatment protocol (standard and modified) and an estimation of the cost-effectiveness of each approach.

KEY FINDINGS

The MANGO study is currently ongoing but there are a number of important lessons from the implementation of the research to date.

One of the biggest challenges experienced by the study was the very slow enrolment rate. From September 2016 to January 2018, 886 SAM children were screened, of whom only 594 were included (67%). The majority of children screened (58%) were not enrolled due to the strict protocols for the appetite test. Most of the children who failed the appetite test were infants 6-9 months of age. Other reasons for the low enrolment rates included children with medical complications, accessibility issues, insecurity on roads, cases of relapse (which were ineligible), and parent refusal to participate.

⁷The blog can be accessed at <https://mangoactioncontrelafaim.wordpress.com/>

In order to ensure a stable inclusion rate of children in the study and a sufficient sample, proactive measures were put in place. The study began active screening by Community Health Workers (CHWs) over the 5 months of the rainy season (July to November). This included a small financial incentive to the CHWs. Overall, this strategy helped identify more children with SAM who were eligible for the study and boost enrolment to an average of 40 children enrolled per month. In addition to the community-based screenings by CHWs, weight and height measurements were used in the facilities in addition to MUAC in order to detect older SAM children, often not identified by MUAC in this region of Burkina Faso. This resulted in a boost of enrolment of children over 24 months of age from 9% of all admitted children in October 2017 to 15% by December 2017.

IMPLICATIONS

The clinical trial is currently ongoing and enrolment of children will be completed by mid-2018, with all final data being collected by early 2019. The first results should become available by the end of 2019. Updates on the progress of the study will be available on the MANGO blog⁷.

The results of the MANGO study will provide valuable information on the effectiveness, and cost-effectiveness, of a reduced dosage of RUTF for children in SAM. This has significant potential implications not just for the SAM treatment programmes in Burkina Faso but for the global guidelines and policies on SAM treatment and operational programmes around the world. If a reduced dosage of RUTF is effective and cost-effective for the treatment of SAM, more children can be treated with the resources we have today. While any study of this size and complexity comes with challenges, this is an exciting example where Action Against Hunger and its partners are leading cutting-edge research that can change the way severe acute malnutrition is treated globally.

For more information on the study, please contact:

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NEW FINDINGS FROM RECENTLY COMPLETED RESEARCH

As our research comes to an end, it is critical that we capture and use the lessons and findings, including those that are mixed. These case studies highlight examples of our work where we had final results available in 2017, and how we used them even when the results weren't as hypothesised.

CASE STUDY 3

THE CLICK-MUAC PROJECT – CONTRIBUTING TO THE EVIDENCE ON MOTHERS' ABILITY TO SCREEN FOR ACUTE MALNUTRITION

RESEARCH WORKSTREAM: TREATMENT OF UNDERNUTRITION

BACKGROUND

Worldwide, approximately 17 million children under the age of five suffer from severe acute malnutrition (SAM)⁸, translating to an estimated 100 million newly diagnosed cases each year⁹. Routine screening for acute malnutrition at community-level is one critical mechanism to increase treatment services for these vulnerable children during their time of need. Mid-upper arm circumference (MUAC) measurement is the most common form of screening for acute malnutrition used at community level, mainly performed by community health workers or volunteers (CHWs/CHVs) using a colour-coded MUAC insertion tape. However, CHWs face a host of competing priorities that prevent them from measuring MUAC on a regular basis. As a result, increasing attention is being paid to the

potential role that mothers and families themselves can play in the screening of children for acute malnutrition at community level^{10,11}.

OVERVIEW OF THE STUDY

Current evidence on mother-led MUAC screening utilizes conventional MUAC tapes¹². However, errors in the manipulation of these tapes can sometimes occur, leading to either too tight or too loose measurements, which may decrease the accuracy of the diagnosis¹³. Therefore, in collaboration with Brixton Health, the University of Tampere, and the Isiolo County Health Management Team in Kenya, Action Against Hunger sought to develop and test MUAC 'bracelets' that would simplify and standardize the MUAC measurement, to increase the sensitivity and specificity¹⁴ of mother and caregiver classifications of acute malnutrition. Ultimately, it was hoped that simplifying the measurement of MUAC could

8 Joint Child Malnutrition Estimates. The United Nations Children's Fund, the World Health Organisation and the World Bank Group. Levels and trends in child malnutrition - key findings of the 2016 edition. Accessed from: http://www.who.int/nutgrowthdb/jme_brochure2016.pdf?ua=1 on 29th of March 2018

9 Hure A, Oldmeadow C, Attia J. Invited Commentary: Improving Estimates of Severe Acute Malnutrition Requires More Data. *Am J Epidemiol*. 2016; 15: 184(12):870-872

10 Alé F, Phelan K, Issa H, Defourmy I, Le Duc G, Harzi G, Issaley K, Sayadi S, Ousmane N, Yahaya I, Myatt M, Briand A, Allafort-Duverger T, Shepherd S, Blackwell N. Mothers screening for malnutrition by mid-upper arm circumference is non-inferior to community health workers: results from a large-scale pragmatic trial in rural Niger. *Arch Public Health*. 2016; 74(1):38

11 The Alliance for International Medical Action. Mother MUAC. Teaching Mothers to Screen for Malnutrition. Guidelines for Training of Trainers. 2016

12 MUAC. Child 11.5 Red/PAC-50. UNICEF Supply Catalogue. Accessed from: <https://supply.unicef.org> on 11 Nov 2017

13 A previous study conducted in Niger [9] found that mothers could use color-banded MUAC tapes to identify cases of SAM (defined by MUAC < 115 mm) with 73% sensitivity and 98% specificity.

