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Impact Evaluation of WFP School Feeding Programmes in Kenya (1999-2008): A Mixed-Methods Approach

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Disclaimer

Evaluation Management

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Annexes

Annex A. Terms of Reference

Impact Evaluation of WFP School Feeding Programmes in Kenya (1999-2008):

Terms of Reference

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1. Background

1.A. Introduction

1. The world community has regularly re-stated its commitment to education as a human right. Access to and quality of education are also regarded as an essential plank for poverty reduction: human capital – education, knowledge, skills, access to and understanding of information – is part of the livelihoods approach that recognizes poverty to go beyond a lack of income. Education is embedded in the Millennium Development Goals: MDG 2 (achieve universal primary education) and MDG 3 (promote gender equality and empowers women, with targets for eliminating gender disparity in education). School feeding also relates to MDG 1 (eradicate poverty and hunger). A series of multilateral events since 1990 made explicit linkages between education, nutrition and health and have established action plans and special funds.

2. For the purpose of this evaluation **school feeding** is understood as programmes that are implemented through schools as the food distribution point, and can include wet and dry feeding distributed at any point in time during the school day (breakfast, mid-morning, lunch) and Take-Home Rations. Operations that focus on pre-school children or provide food-for-training outside a school context will not be included.

1.B. WFP's Corporate Approach to School Feeding

3. **Overview.** School feeding has been cited as one of WFP's programme areas since its establishment in 1963.[1] By 1993, pre-primary and primary school feeding accounted for more than half of WFP's development commitments.[2] In 2008, as the largest implementer of school feeding programmes in the world, WFP invested US$475 million (14per cent of total budget) in some 70 countries, reaching an average of 22 million children in school, about half of whom are girls. WFP's School Feeding Handbook 1999 recognised that there was insufficient evidence that school feeding addresses malnutrition and therefore explicitly focused on educational outcomes (increasing enrolment and attendance and improving learning outcomes) and reducing the opportunity cost of sending children to school, particularly through Take-Home Rations.

4. School feeding was at the core of strategic priority/objective 4 in WFP's **Strategic Plans** 2004-2008 and 2006-2009 and was clearly aligned with MDG2 and MDG3. The **Indicator Compendium** for 2006-2007[3] concentrates at the outcome level on enrolment and attendance rates, including a presentation of gender disparity, and ability of school children to concentrate.

5. **New Strategic Plan:** In the latest strategic plan (2008-2011), school feeding is embedded in a broadened Strategic Objective 4, which aims to reduce chronic hunger and under-nutrition. It sets a goal of increasing levels of education and foresees school feeding addressing short-term hunger, and thus improve learning abilities, providing a safety net by ensuring children attend school both through school feeding and take-home rations, and addressing micro-nutrient deficiencies. By using locally produced foods, school feeding is also expected to have a positive impact on local markets. Through a positive contribution to learning results and school completion, it may also have an effect on the inter-generational cycle of hunger. The Strategic Results Framework (approved in 2009), flowing from the Strategic Plan, carries forward indicators from the Indicator Compendium.

[1] *School Feeding Handbook*, WFP, 1999 referencing FAO Conference Resolution 1/61 of 24 Nov.1961.
[2] Ibid.
[3] *WFP Indicator Compendium* (Biennium 2006-2007), 2005.
http://docustore.wfp.org/stellent/groups/resultsbasedmanagement_content/documents/other/wfp031995.pdf

6. Derived from this, the proposed new School Feeding Policy, to be presented to the second session of the Executive Board in November 2009, sets six **objective areas,** all within the concept of safety nets as a sub-set of broader social protection systems: education (enrolment, attendance, retention, reduced absenteeism, promotion, enhanced learning ability & promotion); nutrition (nutritional benefits achieved in combination with de-worming and micronutrient fortification); gender equality in education; value transfer to households; a platform for wider socio-economic benefits; and capacity development for governments[4].

7. WFP's forthcoming school feeding strategy is based on different models for school feeding, each with differing balance of government and WFP involvement in programme implementation. At a recent strategy workshop, Kenya was estimated to lie between Models 2 and 3, as shown in Table 1.

Table 1: School Feeding Models

	1	2	3	4	5
	No government programme	**Government. programme is planned but not yet implemented**	**Government programme is running in parallel to WFP**	**Full government funding with WFP providing the service**	**National funding and implementation**
Countries	Malawi Rwanda Sierra Leone Tanzania	Burundi Mali	Benin Zambia Ghana **Kenya**	El Salvador Ecuador	Chile

Source: PowerPoint Presentation for the WFP School Feeding Strategy Workshop, Cape Town, May 2009

1.C. Country Context: School Feeding in Kenya

8. Kenya is classified as a low-income food-deficit country, ranked 144 out of 179 countries on the United Nations Development Programme (UNDP) Human Development Index[5], up from 152nd out of 177 countries on the 2006 Human Development Index (medium human development). It ranks 148th out of 177 on gender-related indices in the 2007-8 Human Development Report. Eighty percent of Kenya's 37.2 million people live in rural areas. Poverty is the major cause of food insecurity, exacerbated by frequent droughts, floods, inefficient food distribution and marketing systems, population growth and HIV/AIDS. Food poverty is highest in arid and semi-arid lands (ASALs) and is over 70 percent among the informal sector workers and the unemployed in the unplanned urban settlements of Nairobi. Global Acute Malnutrition rates in some arid districts are above emergency levels (15 per cent) even in non-drought years, and micronutrient deficiencies are highly prevalent. Besides inadequate food consumption, contributing factors include poor hygiene, lack of potable water, high morbidity and poor care practices.

9. However, since 2003, when the national Economic Recovery Strategy was launched, annual gross domestic product growth increased from 0.6 percent in 2000 to 6.4 percent in 2006 and 7.0 per cent in 2007[6]. Free Primary Education was also introduced in 2003. The Net Enrolment Rate increased from 77 percent in 2002 to 87 percent in 2006[7] and 86.3 in 2007[8]. Kenya's primary school completion rate (total 2000-05) appears to be one

[4] See Annex 4 to draft School Feeding Policy EPC7/2009/D.
[5] Human Development Index statistical update 2008 – HDI rankings http://hdr.undp.org/en/statistics/
[6] World Development Indicators http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS
[7] WFP, Project Document *Country Programme Kenya 10668.0 (2009-2013)*, WFP/EB.2/2008/7/2
[8] World Bank Education Statistics database http://ddp-ext.worldbank.org/ext/ddpreports/

of the highest in Sub-Saharan Africa nationally at over 90 per cent[9], dropping to 35 per cent in arid and 74 per cent in semi-arid districts[10]. However, at the time of the 2007 field visits for the joint review of the Kenya Education Sector Support Programme (KESSP) 2005-2010, EMIS operations were not without problems, which undermines the reliability of the data supplied to the central level[11]. Free Primary Education represents a significant transfer value to households with children in school, because the household funds previously spent on school fees is available for other uses.

10. At the highest level, the national Medium Term Plan 'Vision 2030' refers to school feeding under the 'Social Pillar' as an ongoing initiative contributing to equity in access to education[12]. School feeding is included in one of the four areas of improvement in the KESSP 2005-2010, namely "enhancing quality and learning achievement". GOK is currently drafting a Strategy on School Health, Nutrition & Feeding. In 2007/8, 31 per cent of GOK budget was dedicated to the education sector[13]. School feeding is also included in the 2007 National Food and Nutrition Policy and the Gender Policy. It is included in the remit of the Kenya Food Security Group and the Education Donor Coordination Group.

1.D. WFP's School Feeding Programme in Kenya

11. WFP has been providing school feeding assistance since it began working in Kenya in 1980. Since 2002 (the earliest comprehensive comparative data available), the school feeding programme in Kenya has consistently been one of WFP's 2 or 3 largest globally[14]. From 2005 to 2007, it delivered food to between 1.7M and 1.8M beneficiaries each year, accounting for 9 per cent of WFP's total global beneficiaries of Food for Education in 2007. Apart from a few other countries in specific, single years (e.g. Afghanistan, DPR Korea and Iraq), no other country has more than 1 million beneficiaries. In 2007, over 80 per cent of approximately 70 countries with school feeding programmes had under 500,000 beneficiaries.

12. At the peak in 2007, 1.85 million children were benefiting from school feeding provided by WFP, of which 48 per cent were girls. 5,266 schools were covered in 29 districts (out of around 60) districts with 142 school feeding days across all 3 operations ongoing at the time[15] – see map at Annex 1. There were significant disparities between districts which are not shown here. Figures for each year from 1999 to 2008 will be gathered during the Design and Inception Phase (Section 5.C below). The most constant intended focus over time has been on the Arid and Semi-Arid Lands (ASAL's). To put this in proportion, in 2006 (the nearest year for which figures are available), total enrolment in primary education in Kenya was 6.1 million (of which 49 per cent girls)[16].

13. School feeding has constituted 75 per cent to 81 per cent of the most recent and current WFP country programmes. It has constituted a significant tonnage and beneficiaries in the Emergency Operation 10374 for Food Assistance to Drought Affected People, begun in late 2004 and repeatedly extended until end-2007, though not a major part of the Operation. There is also a very small component in the PRRO 10258.2 for Food Assistance to Somali and Sudanese Refugees (see Table 2 below and Annex 2).

[9] World Bank Education Statistics database http://ddp-ext.worldbank.org/ext/ddpreports Source: UNESCO Institute for Statistics (UIS), World Bank, UNAIDS, ILO, Household Surveys, IMF, Country..
[10] WFP, Project Document 'Country Programme Kenya 10668.0 (2009-2013), WFP/EB.2/2008/7/2
[11] e.g. Report of the KESSP Joint Review field visits, Eastern Province, 2007
[12] Republic of Kenya, 2007, *Kenya Vision 2030: First Medium Term Plan (2208-2012)*
[13] WFP, Project Document 'Country Programme Kenya 10668.0 (2009-2013), WFP/EB.2/2008/7/2
[14] Source: WFP Standard Project Reports
[15] WFP Standard Project Reports 2007
[16] Education For All Global Report 2009, Table 5

14. At the end of school years in 2007 and 2008 various school districts were phased out of the EMOP in line with improving food security. No school feeding was included in the follow-on EMOP 10745 (July 08-April 09). As recommended by the 2007 evaluation, to improve inter-programme coherence and facilitate external coherence, all school feeding was included in the Country Programme (CP). The latest PRRO 10666 May 2009 to April 2012 includes an element of school feeding, but it is managed by the CP team.

15. During the same period, the direct costs per metric tonne of providing food[17] rose from US$347 in 2007 to US$457 in 2008. The total number of beneficiaries from the WFP school feeding programme fell to 1.2 million. Increasing food prices and transport costs are said to be necessitating a further significant reduction in WFP coverage from 2009 to an average of 650,000 per annum over 5 years to 2013 (phased in gradually with 728,000 in 2009). In line with recommendations of the 2007 Evaluation, the 2009 re-targeting exercise targeted assistance to the most food insecure districts with the lowest education indicators. The GOK has committed US$5 million to provide Home-Grown School Food for 650,000 children in districts previously assisted by WFP - to begin in 2009.

Table 2: WFP Operations in Kenya - 2004 to date (evaluation report will cover 1999 to 2008)

Operations	From	To	Total Operation Budget US$	Budget for school feeding US$	Total No.of Benfs (planned)	No.of SF Benfs p.a. (planned)	No.of SF Benfs 2007 (actual)
EMOP 10374 Food Assistance to Drought-Affected People in Kenya	Aug-04	Jul-07	85,801,540	To be provided by CO	2,971,728*	554,209**	537,706*
PRRO 10258.2 Food Assistance to Somali & Sudanese Refugees	Oct-07	Sep-09	108,200,000	489,535	337,000	66,000	47,222
Country Programme 10264.0	Jan-04	Dec-08	83,246,873	68,103,063	1,000,000	1,000,000	1,245,342
Country Programme 10668.0	Jan-09	Dec-13	106,300,000	66,129,658	728,000	650,000	n.a.
Totals:			**515,699,711**				

Source: WFP Project Documents & Standard Project Reports 2007
** March to August 2006 and being maximum numbers of beneficiaries under EMOP 10374 in any one period*
*** Term III of 2006 being the period corresponding most closely to previous column and the latest period for which figures are available. Source: WFP Kenya Country Office*

16. Operations which have included a school feeding component have been supported by bilateral donors (the biggest donations), including McGovern-Dole, the Government of Kenya itself (in kind), and various private bodies (both non-profit international and local as well as for-profit), mostly in kind (see Annex 3).

17. The school feeding programme in Kenya provides food to all children within each school in the programme to avoid difficulties with stigma, jealousies or logistics, which might arise if only some children were fed. Past food procurement has been on the basis of the global rule of purchase of the cheapest. GOK has contributed locally produced maize in kind[18]. The programme has diversity in terms of: livelihood zones targeted; modalities of food assistance (in-school meals, porridge with Corn Soya Blend and limited experimentation with Take-Home Rations in refugee camps); types of school (rural/urban; boarding/day); type of operation (CP, PRRO, EMOP); and partners involved in aspects of implementation, though school feeding is always under MOE supervision.

[17] 'Food costs' plus 'other direct costs' from Standard Project Reports of Country Programme 10264.0
[18] Only very recently has there been limited introduction of home grown food.

18. These characteristics make WFP's school feeding programme in Kenya one of the largest and oldest in the world. It therefore offers potentially rich evidence for learning to inform future strategy both in Kenya and more widely. The 2007 Evaluation found little doubt that it had contributed to positive educational outcomes, although there is need for more evidence about the impact on learning achievements. Further, many communities have come to regard it as an entitlement and/or public good[19]. However, this has raised fundamental concerns about dependence - of communities on school feeding and of GOK on external assistance to provide it - sustainability and about the impact of school feeding on the efficiency of the education sector[20] and beyond, especially compared to alternative investments to the same ends.

2. Reason for the Evaluation

2.A. Evaluation Rationale

19. A convergence of three main changes in the context demand a revised focus and direction for the school feeding programme in Kenya and therefore make this evaluation timely. First, amongst other factors, increases in food prices and international and local transport costs without a corresponding increase in resources has meant a reduction in WFP's school feeding coverage in Kenya and creates some urgency to reviewing which modalities may be most effective and efficient in which circumstances. Second, new GOK policies, the current KESSP term ending in 2010, and renewed attention to school feeding create broader opportunities and need for revision and re-focus. Thirdly, the adoption of WFP's new Strategic Plan 2008-2011 has added a new dimension to school feeding, namely that of being a part of the social safety net. WFP is preparing a new corporate policy and global strategy on school feeding in the light of this and other new objectives under the Strategic Plan, such as the transition from a food aid to a food assistance organization.

