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Mapping Foods for Community Based Management of Children with Severe Acute Malnutrition in India







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REPORT

Mapping Foods for Community Based Management of Children with Severe Acute Malnutrition in India

Background

Malnutrition is a serious public-health problem that has been linked to a substantial increase in the risk of morbidity and mortality. In India, the National Family Health Survey 4 (2015-16) showed that the prevalence of wasting (21.0%) and severe wasting (7.5%) remain very high, not having fallen in the past decade (2005-06 to 2015-16).

Severe Acute malnutrition (SAM) is defined by weight-for-height/length Z- score below -3 SD of the median WHO child growth standards and/or MUAC <115mm and/or by the presence of bilateral pitting edema in children aged 6-59 months.

In 2015 India committed to reducing and maintaining the proportion of children suffering from wasting to less than 5%, a nutrition target of Sustainable Development Goal (SDG). India is home to 22 million children wasted and over 8 million severely wasted at any one time (UNICEF, WHO and World Bank Group, 2018).

The World Health Organization (WHO) recommends that countries adopt national policies for management of SAM with a strong community-based component that complements facility-based activities i.e. treating complicated SAM (presenting with medical complications and/or poor appetite) in a health facility

and uncomplicated SAM children in the community. Community Based Management of Severe Acute Malnutrition (CMAM) is based on the fundamental principle that children whose lives are at risk because of SAM should receive timely and appropriate care and assistance. Approximately, 85-90% of severely malnourished children those who do not have medical complications can be taken care of on an outpatient basis in the community. In addition, those children discharged from the NRCs can also continue to be cared for in a community setting after initial phase of stabilization and onset of recovery phase.

In India, a community-based model of care for children with SAM can be initiated using the existing government platforms. Together with the political commitment to POSHAN Abhiyaan (the Government's new flagship programme to reduce all forms of undernutrition) more opportunities have been introduced in the country to resource and implement services at scale for the management of SAM.

For community-based management, availability of therapeutic foods is one of the key treatment components alongside active screening, medical treatment and counselling. WHO recommends the use of ready-to-use-therapeutic food for the management of SAM without complications. In India, there is currently no consensus on food supplement specifically formulated



for children with SAM. Many states governments are exploring alternatives to ready-to-use-therapeutic foods for use in CMAM programme. Therefore, Kalawati Saran Children's Hospital in collaboration with National Institute of Nutrition, Hyderabad and UNICEF reviewed the literature to identify and map the profile energy and nutrient dense food items that have been used to manage different forms of undernutrition in community settings in India.

Objectives

- 1** To map and identify locally available food items that can be used to treat undernourished children in Indian context.
- 2** To select most suitable and potential food items based on specific criteria that can be used in Indian Context for community-based management of children with Severe Acute Malnutrition.

Methodology

- 1 Development of structured assessment tool:** Based on current WHO recommendations and nutritional needs of a SAM child during the rehabilitation phase, a checklist was designed to shortlist the food items. The assessment tool used to assess the food products is detailed in Annexure 1.
- 2 Desk review of publications and grey literature:** In India, there have been numerous experiences by multiple institutions and organizations in managing children with SAM and other forms of severe malnutrition through provision of energy and nutrient dense foods which could potentially be used as alternatives to ready-to-use-therapeutic foods. The team reviewed and collected all the information on such food through desk review of research articles and grey literature.
- 3 Creation of matrix of all foods:** Compilation of identified food item/ products (premix, sprinkler, ready to eat). General information, as available, on the product, nutrients calculations and evidence on the effect on malnourished children were collated (Annexure 2)
- 4 Classification of food items based on energy**

density: Based on the energy density, identified food items were classified into three categories – high energy density (provides 450 – 550 Kcal/100 gm), medium energy density (provides 350 -450 kcal/100 gm) and low energy density (provides below 350 Kcal/100 gm). (Table 1)

- 5 Selection of appropriate food items:** Selection of foods that could potentially be used and/or replicated based on their energy density, palatability, safety, cost-effectiveness, shelf life and the feasibility of scaling up production for large scale provision. (Annexure 3 and 4A).

Result

Through the desk review of research papers, forty-two food items have been identified.