14 In this study, sensitivity was defined as the ability of a device to correctly detect patients with the condition (SAM or MAM); specificity was defined as the ability of a device to correctly detect patients without the condition (SAM or MAM).

FIGURE 1
CLICK-MUAC PROTOTYPE DEVICES
DEVELOPED FOR THE STUDY.



help to boost the mother-led MUAC screening approach and improve detection of acute malnutrition at the community level. With funding from the Humanitarian Innovation Fund, Action Against Hunger and partners developed three plastic prototype "Click-MUAC" bracelets [see Figure 1] and tested their performance against a "uniMUAC" insertion tape¹⁵ [see Figure 2], which was used as a gold standard¹⁶ for nutritional status classification. This research study – a non-randomized, partially blinded, clinical diagnostic trial, in Isiolo County, Kenya – ran from September 2016 to January 2017.

KEY FINDINGS

In results just recently published in *Archives of Public Health* (2018)¹⁷, mothers demonstrated good sensitivity and excellent specificity in the classification of SAM (with all four devices) and global acute malnutrition (GAM)¹⁸ (Devices 3 and 4). These results indicate that mothers and/or caregivers can conduct sensitive and specific classifications of their child's nutritional status with better results than reported in previous studies [9]. Although the Click-MUAC prototypes performed well, the uniMUAC insertion tape performed comparatively better for both mother-led and health clinic staff-led measurement of acute malnutrition. Therefore, while the project did not identify a new/better prototype for MUAC measurement, it provides extremely strong evidence for scaling-up the family- and mother-led MUAC approach at community-level. Moreover, considering the uniMUAC tape performed best overall, it appears to be the most suitable means to support this approach, particularly as it can be made at lower cost than the Click-MUAC prototypes.

15 The universal MUAC tape – "uniMUAC" was designed and produced by a consortium of Non-Governmental Organisations and academics led by Médecins Sans Frontières.

16 Mean of three MUAC measurements taken by the study team with a uniMUAC tape.

17 Grant A, et al. Comparing performance of mothers using simplified mid-upper arm circumference (MUAC) classification devices with an improved MUAC insertion tape in Isiolo County, Kenya. *Archives of Public Health*, 2018 Feb; 76:11.

18 GAM – comprising both SAM and moderate acute malnutrition.

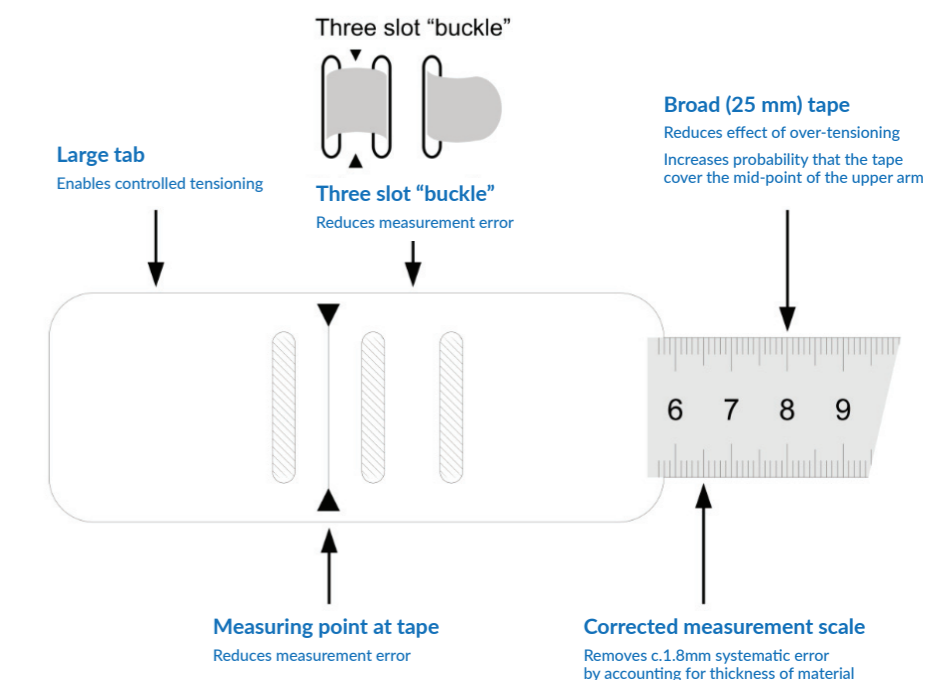
19 The centimeter scale on the tape was removed and the tape was shortened to improve ease of use.

IMPLICATIONS

Based upon this evidence, Action Against Hunger also conducted an operational pilot (from May 2017 to August 2017) in Isiolo County, Kenya, to test an even more simplified version¹⁹ of the uniMUAC tape. Results of this pilot confirm that the simplified tape can be used by mothers/caregivers to measure their children's MUAC with minimal training and demonstration. Furthermore, the results from the pilot indicate that the use of the simplified tape may have also led to earlier detection of moderate acute malnutrition (MAM), as the median MUAC on admission to MAM treatment increased from 120 mm at baseline, to 123 mm at endline. Early detection can help to reach children at risk of SAM earlier, before their malnutrition becomes severe.