20. The evaluation has been requested by the WFP Country Office and is also welcomed by the school feeding units in WFP HQ. The evaluation will provide the WFP Country Office and national partners with the basis to strengthen future strategy and programme. The evaluation is also expected to provide lessons to inform the new corporate WFP school feeding strategy and the tool-kit for its roll-out, which is planned from 2010 onwards. In addition, the evaluation is expected to provide useful insights to GOK actors, NGO's and donors involved in review of education sector strategy, the forthcoming school health, nutrition and feeding strategy and social safety net strategy.

2.B. Evaluation Objective

21. Like all evaluations at WFP, this evaluation serves accountability and learning purposes. The evaluation will:

(i) evaluate the outcomes and impact[21] achieved so far from the various modalities that have been used in relation to stated educational, gender and nutritional objectives; and

- evaluate outcomes and impact achieved in relation to WFP's new social safety net objectives (even though these were not explicitly included in the programme design) and assess the extent to which the programme has already the elements or potential necessary to meet newer GOK and WFP policy objectives concerning social safety nets and nutrition; and

[19] See, for example, WFP, 2008, *Evaluation of Kenya Emergency Operation 10374.0 and Country Programme 10264.0 (2004-2008)*, OEDE/2008/002

[20] The underlying assumption is that the higher the entry and completion rate within the regular schooling period, the more efficient the school system is.

[21] Impact is defined as: *Positive and negative, intended or unintended, primary and secondary long-term effects of the programme, - social, economic, environmental or technical – on individuals, gender and age-groups, communities and institutions. (WFP/DAC).*

- identify changes needed to enable fulfilment of potential to contribute optimally to GOK objectives and the objectives of the current WFP Strategic Plan and proposed School Feeding Policy.

22. The programmes cannot be held accountable on point (ii) for achievement of objectives that were not included in the programme design. However, some unexpected and/or less explicit outcomes may already have been achieved towards these objectives. These should be recorded for learning purposes, especially as part of the baseline assessment upon which future strategy and new programme can be designed, in Kenya and possibly more widely. For this reason - in evaluation jargon – the evaluation will be primarily 'formative', rather than 'summative'.

2.C. Key Questions

23. Related to MDG's 1, 2 and 3, what impact has WFP's work on school feeding contributed to concerning:
a) the efficiency of the education sector and impact on learning achievements?
b) achievement of planned nutritional objectives?
c) social safety nets in terms of economic, food security or physical protection[22] for the most vulnerable, even though these were not intended at the outset?

24 Within the different livelihood zones (including urban), how have (a) **impact and outcomes** (intended and unintended) and (b) **costs** been affected by differences in the variables listed below, as distinct from external factors, such as commodity and transport price rises.
i) nature of food assistance: meal (alone or in combination with Corn Soya Blend porridge), and snack;
ii) types & size of school (formal/informal, day/boarding[23]);
iii) of adding in extra packages (e.g. de-worming, micronutrients & private sector donations);
iv) level of community involvement;
v) procurement options and potential for working in coordination with other schemes (e.g. local purchase, home-grown school food)?
vi) types of WFP operation (emergency or development)? How effective and appropriate is school feeding in an emergency context in Kenya?

25.In what circumstances does school feeding appear to have shown the best 'return on investment' in terms of cost compared to impact/outcomes for WFP's priority beneficiaries: the most food insecure in areas with the lowest NER for girls?

26. To what extent have WFP's targeting strategy (revised in 2009) and modalities for school feeding been aligned with GOK policy priorities in the education sector, the Kenya Joint Assistance Strategy and with the UN Development Assistance Framework (UNDAF) for Kenya? What have been the main factors influencing WFP programme choices concerning school feeding in practice?

27. In the context of the **new** policy directions (in Kenya and WFP), what changes might be required to the design of interventions to increase impact, effectiveness, and sustainability, tailor-made to the core target groups (including alternatives to the direct supply of food)?

[22] e.g. protecting girls from early marriage
[23] Planned activities with mobile schools have not yet started.

3. Scope of the Evaluation

3.A. Scope

28. **Categories.** The evaluation will include all school feeding activities under the overall supervision of the MOE. This includes both Country Programmes and Emergency Operations. It **excludes** school feeding activity in the refugee camps (under PRRO's), except where and if the Evaluation team considers it useful for comparison purposes. These have constituted a very small proportion of the whole (see Table 2 above and Annex 2) and are of a very different nature, implemented with different partners.

29. **Focus on Operations.** The evaluation aims to generate evidence and insights from operational experiences to answer the questions raised in Section 4 of these terms of reference below. It will focus primarily at the outcome and impact level (since earlier evaluations have focused more at output level). It will examine school feeding baseline surveys and other needs assessments, targeting of school feeding, choices of operational modalities and implementing arrangements, including partnerships, the monitoring and evaluation of school feeding, and the cost of running school feeding programmes. The evaluation will not analyze the WFP Handbook and other guidance materials.

30. **Timeframe.** For assessing **effectiveness**, the evaluation will consider information concerning all operations that have included a school feeding component in the 10-year period from 1999 through 2008. For assessing **efficiency**, information will be drawn primarily from the 5-year period 2004-2008. Information for assessing **impacts** and longer-term outcomes, however, may concern pre-1999 operations as well.

31. **Geographical Scope.** During the Inception Phase, a stratified sample of sites for field work will be selected, based on the composition of the school feeding portfolio and the different variables mentioned in paragraph 17 above, but with random selection within each stratum.

3.B. Evaluability Assessment

> ***Evaluability*** *is the extent to which an activity or a programme can be evaluated in a reliable and credible fashion. It necessitates that a policy, intervention or operation provides: (a) a clear description of the situation before or at its start that can be used as reference point to determine or measure change; (b) a clear statement of intended outcomes, i.e. the desired changes that should be observable once implementation is under way or completed; (c) a set of clearly defined and appropriate indicators with which to measure changes; and (d) a defined timeframe by which outcomes should be occurring.*

32. WFP does not yet have a formally adopted "logical framework for school feeding" presented in one document. However, the WFP Strategic Results Framework gives important guidance under Strategic Objective 4 Reduce Chronic Hunger and Undernutrition, for which Outcome 4.2 concerns school feeding directly. Although not formally adopted by WFP, the 2006 study **Food for Education Works**[24]**,** commissioned by WFP, presented a logic model and programme theory for <u>past</u> programmes. The model differentiated between initial, intermediate and distant outcomes and combined (primarily) educational outcomes with others, such as improved micronutrient status and improved learning capacity.

33. For <u>future</u> programmes, WFP is adopting a logical framework model, currently available as Annex 4 of the draft School Feeding Policy (yet to be approved).

34. The 1999 Handbook (see paragraph 3 above) has recognized goals and immediate objectives and the Indicator Compendium has indicators at output and outcome level (see paragraph 4 above). The relevant Project Documents for Country Programmes each include a logical framework for that operation and school feeding as an activity. Despite

[24] *Food for Education Works: A Review of FFE Programme Monitoring and Evaluation 2002-2006*, Aulo Gelli for WFP, 2007.

some gaps or inconsistencies between various planning documents[25], the main expected outcomes are discernible.

35. The Programme has been evaluated periodically since the mid-1980's, most recently in 2003 and 2007. **Impact indicators** are not included in the typical monitoring and evaluation systems of WFP. However, baseline studies for WFP's school feeding programme were made in 2003 and 2008[26]. Recent impact studies of school feeding in Kenya have been commissioned by other donors/agencies[27] and there was a Review of the KESSP in 2007. At the household and individual level, further impact data may be collected using tracer studies. The best approach (in terms of cost, practicalities and expected lessons from such inquiry) will be determined during the Design and Inception Phases of the evaluation.

36. **Educational Outcomes.** The educational objectives of the WFP's school feeding programme are well defined and associated with clear indicators. Enrolment, retention/drop-out rates attendance rates and (to a lesser extent) cognitive ability are standard data collected annually. It is disaggregated by gender and geographically down to district level. This information is available at the WFP Kenya Country Office and in Headquarters from the Programme Support Unit (school feeding) through the database (DOMUS), which covers 23 WFP-assisted countries. Therefore, the educational outcomes should be 'evaluable'. The GOK Education Management Information System provides data on the same outcomes for all schools, enabling comparison.

37. **Nutritional Outcomes.** For nutritional data, the objectives – reducing micronutrient deficiency vitamin A, iodine and iron deficiency and reducing the intensity and prevalence of worm infestation in school age children[28] – are clear. Data on only a few indicators related to these objectives was collected for the school feeding baseline surveys. Further information may be collected through national health information systems[29]. In how far this data can be correlated with the schools where micronutrient and de-worming programmes has taken place will have to be seen. For beneficiaries of the EMOP, data on acute malnutrition should be available from periodic surveys conducted by health agencies The methodology of the evaluation will determine how data gaps will be filled through fieldwork.

38. **Social Safety Outcomes.** The social safety net outcomes provide a challenge in that WFP is only now adopting this objective for school feeding. A new logic model is currently being developed for the new WFP School Feeding policy (due to be presented to the Executive Board in November 2009), which incorporates social safety nets. The team will use this to guide the evaluation in generating evidence of unplanned results already achieved and assessment of future potential. This is not 'evaluable' for accountability purposes, but can be used for learning purposes.

39. The final complicating factor is that elements of the Essential Package[30] - intended to increase effectiveness - have been introduced to the programme gradually over time. This will need to be taken into account in analysing changes in effectiveness and costs over time. These elements include de-worming (since 2004) and later water and sanitation (especially for girls), fuel-efficient stoves and school gardens.

[25] See OEDE/2008/002

[26] Analysis and report never completed, but data available from the Programme Support Unit at WFP HQ.

[27] Including recently by DFID and CARE

[28] Project Documents and *School Feeding Handbook*, WFP, 1999. See Section I.3.3.2 of the Handbook for micronutrient deficiencies, and IV.3.2 for school-based de-worming.

[29] Via Ministry of Health, Ministry of Planning and Ministry of Agriculture.

[30] The *FRESH Essential Package* is a joint WFP/UNICEF initiative that includes 12 interventions to address school health and nutrition in a comprehensive way.

3.C. Stakeholders

40. There is a fairly large and diverse group, who have an **interest in the education sector** and the actual and potential contribution of school feeding as one tool (amongst many) to contribute to the efficiency of the education sector as well as to **nutrition, food security and social protection**. They have an interest in evidence from this evaluation about the impact and outcomes of school feeding to inform future policy and strategy. There is also a smaller group – largely within the wider group - who also have a **direct interest** in the WFP school feeding programme itself (e.g. programme partners).

41. Representatives of all stakeholders in the narrower group and a selection of stakeholders from the wider group will contribute to the evaluation as key informants. A detailed list of stakeholders in each category will be drawn up during the Inception Phase with the assistance of the Country Office. Nevertheless, the following are already evident:

a) **School children and their families/households**, who receive or have been receiving school feeding. Their primary interest in school feeding is whether it addresses the hunger needs of pupils within their family/community or the opportunity cost of children attending school and thus provides an appropriate incentive to ensure enrolment and attendance. Improvements to operational design and implementation would benefit them directly.

b) **Parents and teachers**, who participate in the management and implementation of school feeding programmes, be it through school committees or by providing inputs (time to cook meals, provision of fire wood, etc). Changes resulting from the evaluation would affect them directly.

   Together (a) and (b) will also be able to reflect on the indirect effects of receiving school feeding and thus inform the evaluation about unintended and unexpected impact and outcomes (positive or negative).

c) **The Ministry of Education (MOE) at district, provincial and national levels:**
   - as the ministry responsible for the Kenya Education Sector Support Programme; &
   - as the main implementer of school feeding programmes both in partnership with WFP and separately or with others
   - as the Ministry with responsibility for the new strategy on School Health, Nutrition and Feeding.

   Its interest lies in the efficiency and effectiveness of the school feeding programmes so that they best serve the country's needs, the accuracy and fairness of targeting, and the extent to which national capacities have been developed for running school feeding programmes without external technical assistance.

d) **Other Government of Kenya departments/ministries.** These include the PM's office, which has formed a taskforce to oversee Social Protection Policies and instruments. The Ministry of Finance/Office of the President Special Programmes has also overseen funding/food assistance set aside for school feeding, both through in-kind contributions to WFP and through GOK's home-grown school feeding programme to come on stream in 2009. The Ministry of Agriculture (through Njaa Marufuku) has an interest in promoting 'home-grown school feeding' to ensure that the food for school feeding is produced and purchased locally. The Ministry of Health and other coordinating mechanisms concerned with food security and nutrition may also have an interest, such as the Kenya Food Security Steering Group and interest in school gardens as an educational tool.

e) **Multilateral agencies.** In Kenya, UNICEF has had direct collaboration agreements with WFP on the school feeding programme (under the Essential Package). UNESCO

and the World Bank have strong interests in the education sector and FAO in the potential for home-grown school feeding.

f) **Bilateral agencies** have an interest as actors at national level in the relevant sectors. Some also have a direct interest in the programme as donors (see Annex 3). Internationally, as WFP's key funding partners, a broader range of bilateral agencies also have an interest in the accountability and learning the evaluation may provide for WFP as a whole;

Both (e) and (f) have an interest in the evaluation evidence to inform their discussions with WFP about future directions of school feeding and partnerships and potentially in sector coordination mechanisms (e.g. the Education Sector Donor Group in Kenya);

g) **Private non-profit organisations (both international and local).** A very few have an interest as implementing partners, committing their own resources too – e.g. Feed the Children (actual). Other non-profit organisations active in the relevant sectors – including churches – have an interest in the evidence and wider implications of this evaluation because they are supporting the sector (e.g. VVOB) and/or because WFP is such a big player in school feeding.

h) **Private for-profit organisations** (international & local) have an interest in the programme as donors of cash or in-kind contributions – see Annex 3.

i) **WFP** at headquarters, regional bureau, and country level, where interests range from strategic issues on WFP's approach to school feeding to advocacy and fundraising to interest in operational lessons that may apply to other countries.

These Terms of Reference were drawn up on the basis of key literature sources, consultation with key WFP staff (at all levels) and with key informants in (c) and (d) above, and with a small sample of representatives from groups (b), (e), (f) and (g) above.

4. Evaluation approach

4.A. Methodology

42. **Mixed Methods.** This is a first approach to impact evaluation for WFP within limited, current evaluation resources and possibilities. In the longer term, the approach to impact evaluation should be broadened to include longitudinal and quasi-experimental studies as well. In the meantime, the current evaluation will use a mixed method approach and draw on the body of existing data and research as far as possible. It will complement this by collecting additional information from key stakeholders (see Section 3.C above) and triangulate its findings from a cross-section of sources. The methods for collecting this information will be decided by the Evaluation Team in the Inception Phase, selected as appropriate to purpose and participatory, where possible. They are likely to include semi-structured interviews, focus group discussions, observation as well as methods appropriate to tracer studies. In the end, a combination of qualitative and quantitative data will be used to support evaluative assessments and show developments over time.

