Term of Reference

FINAL EVALUATION OF MATERNAL AND CHILD NUTRITION (MCN) INTERVENTION IN TTS DISTRICT, NTT

2012-2015

A. BACKGROUND

Overview

These TORs are for the final evaluation of the MCN programme in Timor Tengah Selatan (TTS district), in **East Nusa Tenggara (NTT) and will cover the period from 2012-2015**. NTT is one of the provinces which continue to face a combination of acute and chronic food insecurity (especially in terms of food access and utilization), contributing to serious under-nutrition among its population, particularly among women and young children. The NTT Province has the highest level of stunting and wasting in Indonesia at 52% and 15.4% respectively. Similar patterns of stunting and wasting were found in TTS district in NTT– (70% and 14%). The prevalence of thinness among women at reproductive age is also quite high in the same districts (24%) (Riskesdas 2013). According to WHO criteria, this data suggests that the situation in TTS is critical. .

In close partnership with the Government of Indonesia and other key stakeholders, including the private sector, WFP has developed intervention models and analytical tools aimed at gaining implementation experience and assess impact of increasing access to adequate nutrients for the most vulnerable, in particular during the first 1000 days of life (from conception to two years). Therefore, the MCN intervention in Country Programme 2012-2015 focused on children aged 6 -23 months and Pregnant Lactating Women (PLW). From 2012 onwards, all children 6-23 months old in the intervention areas receive MP-ASI, an instant fortified blended food produced in Indonesia, 1.8 kg/month, while PLW receive fortified biscuit 3 kg/month. The MCN intervention is implemented in the TTS district in NTT Province. TTS is one out of 22 districts in NTT with population of 440,470 people (Population Census 2010) and 110,070 households in 32 sub districts. WFP has covered 11,500 children 6-23 months and 6,000 PLW in 442 posyandu in 17 sub-districts in TTS (340 posyandu started in 2012 and additional 100 posyandu in 3 subdistrict since July 2014). The evaluation will focus on the areas where the programme has been operating since 2012. **OBJECTIVES**

Overall objective

To assess the impact of MCN programme on the nutritional status and behavioral outcomes among beneficiaries in TTS District, NTT Province during 2012-2015

Specific objectives

The overall objective will be achieved through the following specific objectives:

1. To describe coverage and adherence to the program and its interventions
2. To compare nutritional status of children aged 18-35 months in program and non-program areas.
3. To assess qualitative information on the long term benefit of food assistance among the beneficiaries
4. To assess other factors to may have influenced the nutritional status of children aged 18-35 months in program and non-program areas, incl. programme and non programme factors (e.g. other interventions, changes in food security, hygiene, sanitation, etc.)
5. To collect key programmatic inputs for technical guidance that will support maternal and child nutrition programming, and share the result of the study and give recommendation to national policy makers for National Mother and Child Nutrition interventions especially during first 1000 days.

B. INTERVENTIONS

WFP's mother and child nutrition (MCN) programme aims to prevent under-nutrition including stunting, wasting and micronutrient deficiencies in children aged 6-23 months as well as pregnant and lactating women by increasing access to nutrients during the first 1,000 days of life within the targeted areas.

Increased access to nutrients is ensured through a combination of strategies:

1) Direct provision of specialized nutritious food (locally produced) to children 6-23 months and pregnant women and lactating women in the first 6 months after birth through the health system. i.e. the local community health posts (posyandu)
2) Improvement of local infant and young child feeding practices (IYCF), with particular focus on complementary feeding, through comprehensive Behavior Change Communication (BCC).
3) Strengthening the capacity of the health staff both at district and sub district level (Puskesmas/Community Health Post based at sub district) and community health volunteers (Posyandu Kader) to better measure the growth of infants and young children, nutritional status of pregnant and lactating women, provide advice on nutrition, and to conduct proper monitoring in order to produce reliable data for programme monitoring and early impact assessment. Thirty Posyandu received proper training on taking anthropometric measurements and have been collecting data monthly.
4) Policy advocacy at the national and regional level on alternative strategies to improve economic access to nutrients during the first 1000 days through evidence creation (effectiveness studies, Cost of Diet work, engagement with SUN and private sector partners)