Given the evidence generated by the study trial and operational pilot on the mother/family MUAC approach, Action Against Hunger has already begun advocating for its adoption globally and is working to integrate the use of the simplified uniMUAC tape within programs.

FIGURE 2
THE UNIVERSAL DESIGN MUAC INSERTION TAPE
– "UNIMUAC" – USED IN THE STUDY – DEVICE 4.



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CASE STUDY 4**STUDYING THE MOTHER TO INFANT TRAUMA TRANSMISSION IN HUMANITARIAN CONTEXTS****RESEARCH WORKSTREAM:
EFFECTIVENESS OF HUMANITARIAN ASSISTANCE****BACKGROUND**

In humanitarian contexts, situations of extreme emergency such as natural disasters or armed conflict are characterised by individual and collective psychological trauma. In recent years, several studies have pointed to inter-generational transmission of this psychological trauma in countries affected by exposure to massive traumatic events. Studies of the direct mechanisms behind the transmission of parental post-traumatic stress symptoms to young children are still very rare. Further research is needed to better understand the mechanism of transmission among generations, and to propose adequate approaches for prevention and for early care to mothers and their infants.

OVERVIEW OF THE STUDY

In order to identify the determinants of the direct transmission of trauma from mother to child in a humanitarian context, Action Against Hunger conducted a research project in three countries affected by the Central African political and religious crisis started in 2013: Central African Republic, Chad and Cameroon. The study addressed the issue of psychological trauma of the mother, which occurred in her life before the child was born. The methods used in the study were qualitative, descriptive and observational, focusing on the mother's story while observing her interaction with

the baby. Participants included 24 mother and child pairs and were recruited via psychosocial support programmes implemented by Action Against Hunger in the countries where the study was conducted. The children were aged between 1 and 30 months.

The mothers were invited to participate in semi-structured interviews in the presence of their children. The interviews were videotaped to allow the microanalysis of mother and child behaviours and their interactions (visual, physical, vocal). The objective was to understand whether interactions underwent modifications during the recall of the traumatic event by the mother, and if so, to have a better comprehension of these changes. The interactions between the mother and child were also observed in a free play situation without the presence of interviewers. Maternal representations as well as traumatic markers in mother discourse have been taken into account as factors contributing to the traumatic transmission.

KEY FINDINGS

The results from the interviews showed some evidence in the modification of interactions due to the trauma experienced by the mother. The mothers appeared to be emotionally affected by their memories of traumatic events. They looked significantly absent, smiled less, looked less at the interviewer, and concentrated less on actions towards the infant. The mothers touched and looked at the infant significantly less than in the other sequences not focused on traumatic memories.

This suggests that the mothers have difficulties in interpreting the child's verbal and non-verbal expressions correctly and finding appropriate answers while speaking of traumatic events. This difficulty is reflected in the transmission of the mother's negative emotional state to the child, who interprets the mother's lack of response or inadequate responses to their solicitations, as negative signals.

These mechanisms may explain how the traumatic event experienced by the mother can be transmitted to the infant. In fact, for infant and very young children, external events such as war or a natural disaster can't be traumatic per se as they are not able yet to have an understanding and knowledge of the real world. The trauma for these children is related more to the absence and the lack of response from the mother, which can be manifested as noise, light, cold and heat, hunger, thirst, pain, etc. This highlights the role of mother-infant interaction in trauma transmission.

Despite the evidence of the transmission of the negative emotional state from the mother to the child, results show some protective factors that can preserve mothers and children from the inevitability of this transmission. In particular, children showed mechanisms of self-regulation representing possible coping strategies in reaction to negative emotions. The resiliency factors observed (infants' self-stimulation) may compensate for the mothers' physical absence and for lack of attention between mother and child.

The internal resources and skills shown by mothers and children may suggest a potential for recovery as well as potential approaches for the prevention of traumatic transmission.

IMPLICATIONS

This study is an example of Action Against Hunger's research to improve our humanitarian and emergency response, an often neglected area of research. Our findings suggest that trauma affects a mother's availability to interact with her infant and to regulate their emotional state. The infant experiences this sudden lack of proper responses from the mother, when she faces events or thoughts that trigger trauma memories, which has an impact on their perception of their own emotional status. These mechanisms may explain how the traumatic event experienced by the mother can be transmitted to the infant.

To prevent or to limit the impact of maternal trauma transmission, in particular in humanitarian emergency contexts, Action Against Hunger recommend psychological interventions with mothers, starting from their pregnancy, and continuing after childbirth during the important period for the development of the child, until two years. Psychological support for at-risk mothers should aim to allow them to resolve the effects of the trauma in order to limit the transmission through the interactions with the child. These clinical interventions should improve mothers' well-being as well as their parental skills to reinforce mother and child bonding and as a result, ensure a better response to the infants' needs.



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RESEARCH UPTAKE AND IMPACT

Transforming evidence into action and impact, at both a policy and operational level, is one of our responsibilities as an organisation conducting research. The ultimate goal of our research uptake activities is to ensure that the evidence generated by Action Against Hunger's research is used to improve the efficiency and effectiveness of programmes and policies. The following case studies highlight the pathways to research uptake, and ultimately impact, across our projects..