43. The evaluation will stratify its research according to different livelihood zones (pastoralists/agro-pastoralists/marginal agriculturalists/urban, most food insecure areas/less food insecure areas, especially in the Arid and Semi-Arid Lands). Sampling will be representative and randomised within strata. The evaluation will seek comparative data with schools in similar settings, which have not received school feeding (a control group). In the absence of sufficient 'pure' control groups, the evaluation may compare 'before and after' data for schools where (certain types of) school feeding has been withdrawn and use data from previous years with schools that have only recently started school feeding.

44. **Tracer Studies.** In order to obtain key data on impact and outcomes that is not otherwise available, tracer studies may be used. These are expensive, so the focus will be carefully selected during the Design and Inception Phases in consultation with the team leader, based on the following criteria:

- most important data gaps undermining the team's ability to answer the evaluation questions;
- priority issues for informing future strategy on which inadequate secondary information is available.

45. **Using Standards.** The evaluation will use established standards to assess WFP's performance. In some areas, the standards may have been set by WFP, as it is the largest player in the school feeding area. In other areas, standards are not yet defined and the evaluation team will analyze and evaluate the working tools that WFP has developed to determine whether these tools meet professional standards. In the area of social safety nets, the evaluation will use the recent work of the World Bank, which indicates what makes a good safety net as a benchmark.

46. **Evaluation Matrix.** The evaluation team will develop, in the inception phase, an evaluation matrix that expands the key questions and articulates sub-questions, verifiable indicators to respond to these, and means of verification/data collection.

4.B. Evaluation Quality Assurance

47. WFP has developed an Evaluation Quality Assurance System (EQAS) based on international good evaluation practice. It sets out process maps and templates for evaluation products, including checklists for feedback on quality for each of the evaluation products. EQAS has not yet been adapted to the specifics of impact evaluation, but the principles and all appropriate content will be systematically applied to this evaluation. Standards specific to impact evaluation will be developed, as necessary, on the basis of this pilot experience. OEDE will provide relevant EQAS documents to the evaluation team.

48. The evaluation team will also make arrangements to ensure data used in the evaluation report is checked for accuracy and reliability. The evaluation report will clearly indicate limitations to the conclusions that can be drawn from the evidence.

49. In addition, the evaluation will benefit from an external peer review panel, which will review and discuss (by video/telephone conference and/or by email) the terms of reference and draft final report. The panel will be composed of professionals with experience in school feeding, nutrition and (possibly) social safety nets/social protection.

4.C. Phases and Deliverables

50. The evaluation will take place in five phases, summarized in Table 3 below.

(i) **Design phase** is to establish and agree on the terms of reference, identify the evaluation team leader and team members, establish the reference group and peer review panel, and compile background information for easy access of the evaluation team during the next phase. The Evalaution Office will provide team members with an e-library of relevant documents. During this phase the team leader will work with the consultants responsible for conducting tracer studies on design so that these can begin early;

(ii) **Inception phase** is for the evaluation team to arrive at a common understanding of the terms of reference, develop an evaluation matrix, decide on the methodologies to be used during the evaluation and site selection for field work, assign division of responsibilities in the team and determine the logistics arrangements for field work and the timetable for delivery of the evaluation report. This will be captured in a brief inception report;

(iii) **Evaluation phase** is to compile the evidence from documents and field work. This phase will take place in two parts: first, desk review in preparation for fieldwork, so that the evaluation team goes to the field as prepared as possible; and, second, field visits that will entail discussions with stakeholders in capitals, at sub-national levels, and at community/school/and household levels;

(iv) **Reporting phase** is to present the findings of the evaluation in a concise and well-substantiated evaluation report, including the quality assurance process. The team will share the draft report with stakeholders for comments, and revise the report in as much as comments are justified. Key findings and evidence may be presented at a national school feeding strategy workshop, facilitated by WFP/OEDP and currently planned for October/November 2009. Review by the Peer Review panel will follow. After that, WFP requires one full evaluation report and one Executive Board summary report (maximum 5000 words).

(v) **Presentation to the WFP Executive Board and follow-up**, with the purpose of reacting to and implementing recommendations that the evaluation will make.

Table 3: Phases and Deliverables for the Evaluation

Phase	Timing	Expected Outputs
1. Design Phase	April-June 2009	Terms of Reference
Preparatory mission	End May 2009	Improved draft of TOR Background data collected Consultants for tracer studies identified
Team selection & availability	Mid May to mid July	Team assembled
Design of tracer study	June-mid-July	Tracer study design complete
2. Inception Phase	15-31 July	Commencement of tracer studies Inception Report
3. Evaluation Phase		
Desk review & preparation work	August	Report of literature review Logistical plan for field visits
Tracer impact study	15 July-September	Report of tracer study
Field work	September	Overall debriefing
4. Reporting Phase	October –November	Evaluation Report (Draft) Comments Matrix EB Summary Report (Draft) Comments Matrix
(possibly) National school feeding workshop	November 2009	Presentation of key findings and evidence
	December 2009	Evaluation Report (final) EB Summary Report (final)
5. Executive Board and Follow-up	June 2010	Presentation of EB Summary Report Management Response Follow-up Actions
Notes: schools are closed from 1/8/09 to 2/9/09 *WFP-Kenya logistics fully occupied in August*		

5. Organisation of the evaluation

5.A. Expertise of the Evaluation Team

51. The ***team leader*** for the evaluation requires strong evaluation and leadership skills and technical expertise in one of the technical areas listed below. His/her primary responsibilities will be (a) setting out the methodology and approach in the inception report; (b) guiding and managing the team during the evaluation phase and overseeing the preparation of working papers and tracer studies; (c) consolidating team members' inputs to the evaluation products; (d) representing the evaluation team in meetings with stakeholders; (e) deliver the inception report, draft and final evaluation report, and draft

and final Executive Board summary report in line with agreed OEDE standards (EQAS) and agreed timelines. The full job description is provided separately.

52. The ***evaluation team members*** will bring together a complementary combination of technical expertise in the fields of education, nutrition, social safety nets, food security, economics (for analysis of cost-effectiveness of different modalities and proportionality of costs of school feeding in relation to other education sector investments) and gender. The team leader will be internationally recruited. The remaining team members will be a mix of international and national recruitment. The blend of technical areas across the team will depend on that of the team leader first. At least one team member should be familiar with WFP's work in general.

53. The evaluation team members will contribute to the design of the evaluation methodology in their area of expertise; undertake documentary review prior to fieldwork, conduct field work to generate additional evidence from a cross-section of stakeholders, including carrying out site visits, as necessary to collect information; participate in team meetings, including with stakeholders; prepare inputs in their technical area for the evaluation products; and contribute to the preparation of the evaluation report. The full job description is provided separately.

54. A Kenyan consultancy/research organization will be contracted to undertake the (tracer) impact studies.

55. All members of the evaluation team will abide by the Code of Conduct for evaluators (attached to individual contracts), ensuring they maintain impartiality and professionalism.

56. **Research support** will be provided to collect, compile, and undertake basic data analysis as requested by the evaluation team leader and evaluation manager. During the Inception Phase the extent to which this should be provided in WFP Kenya Country Office or at WFP headquarters will be defined.

5.B. Roles and Responsibilities

57. **Reference Group.** The evaluation will set up an advisory reference group composed of WFP stakeholders (from school feeding units in the Policy and Programme Support Divisions, the regional bureau and key staff in the country office) and key partners in programme implementation. The purpose of the reference group is to serve as a sounding board for early feedback on key evaluation products (e.g. the TOR and evaluation report). The evaluation process, to be presented in the inception report, will contain milestones for appropriate interaction.

58. **WFP Country Office** will also (i) provide access to information that is necessary to prepare and conduct the evaluation; (ii) be available to the evaluation team to discuss all aspects of the school feeding programme that the evaluation team considers relevant; (iii) facilitate the evaluation team's contacts with stakeholders; (iv) contract Kenyan consultants selected by OEDE for the evaluation team and/or to conduct tracer studies, who will report to the Team Leader and OEDE; and (v) arrange in-Kenya meetings and field visits, and provide logistical support during the fieldwork.

59. **WFP HQ and Regional Bureau staff** will also be available for discussion with the evaluation team and provide information.

60. **Peer Review Panel.** A small peer review panel of recognised experts in the field (three members) will provide the evaluation team and evaluation manager with feedback on the evaluation products in terms of their technical validity and soundness. The Panel's views will also be shared with the reference group to assure these stakeholders of the technical credibility of the evaluation.

61. **Evaluation Manager.** The evaluation will be managed by Sally Burrows, Senior Evaluation Officer in the Office of Evaluation (OEDE) of WFP. The evaluation team leader

reports to the evaluation manager, who has the following responsibilities: (a) manage the process of sharing the draft terms of reference with stakeholders to obtain comments and revise the terms of reference; (b) identify and recruit the evaluation team leader and in consultation with him/her identify and recruit evaluation team members; (c) identify and set up the reference group and peer review panel; (d) organize all communications between the evaluation team and other stakeholders (WFP, peer review panel, reference group, etc.); (e) supervise the research analyst in collecting and organizing documentation from within and outside WFP and make this information available to the evaluation team in an organized way; (f) review and exercise first level quality assurance on the evaluation products (inception report, tracer impact study reports, evaluation, and EB summary report); (g) manage the evaluation within the given budget and time.

62. **Director, OEDE.** The evaluation manager reports directly to the Director, OEDE, who will provide second level quality assurance and guidance on evaluation or technical issues, as required.

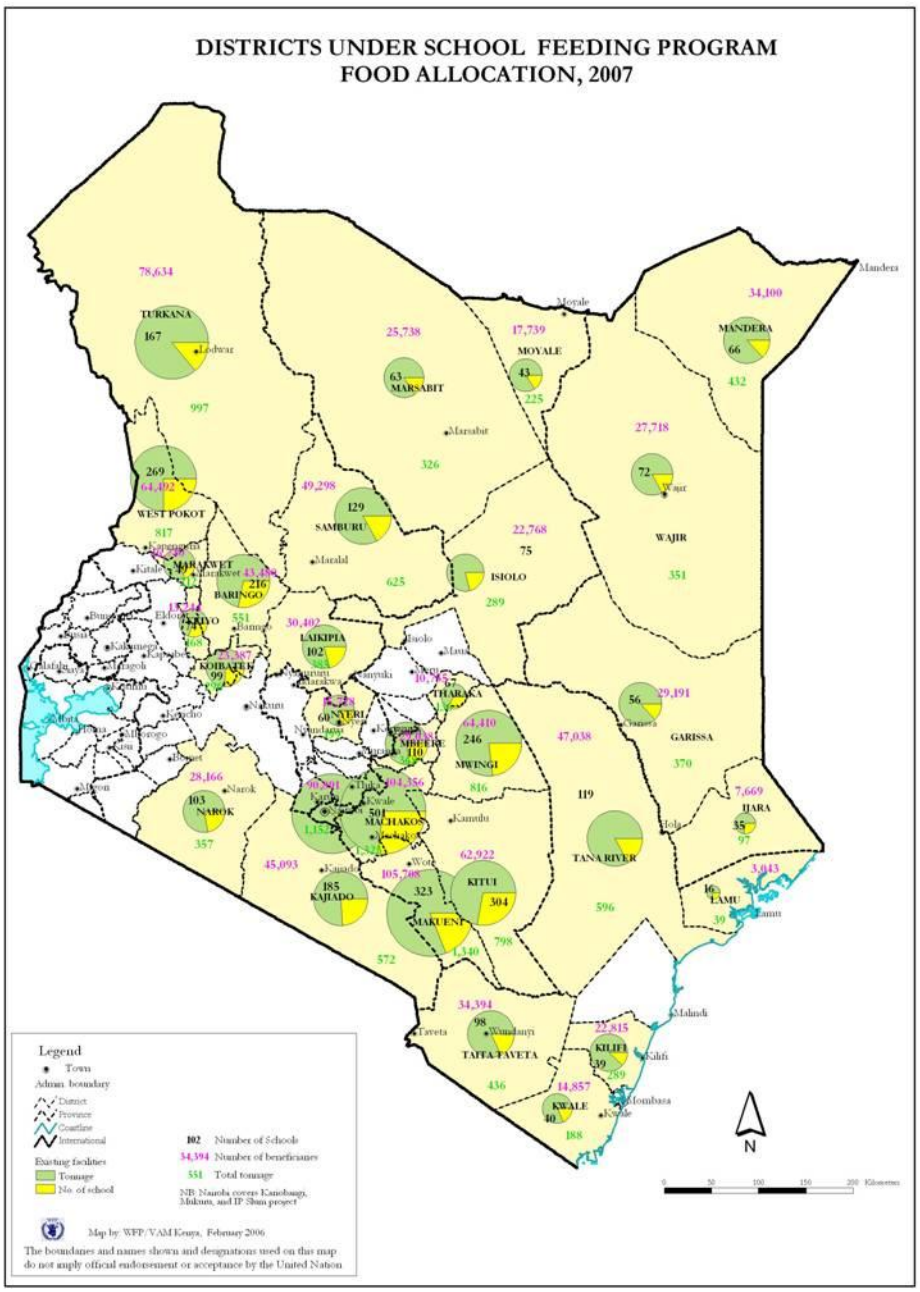
5.C. Communication

63. The evaluation will ensure communications at several milestones in the form of distributing and discussing: (a) the draft terms of reference; (b) the draft inception report; (b) briefing for the WFP Country Office and key partners at the beginning and end the fieldwork; (c) presentation of findings at the Kenya school feeding strategy workshop of stakeholders; (d) the evaluation report. In addition, the evaluation results will be incorporated into OEDE's new lessons' sharing system, once it is established (to come on-stream in 2009) to ensure lessons will be accessible to users in and outside WFP.