Food supplements provided
Improved FBF (MP ASI), 60 gr/day for all children 6-23 months, providing 240 Kcal, 9.1 gr protein, 3.7gr fat, and vitamins and minerals

Fortified Biscuit for PLW, 100gr/day during pregnancy and lactation in the first 6 months after birth, providing 400 Kcal, 8 gr protein, 10 gr fat, and vitamins and minerals

Activities on Maternal and Child Nutrition:

- Behavior Change Campaign
  The importance of 1000 days
  Information on food supplements
  IYCF Counseling Training (MOH-UNICEF Module)
- Strengthening growth monitoring
- Capacity development on nutrition, growth monitoring

C. METHODOLOGY

The selected research agency need to prepare well and sound methodology that is appropriate for this evaluation, below methodology can be used as guidance. Methodology need to be approved by WFP.

D.1. Study design, area, sample size and population under survey

The subject under this study is children 18-35 months to see impact of coverage over 1000 days in WFP working areas and non-working areas in TTS district. The subject selected based on the assumption that they have benefitted from the programme since pregnancy until the children reached 2 years old. The sample of study will be divided into 2 groups: the first group in WFP areas and the second group in non-WFP area (do not receive any food commodity from WFP) in TTS. The study will be conducted by comparing WFP areas to non-WFP areas in the same district. A multistage cluster sampling will be

used to obtain a random sample based on probability proportional to Size (PPS). 30 clusters from WFP areas which had been selected for cohort data collection from 2012 using the same methodology and 30 clusters with similar characteristic from non-WFP areas with no food intervention in TTS district will be selected, all children 18-35 months in each clusters will be selected and their parents will be interviewed. To detect a statistically significant difference of stunting prevalence of 60% in non-WFP and 50% in WFP areas, which is based on the data collected from the cohort data collection, 810 children will be required per group.

Sampling selection should be explained in detail in the technical proposal, especially in determining non WFP area to be sampled in TTS. Criteria for selection should be defined clearly. WFP will share the data of beneficiaries upon the award.

Complete qualitative methodology and informants' selection should also be described in detail in the technical proposal.

Hemoglobin concentration assessment will be assessed for all samples. The design study, methodology, implementation management, hemoglobin collection procedure, ethical clearance, and implementers names for each area should be consulted and submitted for WFP approval prior to data collection implementation in the field.

D.2. Procedure of data collection

Questionnaires will be developed based on the conceptual framework of the causes of malnutrition develop by UNICEF (1996). The variables collected will provide information on the immediate, underlying and basic causes of malnutrition as well as social-demographic and economic indicators and programmatic indicators.

These variables should be reflected in the study instruments, raw data, result report and main study findings.

Pre-test is mandatory to ensure appropriate tool design.

The participants will undergo a physical examination and anthropometric assessment at the data collection place. Efforts will be made to utilize local government human resources and laboratories for clinical examinations.

Table 1: Suggested VIM (Variable, Indicator and Methods)

Variable	Indicator	Methods of Assessment (before and after intervention/food distribution)
Socio-demographic data	#occupation #education #family assets #coping strategy index (CSI)	Interview using a structured questionnaire
Use and consumption of fortified biscuits and improved FBF	# food ration received from the start joining the program until completed # food ration consumption and left over # food ration sharing # constraint and challenges	Interview using a structured questionnaire FGD's Observations

Dietary intake- history (early during specific 1000 days period and current	# 24 hours recall # Food consumption score and diet diversity score # Food frequency (2 weeks recall) # feeding practices # complementary foods #breastfeeding	Interview using a structured questionnaire
Coverage of the program	# delivery coverage # training and health workers and cadre received training	Interview using a structured questionnaire
Nutritional status of children 18-35 months	Wasting, stunting, , underweight, MUAC, night blindness, low birth weight, length of gestation and its source of information (recorded or recalled)	Anthropometric measurement (weight, height, length), MUAC and age, low birth weight
Morbidity rate of 6-23 months children	# Physical examination # Illness experienced by children 18-35 months in the past 2 weeks including diarrhea, acute respiratory infections (cough and runny nose) and fever, measles within the last year # of children admitted to Therapeutic Feeding Center (TFC) within the last year	Doctor examination Interview
Assess the health and nutrition services availed by children 18 – 35 months	# Health and nutrition services availed in the last 6 months # Frequency of visit to health center last months # Frequency of visit to health Centre last months due to illness # constraints and challenge to access health services # frequency visit to Posyandu including when last visit to this facility #Counseling received on IYCF or 1000 HPK Home visit (if any) by cadre/health staff	Interview