CASE STUDY 5

TRANSFORMING THE TREATMENT OF ACUTE MALNUTRITION: DELIVERING SAM TREATMENT AT THE HOUSEHOLD LEVEL WITH THE C-PROJECT

RESEARCH WORKSTREAM: TREATMENT OF UNDERNUTRITION

BACKGROUND

Since 2007, the Community Management of Acute Malnutrition (CMAM) approach has resulted in a significant increase in the number of children with uncomplicated SAM who are successfully treated in an outpatient health centre using Ready to Use Therapeutic Food (RUTF)²⁰. However, even in areas where CMAM is currently available, many children suffering from SAM are not able to access treatment²¹. Integrated community case management (iCCM) is a strategy to extend case management of childhood illness beyond health facilities so that more children have access to lifesaving treatment. This approach has shown high treatment coverage and high quality care rates for sick children under five. The integrated community case management approach has grown to include the identification and referral of children with severe acute malnutrition by community health workers, but does not currently include treatment of severe acute malnutrition at a community level. The

C-project and our related research aims to test this approach to ultimately reach more children with life-saving treatment. This was done in two phases:

PHASE 1

OVERVIEW OF THE STUDY

The first phase of the C-Project study ran from 2014 to 2016. Funded by the innocent foundation, Against Hunger worked in Mali and Pakistan to develop and implement a pilot study to test an innovative approach using Community Health Workers (CHWs) to diagnose and treat children with severe acute malnutrition as part of the iCCM package delivered at household level. The aim was to assess the coverage and quality of treatment through this innovative approach.

KEY FINDINGS

Phase 1 of the study was very successful, demonstrating this approach as an effective and safe method to deliver treatment of SAM in the community. Key findings in Mali include:

- Treatment coverage doubled in the area where the innovative approach was tested: from 43.9% before the new approach was implemented to 86.7% afterwards;
- Treatment default rates were less than half compared with the standard CMAM approach in health facilities;
- Quality of care remained high, with cure rates higher than International Sphere standards^{22,23};
- The intervention was equally cost-effective compared to the traditional approach in health facilities²⁴.

²⁰ WHO, WFP and UNICEF. COMMUNITY-BASED MANAGEMENT OF SEVERE ACUTE MALNUTRITION http://www.who.int/nutrition/topics/Statement_community_based_man_sev_acute_mal_eng.pdf?ua=1

²¹ The State of Acute Malnutrition, www.acutemalnutrition.org

²² Alvarez Moran JL, et al. The effectiveness of treatment for severe acute malnutrition delivered by Community Health Workers, compared to a traditional facility based model. Submitted February 2017 to BMC Health Services Research

²³ Alvarez Moran JL, et al. Quality of care for treatment of uncomplicated severe acute malnutrition delivered by community health workers in a rural area of Mali. *Matern Child Nutr.* 2018 Jan;14(1).

²⁴ Rogers E, et al. Cost-Effectiveness of the Treatment of Uncomplicated Severe Acute Malnutrition by Community Health Workers Compared to Treatment Provided at an Outpatient Facility. *Hum Resour Health.* 2018 Feb 20;16(1):12

PHASE 2

OVERVIEW OF THE STUDY

Building on the success of the Phase 1 pilot, Action Against Hunger worked with the Government of Mali to design a second phase of the study that would inform a broader operational roll-out of this innovative approach. Funded by the innocent foundation and the People's Postcode Lottery, this study aims to further test different levels of training and supervision for CHWs for the diagnosis and treatment of children with SAM outside of the health facilities. The study will evaluate the best model of training and supervision of CHWs to increase coverage of SAM treatment in the community. The study aims to ultimately produce the evidence on the most effective and efficient model by assessing:

- Coverage of SAM treatment for each of the three methods after 12 months of implementation;
- Quality of SAM treatment provided by CHWs for each of the three methods;
- Additional treatment time of SAM by CHWs, and the effect on other treatment of other diseases in the iCCM package.

KEY FINDINGS

The C-Project Phase 2 study is still ongoing. So far, the study has measured the baseline coverage in the regions participating, trained 164 CHWs in acute malnutrition and the standard iCCM package (the management of diarrhoea, malaria, pneumonia, family planning and hygiene promotion), and admitted a total of 542 children with SAM to the study. Final results are expected by the end of 2018.

IMPLICATIONS

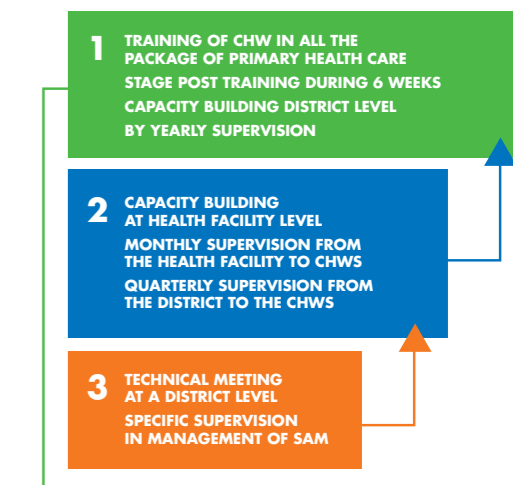
The C-Project is an example of Action Against Hunger's work to test new operational models that will increase access to critical health and nutrition services. In order to generate the evidence needed to influence programmes delivered at scale, a multi-phased approach was used to first pilot the idea and then to further refine it and build the operational evidence to inform delivery at scale by the Government of Mali.