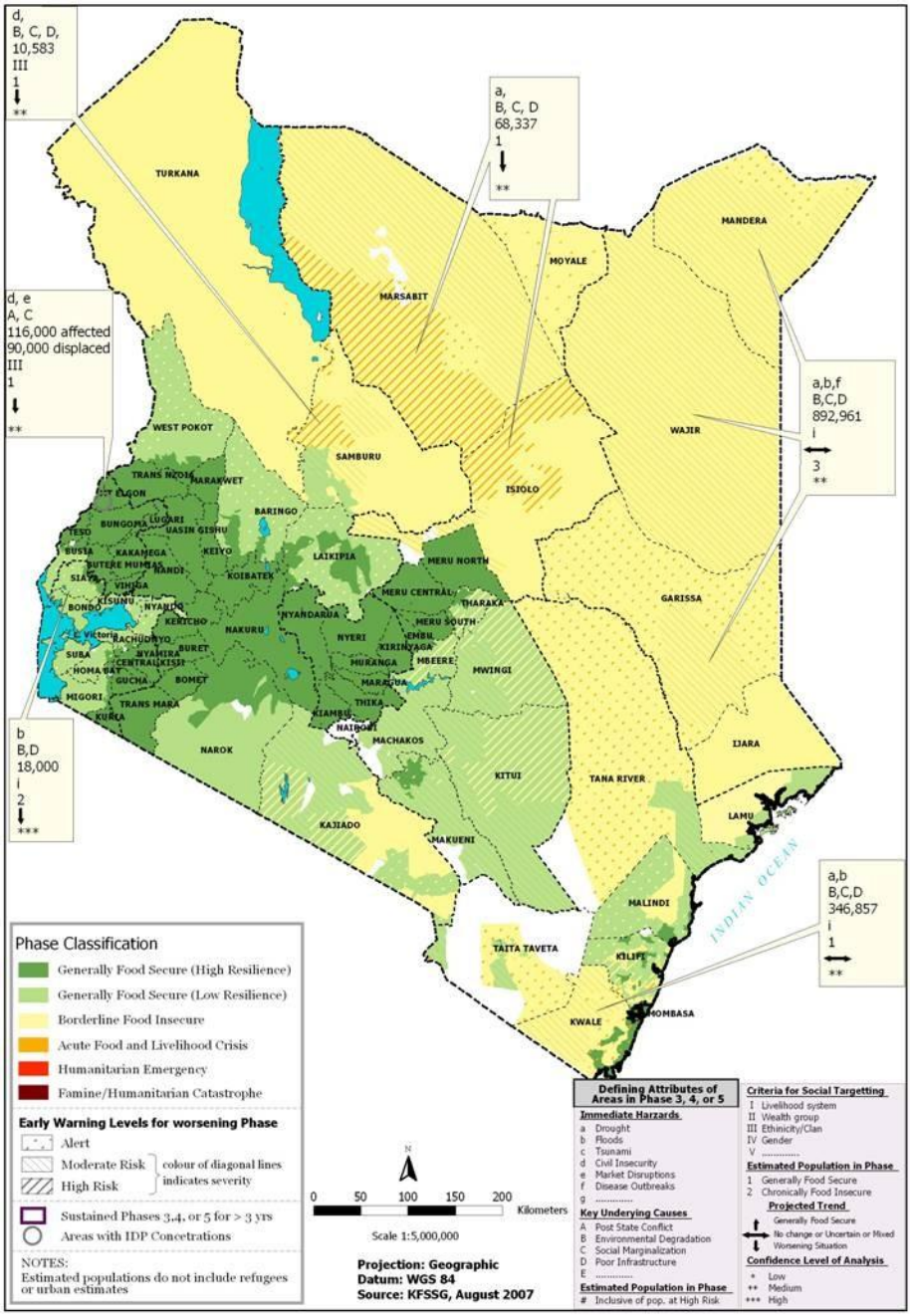
5.D. Budget

64. The evaluation will be funded from OEDE's Programme Support Budget. The overall budget figure is US$200,000. Details are in development pending final agreement on methodology, including tracer study of impact.

Annex 1 Map of Districts under WFP School Feeding Programme, 2007

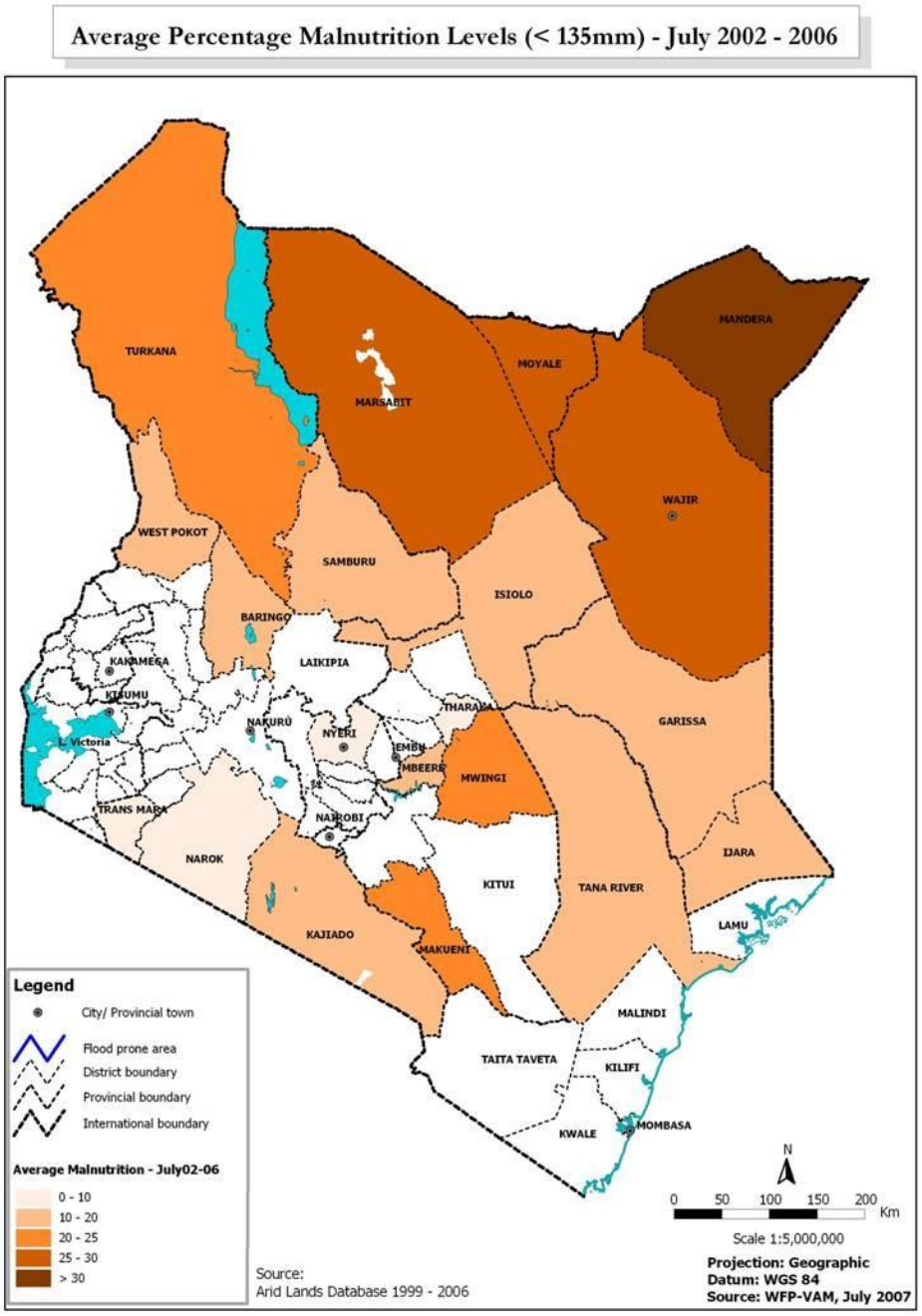


Annex 2 Map of Kenya Food Security, 2007



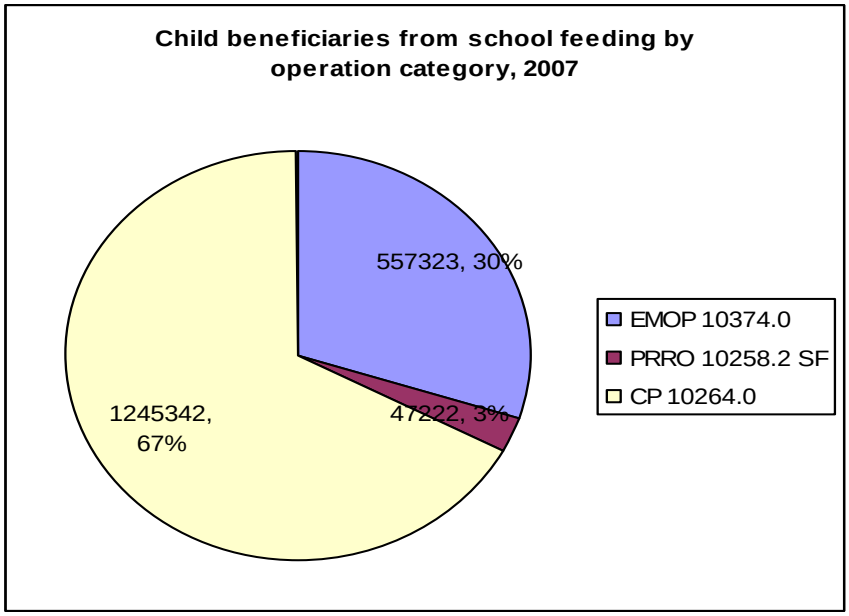
Annex 3 Average Percentage Malnutrition Levels (<135 mm),

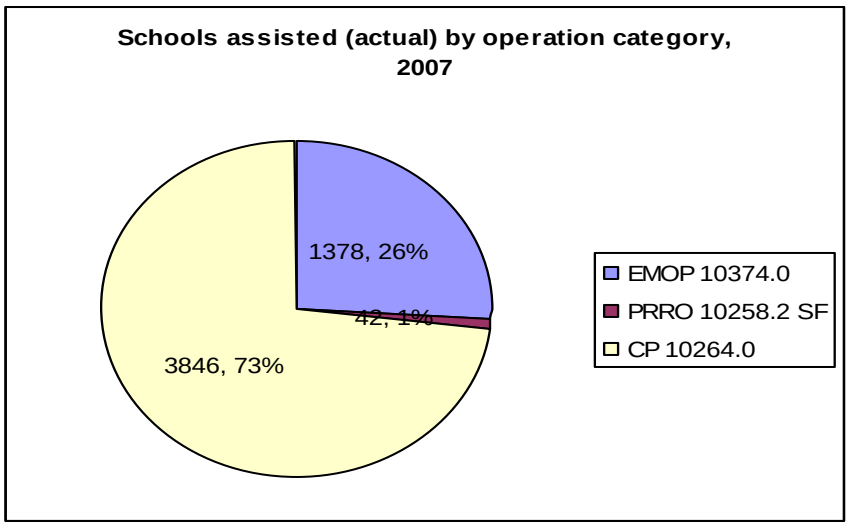
July 2002-2006



Annex 4 Key Output Indicators by Operation Category, 2007

Source: WFP Standard Project Reports 2007





Annex 5 – Overview of Contributions to School Feeding in Country Programme, 2004-2008

2004-2008 Summary Contributions for CP 10264.- Act 1
School Feeding

2004 contributions

Donor	Dollar value
UK (DFID)	5,037,314
USA (USDA)	4,525,286
KENYA IK	2,700,000
HQ Multil.	2,127,042
JAPAN	545,250
JAPAN PRIVATE	458,715
FINLAND	91,743
DENMARK	195,500
USA FRIENDS	123,371
IP (USA)	1,167,984
TOTAL	**16,972,205**

2005

USA (McG- Dole)	9,952,020
International Paper	1,000,000
HQ multil - Germany	71,800
HQ multil - Denmark	1,797,700
HQ mult - Canada	770,900
GOK (May 2006)	4,000,000
HQ twining costs (EDMF)	1,641,200
Japan Private	132,325
Total	**19,365,945**

2006

USA (McG- Dole)	7,723,400
International Paper	1,014,752
USA FRIENDS	150,000
HQ multil - Germany	500,000
HQ multil - Denmark	500,000
GOK (May 2006)	2,180,000
HQ twining costs (EDMF)	890,000
Netherlands	43,000
Total	**13,001,152**

2007

USA (McG- Dole)	10,000,000
International Paper	1,014,752
HQ multil - Canada	1,467,625
HQ multil - Germany	500,000
HQ mult- Denmark	913,000
Twining costs (EDMF)	374,778
GOK ik	960,000
Unilever	479,270
Japan Private	127,118
Total	**15,836,543**

2008	
USA (McGovern-Dole)	10,000,000
International Paper	900,249
GOK ik	807,000
Twining costs	178,787
Unilever	651,435
Unilever	172,074
Saudi 1st EMMA	5,609,229
Saudi 2nd EMMA	958,649
Private (Drue Barrymore)	500,000
Private (Japan Assoc)	95,239
Total	**19,872,662**

Annex B. Team Profile

Impact Evaluation of WFP's Work on School Feeding in Kenya (1999-2008)

TEAM LEADER - Dr. Tim Finan, TANGO International
Tim Finan is the Director of the Bureau of Applied Research in Anthropology (BARA) and Research Professor at the Department of Anthropology at the University of Arizona, USA. He received a M.A. in Cultural Anthropology and a PhD in Cultural Anthropology and Agricultural Economics from the University of Arizona. Dr.Finan has more than 30 years of experience in food and livelihood security analysis, poverty assessment, climate-society interactions, global change, project and program analysis, community-based natural resource management, and policy analysis. In 2008/9, Dr.Finan led a global assessment of the impact and potential of the World Vision School Feeding Program. He is a highly qualified specialist in quantitative and qualitative research, including survey research and participatory methods. Dr. Finan has conducted extensive research, written numerous publications and performed several consultancies for organizations such as WFP and CARE. He performs regular services with TANGO International. He has experience in Anglophone, Lusophone and Francophone Africa, Brazil, Latin America, Portugal, Saudi Arabia and Bangladesh. He is fluent in English and Portuguese, and has good knowledge of French, Spanish, and Cape Verdean Creole.

Economist/Evaluation Specialist - Mr. Arif Rashid, TANGO International
Mr. Rashid is a Specialist in Development Economics at TANGO International Inc. He holds Masters Degrees in Agricultural and Resource Economics from the University of Arizona and in Social Welfare from the University of Dhaka, Bangladesh. He also holds a Certificate in General Management from the America Management Association. Mr.Rashid has served a consultant to more than 15 UN agencies and international NGO's. Before joining TANGO International, Mr. Rashid led the livelihoods programming initiatives in CARE Bangladesh. He was the Senior Livelihoods Advisor to CARE Bangladesh and has over 15 years of experience in international development including the areas of food and livelihood security, monitoring and evaluation and social protection programs. Mr. Rashid evaluated the World Vision School Feeding Program in Uganda (2008) and participated in WFP Egypt School Feeding Programme Review (2006). He also developed a socio-economic profile for the WFP priority target populations and regions in Bangladesh and assisted the C-Safe program in Zimbabwe to develop the targeting strategy for a safety net program in urban and rural areas. Mr. Rashid has worked in 16 countries in Asia and Africa and speaks English, Bengali and Hindi. He has successfully used a mixed method approach in a number of countries.

Education Specialist – Dr.Birgitte Woel, QM-Consult
Dr.Woel is an educationalist and specialist in planning monitoring and evaluation methodologies. She holds Bachelor degrees in teaching, educational psychology and personnel administration and a diploma in adult education. She received her Ph.D. for developing a rapid, participatory impact assessment methodology. Dr.Woel has over 30 years of experience developing, presenting and implementing non-traditional projects in Denmark and Africa She has worked on the entire project cycle: feasibility studies, needs' assessments, project management, progress reporting and M&E, and evaluation. She is the founder of QM-Consult, registered in Kenya since 2002. Clients have included a variety of multilateral and bilateral agencies and international NGO's with recent assignments focusing on children, education and nutrition/health status. Apart from the consulting firm, the QM-group consists of two NGOs, working on combating child labour in Kenya and rehabilitation of vulnerable youth in

Southern Sudan. Dr. Woel is resident in Kenya and has conducted numerous short- and long-term consultancies in East and West Africa.