- ❖ No food items meet the WHO recommendation of standard therapeutic food for treatment of SAM.
- ❖ Of the 42 food products, 7 (16%) have high energy density (450 – 550 kcal/100 gm) and come close to the WHO standards for SAM treatment energy content (Annexure 4B). More than two third of identified products are classified as medium (350 - 450 Kcal/100 gm) to low energy density (<350 Kcal/100 gm) food (medium energy density -14 food products, and low energy density – 14 food products). No nutritional information is available for seven food products.
- ❖ Simply meeting appropriate energy density is not sufficient and foods used to treat SAM also require a specific macro and micronutrient content. Those needs could be met with the addition of appropriate micronutrient pre-mixes. Less than half (n=21) of the food product are enriched with micronutrients and one food item is fortified with spirulina
- ❖ 26 out of 42 (62%) i.e. food products do not need any preparation for example (cooking, addition of water or milk) and can be consumed directly. Remaining products (38%) are in the form of powder which require minimal cooking or addition of warm water or milk before consumption.

- ❖ The calorie density of powdered items (47% of items



identified) or items requires cooking will be altered depending upon the quantity of water or milk added and in the process of cooking respectively. Standardized recipes would need to be developed to ensure sufficient calorie density. The existing products could also be enriched with some reconstitution (like addition of milk, oil, jaggery, micronutrient pre-mixes, etc).

- ✳ There could be some concerns about the quality of protein i.e. source of protein whether from animal or plant, PDCAA score and also type of fats used like Omega 3 or 6 in the formulation of these products.
- ✳ Information on shelf life of products is available only for less than 20% (n=8) products. Shelf life of food items varies between 2-3 days to 180 months. Shelf life is a key consideration for the logistical feasibility of providing foods for management of children with SAM at community level.

Limitation

- a** The cost of food products are not available for most items. Costs will vary depending on local availability, but the cost of the food is a key component in identifying an appropriate product and ensuring its cost effectiveness, a key consideration in public health interventions. Further assessment on cost is required.
- b** For 20 food items the nutritive value of the cooked product (after preparation - ready to be consumed) is not available. Loss of nutrients during cooking and the change in nutrient density after the addition of water should be considered for the correct interpretation of available information.
- c** Information on shelf life is not available for the majority of items. Shelf life is important relating to the safety of the product. Additionally there are cost and storage implications
- d** It is observed that, calculated nutritive value and nutritive value cited in the article of the mapped food products differs. This is mostly due to the recent revision of nutritive value of Indian food. (IFCT guideline, 2017).
- e** There is a lack of information on the definite composition and formulation, nutrient density, anti-nutritional factor, direction of use of food from the available source.
- f** The suitability of WHO standards for the foods used for addressing SAM at community level in Indian context is yet to be widely accepted. In absence of any other standard, the WHO recommended standards were used for comparison¹.



Conclusions

The mapping exercise revealed that none of the food items met the WHO recommendation for nutritional content of standard therapeutic food to treat uncomplicated SAM at community level. Several food items came close to the WHO standards for energy density, yet none met the standards for macro and micronutrient content. With some augmentation and adjustments, they may be brought closer to the standards. Overall nutrient content requires further consideration. It may therefore be advisable to enhance the quality of local foods with inclusion of high quality protein (e.g. milk / egg protein) along with supplementing micronutrient intakes through provision of multi-vitamin mineral mixes. This mapping exercise provides a ready reference to State Governments as they began to explore alternative foods for the treatment of children with SAM at community level.

¹ Bhandari N, Mohan SB, Bose A, Iyengar SD, Taneja S, Mazumder S, et al. Efficacy of three feeding regimens for home-based management of children with uncomplicated severe acute malnutrition: a randomised trial in India. *BMJ global health*. 2016;1:e000144.



Table 1

: Most acceptable
 : Acceptable
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 : Information not available. (For colour coding, refer annexure 3)