	#place of delivery (birth place)	
Participation of mother and father in social safety net program	# type of program # type of benefit #duration of joining the programme	Interview
Delivery system of the fortified biscuits and improved FBF (MP-ASI)	# % of out of stock # % of rejected stock (product leakage, etc.) # Bottleneck on supply chain # Constraints and challenge	Qualitative data collection
Effectiveness of communication method, material and supporting tools	Knowledge, Attitude and Practice # messages received # messaged applied # beneficiaries perception	
Anemia of PLW and children 18 – 35 months	Hemoglobin concentration, possibility serum ferritin, serum retinol and CRP	Hemocue analysis and biomarkers analysis

Note: Other indicators might be added in the detailed technical proposal, if needed.

D.3. Anthropometric and biomarker assessment

The basic information and measurements that constitute anthropometric assessment include: age (date of visit, date of birth), sex, length, height, weight and MUAC.

Weight of children should be measured by the selected research institution using standardized digital weighing scale for research (SECA/ADE) with precision of 0.1 kg (digital bathroom scale is not acceptable). The height/length would be measured with standardized height/length board or stadio-meter with precision of 0.1 cm.

Reliability of anthropometric measurement will need to be assessed for all data collectors against an experienced anthropometry measurement expert before the commencement of the study. The quality control should be done to 10% of the subjects by the quality control team who consist of 2 people with strong experience on Anthropometric measurement. The quality control team is to visit the same household and redo the measurement within 5 days of the first visit. Result of quality control should also be submitted. Anemia or hemoglobin measurements will be assessed using Hemocue, Angelhom, Sweden. A drop of blood from finger prick will be taken by experienced and trained nurse/doctor. There are possibility the serum retinol, serum ferritin, and CRP will be analyzed, please prepare separate budget for additional biomarkers than Hemoglobin. More drops of blood from finger prick or heels might be needed.

Detailed information of both anthropometric and biomarker assessment method, instruments to be used, complete field protocols of each procedures and profiles of team members (personnel CV) who will conduct the assessments should be attached to the proposal. If any of the anthropometric and biomarker assessments involved another institution, detailed profile of the institution, personnel and credentials should also be included. Quality assurance method should also be described clearly.

WFP has the authority to ask for re-measurement if findings (methodology, tools and results) from the field are inappropriate. Therefore, close coordination and simultaneous progress update to WFP (Country Office and Sub-Office) would be needed and critical.

D4. Data management

Data should be entered and analyzed using SPSS or STATA. Cleaning of data should be conducted applying statistic principles before starting data analysis. Anthropometric data will be computed using Anthro2005 software to obtain the nutritional status of children according to the WHO Child Growth Standards.

Results for all parameters will be presented for all areas (total) as well as breakdown by intervention groups and by other indicators (sex, age group, etc.)

D.5. Ethical approval and permissions

The study will be conducted after approval by a local Ethical Committee (responsibility of the selected research institution). Permission will be obtained by the selected research institution, with support from WFP – if needed - from the local authority (health office/ Dinas Kesehatan), sub district/municipality office (kecamatan /kelurahan), and Puskesmas. Persons will be assessed only after they give their informed consent (responsibility of the selected research institution). The participation of the person in the survey is voluntary. All data will be treated confidentially.

Research team is responsible for obtaining the necessary approvals and clearances, either from health and local authorities as well as from study respondents before starting the data collection.