Nutrition Specialist – Dr. Sophie Ochola
Since 1997, Dr.Ochola has been a consultant and University Lecturer at Kenyatta University, Department of Nutrition. She holds a Masters degree in Applied Human Nutrtion and a Ph.D. Dr. Ochola's experience as a researcher and lecturer at Kenyatta University has covered community nutrition problem diagnosis and assessment, community nutrition surveillance and interventions, nutrition in emergencies, food security, nutrition education, programme design and evaluation, and nutrition and HIV/Aids. She has worked on project design and evaluation, nutrition surveys, trainer in Knowledge, Practice and Coverage (KPC) and KAP surveys, and data analysis. Dr.Ochola has used both quantitative and qualitative research methodologies and has extensive experience in the use of participatory methodologies PRA/PLA in appraising and evaluating community programs. She has conducted consultancy assignments for a wide range of mulitalteral and bilateral agencies and international NGO's. Dr. Ochola has presented papers and research reports at various fora, published numerous books and papers on nutrition and written many high quality technical reports.

Tracer Study Leader – Rutere Salome, Ronto Investment Company
Rutere Salome is the Director of Ronto Investment Company and a part-time lecturer in Sociology at the University of Nairobi. She has a Masters in Sociology and over 10 years of development experience in a number of African countries. She has managed a range of research, baseline surveys, assessments and evaluation efforts in the areas of food and agriculture, health, education, media, gender, and labour (including child labour). Ms Salome has participated in three previous tracer studies, including as Project Manager. Ms. Salome has consulted for UN, NGO and government agencies. She has also taught gender and development and research methods at the Catholic University of Eastern Africa.
Ronto Investment Company (RIC) was established and registered as a Kenyan company in 2005, specialising in training and social and market research in Africa. It has extensive geographical and local knowledge, which aids fieldwork.

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Annex D. Details on the Methodology

D.1 Evaluation Matrix

D.2 Survey Instruments

Annex D.1 Evaluation Matrix

Question/Issue	Sub-Questions	Main Indicators	Information Sources
1. Related to MDG's 1, 2 & 3, what *impact* has the WFP Kenya SFP program had on the following:		See official MDG indicators	QUANT, QUAL, DB, DOC
a) student attendance at school and educational performance	▪ To what extent does the presence of school meals attract and retain children in school? ▪ To what extent do children in assisted schools remain there until completion?	▪ attendance rates (by sex) ▪ completion rates (by sex)	DB, DOC (e.g. 2008 Baseline)
	▪ To what extent do children in assisted schools perform better?	▪ examination scores (by sex)	DB, QUANT, QUAL
	▪ To what extent do children who have graduated from assisted schools have higher educational achievement?	▪ completion rates of schooling ▪ current livelihoods ▪ prestige in community	QUANT, QUAL
b) achievement of nutrition objectives	▪ To what extent does school feeding improve the nutritional status of children? ▪ To what extent do SFP children have lower rates of illness?	▪ level of daily kcal & protein intake by children receiving meals ▪ quality and diversity of diet ▪ morbidity rates ▪ extent to which de-worming carried out in schools	QUANT (HH), QUANT (student) DB
c) social safety nets: economic, food security or physical protection for the most vulnerable	▪ To what extent does school feeding provide a food security benefit to the vulnerable household?	▪ amount of food prepared for the household (when child is in school) ▪ incidence of food sharing of school meal	QUANT (HH), QUAL (parents)
	▪ To what extent does the school meal provide an economic benefit to the vulnerable household?	▪ SES of the household (when compared to those without meals) ▪ time allocation patterns ▪ reduction in household expenditure ▪ patterns of household income	QUANT (HH), QUAL (parents of different income levels)
	▪ To what extent does school feeding reduce child labour>	▪ level of child participation in household economy (intensity of tasks)	QUANT (HH), QUANT (Student), QUAL (parents)
	▪ What evidence of other unintended impacts/outcomes?	▪ economic, cultural, social, environmental (e.g. increased use of firewood)	QUANT, QUAL

2. How have impacts and costs been affected by differences in:			
Livelihood system	What major differences in program implementation, impact and cost are due to nature of household livelihoods, including cultural variables?	▪ costs of SFP by livelihood zone ▪ differences in educational, nutritional, and social protection outcomes by livelihood	DOC (WFP), DB, QUANT (HH), QUAL (parents, NGOs, leaders)
Quality of school	What school quality characteristics influence attendance, retention, and performance in schools with meals and how?	▪ physical infrastructure of school ▪ quality of teaching staff ▪ type of school	QUANT (school), QUAL (SMC, children, parents), QUANT (HH)
Extra packages	How is school feeding used as a platform for other interventions, such as de-worming, hygiene messages, etc.?	▪ # of interventions from Essential Package	QUANT (school)
Level of community involvement	How active are the PTAs and the School Management Committees? How active are parents in the education of their children	▪ level of participation in school activities	QUANT (HH), QUAL (parents, SMC)
3. In what circumstances does school feeding appear to have given the best return on investment for WFP's priority beneficiaries: the most food insecure in areas with the lowest NER for girls?	▪ To what extent is SF a motivation to attend and stay in school, especially for girls? ▪ What other factors influence the household decision to send children to school? ▪ Why do parents not send some or all of their children to school?	▪ percentage of school age children in school ▪ economic trade-off between school and work (for children) ▪ impact of cultural values ▪ level of security at the school ▪ costs of education to HH	QUANT (HH), QUAL (parents, SMC)
	▪ Is school feeding the most efficient means of obtaining the educational, nutritional, and livelihood protection goals?	▪ cost per beneficiary ▪ compared cost of other interventions ▪ cost per additional school year	DOC, DB
		▪	
4. To what extent have WFP's targeting strategy & modalities for school feeding been aligned with GOK education policy priorities, the Kenya Joint Assistance Strategy & UNDAF	Is there a logical coherence with KESSP, KJAS and UNDAF? Are there clear areas of inconsistency?		DOC
	▪ To what extent have planned collaborations been implemented? ▪ What main factors have influenced this?	▪ extent of UNICEF/MOH de-worming ▪ Presences of WFP./UNICEF essential package elements	QUANT (school)

5. In the context of the new policy directions (in Kenya & WFP), what changes might be required to the design of interventions to increase impact, effectiveness, and sustainability, tailor-made to the core target groups (including alternatives to the direct supply of food?)	▪ How can SF policy and programs be better designed to meet the needs of households and to fit within the logic of household decision-making? ▪ What non-SF interventions will strengthen the impact of school feeding in achieving the outcomes stated above? ▪ What would be needed to enable that to happen? ▪ What role can SF play in a broader, more livelihood development program? ▪ Where are the potential sources of sustainability at the community level?	▪ to be determined in the analysis ▪ rates of improvement in educational, nutritional, social protection outcomes (see above)	QUANT, QUAL, DOC
6. (Expanded from original TOR): How is school feeding best integrated into the existing dynamics of household livelihood decision-making?	▪ What is the nature of the linkage from school feeding to educational achievement to livelihood improvement? ▪ What constraints inherent in the livelihood system reduce the likelihood of sending children to school ▪ How can schools adjust to better serve local livelihood realities (e.g. mobile schools)? ▪ What public policies can facilitate the integration of education into local livelihoods?	▪ documented career paths for household "graduates" ▪ economic differences in HHs with more educational achievement (more children entering and finishing school) ▪ among the impoverished households, the value of child laboUr ▪ cultural perceptions of the role of children and the appropriate pathways to adulthood (e.g. parental attitudes, awareness	QUANT, QUAL, DOC

Sources of Information: QUANT = quantitative survey (Household; Student, School); QUAL = Qualitative field visit; DB = MOE/WFP data bases; DOC = Document Review

Annex D.2 Survey Instruments

World Food Programme, Kenya School Meals Programme Household Survey Questionnaire

1. Household number ☐☐☐ **4. Division code** ☐☐☐

2. Date of interview _______\2009 **5. Location code** ☐☐☐

3. District code ☐☐ **6. Sub location code** ☐☐☐

7. Ethnicity ☐☐

1. Kikuyu
2. Luo
3. Luhya
4. Kamba
5. Kalenjin
6. Kisii
7. Meru
8. Mijikenda
9. Somali
10. Turkana
11. Masai
12. Embu
13. Taita
14. Iteso
15. Kuria
16. Samburu
17. Tharaka
18. Mbere
19. Pokomo
20. Boran
21. Bajun
22. Ndorobo
23. Rendile
24. Orma
25. Gabbra
26. Swahili
27. Njemps
28. Taveta
29. Sakuya
30. Bani & Sanye

Name of interviewer:_____ Signature:_____

Name of Supervisor:_____ Signature:_____

Name of editor:_____ Signature:_____

8. Name of the respondent? _____

9. Name of the primary school of your child? _____

10. Distance to primary school (in kilometers) _____

*The **Respondent** is preferably the household head. If the household head is not available or capable, then his/her spouse or any other capable adult household member who knows the information and can answer the questions. This includes children who head their households. Some questions will be answered by female members of the household (see instructions in the relevant sections.*

Result ☐

Completed 1
Interview postponed 2
Refused 3
Partially completed 4
Others 5

Module A: Demographics

A household is a group of people who live together and take food from the "same pot." In our survey, a household member is someone who has lived in the household at least 6 months, and at least half of the week in each week in those months.

List all persons residing in the household:

I.D. Code	First name (Start with household head)	Relation to household head **(code 1)**	Sex Male…1 Female…2	Age (years)	Religion Traditional…1 Muslim…2 Christian…3	Marital Status **(code 2)**	Education (Highest class completed) **(code 3)**	**Currently attending school?** Yes……. 1 No…….. 2	Current main Occupation **(code 4)**
1	2	3	4	5	6	7	8	9	10

A11. Total number of people living in the household: | | |

Code list for Module A

Code 1: Relationship with household head	Code - 4 Main Occupation	Code - 4 Main Occupation [continued……..]
Household head ……. ……..1 Husband/wife…… ……..2 Son/daughter…… ……..3 Brother/sister…… ……..4 Father/mother…… ……..5 Grandfather/mother……6 Uncle/Aunt…… 7 Father-in-law/mother-in-law……8 Daughter/son-in-law ……. ……..9 Brother/Sister-in-law……. ……..10 Grandson/daughter…… ……..11 Niece/Nephew ……. ……13 Cousin……14 Other relative…… ……15 Permanent servant…… ……16 Other non-relative ……. ……17 **Code 2: Marital status code** Unmarried (never married)……1 Married (monogamous)…. ……2 Married (polygamous)…… ……3 Widow/widower…… ……4 Divorced …… ……5 Separated/Deserted …… ……6 **Code 3 : Education (Highest class completed)** Never attended school ….. ……99 reads in class I…… ……0 Completed class I ……. ……1 **Put number of highest completed class. For example, if currently in class III, put 2 (class II completed)** Completed Primary School……8 Completed Secondary School ……12 Diploma……14 BA/BSC pass……16 MA/MSC and above……18 Preschool class (general)……66 Preschool (madrasa based)…..67	**Household Ag/Livestock** Farming activities…. ……1 Pastoral activities……2 Fishing activities ….. ……3 **Unskilled casual labour** Agricultural labour……4 Non-agricultural labour……5 **Skilled labour……6** (Tailor/Potter/Blacksmith/Goldsmith/ Hair cutter/Cobbler/Carpenter/Mason/ Plumber/ Electrician/ Motor mechanic) **Permanent Salaried worker** Government……7 Private sector employee……8 NGO worker …… ……9 Driver ……10 Other salaried worker……11 **Professional……12** (Doctor/Engineer/Lawyer) Teacher……13 Religious leader …… ……14 Midwife/Nurse……15 **Micro/Small Scale Industry** Food Processing …… ……16 Handicrafts …… ……17 Sand harvester……18 Charcoal production……19 Brewing……20 **Trader/Business** Petty trader ……21 Business/shop …… ……22 Medium/ large scale trader….23 Contractor …… ……. ..24	**Non-earning occupation** Student……25 Housewife……26 No occupation ……27

Module B: Educational characteristics of school age children in the household

For each individual between the age of 3 and 18 years old, ask the following questions.

ID Code	First name of the child	At what age did [NAME] start school? (If never attended school, write 99) **(if never attended school then skip to B9)**	What two important reasons that helped [NAME] to continue in school **(Code 1)** Go to next child		If currently not in school, when did [NAME] stop going to school? Year stopped	Why did [NAME] stopped going to school? [You can give two reasons] **(Code 2)**		If [NAME] never attended school, then why? [You can give two reasons] **(Code 3)** **Next child**	
1	2	3	4		5	6		7	

Code 1: Important contributing reasons	**Code 2: Reason for stopped going to school**	**Code 3:Reason for never attending school**
1…Food at school 2…Quality of teachers/school 3…Parents encouragement 4…Child's ambition 5…Positive learning environment/role model 6…Boarding facilities in the school 7…Good academic performance of child Other (specify)_____	1. No food at school 2. Completed desired schooling 3. Not affordable 4. To support family 5. For marriage 6. Negative school experience 7. Poor academic progress 8. Too far away 9. Safety concerns Other (specify)_____	1. No school available 2. No food at school 3. Completed desired schooling 4. Not affordable 5. To support family 6. For marriage 7. Poor academic progress 8. Too far away 9. Safety concerns Other (specify)_____

Module C: Information on members who used to live in the household but now live elsewhere:

C1. Do you have family member(s) who grew up in this household but now live elsewhere? ☐

Yes……..1

No……..2

If "no" then skip to Module D.

Please ask the name of the members who used to live in the household but now lives elsewhere?

First Name	Age [years]	Sex Male…1 Female...2	Education [Highest class completed] **Use Education code from Module A**	Did [NAME] have school meals when she/he was in school? Yes……1 No…….2	How many years did [NAME] have school meals?	Where does [Name] live now? Town……..1 Big city……2 Village……..3 Outside Kenya..4	What is [NAME's] primary occupation? **Use occupation code from Module A**	Does [NAME] still help the household or community in someway? Yes…….1 No……..2
2	3	4	5	6	7	8	9	10

Module D: Income and Education-Related Expenses

Income Activities and Earnings in the last 12 months

Q. In the past 12 months how much income did your household members receive from the following activities?

Code	Description	Earning
		Estimated annual cash income (Kshs)
D1	Agricultural product sales	
D2	Animal sales	
D3	Sales of animal products (milk, eggs, etc.)	

