MQSUN BRIEFING

Maximising the Quality of Scaling Up Nutrition Programmes Framework (MQSUN)

Impact Evaluation of the DFID Programme to Accelerate Improved Nutrition for the Extreme Poor in Bangladesh, Phase II

Project Background and Design Overview

The DFID Programme to Accelerate Improved Nutrition for the Extreme Poor in Bangladesh (Phase II) aims to improve nutritional outcomes for children, mothers and adolescent girls through trialling the introduction of a range of nutrition-specific (direct) interventions as part of three existing nutrition-sensitive (indirect) livelihood support programmes that target extreme poor communities. These programmes are: the Chars Livelihoods Programme (CLP); the Economic Empowerment of the Poorest Programme (EEP, also known as 'Shiree') and the Urban Partnership for Poverty Reduction Programme (UPPR).

Alongside this Programme, under the 'Maximising the Quality of Scaling up Nutrition' (MQSUN) consortium framework led by PATH, DFID has commissioned an in-depth mixed methods impact evaluation to assess the programmes' effectiveness and lasting impacts. The evaluation is being led by the Institute of Development Studies (IDS) together with partners based at BRAC Institute of Governance and Development (BIGD), the International Food Policy Research Institute (IFPRI), ITAD and Center for Natural Resource Studies (CNRS), each of whom is leading on and/or contributing to various evaluation components. The project started in May 2013 and final results are anticipated in mid-2016.

The main intended end users of the evaluation's results include DFID, its programme implementing partners and the Government of Bangladesh. Findings will also be disseminated more widely to other stakeholders in the Bangladesh nutrition and development community, as well as other global policymakers, practitioners and researchers concerned with nutrition-specific and nutrition-sensitive programming.

Box 1: Overall objectives of the impact evaluation

1. To assess the impact of the combination of direct (specific) and indirect (livelihoods) nutrition interventions in three different DFID programmes on the nutritional status of children under two; and to compare this with the impact of the existing livelihoods interventions;
2. To explain this impact, drawing on wider qualitative and quantitative evidence describing programme specific and wider societal/contextual processes with the potential to impact on programme outcomes; and
3. To assess the cost effectiveness (value for money analysis) of integrating direct and indirect interventions in the three livelihood programmes and to specify the best delivery model for doing so.

Background context

Child and maternal nutrition are a major determinant of a child's physical and cognitive development and susceptibility to infection and disease. Alongside increased risk of mortality and illness during childhood, the longer term impacts of a child not reaching their physical and cognitive potential include reduction in educational attainment and earning potential and increased susceptibility to non-communicative disease later in life (Hoddinot *et al*, 2012). Globally, almost half (45 per cent) of all deaths of under-five children and one-fifth of maternal deaths are associated with undernutrition (Black *et al.* 2013).

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According to the 2011 Demographic and Health Survey (DHS, 2013), 41.3 per cent of children under five years in Bangladesh are stunted, 36.4 per cent are underweight, 15.6 per cent are wasted, one-fifth are born with low birth weight and more than 50 per cent are anaemic (DHS, 2013). Along with restrictions to household food access and poor health and sanitation environments, sub-optimal Infant and Young Child Feeding (IYCF) practices are considered to be one of the key drivers for poor nutrition (Haider *et al*, 2010; Faruque *et al*, 2008); fewer than half (48 per cent) of all newborns receive breast milk within one hour of birth (BBS/UNICEF, 2007) and less than half (43 per cent) are exclusively breastfed for the first six months (BDHS, 2007).