E. REQUIREMENTS OF PROPOSALS SUBMISSION

E.1. Technical Proposal

Should include the following:

1. Work plan and timeline of the evaluation activity
2. CV of team member who will conduct the evaluation, interview in the field, etc.
3. List of studies conducted by their organization/institution
4. Draft of the questionnaire or sample of questionnaire
5. Methodology of the evaluation
6. Methodology of analysis of data
7. Clear specification of instruments to be used (subject to WFP approval during evaluation of technical proposal)

E.2 **Budget Proposal**

Should include the following:

- Fee of the team (Researchers, field staff, data analysis staff, transcriber, evaluation coordinator/team leader, data management team, support staff, etc.)
- Flight tickets and transport to and from the airport of the team
- Perdiem/allowance for each of the staff (perdiem includes accommodation, communication allowance, meals)
- Car rental for the mobilization of the staff during the interview, assessment, etc.
- Instruments for blood samples, cost of the blood analysis, for Hb only and Hb plus other bio markers Serum Ferritin, Serum Retinol, CRP, etc. Other biomarkers will only be analyze when Hb reults are inconclusive. Please separate cost for Hb only or Hb plus Serum Ferritin, Serum Retinol, CRP. Please refer to annex.
- Anthropometric instruments (rent or purchase)
- Enumerators/cadre/principal investigator fee or any other staff or involvement needed to conduct the evaluation overall activity
- Meeting package
- Report writing, stationeries, etc.
- Official translator fee for the final report writing, etc.
- Any other foreseen cost for the implementation of the evaluation

F. Milestones

- WFP will contact the institutions who submitted their proposal for technical discussion.
- After contract issued by WFP, the awarded institution can start the preparatory work and prepare for the inception report , template will be provided.
- Data collection should be finalized before the end of January 2016
- Draft of Final report should be presented to WFP before end of February 2016 and should be ready for final submission by the end of March 2016
- Presentation of final results by awarded institute to WFP and stakeholders: by third week of March 2016

G. Deliverables

Deliverables during the execution of the activity should consist of:

- Ethical approval document before the study commencing
- Study instruments and protocol should be submitted to WFP for review and approval within 2 weeks upon the contract signed
- Weekly report of the progress of data collection
- Raw dataset, clean dataset within one month after data collection is finished (28 February 2016)
- Transcripts of interview & FGD after data collection is finished (28 February 2016)
- Complete report in Bahasa Indonesia and English **(professionally edited)** 30 March 2016
- Presentation files Mid March 2015

G.1. Final Report

The study report should answer all of the variables stated in the VIM.

The data should:

- describe coverage and adherence to the program and its interventions,
- compare nutritional status of children aged 18-35 months in program and non-program areas,
- assess qualitative information on the long term benefit of food assistance among the beneficiaries,
- as well as specific programmatic issues that were noted during the evaluation

Outline of final report

Executive Summary
Chapter I Introduction

- Background of the Study
- Programme intervention
- Rationale of the Study
- Objective of the Study

Chapter II Materials and Methods

- Study Design, Area, and Population Under Survey
- Sample Size

- Sample Recruitment and Follow up
- Data Collection Procedure and Instruments
- Guidelines of Qualitative Data Collection
- Training of Enumerators
- Data Analyses
- Ethical Approval

Chapter III Results including comparison between intervention, comparison areas and Discussion

- Characteristic of Subject
- Nutritional Status
- Bio-chemicals Indicators
- Dietary Intake, Knowledge of Mother, and Compliance
- Qualitative results
- Any other results necessary from the VIM variables
- Discussion

Chapter IV Conclusion and Recommendation

H. Risk and Mitigation.

El Nino has the potential to destabilize the necessary conditions for good nutrition, resulting in a higher prevalence and burden of all forms of under nutrition, however this risk will be applied to both group.