The use of Community Health Workers to diagnose and treat severe acute malnutrition outside of the health facilities has the potential to become a global approach that could be tested and delivered in other countries and contexts. With this aim, Action Against Hunger is actively working to contribute to the global evidence base with three additional pilot studies testing this approach in Kenya, Mauritania and Niger. Our aim is to use the evidence and learnings from these pilot studies to inform global programmes and policies for the treatment of SAM using CHWs.

FIGURE 3
THREE DIFFERENT MODELS WILL BE TESTED IN THE FIELD:

HIGH INTENSITY OPERATIONAL FRAMEWORK IN KITA
MEDIUM INTENSITY OPERATIONAL FRAMEWORK IN KAYES

LOW INTENSITY OPERATIONAL FRAMEWORK IN BAFOLULABE



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CASE STUDY 6

LNS PERU: WORKING WITH GOVERNMENT TO ADDRESS RESEARCH GAPS AND INCREASE UPTAKE

RESEARCH WORKSTREAM:
PREVENTION OF UNDERNUTRITION

BACKGROUND

Anaemia is a public health problem in Peru, with a national prevalence of 33% among children under five years of age. The consequences thereof can continue throughout childhood, as children often experience poor growth, impaired cognitive development and reduced school achievement. Peru also has a high number of children under five who are stunted, and although the figure has dropped significantly in the past decade, in 2014 stunting still affected 14.6% of the population under five.¹⁹ An irreversible consequence of chronic malnutrition early on in life, it can affect brain development, the immune system and put the individual at greater risk of diseases later on in life.

Since infancy is a critical period for brain development, it is also sensitive to the effects of nutritional supplementation. There is a growing body of evidence that suggests that use of lipid-based nutrient supplements (LNS) as supplementary products can have an effect on the prevalence of anaemia, compared to the use of micronutrient powders (MNP). LNS contains macronutrients (protein, energy and fats) and ~20 vitamins and minerals, including iodine and copper, not included in MNP, and a higher dose of zinc than that in MNP. The Peruvian government has been calling for evidence from Peru to support previous studies in Ghana and Haiti.

OVERVIEW OF THE STUDY

Between 2013 and 2015 Action Against Hunger Peru conducted a trial to evaluate the effects of providing LNS over a six-month period to 422 Peruvian infants at age six to twelve months on anaemia, linear growth and developmental outcomes, compared to micronutrient powders (MNP), the standard of care for infants and young children in the region.

The study was conducted in five rural districts in the Province of Ambo in the Department of Huánuco, Peru. Participants received either LNS or MNP for daily consumption over a six-month period. Supplements were delivered by staff at government-run health centres. Haemoglobin, anthropometric, motor development, language development and problem-solving indicators were measured by trained research assistants when children were 12 months of age.

KEY FINDINGS

Compared with MNP supplementation, the six-month nutritional supplementation intervention with LNS delivered through the government health-care system had the following effects among 12-month-old Peruvian children:

- Increased haemoglobin concentration;
- Reduced anaemia prevalence;
- Improved problem-solving skills;



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- However it had no effect on anthropometric indicators (and therefore risk of stunting), motor or language development.

Having ruled out interventions compliance as an explanation for these varying results, the researchers suggest that the success of the LNS in increasing haemoglobin concentration may be due to the additional vitamin B12 and iron in the LNS, which can support anaemia prevention. A potential explanation for the improvement in problem-solving skills may relate to the fatty acids content in the LNS.

As the intervention was delivered by the Ministry of Health staff as part of the regular nutritional care offered by the Peruvian public health system, findings from this follow-up study could have important public health implications, and assist decision making with regard to scaling up an LNS intervention delivered through public health systems in Peru.

IMPLICATIONS

The study has demonstrated an alternative to the traditional nutritional supplement used by the Ministry of Health in Peru to prevent and control anaemia. In order to share the results as widely as possible across the technical and political agendas, the researchers have joined discussions and analysed the results through a range of technical meetings with the Ministry of Health, other NGOs, research centres and universities.

Based on the positive findings demonstrating the impact of LNS on anaemia prevalence, the regional Government of Huánuco (where the study took place) is now looking to expand implementation of the treatment throughout the area. An essential part of the success of the uptake of this research has been the involvement of the Ministry of Health in Peru throughout the process, including revising and validating the research protocol, analysis of information and dissemination of the results.

At an international level, the study has contributed to the body of evidence of the effect of LNS on anaemia and (lack of effect) on stunting. It is one of a number of projects in Latin America, and one of the only studies globally that looks at the effectiveness of this treatment on nutritional and developmental outcomes, rather than just its efficacy.

Building on the initial positive findings of the effect of LNS on anaemia from the study, a follow-up is being carried out in 2018 to test the long-term effects of LNS on children who completed the study when they were 3-4 years old. Results of the follow-up would be broadly applicable to other rural, low income populations with access to basic health care. Furthermore, findings would contribute to build evidence on the long-term effects of a novel nutritional intervention with high acceptability and the potential to reduce anaemia, a major public health problem in low and middle-income settings, while also supporting children's development of their full potential.