Households in Bangladesh classified as extreme poor still constitute 17.6 per cent of the national population and as much as 21.1 per cent of people living in rural areas (World Bank, 2013). Unable to benefit from the country's recent economic growth, many possess little or no assets and rely on wage labour as their primary source of livelihood. Frequently excluded from social infrastructures and decision-making, many are denied access to essential goods and services including healthcare (Ahmeda *et al*, 2006); only 13.3% of the poorest fifth of the population seek treatment from health facilities or medically trained providers (BDHS, 2007). Their vulnerable status is further aggravated by Bangladesh's susceptibility to climatic shocks including flooding, cyclones and droughts, as well as economic shocks. As a result, the poorest households are largely concentrated in remote and climate-vulnerable parts of the country including flood prone river islands (*chars*) and basins (*haors*); cyclone prone coastal regions; seasonal hunger (*monga*) affected areas; the Chittagong Hill Tracts region and urban slums.

There is widespread recognition that the reduction of undernutrition in low-income countries such as Bangladesh needs to be tackled through both nutrition-specific and nutrition-sensitive measures in order to be addressed most effectively (see Black et al., 2013; Bhutta et al., 2013 and Ruel & Alderman, 2013). Recognising the urgent need to address the prevalence of extreme poverty and tackle both the immediate and underlying causes of undernutrition, DFID introduced a new programme in 2013 which integrates nutrition-specific interventions (including household level counselling on exclusive breastfeeding, complementary feeding and hygiene, micronutrient supplementation and regular de-worming treatment) within three existing nutrition-sensitive livelihood programmes. These existing programmes, which together target a total of 5 million people, have focused on providing livelihood support to extremely poor people through a mixture of asset and cash transfer, community infrastructure development and livelihoods support enabling them to move out of extreme poverty. The rationale for this programme design is to tackle both immediate and underlying causes of under nutrition thus accelerating improved nutrition in extreme poor households and to draw valuable lessons on which programme model is most effective. By implementing through three existing programmes experienced in working with vulnerable households, and with management arrangements already in place, it is hoped that the new integrated programme can provide a more effective and efficient way of delivering direct interventions to those in greatest need and improve the programmes' overall impacts on the nutritional status of target groups.

DFID commissioned this impact evaluation not only to inform future programme design by DFID, the government of Bangladesh and partners but also to contribute to the wider lack of global evidence on the appropriate integration of nutrition-specific and nutrition-sensitive measures to improve nutrition outcomes. Therefore, as well as being designed to optimise internal validity of results for each of the programme sites, the evaluation hopes to provide some external validity by shedding light on some of the wider implementation and contextual and behavioural factors.

Overview of the programmes

The Chars Livelihood Programme (CLP) aims to improve the income, food security, livelihoods and resilience to shocks of one million extremely poor and vulnerable dwellers in the remote *char* islands of north-west Bangladesh. The programme targets 67,000 extreme poor household beneficiaries and their communities. Livelihood interventions cover a range of activities including: transfer of assets plus stipends; livelihood training; water and sanitation; social development; plinths; cash for work; savings and loans; access to livestock services providers and health services and market development activities.

The **Economic Empowerment of the Poorest Programme** (EEP), also known as 'Shiree', supports one million people in rural and urban areas to lift themselves out of extreme poverty with livelihood improvement interventions covering a range of geographical areas aimed at strengthening their ability to cope with income, health and environmental shocks. This impact evaluation is focusing on one of the sub-projects of EEP – the Economic and Social Empowerment of Extreme Poor (ESEP) Project being implemented by Concern Worldwide in three districts: Sunamgonj, Habiganj and Kishoregonj which targets 22,500 extremely poor households. Livelihood interventions focus on: 1) input support for livelihoods: cropping; livestock; fishing; bamboo working; small businesses; tailoring, etc. 2) capacity building: mobilising self-help groups; facilitating CBOs; skills transfer and 3) innovation support; market linkage and access to value chains.

The **Urban Partnership for Poverty Reduction Programme** (UPPR) aims to improve the livelihoods of three million poor and extremely poor people, living in urban areas, covering ten corporations and 14 municipalities. The programme targets 800,000 poor and extremely poor households in urban slums/informal settlements. Intervention activities, which work largely through community mobilisation focus on: savings and credit; business start-up; settlement improvement funds and social development and protection.