Following questions to be asked to all members indicated in Module A
For each income earning member, use each row for each activity

Activity	Member ID No. **(from Module A)**	D7. Income activity type **(use Code from Module A)**	Earning	
			D8. In the past 12 months, how many months did [NAME] earn income from this activity	D9. On average how much did [NAME] earn per month from this activity (Kshs)
D4				
D5				
D6				
D7				
D8				
D9				
D10				
D11				
D12				
D13				
D14				
D15				

Q. In the last twelve months did your family receive and income/assistance from the following sources?

Code	Description	Estimated Earning	
		Annual cash income (Kshs)	**Annual in-kind Income** (Kshs)
D16	Remittances		
D17	Food ration/distribution		
D18	NGO/ Govt. assistance		
D19	Participation in groups/savings		
D20	Other Income Sources		

Household Expenditures on Education

Now I would like to ask you about the expenses related to education. Please tell me how much your household members spend on each of the listed items in (12 months) 2008?

	Items	Estimated annual expenses in 2008
D10.	Materials and books	
D11.	Uniforms	
D12.	Boarding fees	
D13.	Other expenses related to education	

Module E: Household Assets

E1-E15		**E16**
List of Assets		In your household, how many (ASSETS) are currently owned:
Productive assets		
E1	Agricultural land (in acres)	
E2	Non-agricultural land (in acres)	
E3	Cattle	
E4	Donkey/horses	
E5	Camel	
E6	Goat/sheep	
E7	Poultry	
Consumption assets		
E8	Table/chair/stool	
E9	Bed	
E10	Metal cooking pots	
E11	Water collecting and storage bin	
E12	Radio	
E13	Cellular phone	
E14	Bicycle	
E15	Motorbike/auto	

[Respondent: Mother or adult woman in the household]

Module F: Questions to be asked about members age 3 to 18 years old.

ID Code	First Name **(Please bring all members from Module A between 3 and 18 yrs old)**	Has [NAME] suffered from any illness in the last 2 weeks? 1= Yes 2= No **(If NO, skip to F7)**	What did [NAME] suffer from? ***See code below***	How many days in the last two weeks [NAME] suffered from this illness?	How many days has [NAME] been unable to go to school? **If school is closed, write 99**	Does [NAME] use a bed net at night? 1=Yes 2=No
1	**2**	**3**	**4**	**5**	**6**	**7**

Illness Code:	
Fever……1	Intestinal parasites……..5
Cough or colds with difficulty in breathing……2	Measles……6
Diarrhoea……3	Skin infections……7
Fever with chills like malaria……4	None of the above ……8

F8. What kind of <u>toilet facility</u> does your household members use?	Go to bush……1 Traditional pit latrine……2 Ventilated improved latrine……3 Ceramic sink/ bowl latrine……4 Drum/ tyre latrine……5 Ecosan latrine……6	☐
F9. What is the main source of <u>drinking water</u> for members of your household?	Pond/dam/lake/stream/river…..1 Spring……2 Unprotected well……3 Lagga……4 Protected well……5 Borehole……6 Piped ……7 Water vendor……8 Jabias/ tank……9	☐

Module G: Food consumption *[Respondent: Mother or adult woman in the household]*

Now I would like to ask you about the types of foods that you or anyone else in your household ate yesterday during the day and at night.

Food Group	G1. Did any member of your household consume any food from the groups in the last 24 hours? Include any snacks consumed 1= Yes 2= No	G2. How many times in last 24 hours household members consumed?
Type of food		
1. Cereals and cereal products (e.g. sorghum, maize, spaghetti, pasta, *anjera*, rice, bulgar wheat, bread)		
2. Vitamin A-rich vegetables and tubers: Pumpkin, carrots, yellow fleshed sweet potatoes		
3. White tubers and roots: White tubers, white potatoes, white yams , cassava or foods from roots, white sweet potatoes		
4. Dark Green leafy vegetables: Dark green leafy vegetables including wild ones & locally available vitamin A rich leaves such as cassava leaves, pumpkin leaves, cowpeas leaves		
5. Other vegetables (e.g. tomatoes, egg plant, onions, cabbages)		
6. Vitamin A rich fruits: Ripe mangoes , papayas + others locally available like watermelon		
7. Other fruits		
8. Organ meat (Iron rich): Liver, kidney, heart or other organ meats or blood based foods , spleen		
9. Flesh meat and offals: Meat, poultry, offal (goat, camel, beef, poultry)		
10. Eggs		
11. Fish: Fresh or dried fish or shell fish or smoked , salted, fried		
12. Pulses legumes or nuts (e.g. beans , lentils, green grams, cowpeas, dried peas		
13. Milk and milk products (e.g. goat , camel, fermented milk , powdered milk)		
14. Oils/ fats (e.g. cooking fat or oil, butter , ghee, margarine)		
15. Sweets: Sugar, honey, sweetened juice, soda/sugary foods such as sweets,		
16. Condiments, spices and beverages like royco, garlic, *dhania*, *tangawizi*,		

G3. How many meals did your household members eat in the last 24 hours? ☐

G4. When your child gets a meal at school, do you prepare the same quantity of food at home?
same…..1
less……2 ☐

Module H. Benefits of School Feeding

H1. Did your child receive a meal everyday he/she attended school last month?
Yes……..1
No……...2 ☐

H2. Did your child ever receive morning snack/porridge?
Yes……..1
No……...2 ☐

H3. Do you prepare lunch at home when your child is at school?
Yes……..1
No……...2 ☐

H4. When you do not have to prepare a lunch for your household, how do you use your time?

(You can answer two different ways)
Household chores……..1
Rest/leisure……..2
Income-earning activity.....3
Farm/livestock work…….4
Child care……..5
Other_____ ☐ ☐

H5. Does your child bring part of the food from school to share with the household?
Yes, always……..1
Most days, 3-4 days per week……2
Sometimes, 1-2 days per week.....3
Rarely……..4
Never……..5 ☐

H6. Does school feeding benefit your child? **(record all mentioned)**
Child gets food……..1
Child is more active/attentive…2
Child is learning……3
Child is healthier……4
Child has more opportunity in life……..5
Other_____ ☐ ☐ ☐

H7. Does the school feeding benefit your household? **(record all mentioned)**
No benefit……..1
School feeding saves time for parents……..2
School feeding saves food/money for household……..3
School feeding provides household income……..4
Other _____ ☐ ☐ ☐

H8. When your child eats at school, do you spend less money on food in household?	Same amount of money……1 Less money……..2 Other_____
Do you sell anything to the school for school meals? **(record all mentioned)**	Firewood……..…..1 Vegetables……..2 Other food……....3 Labour……4 Water……..….5 Other_____

Module I: Parents participation in the school

I1. Are you a member of the PTA or MC? 1 = yes, 2 = No

I2. Do you participate in managing the school meal programme? 1 = yes, 2 = No

I3. How many times did you visit the school last year? Number of times

END OF SURVEY

THANK YOU SO MUCH!

World Food Programme, Kenya School Meals Programme School Survey Questionnaire, 2009

1. Questionnaire ☐☐☐☐

5. Location code ☐☐☐

2. Date of interview _______\2009

6. Sub location code ☐☐☐

3. District code ☐☐

7. School name_____

4. Division code ☐☐☐

8: School code: ☐ **See the school code attached**

A. SCHOOL MEALS PROGRAMME

9. Type of School Meals Programme in this school

1= Mid day meal
2= CSB and mid day meal
3= Home grown
☐

10. When did the school start receiving food under the school meals programme? _____/_____
Month Year

11. How many days the meals programme ran in Term I, 2009 (Jan-March) ☐☐

12. How many days the meals programme ran in Term II, 2009 (May-July) ☐☐

	Boys	Girls
ECD		
Grade 1		
Grade 2		
Grade 3		
Grade 4		
Grade 5		
Grade 6		
Grade 7		
Grade 8		

	Boys	Girls
ECD		
Grade 1		
Grade 2		
Grade 3		
Grade 4		
Grade 5		
Grade 6		
Grade 7		
Grade 8		

15. How many teachers did you have in the last term?	Male	Female

16. What are the grade levels of teachers?	Male	Female
P2		
P1		
ATS 4		
ATS 3		
ATS 2		
ATS 1		
Community funded teachers		

17. Educational qualification of the teachers	Male	Female
Form 4 completed		
BA/BCom/BSc		
MA/MCom/MSc		

18. KCPE Result for the last 5 years		Boys	Girls
2008	Number of students appeared in KCPE		
	Number of students scored more than 300 points in the KCPE		
	Number of students following secondary education		
2007	Number of students appeared in KCPE		
	Number of students scored more than 300 points in the KCPE		
	Number of students following secondary education		
2006	Number of students appeared in KCPE		
	Number of students scored more than 300 points in the KCPE		
	Number of students followed secondary education		
2005	Number of students appeared in KCPE		
	Number of students scored more than 300 points in the KCPE		
	Number of students followed secondary education		
2004	Number of students appeared in KCPE		
	Number of students scored more than 300 points in the KCPE		
	Number of students followed secondary education		

19. What factors seem to affect the better performance and completion of students?
(Record all mentioned)

Motivation of the teacher.....1
Low student/teacher ratio 2
The school got more teacher.....3
More support from the parents.....4
Active PTA.....5
Availability of school meals.....6
Boarding facility in school.....7
Good school environment.....8
Favorable physical infrastructure.....9
Security.....10
Other _____

B. INFRASTRUCTURE

20. Type of school ☐ 1 = School without boarding 2= Boarding school

21. How many hours the students attend school per day?

18.1 Less than 3 hours ☐

18.2. Between 3 & 6 hours ☐

18.3. More than 6 hours ☐

22. In addition to the school meals programme, does the sch ☐ 1 = Yes 2 = No
provide any other food to students?

23. Does the school have access to water source (s) that are:

23.1. Safe[1] and located with ☐ 1 = Yes 2 = No
the school compound.

23.2. Available throughout the ☐
school year

Water sources: (According to WHO/UNICEF)	[1] ***Safe:*** Pipe connection, public standpipe, borehole, protected dug well, protected spring, rainwater collection	***Unsafe***: unprotected dug well, unprotected spring, rivers or ponds, vendor provided water, tanker truck water.

24. Does the school have sanitary facilities (latrines, flush toilets, etc.) within the school that are:

24.1 Improved[2] ☐ 1 = Yes 2 = No

24.2 Well maintained (clean ☐
surfaces and walls).

24.3 Separate for teacher an ☐
students

24.4 Separate for girls and b ☐

Sanitation facilities: (According to WHO/UNICEF)	[2]***Improved***: connection to a public sewer, connection to a septic system, flush latrine, simple pit latrine, ventilated improved pit latrine	***Unimproved:*** Open pit latrine, bucket latrine

25. Hand washing facilities at the school:

25.1 Does the school have hand washing facilities within the school compound? 1 = Yes 2 = No ☐

25.2 Do children usually wash their hands after using sanitation facilities? ☐

25.3 Do children wash their hands before eating? ☐

26. Does the school have a school garden? ☐ 1 = Yes 2 = No

27. How often the school uses vegetables from the school garden in preparing school meals?

1 = 3 or more days a week
2 = 1 to 2 days a week
3 = 1 or 2 days a month
4= 1 to 2 times in a term
5 = Rarely

C. COMPLEMENTARY ACTIVITIES AT SCHOOL (Essential Package)

28. Which of the following student training and/ or services took place during the past 12 months?

28.1 Health education ☐ 1 = Yes 2 = No

28.2 Nutrition education ☐ 1 = Yes 2 = No

28.3 Personal hygiene education ☐ 1 = Yes 2 = No

28.4 De-worming eradication treatment ☐ 1 = Yes 2 = No

28.5 School gardening ☐ 1 = Yes 2 = No

28.6 Vitamin A supplementation ☐ 1 = Yes 2 = No

28.7 HIV and AIDS awareness/education ☐ 1 = Yes 2 = No

28.8 Awareness/education on malaria prevention ☐ 1 = Yes 2 = No

D. SHORT-TERM HUNGER

29. Did you (teacher) observe changes in students' classroom behavior since the school feeding programme started ☐ 1 = Yes 2 = No

30. If yes, please list the changes that you observed. Positive No

(please tick positive change or no change as appropriate)	Change	Change
30.1 Students' attentiveness in classrooms	☐	☐
30.2 Students' cognitive and learning abilities	☐	☐
30.3 Students' social behavior with one another	☐	☐
30.4 Increased attendance (morning)	☐	☐
30.5 Increased attendance (afternoon)	☐	☐
30.6 Parents' participation in the school	☐	☐

31. Have you noticed any change in quality of learning in school after the school feeding program has been introduced in your school? ☐

0 = No change in quality
1= Quality improved
2 = Quality deteriorated

32. Why do you think so? ☐

Too many students in one class……1
Teacher cannot pay attention to individual students……..…2
Food management takes a good amount of time of teachers……...3
Students are more attentive to the class lecture……..4
Students are regular in class……5

33. Does the school have a Parents Teacher Committee in the school? ☐

Yes……..……...1
No……..……2

34. How often does the committee meet ☐

Weekly……1
Bi weekly……..…..…2
Monthly……3
Bi-monthly……4
Once in a term……..…..5
Occasionally…….... 6

35. How has the committee been involved at your school		
	☐	Food management (hiring, storage, cooking, serving, cleaning, etc.)
	☐	Infrastructural improvement
	☐	Community activities (culture days, athletic events, etc.)
	☐	Children's behavior issues
	☐	Fund raising
	☐	Support of poor parents
	☐	Other _____

Do you have any other comment about the school feeding programme?

END OF SURVEY

THANK YOU !