For more information on the study please see:

- Effects of lipid-based nutrient supplements v. micronutrient powders on nutritional and developmental outcomes among Peruvian infants. Susana L Matias¹, Alejandro Vargas-Vásquez, Ricardo Bado Pérez, Lorena Alcázar Valdivia⁴, Oscar Aquino Vivanco⁵, Amelia Rodríguez Martín⁶ and Jose Pedro Novalbos Ruiz. *Public Health Nutrition*. June 2017
- Vargas-Vásquez A, Bado R, Alcázar L, Aquino O, Rodríguez A, Novalbos JP. Efecto de un suplemento nutricional a base de lípidos en los niveles de hemoglobina e indicadores antropométricos en niños de cinco distritos de Huánuco, Perú. *Rev Peru Med Exp Salud Publica*. 2015;32(2): 237-44.

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¹⁹ World Bank Data. <https://data.worldbank.org/indicator/SH.STA.STNT.ZS?locations=PE>

CASE STUDY 7

NO WASTED LIVES: DRIVING THE USE OF EVIDENCE FOR ACTION

RESEARCH WORKSTREAM:
TREATMENT OF UNDERNUTRITION

No Wasted Lives is a global coalition of organisations working around the world to double the proportion of children treated for acute malnutrition by 2020. As one of the founding partners, the work of Action Against Hunger plays a critical role in driving the momentum to achieve this ambitious goal.

Action Against Hunger's SAM2020 Agenda outlines the critical actions needed to have a long term, sustainable and significant impact on undernutrition. No Wasted Lives offers a valuable opportunity and platform needed to actively improve coordination across critical stakeholders working on acute malnutrition. Through three pillars of work: 1) technical; 2) global and regional advocacy; and 3) fundraising through a donor forum, the Coalition is working to drive evidence into action and mobilise the resources to accelerate a child survival revolution.

As the Secretariat for the technical pillar of No Wasted Lives, four areas of work co-ordinated by Action Against Hunger staff are driving new research and the use of evidence for action in the following ways:

THE COUNCIL FOR RESEARCH AND TECHNICAL
ADVICE ON ACUTE MALNUTRITION (CORTASAM)

Convened by No Wasted Lives, CORTASAM is the first-ever technical advisory panel of independent experts on acute malnutrition. Comprised of 15 leading experts in

the field, the Council guides the technical and research activities of No Wasted Lives to best identify research gaps, sets research priorities, offer advice on the operational implications of emerging evidence and drive the use of evidence in policies.

A GLOBAL RESEARCH AGENDA FOR ACUTE
MALNUTRITION

In 2017, CORTASAM launched a survey to consult practitioners on the research priorities that are critical to achieve measurable improvements in the quality, effectiveness, scale and sustainability of programmes addressing acute malnutrition in children under five years of age. The findings of the survey resulted in the prioritisation of seven research areas with the highest potential impact towards the effective management of acute malnutrition. The results were compiled into a *Research Agenda for Acute Malnutrition* with the aim to guide the efforts of the sector in filling critical evidence gaps by 2020. The Research Agenda is available at nowastedlives.org/researchagenda. The No Wasted Lives Secretariat is actively supporting CORTASAM to progress this framework for sector-wide cooperation.

INNOVATIVE RESEARCH ON ACUTE MALNUTRITION
TO INFLUENCE PROGRAMMES AT SCALE

Action Against Hunger is involved in a portfolio of innovative research that fills the gaps identified by the Research Agenda. Our research is designed as an integral part of our programmes and with the explicit aim to generate new evidence that will inform our programmes



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at scale. This is with the aim to drive impact, reaching more children than we could before, with safe and effective treatment. Examples of the exciting research portfolio we are leading include:

- **The Modelling an Alternative Protocol Generalizable to Outpatient (MANGO) Study:** aiming to test a reduced dosage for treatment of severe acute malnutrition in Burkina Faso. For more information see the case study on page 10.
- **The Combined Protocol for Acute Malnutrition Study (ComPAS):** aiming to test a combined protocol and one product (RUTF) for the treatment of both moderate & severe acute malnutrition in South Sudan & Kenya.
- **The C-Project and beyond:** aiming to test the integration of SAM treatment into the iCCM package delivered by community health workers at the household level in Mali and, Pakistan. For more information see the case study on page 12. Building on the success of C-Project Phase 1, further research is being conducted in Kenya, Niger, and Mauritania.
- **Severe Acute Malnutrition Photo Diagnosis:** aiming to develop an innovative mobile application for the diagnosis of acute malnutrition in children.

FACILITATING EVIDENCE SHARING

Aiming to highlight the progress that has been made and best practices across acute malnutrition programming, the Coalition supported the launch of a new website in 2017: the State of Acute Malnutrition at www.acutemalnutrition.org. Building on the previous work of key resources like the CMAM Forum and Coverage Monitoring Network and bringing in new data from UNICEF, this site provides a comprehensive up-to-date overview of all information available on acute malnutrition, including resources, events, on-going research and data at a global and country level.



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All publications are available at:

www.nowastedlives.org

CONCLUSION

We believe Action Against Hunger has a key role to play in shaping future debates on policy and practice, as well as to ensure that programmatic and policy shifts are based on a robust body of evidence to improve the reach and effectiveness of existing interventions. As highlighted in this report, our research is designed, implemented, and shared with this goal in mind.