The three programmes vary significantly in their approach to enhancing the livelihoods of target communities, households and individuals. However the nutrition-specific package being introduced and assessed as part of this impact evaluation is more consistent across all three programmes and includes the following elements:

- Awareness and counselling on IYCF practices;
- De-worming for pregnant women after first trimester and for under-fives;
- Iron and folic acid (IFA) for pregnant and lactating women and adolescent girls;
- Micronutrient supplementation (MNS) for children under two;
- Establishing nutrition and hygiene groups for adolescents;
- Training in hygiene and environmental health.

Impact evaluation design

The evaluation design combines a number of different analytical strands and both quantitative and qualitative methods within a strong theory-based design. Each of the three main components – quantitative, exploratory/explanatory and cost-effectiveness – will make a

unique contribution to the causal inference analysis of this evaluation. At the same time, each pathway of analysis will complement and draw on one another.

1. The **Quantitative Impact component** led by IFPRI and IDS is designed to meet the first evaluation objective (see Box 1) in providing quantitative estimates of nutrition-related outcomes and impacts of both the direct and indirect nutrition interventions as well as providing a rigorous assessment of the programme assumptions between outcomes and impacts.

   The design of the evaluation initially relied on a repeated cross-section survey of each of three groups: those receiving livelihoods plus nutrition support ('L+N'), those only receiving livelihood support ('L only') and a comparison group ('C') not receiving the interventions. Given that the livelihoods interventions began long before the inception of this evaluation, comparison ('C') groups were constructed from a group of non-beneficiary households that looked very similar to eventual-beneficiary households before any interventions were in place. This was done by assessing similarity in observable pre-intervention characteristics (from 2008) collected during the baseline survey.

   A representative sample of households with a child under two years of age was drawn from the target population for the baseline survey conducted in September-November 2013. Following analysis of the baseline data, the 'C' groups in the CLP and EEP survey samples were found to be too dissimilar from their 'L' and 'L+N' counterparts to usefully keep in the survey sample at endline. As such, the evaluation design shifted to include both repeated cross-section as well as a partial panel. The repeated cross-section will re-draw a new representative sample from the same target population in all three groups for UPPR and from the 'L only' and 'L+N' groups in CLP and EEP. The partial panel will re-survey baseline households, in all three programme groups, where the index child was under 12 months at baseline (approximately half the sample), ensuring that the panel sample will have been exposed to the intervention for a minimum of 12 months and that at most 12 months will have elapsed between the mother leaving the programme and the endline interview.

   The relative impacts of the components of 'L+N' versus 'L only' for all three programmes, as well as the impacts of both 'L+N' and 'L only' relative to 'C' will be estimated using the statistical 'double-difference' and ANCOVA approaches.

   The baseline survey captured information on household characteristics, knowledge, attitudes and practice, measures of health status and direct measures of anthropometry. The endline survey will be conducted in the fall of 2016, 24 months after the baseline, and will include the same measures to detect changes as well as questions on beneficiary households' programme experience and quantitative exploration of issues drawn from the exploratory/explanatory component's qualitative investigations (see below).

2. The **Exploratory/Explanatory component** is designed to meet the second objective (see Box 1) in exploring some of the programme-specific processes and assumptions as well as wider societal and contextual factors, which may explain any detected outcomes (positive and negative). This will be done through applying a range of qualitative and quantitative methods and systematic programme process analyses.

   Led by BIGD, IDS, ITAD and CNRS, this component will explore underlying causal processes and mechanisms operating at a household, community and a programme level, providing detailed contextual analysis that will help to explain how and why the combination of indirect livelihood and direct nutrition interventions may have had an impact on child nutrition outcomes (if any impacts are detected), or explain the reasons why not. While this component cannot make concrete claims about causality of impacts (this will in part be addressed by the quantitative impact component), it will allow for an in-depth exploration of the causal pathways along each programmes' theory of change

and testing of programme assumptions. A range of methodological approaches including analysis of survey data, programme monitoring data, in-depth interviews, focus group discussions, observations and participatory mapping will be employed. Data collection will be carried out in both randomly and purposively sampled study locations and involve a wide range of programme beneficiaries, programme staff and other local stakeholders. This work will also complement and extend findings from the quantitative impact and cost effectiveness components.