Annex E. Sample Schools for the Impact Evaluation School Meals Programme in Kenya

Home Grown Sample Schools

	CLASSIFICATION	OLD DISTRICT	DIVISION	LOCATION	SUBLOCATION	SCHOOL	ENROLMENT
1	SEMI ARID	BARINGO	KABARTONJO	KELYO	KASAKA	KASAKA	197
2	SEMI ARID	KAJIADO	NGONG	CENTRAL KIKONYOKIE	KISAMIS	ENKEREYIAN	157
3	SEMI ARID	KAJIADO	LOITOKITOK	KUKU	KUKU	OLKARIA	449
4	SEMI ARID	KITUI	MUTITO	ZOMBE	MALATANI	KABATI	354
5	SEMI ARID	KITUI	KITUI/YATTA	NTHONGONI	NTHONGONI	NZEVE	333
6	SEMI ARID	KOIBATEK	EMINING	KIMOSE	CHEMOINOI	KIMOSE	328
7	SEMI ARID	LAIKIPIA	RUMURUTI	SALAMA	LORIEN	KAPKURES	327
8	SEMI ARID	MACHAKOS	MATUNGULU	KOMAROCK	KWALE	NGALALYA	440
9	SEMI ARID	MACHAKOS	YATHUI	IKALAASA	MATULANI	UVANGA	161
10	SEMI ARID	MACHAKOS	MASINGA	EKALAKALA	EKALAKALA	KATHINI	429
11	SEMI ARID	MACHAKOS	ATHI RIVER	LUKENYA	MATHATANI	MATHATANI	276
12	SEMI ARID	MAKUENI	KATHONZWENI	KITHUKI	YINTHUNGU	YINTHUNGU	527
13	SEMI ARID	MAKUENI	MAKINDU	MAKINDU	MANYATTA	MAKINDU	705
14	SEMI ARID	MBEERE	EVURORE	ISHIARA	ISHIARA	KIAMBUNGU	165
15	SEMI ARID	MBEERE	EVURORE	THAMBU	NDURUMORI	ST MARYS NTHAMBARI	280
16	SEMI ARID	WEST POKOT	CHEPARERIA	CHEPKOPEGH	CHEPKOPEGH	KAPSOKERO	244
17	SEMI ARID	WEST POKOT	SOOK	PTOYO	KESOT	KESOT	142

Semi Arid Sample Schools

	CLASSIFICATION	DISTRICT	DIVISION	LOCATION	SUBLOCATION	SCHOOL	ENROLMENT
1	SEMI ARID	KILIFI	MARIAKANI	MWANAMWINGA	KIBWABWANI	GABRIEL KAHINDI	162
2	SEMI ARID	KILIFI	KALOLENI	KALOLENI	MAKOMBOANI/KINANI	KINANI	773
3	SEMI ARID	KILIFI	GANZE	VITENGENI	MWAHERA	MISUFINI	315
4	SEMI ARID	KILIFI	GANZE	GANZE	PALAKUMI	TSANZUNI	481
5	SEMI ARID	KILIFI	BAHARI	SHARIANI	JUNJU	MAPAWA	415
6	SEMI ARID	KINANGO	KINANGO	NDAVAYA	NDAVAYA	MBITA	383
7	SEMI ARID	KWALE	MATUGA	WAA	KOMBANI	KOMBANI	725
8	SEMI ARID	KWALE	MATUGA	TSIMBA	MAZUMALUME	JORORI	360
9	SEMI ARID	MALINDI	MAGARINI	FUNDISA	FUNDISA	KANAGONI	1885
10	SEMI ARID	MALINDI	MALINDI	KAKONENI	JILORE	KAKONENI	2035
11	SEMI ARID	MSAMBWENI	L/LUNGA	L/LUNGA	SEGA	MAKWENYENI	381
12	SEMI ARID	MSAMBWENI	MWERENI	MWERENI	MWENA	MALEDI	1026
13	SEMI ARID	NAROK NORTH	MAO	MOSIRO	OLOLTUROT	OLOLTUROT	142
14	SEMI ARID	NAROK SOUTH	MARA	NAIKARRA	NAIKARRA	ESOIT	354
15	SEMI ARID	TAITA TAVETA	TAUSA	RONG'E JUU	NDEMBONYI	BAGHAU	157
16	SEMI ARID	TAITA TAVETA	VOI	KASIGAU	RUKANGA	BUNGULE	303
17	SEMI ARID	TAITA TAVETA	MWATATE	MWATATE	MWATATE	MWATATE	673

Arid Sample Schools

	CLASSIFICATION	DISTRICT	DIVISION	LOCATION	SUBLOCATION	SCHOOL	ENROLMENT
1	ARID	EAST PKOT	KOLLOA	KOLLOA	KOLLOA	KOLOA	902
2	ARID	EAST POKOT	NGINYANG	LOYAMOROK	KAKORE	CHESIRIMION	686
3	ARID	GARISSA	GARISSA-CENTRAL	GALBET	MADINA	YATHRIB	880
4	ARID	ISIOLO	OLDONYIRO	LEBARUA	LEBARUA	LEBARUA	267
5	ARID	MARSABIT	CENTRAL	DAKABARICHA	DAKABARICHA	SAKUU	816
6	ARID	NORTH POKOT	ALALE	KASES	KAMUNAI	SINCHOLOL	430
7	ARID	SAMBURU	KIRISIA	LOOSUK	MALASO	LOLKUNONO	622
8	ARID	SAMBURU	BARAGOI	BARAGOI	NALINGANOR	NALINGANGOR	1136
9	ARID	TANA RIVER	GALOLE	NANIGHI	WAYU	WAYU BORU	276
10	ARID	TANA RIVER	GARSEN	KILELENGWANI	KAU	KAU	139
11	ARID	TANA RIVER	GARSEN	CHARA	SEMIKARO	SEMIKARO	355
12	ARID	TURKANA	KAINUK	KAINUK	KAKONG	KAKONG	352
13	ARID	TURKANA	KAINUK	KAPUTIR	LOKICHAR	LOKICHAR G	1146
14	ARID	TURKANA	LORUGUM	LORUGUM	KALEMUNYANG	KANGALITA	246
15	ARID	WAJIR EAST	WAJIR-CENTRAL	JOGBARU	RIBA	RIBA	236
16	ARID	WAJIR EAST	WAJIR-CENTRAL	HODHAN	MAADATHE	MAADATHE	130
17	ARID	WAJIR WEST	GRIFTU	ARBAJAHAN	ARBAJAHAN	ARBAJAHAN	711

Slum Sample Households

	DISTRICT	**Name of School**	**Slum**	**Schl Type**	**ENROLMENT**
1	NAIROBI	HUPENDO	KANGEMI	NF	384
2	NAIROBI	KANGEMI PRIMARY SCHOOL	KANGEMI	F	2085
3	NAIROBI	GITIBA	KAWANGWARE	F	927
4	NAIROBI	NGONG FOREST	KAWANGWARE	F	658
5	NAIROBI	KICOSHEP PRIMARY SCHOOL	KIBERA	NF	351
6	NAIROBI	MASHIMONI SQUATTER PRIMARY SCHOOL	KIBERA	NF	516
7	NAIROBI	MBAGATHI ROAD PRIMARY	KIBERA	F	1328
8	NAIROBI	RED ROSE PRIMARY	KIBERA	NF	141
9	NAIROBI	STARA RESCUE CENTRE	KIBERA	NF	536
10	NAIROBI	MORRISON PRIMARY SCHOOL	MADARAKA	F	564
11	NAIROBI	DAIMA PRIMARY SCHOOL	MATHARE	F	1756
12	NAIROBI	MCDC	MATHARE	NF	672
13	NAIROBI	ST JOHN INFORMAL	KARIOBANGI	F	844
14	NAIROBI	BIGNET EDUCATIONAL CENTRE	KAWANGWARE	NF	330
15	NAIROBI	MATOPENI PRIMARY	KAYOLE	F	479
16	NAIROBI	MAGOSO	KIBERA	NF	313
17	NAIROBI	TUMAINI MPYA	MATHARE	NF	201

Notes:

1. The District names have been continuously changing with the creation of new administrative districts, hence the names here should be considered as old names where applicable.

2. The enrolment figures are provisional and may only be used as indicative.

Annex F. Expanded Findings on Health and Nutritional Outcomes

Below are more detailed findings on health and nutrition, expanding on the contents of Section 2.3 of the main evaluation report.

1. Household Dietary Intake

1. One the whole, about half the sample of households consumed three meals daily. The highest proportion (53 per cent) of households consuming three meals a day came from the urban areas and the lowest (32 per cent) was recorded in the arid districts (Table 1). The mean number of meals consumed per day ranged from 2.2 in the arid areas to 2.45 in the urban areas, and these differences are statistically significant. Overall, about one-third of the households consumed less than three meals per day and hardly any households consumed snacks in-between the meals. It is recommended that people eat three meals per day in addition to snacks so as to have a continuous release of energy throughout the day to enable one perform both physical and chemical activities.

2. The findings of the focus group discussions (FGDs) concur with the quantitative household results. It was reported by respondents during the FGDs that the majority of the households ate two meals per day at the time of the evaluation because of scarcity of food brought about by chronic drought and high poverty levels in the semi-arid and arid areas and the incidence of poverty in the urban areas. The lowest number of meals was eaten by the households from the arid areas and the highest by those from the urban areas. Whereas the findings for the urban areas could be explained by the fact that the majority of the households may have some income from casual jobs, the households from arid areas would be expected to consume a higher number of meals because of widespread access to GFD at the time of the evaluation.

3. Dietary diversity, another proxy indicator of adequacy of the diet, is a qualitative measure of food consumption that reflects household access to a wide variety of foods. Dietary diversity has long been recognized by nutritionists as a key element for high quality diets (WHO/FAO 1996). Lack of dietary diversity is a particularly severe problem among poor populations in the developing world because their diets are predominantly based on starchy staples. These plant-based diets are low in a number of micronutrients and those that they contain are low in bioavailability.

4. Evidence from a multi-country analysis suggests that household level dietary diversity is strongly associated with household food security.[31] A consistent positive association between dietary diversity and child nutrition has been found in a number of developing countries. [32] In this evaluation, the HDDS was constructed by summing the number of food groups consumed over a 24-hour period. The dietary diversity tool was also used to determine if the households consume foods of special interest to this evaluation—vitamin A-rich, iron-rich, iodine-rich, energy-rich, and protein-rich foods. The HDDS is meant to provide a snapshot of the economic ability of a household to consume a variety of foods,[33] and it is based on the premise that the more diverse the diet the more likely it is to provide

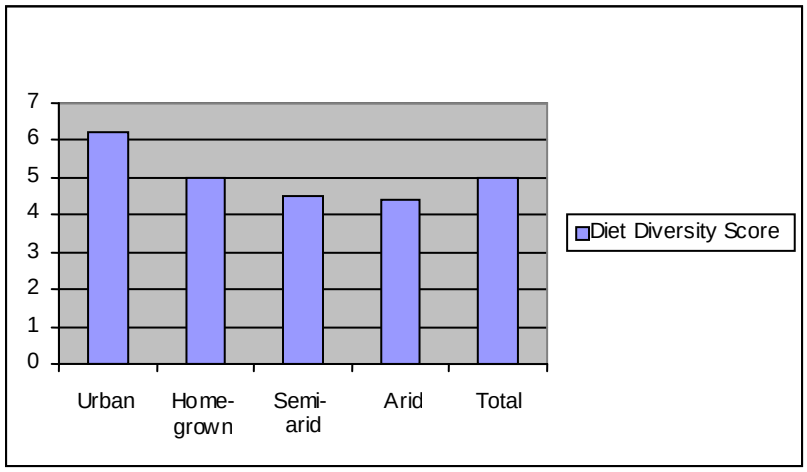
[31] Hoddinot, J. and Yahnnes, Y. (2002): Dietary diversity as a household food security indictor, FANTA, Washington
[32] Arimond, M and Ruel, M.T. (2004): Dietary diversity is associated with child nutritional status: evidence from 11 demographic and health surveys. Journal of Nutrition 134: 2579-2585.
[33] Guidelines for measuring household and individual dietary diversity. Version 2, June 2007. Prepared by FAO Nutrition and Consumer Protection Division with the support from EC/FAO Food Security Information for Action Programme and the Food and Nutrition Technical Assistance (FANTA) Project. Rome, Italy

adequate levels of a range of nutrients. There is considerable evidence to corroborate this relationship.[34] A score of 1 was allocated to each food group that was consumed by the household and a score of 0 to each of the food groups not consumed, and thus the highest possible score was 16. The higher score indicated the more diverse diet.

Table 1. Report number of daily meals consumed

Number of meals consumed	Area of Comparison									
	Urban N=339		Home-grown N=295		Semi-Arid N=341		Arid N=336		Total N= 1341	
	n	%	n	%	n	%	n	%	n	%
1	36	10.6	28	9.5	48	14.1	82	22.4	194	14.5
2	117	34.5	112	38.0	139	40.8	117	32.0	485	36.2
3	177	52.2	150	50.8	153	44.9	164	44.8	644	48.0
4	9	2.7	3	1.0	1	0.3	1	0.3	14	0.1
Mean number of Meals (sd)	2.47 (0.72)		2.45 (0.71)		2.31 (0.71)		2.22 (0.81)		2.36 (0.75)	

Figure 1. Diet diversity scores by region



5.As Figure 1 illustrates, the overall mean score from the HDDS was 5.0, indicating that the households consumed foods from about one-third of the total 16 food groups. The highest number of food groups consumed was 6.2 in the urban areas and the lowest was 4.4 in the arid areas. The differences in the mean HDDS in the areas of comparison were statistically significant. These findings concur with those of the focus group discussions in which participants from the urban areas reported eating a diet with a wider variety of foods compared to the rural counterparts. Since the urban consumers benefit from well-established markets, these results are expected. In contrast, the majority of the rural areas are mostly dependent on locally produced foods, which means that the arid areas have a limited variety of foods due to current production constraints.

6. As expected, the most commonly consumed foods (by over 95 per cent) of households from all the areas of comparison were cereals. Cereals form the staple diet for the majority of the respondents and are also the cheapest compared to foods from other groups. There

[34] Ruel M.T. (2002): *Is dietary diversity an indicator of poor food security or diversity quality? A review of measurement issues and research needs.* Food Consumption and Nutrition Division, International Food Policy Research Institute (IFPRI). FCND Discussion Paper NO. 140.

were no significant differences in the consumption of cereals among the areas. The second most commonly consumed food group was oils/fats, reported by 77 per cent of the households from all the areas, with the highest consumption (94 per cent) found in the households from the urban areas and the lowest (64 per cent) from the arid areas. The oils/fats are used for cooking food. It is not clear why the arid areas recorded the lowest consumption since oil is part of the GFD food basket. Pulses were consumed by 57 per cent of all the households, with the highest consumption in home-grown districts (72 per cent) and the lowest (49 per cent) in urban areas.

7. Over half the households from the urban consumed milk and milk products whereas the lowest consumption (31 per cent) was by households from the semi-arid areas. Sweets in the form of sugar in tea were consumed by 60 per cent of the households from all the areas. The highest rate of consumption (84 per cent) was by households from the urban and the lowest (52 per cent) from the arid areas. Dark green leafy vegetables were consumed by a third (33 per cent) of all the households with the highest consumption (59 per cent) by households in the urban areas and the lowest (17 per cent) by those in the arid areas. The relatively higher consumption of dark green leafy vegetables in the urban areas may be due to the availability of a wider variety of vegetables. The low consumption of dark green leafy vegetables is explained by the limited availability of vegetables in the arid and semi-arid areas. These findings are consistent with those from the focus group discussions in which respondents from arid areas reported limited consumption of vegetables whereas those from urban areas reported consumption of a wider variety of foods. Vitamin A-rich vegetables, fruits, organ meats, flesh meats, eggs, and fish were consumed by less than 15 per cent of the households.

8. The proportion of households that consumed iron-rich foods (organ meats and flesh meats) and the proportion of households that ate vitamin A-rich foods (vitamin A-rich vegetables, dark green leafy vegetables, vitamin A-rich fruits, eggs and milk and milk products) were used as indicators for dietary adequacy for iron and vitamin A respectively.