Annex 1. PRODUCT SPECIFICATIONS

A. Fortified Blended Food MPASI

Target Beneficiaries: Children aged 6-23 months

Amount of ration: 3 sachets of 20gr per day during the age of 6 month to 23 months old

Nutrient target per 100 g flour:

- Energy 400 kcal minimum
- Protein 15.0 % (N x 6.25) minimum
- Fat 6.0 % minimum
- Crude fibre 6.0 % maximum

4.3 Vitamins and Minerals added (Target /100g finished product)

*Table1: Micronutrient rate from premix vitamin**

	Target/100g finished product	**Form**
Vitamin A	430 µg	Dry Vitamin A Palmitate/Acetate Cold Water Dispersible Stabilized
Vitamin D	9.0 µg	Dry Vitamin D3 100 Water Dispersible Stabilized

Vitamin E	7.0 mg TE	Dry Vitamin E Acetate 50% Water Dispersible
Vitamin K	13 µg	Dry Vitamin K1 5% Water Dispersible
Vitamin B1	0.6 mg	Thiamine mononitrate
Vitamin B2	0.6 mg	Vitamin B2/Riboflavin fine powder
Vitamin B6	1.0 mg	Pyridoxine hydrochloride
Vitamin C	45 mg	Ascorbic acid
Pantothenic acid	3.0 mg	Calcium D Panthotenate
Folate	128 µg	Folic acid*
Niacin	4.5 mg	Niacinamide
Vitamin B12	0.7 µg	Vitamin B12 0.1% or 1% Spray Dried
Iodine	61 µg	Potassium Iodide*
Iron (a)	4.0 mg	Ferrous fumarate fine powder
Iron (b)	2.5 mg	Iron-sodium EDTA
Carrier		Corn maltodextrin
		* Adequate dilution must be used in order to guarantee premix homogeneity
Other minerals		
Calcium**	**400 mg**	-Dicalcium Phosphate Anhydrous, compliant with food chemical codex, min 95%<250 micron, total aerobic viable count <=1000 CFU/g, yeast<10 CFU/g, mould <100 CFU/g, and enterobacteria negative in 1 g; -Calcium Carbonate Anhydrous, compliant with food chemical codex, min 98.5%<3.8 micron, total aerobic viable count <=1000 CFU/g, yeast<10 CFU/g, mould <100 CFU/g, and enterobacteria negative in 1 g. - Calcium, compliant with food chemical codex, min 95%<250 micron, total aerobic viable count <=1000 CFU/g, yeast<10 CFU/g, mould <100 CFU/g, and enterobacteria negative in 1 g;

Manganese	1.0 mg	Manganese

2. Fortified Biscuit for PLW

Comparison table HEB Indonesia to RNI PLW 2013

No	Parameters	unit	RNI woman 19-29 years old 2013	Additional need RNI PLW 2013	Total RNI for PLW	Nutrient content HEB Indonesia per 50 g	HEB Indonesia per 100 g	% additional to RNI of PLW	% to additional RNI for PLW
1	Energy	kkal	2250	300	2550	220	440	17.25	146.67
2	Protein	g	56	20	76	4	8	10.53	40.00
3	Fat	g	75	6	81	6	12	14.81	200.00
4	Carbohydrates	g	309	40	349	38	76	21.78	190.00
5	Calcium	mg	1100	200	1300	104	208	16.00	104.00
6	Natrium	mg	1500	0	1500	126	252	16.80	16.80
7	Iron	mg	13	13	26	4.3	8.6	33.08	66.15
8	Iodium	mcg	150	70	220	52.5	105	47.73	150.00
9	Zinc	mg	13	10	23	4	8	34.78	80.00
10	Selenium	mcg	30	5	35	6.3	12.6	36.00	252.00
11	Vitamin A	mcg	600	350	950	222.5	445	46.84	127.14
12	Vitamin D	mcg	15	0	15	2.6	5.2	34.67	34.67
13	Vitamin E	mg	15	0	15	2.7	5.4	36.00	36.00
14	Vitamin B1	mg	1.4	0.3	1.7	0.3	0.6	35.29	200.00
15	Vitamin B2	mg	1.6	0.3	1.9	0.3	0.6	31.58	200.00
16	Vitamin B3 (niacin)	mg	15	4	19	4	8	42.11	200.00
17	Vitamin B6	mg	1.3	0.4	1.7	0.3	0.6	35.29	150.00
18	Vitamin B12	mcg	2.4	0.2	2.6	0.5	1	38.46	500.00
19	Folic acid	mcg	400	200	600	42.5	85	14.17	42.50