3. The **Cost Effectiveness component** is designed to meet the third objective (see Box 1) in providing an estimate of the costs of the different programme interventions in terms of their relative impact on child under nutrition.

   Drawing on programme budget and expenditure data, the quantitative impact component's survey data and other evaluation findings, this component, led by ITAD, will provide an estimate of the costs of the different programme interventions (internal efficiency) in relation to their impact on child undernutrition. The cost per unit change in height-for-age Z-scores (HAZ) (a standard anthropometric measure to assess child stunting) for each of the three programmes will be estimated in order to compare their relative cost effectiveness. Data permitting, for external comparisons and benchmarking against other interventions in the region and globally, Z-scores will be converted into disability-adjusted life years (DALYs) to provide an estimate of the number of healthy years lost through poor health, disability or early death. Further value for money analysis will explore some of the unquantified costs and benefits associated with the programmes in terms of economy, efficiency and equity. This component will therefore address two central research questions regarding (a) the greatest change in wellbeing of the beneficiaries as a result of the interventions and (b) the most cost effective model of delivering the interventions.

The careful sequencing and management of the multiple evaluation processes and ongoing exchange of data and research tools between the different partners aims to ensure complementarity of methods and findings from across the three evaluation components. This requires close consultation between the evaluation partners at all stages of the evaluation's lifecycle including: preparatory work, instrument design, fieldwork and analysis and reporting.

For more details on the evaluation design and other aspects of the project please refer to the 'MQSUN Inception Report and Design Document: Impact Evaluation of the DFID Programme to Accelerate Improved Nutrition for the Extreme Poor in Bangladesh, Phase II' (March 2014). This report and any other outputs published as part of the project are available to download from the IDS website project page[1].

Results from the quantitative baseline survey and first phase of qualitative fieldwork have been published on the IDS website. The final impact evaluation report summarising key findings and recommendations from across all three components of the evaluation will be finalised in late 2016.

A number of methodological, design and process-related learnings have already begun to emerge over the integration and sequencing of the various methods selected for inclusion in this evaluation. These are expected to be included in future project reports in 2016.

[1] www.ids.ac.uk/project/impact-evaluation-of-dfid-programme-to-accelerate-improved-nutrition-for-the-extreme-poor-in-bangladesh