This inaugural Annual Research Review aims to support this effort and to strengthen how we track and report against our research activities. While we are currently limited by the previously available data on our research activities, which also limits comparison across years, we hope to establish meaningful and robust indicators to improve our reporting going forwards.

A full list of our research publications can be found in the annexes of this report. In addition, the Action Against Hunger Knowledge Hub website (<https://actionagainsthunger.wixsite.com/knowledgehub>) will provide an overview of each of Action Against Hunger's research projects, including latest updates and publications.

KEY DOCUMENTS

- ACTION AGAINST HUNGER RESEARCH STRATEGY 2016 - 2020
- ACTION AGAINST HUNGER TECHNICAL STRATEGY 2016 - 2020
- DESIGNING AND MANAGING RESEARCH PROJECTS: A PRACTICAL GUIDE FOR FIELDWORKERS (2016)
- ACTION AGAINST HUNGER ETHICS AND RESEARCH: PRINCIPLES AND GUIDELINES (2012)

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ANNEX 1 PUBLICATIONS 2017

FOOD SECURITY & LIVELIHOODS

- Applied research on new production model to cope with waterlogging, Action Against Hunger Bangladesh and France, December 2017, www.youtube.com/watch?v=M3ki1QXNEuE
- Beneficiaries' perceptions and reported use of unconditional cash transfers intended to prevent acute malnutrition in children in poor rural communities in Burkina Faso: qualitative results from the MAM'Out randomised controlled trial, A. Tonguet-Papucci et al., May 2017, BMC Public Health
- Documentary on enhancing resilience against waterlogging, Action Against Hunger Bangladesh and France, December 2017, www.youtube.com/watch?v=M3ki1QXNEuE
- Food security and livelihoods leaflet, Action Against Hunger France, December 2017
- Levels and daily intake estimates of aflatoxin B1 and fumonisin B1 in maize consumed by rural households in Shamva and Makoni districts of Zimbabwe, T. Murashiki, December 2017, Food Control
- Link NCA: Cross-border pilot study of the river valley, Wilaya of Gorgol (Mauritania) - Matam region (Senegal), E. Buttarelli, August 2017, www.linknca.org/etude/region_de_matam_et_region_de_gorgol_zone_transfrontaliere_du_walo.htm
- Link NCA: Haïti, Belle-Anse district, L. Blonarova, August 2017, www.linknca.org/etude/arrondissement_de_belle_anse_departement_du_sud-est.htm
- Link NCA: Mali, North Kita Circle, Kayes Region; Kaarta, D. Madavan and G. Fisher, August 2017, www.linknca.org/etude/region_de_kayes_cercle_de_kita_kaarta.htm
- Link NCA: Mukuru and Viwandani, Urban informal

settlements, Nairobi County, M. Wahome, August 2017, www.linknca.org/etude/comte_de_nairobi_-_bidonvilles_de_mukuru_et_viwandani.htm

- Link NCA: Niger, Mayahi district, Maradi region, F. Koussi and G. Luc, July 2017, www.linknca.org/etude/departement_de_mayadi_region_de_maradi.htm
- Link NCA: Nigeria, Nangere LGA Yobe State, MN. Ottavi, August 2017, www.linknca.org/etude/etat_de_yobe_nangere_lga.htm
- Literature review of the impacts of livestock on nutrition and health, Action Against Hunger France, December 2017
- Maize grain aflatoxin contamination reduction technologies opportunities for gender transformation in Shamva and Makoni districts, Zimbabwe, B. Bock et al., December 2017, Amsterdam Verloren

MENTAL HEALTH & CARE PRACTICES

- Operational and ethical challenges of applied psychosocial research in humanitarian emergency settings: A case study, E. Dozio, December 2017, Intervention 2017

MULTISECTOR

- Champions network member raises awareness of the link between WASH, health and nutrition, Action Against Hunger France, UNICEF, ECHO, January 2017, http://www.securenutrition.org/sites/default/files/resources/attachment/english/ACF_WASH-nutrition-guidebook_2017-january.pdf
- Costs and cost efficiency of a mobile cash-transfer to prevent child undernutrition during the lean season in Burkina Faso: A mixed methods analysis from the MAM'Out RCT, C. Puett et al., September 2017, BMC

- Cost efficiency of cash transfers via mobile phones according to the MAM'Out project (Poster and 1-pager), Action Against Hunger France, October 2017
- Leaflet Research & Analyses, Action Against Hunger France, December 2017
- Leaflet MAM'OUT Project, Action Against Hunger France, December 2017
- Policy brief MAM'OUT, Action Against Hunger France, December 2017
- Research for nutrition conference "R4NUT" website, Action Against Hunger France, October 2017, www.colloque-recherche-et-nutrition.org
- The recipe for success: How policy-makers can integrate water, sanitation and hygiene into actions to end malnutrition, Action Against Hunger France, August 2017
- WASH'Nutrition manual, Action Against Hunger USA, February 2017, <https://www.actionagainsthunger.org.uk/publication/wash%E2%80%99nutrition-2017-guidebook>