Table 2. Consumption of iron-rich and Vitamin A-rich foods

	Agro-Ecological Zone									
	Urban N=339		**Home-grown N=296**		**Semi-arid N=341**		**Arid N=369**		**Total N=1345**	
	n	%	n	%	n	%	n	%	n	%
Iron-rich foods	44	13.0	27	9.1	35	10.3	96	26.0	202	15.0
Vitamin A-rich foods	294	86.7	164	55.4	189	55.4	199	3.95	846	62.9

The proportion of those households that consumed at least one of the iron-rich foods and at least one of the vitamin A-rich foods were computed. In this evaluation, there was no differentiation between the plant and animal sources of vitamin A-rich foods consumed. The plant sources contain carotene or pro-vitamin A whereas the animal sources contain an active form of the vitamin.

9. Overall, the consumption of iron was low. Only 15 per cent of the children from all the comparison areas ate at least one iron-rich food. Of the children who ate iron-rich foods, the highest proportion (26 per cent) were from the arid areas, followed by those from the urban areas (13 per cent) and the least proportion of children (9 per cent) was from the home-grown areas (Table 2). In contrast to the consumption of iron, about two-thirds (63 per cent of the children ate at least one vitamin A-rich food, with over half of the children from all the areas having consumed such foods. The highest proportion of the children (87 per cent) that consumed vitamin A-rich foods was from the urban areas. This is explained by the relatively high consumption of dark green leafy vegetables and milk in the urban areas.

2. Dietary Intake of School Pupils

10. It is important to ensure fair representation of all the days of the week in 24-hour dietary recalls to avoid bias in the findings. There may be variation in dietary practices by day of the week. For example, during the weekends people have more time to prepare special meals whereas during weekdays people are limited in meal preparation time. There was a fair representation of the days of the week for the dietary recall with the exception of Fridays and Saturdays (because schools were not visited on Saturdays and Sundays). From all the areas, one quarter (25 per cent) of the dietary recalls were for Sundays, and these were for schools visited on Mondays. The dietary recalls for Sundays consisted of lunches eaten at home and not in school.

11. The majority (79 per cent) of the children reported having had breakfast; the highest proportion of those were from the urban areas (87 per cent) whereas the lowest proportion (69 per cent) of the children were from the semi-arid areas (Table 3). Mid-morning snacks were hardly eaten by the children from any of the areas. A significantly higher proportion (9 per cent) of the children from the urban areas and less than five percent from the other areas ate a mid-morning snack. As expected, the majority (92 per cent) of children ate lunch since the schools had on-going school feeding programs. There were no significant differences in the proportion of children who ate lunch from the different rural and urban zones. The afternoon snack was as infrequent as the morning snack and generally limited to the urban children. The majority of the children (92 per cent) from all the areas ate dinner with the highest proportion (96 per cent) being those from urban schools and the lowest (85 per cent) from the arid areas.

12. The findings on the proportion of children who took snacks, lunch, and dinner concur with the findings from the FGDs. In contrast, during the FGDs, it was reported that the majority of the children do not take breakfast, a finding that is inconsistent with the quantitative data from the 24-hour recall. There is a possibility that the participants of the FGDs did not view a cup of black tea or a cup of tea with little milk or, for a minority, a cup of porridge only as a meal. These were reported to be the most commonly eaten foods for breakfast as reported during the FGDs.

13. Breakfast is the most important meal of the day and ideally should provide at least 30 per cent of the total daily energy requirement and contain a variety of foods. Studies have shown that programs providing breakfast to primary school children students significantly increase attendance and arithmetic scores and significantly benefit children who have suffered from malnutrition.[35, 36] Despite the fact that a majority of the children in this evaluation took breakfast, the food consumed was not likely to provide the required energy to sustain intellectual tasks or to deal with the effects of short-term before lunch time. Even

[35] Mathews R. Importance of breakfast to cognitive performance and health. *Perspect Appl Nutr.* 1996 (3):204-212.
[36] Pollit E. Does breakfast make a difference in school? *J Am Diet. Assoc.* 1995; 95:1134-1139.

though the majority of the children ate dinner, the meals mostly consisted of cereals eaten with either vegetables or beans. The consumption of animal foods was limited. These patterns were identified during the FGDs and confirmed by the findings of the 24-hour recall. As a whole, the meals eaten at home were reported to be inferior to the school lunch in terms of dietary diversity and the amount served. This implies that even though the children reportedly ate dinner, the nutritive value was limited because of the limited variety of foods and the inadequate amounts of food consumed.

Table 3. Meals normally consumed daily by children

Meals	Agro-Ecological Zone									
	Urban N=333		Home-grown N=290		Semi-arid N=341		Arid N=366		Total N=1330	
	n	%	n	%	n	%	n	%	n	%
Breakfast	290	87	225	78	236	69	296	81	1047	79
Mid-morning Snack	30	9	6	2	0		8	2	44	3
Lunch	305	92	266	92	303	89	345	94	1219	92
Afternoon Snack	55	17	11	4	1	0	3	1	70	5
Dinner	320	96	282	98	304	89	311	85	1217	92

14. The majority of children from all districts reported that the amount of food consumed the previous day was the same as usually consumed. Overall, this indicates that for the majority of the children the amount of food consumed was more or less the same as usual and thus there was no increased food insecurity at the time of the evaluation.

3. Adequacy of the School Meal

15. One of the issues raised in the PIA sessions was whether the quantity and quality of the school meal was adequate. Generally, the lunch consists of a cereal stew (usually maize or bulgur wheat), a pulse (split pea) and oil and salt. Several student sessions mentioned the lack of oil and salt and the consequent tastelessness of the lunch. Others stated that that the quantity was not sufficient to stave off hunger later in the afternoon. With regards to quality, some students did not customarily eat the food served at lunch (e.g. coastal rice eaters being served maize) and suffered from digestion problems after eating. The survey of student diets sought to address this issue of adequacy by focusing on the lunch of the previous day. The majority (75 per cent) of the children ate lunch at school and 25 per cent at home, depending on whether a lunch was served or if the interview occurred on a Monday (thus recalling Sunday's lunch).

16. Student perceptions on the adequacy of the quantity of food served for lunch were analyzed by comparing the lunch consumed at home with that served at school. With slight differences across regions, between 80-90 percent of the students felt that both meals at school and meals at home were adequate in terms of amount. These findings contrast with the information from the FGDs, in which the majority of the pupils, students, and parents reported that the amount of food served at school was more than what was served at home. The PIA sessions with students further documented that the school lunch was not adequate to last the day, and children felt hunger during the afternoon. The inability to draw a consistent picture of school lunch adequacy (from the perspective of the "clients") likely identifies significant variability at the level of the school and in terms of household food security conditions. The analysis returns to this issue below.

17. Overall, two-thirds of the children ate three meals per day. The highest proportion of children who consumed three meals per day was from the arid areas[37] and the lowest proportion was from the semi-arid areas. Since these figures exceed those reported at the household level, there is a possibility that the children ate lunch at school while the rest of the household members missed lunch. Around twenty percent of the children from all the areas ate two meals per day and the highest proportion of children who took two meals came from the semi-arid areas. The lowest proportion of those who took two meals was from the urban areas. For the entire sample of children, the average number of meals ate 2.7 meals per day. The urban area reported the highest mean number of meals (3.0), and the lowest mean was recorded in the semi-arid areas (2.5). These findings are not consistent with the results from the FGDs in which the pupils, teachers, and parents reported that many of the children took two meals per day. It is recommended that three meals be consumed per day in addition to snacks to provide adequate nutrients for proper growth and development.

4. Intake of Selected Nutrients and Energy

18. The consumption of selected nutrients and energy was examined to provide information on the adequacy of the diet of the children. Differences in the level of consumption between the areas of comparison were established to provide an indication in the variation of the adequacy of the diet by area of comparison. Table 4 shows that the mean intake of energy (Kcal) was highest in the arid areas (Kcal 1284) and in the home-grown area (Kcal 1221) and lowest in the semi-arid areas (Kcal 1100) and the urban (Kcal 1108). The intake of energy in the arid and home-grown districts was significantly higher than those in the urban and semi-arid areas. The higher intake of energy in the arid areas is probably explained by the fact that many households were receiving general food distribution (GFD) at the time of the evaluation and some schools also received mid-morning porridge made from corn-soy blend (CBS) porridge. It is not clear why the children in the home-grown areas had a significantly higher intake of energy than those from the semi-arid and urban areas.

Table 4. Intake of energy and micro-nutrients

	Agro-Ecological Zones							
	Urban N=334		**Home-grown N=294**		**Semi-arid N=341**		**Arid N=364**	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Energy (Kcal)	1108	470	1221	426	1100	487	1284	625
Protein (g)	29.3	17	30.2	13	29.2	15	40.6	23
Fat (g)	25.9	19	21.8	10	19.5	20	28.3	24
Vitamin A (µg)	667.3	467	829.2	90	454.7	279	373.6	268
Iron (mg)	7.0	3	6.3	3	6.2	3	8.6	5
Iodine (µg)	27.1		14.3		33.1		17.7	

[37] The largest percentage of households receiving the general food distribution was from the arid districts. There are various indications that the presence of GFD

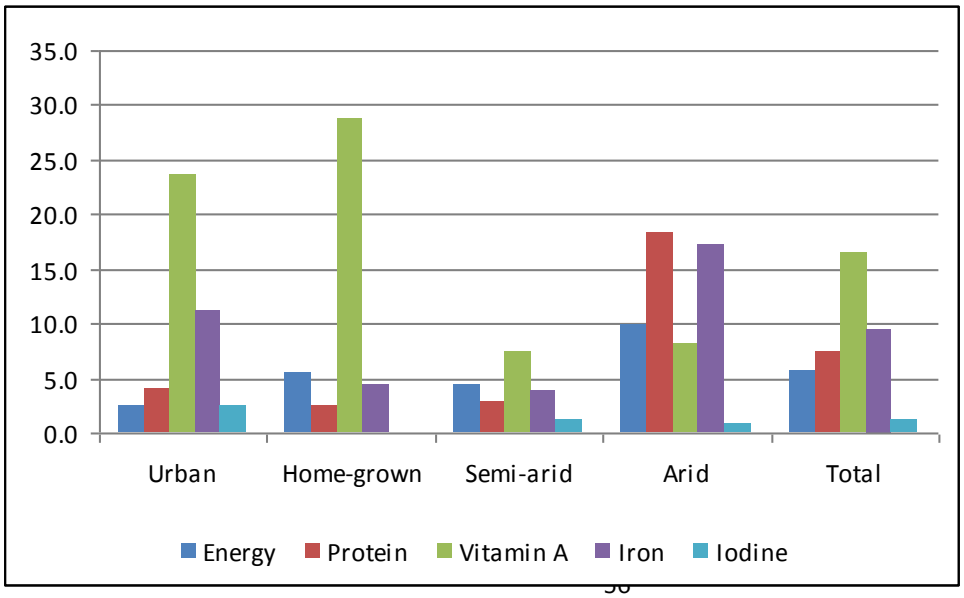
19. As in the case of energy, the highest intake of protein was recorded in the arid areas (40.6g). This was followed by the home-grown areas (30.2g) and then the urban and the semi-arid areas (29.3g and 29.2g, respectively). The consumption of fat was highest in the arid areas (28.3g) followed by the urban areas (25.9g) and then by the home-grown areas (21.8) and lastly by those in the semi-arid areas (19.5g). The consumption of fats in the arid and urban areas was significantly higher compared to the home-grown and semi-arid areas.

20. In contrast to the findings regarding the macronutrients, the consumption of vitamin A was lowest in the arid districts (374µg), followed by those children in the semi-arid areas (455µg). The highest consumption of vitamin A was recorded in the home-grown districts (829 µg) and in the urban areas (667). The intake of vitamin A in the semi-arid and arid areas was significantly lower than in the home-grown and urban areas. The consumption of iron was highest in the arid areas (8.5mg) followed by the urban areas. Consumption of iron in the home-grown and semi-arid was more or less the same. The levels of consumption of iron in the home-grown and semi-arid areas were significantly lower compared to the urban areas, while the highest iron intake was found in the arid region. As for iodine, the highest intake (33.1µg) was found in the semi-arid areas followed by the urban areas (27.1µg). The lowest intake was in the home-grown areas (14.3µg) and followed by the arid areas (17.7µg). The differences in the level of consumption of iodine in the home-grown and arid areas were significantly lower than in the urban and semi-arid areas whereas the difference between the urban and the semi-arid were also significant.

5. Adequacy of Diet

21. The diet was adequate or better in providing the RDA for energy (Kcals) for only 5.6 per cent of the children from all the areas (Figure 2). The proportion of children whose dietary intake met the RDA varied from 2.4 per cent in the urban areas to 9.9 per cent in the arid areas. A significantly higher proportion of children from the arid areas attained the RDA compared to the other areas. The same pattern was observed for protein. Only around seven percent of the children met the protein RDA. The highest proportion attaining the RDA (18.4 per cent) was recorded in arid areas and the lowest (2.4 per cent), in the home-grown areas. The relatively better nutritional status of the arid region children most likely reflects the additional effect of food aid distribution and access to animal protein.

Figure 2. Adequacy in meeting energy and micro-nutrient



22. The RDA for vitamin A was met by 16 percent of the sampled children. Almost one-third of the pupils in the home-grown and urban areas (29 per cent and 27 per cent, respectively) received vitamin A in amounts enough to meet the RDA. The semi-arid areas recorded the lowest proportion with around seven percent. On the whole, lower proportions of children attained the RDA for iron from the dietary intake compared to vitamin A. The highest proportion of those whose diet provided sufficient amounts of iron to meet the RDA was from the arid areas (17.3 per cent) and the lowest (3.8 per cent) were from the semi-arid areas. Only one percent of the children received the RDA for iodine from the diet despite the fact that iodized salt is provided as part of the food items for the school feeding program.

23. The micronutrient deficiencies have far-reaching implications for health and nutrition and consequently educational outcomes. A lack of iron not only causes an energy crisis but also directly affects behavior, mood, attention span and learning ability. Iron deficiency manifests itself in the lowering of motivation to persist in intellectually challenging tasks, a shortening of the attention span, and a reduction of overall intellectual performance. [38] Vitamin A is involved in the immune functioning of the body and is necessary for the prevention of infections such as diarrhea and acute respiratory infections. Deficiency of this micronutrient can therefore impact negatively on education outcomes because if children fall ill frequently this will lead to increased absenteeism from school. Iodine deficiency also impacts negatively on educational outcomes, being the leading cause of intellectual deficiency. [39]

[38] Calado C.B., Debruyne L. K. and Whitney E. N. (1995). Nutrition and Diet Therapy, Minneaplois/St. Paul, New York, Los Angeles, San Fransisco, West Publishing Company.
[39] Holowell J, Staehling N, Hannan W, Flanders D, Gunter E, and Maberly G. Iodine nutrition in the United States. Trends of public health implications: Iodine excretion data from national health and nutrition examination Surveys I and III (1971-1974 and 1988-1994). J Clinical Endocrinology and Metabolism, 1998;83:3401-3408.

Annex G. List of People Consulted

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