Table1: Evaluation objectives mapped to questions, components and methods

Evaluation Component and Overall Objective	Research Questions	Metrics /Type of Data or Explanation Required	Methods and Source of Data
1 Quantitative impact: To assess the impact of the combination of direct (specific) and indirect (livelihoods) nutrition interventions in three different DFID programmes on nutritional status of children under two. To compare this with the impact of the existing livelihoods interventions	What is the impact on nutrition outcomes of receiving a combination of livelihoods and direct nutrition interventions (denoting this scenario 'L+N'), relative to receiving a livelihoods intervention only (denoting this scenario 'L only')? (in all programs)	Quantitative estimates of nutrition programmes causal impacts on beneficiary outcomes compared with livelihoods only programmes.	Baseline and endline surveys of HHs as repeated cross-section and partial panel. HHS randomised to receive nutrition component; outcomes analysed via difference in difference approach.
	What is the impact on nutrition outcomes of receiving a combination of livelihoods and direct nutrition interventions ('L+N'), relative to receiving no intervention (denoting this scenario 'C' for comparison) (in UPPR only)?		Comparison HHs selected via quasi-experimental methods (RDD or matching).
	What is the impact on nutrition outcomes of receiving a livelihoods intervention only ('L only'), relative to receiving no intervention ('C') (in UPPR only)?		
2 Exploratory/ explanatory: To explain (any quantifiable) impact, drawing on wider qualitative and quantitative evidence describing programme-specific and wider societal/contextual processes with the potential to impact on programme outcomes	What are the critical processes and mechanisms in implementation of the programme strategy? Were the processes implemented as planned and to what extent has this affected achievement of outputs?	Qualitative and quantitative data on critical components in programme planning, resourcing and delivery; beneficiary targeting and access.	Process Mapping Process Diary.
	How does the quality of programme delivery relate to more proximate outcomes (care, feeding, livelihoods, etc.) identified in the quantitative survey and how does this explain the impacts detected (or not detected)?	Quantitative data on more intermediate outcomes (e.g. assets, access to services, HH food security; infant and young child feeding practices).	Quantitative survey data. Existing programme MIS/M&E data including reporting against logframe
	What wider interactions between societal, community, family and programme structures might influence intervention uptake and behavioural change?	Qualitative data on the social networks, relationships, interactions and communication structures within the community	Social mapping In-depth interviews Focus group Discussion Participatory Observation Life history

Evaluation Component and Overall Objective	Research Questions	Metrics /Type of Data or Explanation Required	Methods and Source of Data
2 Exploratory/ explanatory: *(Continued)*	What are the contextual factors that can enhance or hinder the programme uptake? This will include an in-depth examination and testing of the programme assumptions and causal chain processes (described in the Theory of Change) within the context of the study communities.	Qualitative data on: • Views and perceptions on the interventions; • Nutritional behaviour • Influence of context on interventions; • Family structures and household decision-making • Contextual factors and wider community changes and effect of interventions on community structures; • Barriers and facilitators of intervention uptake.	Social mapping In-depth interviews Focus group Discussion Participatory Observation Life history
3 Cost Effectiveness: To assess the cost effectiveness (value for money analysis) of integrating direct and indirect interventions in the three livelihood programmes and to specify the best model for doing so.	What is the unit cost of changes to child stunting for each of the three programmes for both L only (UPPR only), and L+N (all programs)? Which nutrition intervention is the most cost effective, and why?	Estimates of changes in child stunting: % change in HAZ (height-for-age Z score): 1. How much did it cost to increase HAZ by x% using 'L' only? 2. How much did it cost to increase HAZ by x% using 'L+N'?	Cost Effectiveness Analysis of detailed financial data on programme expenditure and end-user cost data from quantitative survey.
	How cost effective are these programmes compared with similar programmes in other countries and contexts?	Conversion of HAZ scores into cost per DALY for each intervention.	Quantitative survey data; Standardised data assumptions and threshold indicators on cost effective DALYs from WHO; region-specific literature.
	What are the main cost categories, and how do they compare to external benchmarks? If possible to assess, what are the main cost drivers that justify relatively high costs?	Actual monetary value of direct costs (project inputs, equipment, services, HR, etc.) and indirect costs (office services, security, administrative staff, etc.) per year for each programme	Disaggregated financial data from all programmes. External benchmarks from similar programmes; regional literature on cost drivers
	What are the total costs incurred by society and opportunity costs incurred to participate in the programme?	Documentation of total resource costs incurred in delivery of intervention (used in unit cost analysis) and extra opportunity costs incurred and reported by beneficiaries (estimated by local wages in community if relevant to foregone benefits).	Opportunity costs tracked in quantitative survey.
	What are the unquantified benefits, direct and indirect of the nutrition interventions?	Qualitative and process data on intervention efficiency; beneficiary perceptions including direct/indirect benefits and costs of intervention; barriers to accessing intervention, etc.	Qualitative and process-related investigations as part of Exploratory/ Explanatory component (in-depth interviews, focus group discussions, detailed life histories, participatory observation, process map and process diary).

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Credits

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