NUTRITION & HEALTH

- A cluster RCT to measure the effectiveness of cash-based interventions on nutrition status in Pakistan (Research for Nutrition conference), B. Fenn, January 2017, ENN Field Exchange
- Challenges and dilemmas in the implementation of ethical principles in humanitarian programmes, G. Luc-Menichelli, March 2017, Humanitarian Alternatives
- Comparative analysis of anthropometric indicators for the diagnosis of child malnutrition, A. Díez Navarro, November 2017, Doctoral thesis
- Anaemia in Latin America. Review of the problem, Action

Against Hunger Spain, October 2017

- A research agenda for acute malnutrition, No Wasted Lives and CORTASAM, December 2017, <https://www.nowastedlives.org/documents-research-agenda>
- Assessing impact of cash transfers programmes in reducing child malnutrition in Somalia IDP camps, Brown University and UCL, January 2017, http://watson.brown.edu/HI2/news/QA_Jelle
- A statement from the Council of Research & Technical Advice on Acute Malnutrition, No Wasted Lives and CORTASAM, December 2017, <https://www.nowastedlives.org/documents-cortasam-muac-recommendation>
- Baby WASH and the 1000 days, Action Against Hunger France, July 2017
- Cost-effectiveness of the treatment of uncomplicated severe acute malnutrition by community health workers compared to treatment provided at an outpatient facility in rural Mali, E. Rogers, February 2017, Pub Med
- Driving evidence to action: The Council of Research & Technical Advice on SAM, No Wasted Lives and CORTASAM, July 2017, ENN Field Exchange
- Effectiveness of adding a household WASH-package to a routine outpatient programme for severe acute malnutrition in Chad – the Ouadi'nut study, M. Altmann, February 2017, <https://clinicaltrials.gov/ct2/show/NCT02486523>
- Effects of lipid-based nutrient supplements v. micronutrient powders on nutritional and developmental outcomes among Peruvian infants, S. Matias et al., November 2017, Public Health

NUTRITION

- Effects of multi-annual seasonal unconditional cash transfers on young children's nutritional status and morbidity in Burkina Faso: the MAM'Out trial, Action Against Hunger Burkina Faso and France, February

2017, ENN Field Exchange

- Five days of fieldwork, Action Against Hunger France and Duke University, October 2017, Duke BME Magazine
- Food assistance and nutrition - a recent presentation of our research findings in Pakistan, Action Against Hunger USA, February 2017, ENN Mediahub
- For a climate against hunger: Overcoming the consequences on food security, on humanitarian needs and development, Action Against Hunger France, July 2017, https://www.actioncontrelafaim.org/wp-content/uploads/2018/01/acf2017_-_pp_-_pour_un_climat_contre_la_faim.pdf
- How to ensure quality research uptake, S. Stern, February 2017, ENN Field Exchange
- Inkjet-printed point-of-care immunoassay on a nanoscale polymer brush enables subpicomolar detection of analytes in blood, D. Joh et al., August 2017, Proceed of the National Academy of Sciences of the USA
- Methodological challenges for operational research in the humanitarian context, M. Aït Aïssa, February 2017, ENN Field Exchange
- Prioritising acute malnutrition research: Preliminary results of a CHNRI survey, No Wasted Lives and CORTASAM, July 2017, ENN Field Exchange
- Quality of care for treatment of uncomplicated severe acute malnutrition delivered by community health workers in a rural area of Mali, J.-L. Alvarez, January 2017, Maternal & Child Nutrition
- Quality of care of treatment for uncomplicated severe acute malnutrition provided by lady health workers in Pakistan, E. Rogers et al., August 2017, Pub Med
- Ready-to-use therapeutic food and the WHO list of essential medicines, A. du Châtelet, February 2017, https://www.actioncontrelafaim.org/wp-content/uploads/2018/02/rutf_on_the_eml_cf_version.pdf
- REFANI Dakar research event, Action Against Hunger

USA, January 2017, https://www.actionagainsthunger.org/sites/default/files/publications/REFANI_Meeting_Report_-_Strategies_for_Maximising_Nutritional_Impact_in_West_Africa.pdf

- REFANI Pakistan impact results, B. Fenn et al., May 2017, Plos Med
- REFANI Pakistan research event, Action Against Hunger Pakistan and USA, January 2017, https://www.actionagainsthunger.org/sites/default/files/publications/REFANI_Meeting_Report_-_Islamabad_combined.pdf
- REFANI Somalia study protocol, M. Jelle et al., June 2017, BMC Public Health
- Relationship between water, sanitation, hygiene, and nutrition: What do Link NCA nutrition causal analyses say?, J. Dodos et al., October 2017, Practical Action Publishing
- Responding to people on the move's needs: A priority for Action Against Hunger, M. Tempesta, January 2017
- Setting research priorities to guide action for acute malnutrition, No Wasted Lives and CORTASAM, April 2017, ENN Media Hub
- Stunting; internal thematic review, Action Against Hunger Spain, January 2017
- The challenge of fighting anaemia, reviewing the problem at global level, Action Against Hunger Spain, October 2017
- The NUTRIS experience: Acting with civil society for nutritional security, Action Against Hunger France, January 2017
- Updated REFANI Pakistan project brief, Action Against Hunger USA, January 2017, www.actionagainsthunger.org/sites/default/files/publications/REFANI_Pakistan_Update_final_2_2017_2.pdf
- WASH'Nutrition practical guidebook, Action Against Hunger France, January 2017, www.actionagainsthunger.org.uk/publication/wash'nutrition-2017-guidebook

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