Classification of Food Items Based on Energy Density

Number coding from Annexure 2		1	2	3	4	
Product name		Spirulina Fortified Nutri Ladu	Ready to eat Therapeutic food, paste (under research)	Ready to eat Supplementary food, paste	Ready to eat Supplementary food, paste	
Developed by	Organization name	Radhakrishna Food Services Pvt. Ltd.	ICAR-IIMR	ICAR-IIMR	ICAR-IIMR	
	State	Maharashtra	Hyderabad	Hyderabad	Hyderabad	
1	Product preparation ¹	Commercial	Government institution	Government institution	Government institution	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Peanut, Jaggery, Spirulina	pearl millet-20%, finger millet-10%, sesame seeds-40%, ground nut-30%.	peanut- 31.2%, pearl millet-20.86%, pulse(chick pea)-17.8%, sucrose- 15%, edible vegetable oil-10%, emulsifier-2%, vitamin-mineral premix-3.14%.	peanut- 31.2%, sorghum-10.43%, pearl millet-10.43%, pulse(chick pea)-17.8%, sucrose- 15%, edible vegetable oil-10%, emulsifier-2%, vitamin-mineral premix-3.14%.	
3	Readiness of product for consumption as mentioned on package/ research paper ²	RTE	RTE	RTE	RTE	
	Readiness of product for consumption through recipe & desk review assessment ²	RTE	RTE	RTE	RTE	
4	If any reconstitution required before eating the product (Yes/ No)	No	No	No	No	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	546	500	466	465
		en% Protein (10-12% of en) ⁴	NA	NA	11	11
		en% CHO (28-45% of en) ⁵	NA	NA	41	42
		en% Fat (45-60% of en) ⁶	NA	NA	47	47
6	Whether the food product is Fortified with micronutrients	Yes (Spirulina)	NA	yes (vitamins and minerals)	yes (vitamins and minerals)	
7	Shelf life	4-6 months	NA	NA	NA	
8	Feasibility trial	Study	NA	Ready to use Therapeutic food for severe Acute malnourished children.	Lactose-free and Gluten-free supplementary food for moderately and chronically under nourished and method of making the same.	Lactose-free and Gluten-free supplementary food for moderately and chronically under nourished and method of making the same.
		Study population ⁷ and sample size	NA	NA	NA	NA

¹ Government Institution/Commercial /SHG/ Prepared at Household level. ² Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU. ³ Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink). ⁴ 8-10% & 12-15% of en (yellow), 10-12% of en (dark blue), <8 and >15% of en (pink). ⁵ 28-45% of en (dark blue), 20-28% & 45-55% of en (yellow), <20% & >55% of en (pink). ⁶ >60% & <30% of en (pink), 30-45% of en (yellow), 45-60% of en (dark blue). ⁷ SAM/MAM/Underweight/ Normal/ Any other

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Number coding from Annexure 2		5	6	7	8	
Product name		Ready to eat Supplementary food, paste	Indian Multipurpose food (IMPF)	Low GI multigrain flour, powder	Modified therapeutic food (MTF)-Ready to eat nutritious powder	
Developed by	Organization name	ICAR-IIMR	Central Food Technological Research Institute (CFTRI)	ICAR-IIMR	Andhra Pradesh Foods	
	State	Hyderabad	Mysore, Karnataka	Hyderabad	Andhra Pradesh	
1	Product preparation ¹	Government institution	Government institution	Government institution	Government institution	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	oilseed paste (peanut)- 31.2%, gluten free cereal(sorghum)-20.86%, pulse(chick pea)-17.8%, sucrose- 15%, edible vegetable oil-10%, emulsifier-2%, vitamin-mineral premix-3.14%.	Low fat (raw groundnut) flour-75 Bengal gram flour-25	sorghum-30-40%, barley- 10-15%, finger/pearl millet-45-55%, soyabean-5-10%.	Roasted wheat flour, Roasted soya flour, Vanaspati ghee, Sugar	
3	Readiness of product for consumption as mentioned on package/ research paper ²	RTE	NA	RTU	RTE	
	Readiness of product for consumption through recipe & desk review assessment ²	RTE	RTU	RTU	RTE	
4	If any reconstitution required before eating the product (Yes/ No)	No	NA	NA	NA	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	463	462	456	440
		en% Protein (10-12% of en) ⁴	11	19	NA	13
		en% CHO (28-45% of en) ⁵	42	20	NA	NA
		en% Fat (45-60% of en) ⁶	46	60	NA	31
6	Whether the food product is Fortified with micronutrients	yes (vitamins and minerals)	Yes, vitamins A, Vitamin D, Thiamine, Riboflavin Calcium carbonate	NA	Yes, Vitamin A, Vitamin B1, Vitamin B2, Vitamin C, Folic acid, Niacin, Calcium, iron	
7	Shelf life	NA	NA	NA	45 days	
8	Feasibility trial	Study	Lactose-free and Gluten-free supplementary food for moderately and chronically under nourished and method of making the same.	"Indian multi-purpose food and low-fat groundnut flour as supplements for school children"	A very low GIcemic Multigrain flour.	"Sensory evaluation and acceptability trials of locally produced ready-to-eat supplementary foods for beneficiaries of icds in the age group of 12-35 months: a study in the ranga reddy district of andhra pradesh"
		Study population 7 and sample size	NA	Normal, 96	NA	MAM, Underweight and Normal, 30

¹ Government Institution/Commercial /SHG/ Prepared at Household level

² Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU

³ Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink)

⁴ 8-10% & 12-15% of en (yellow), 10-12% of en (dark blue), <8 and >15% of en (pink)

⁵ 28-45% of en (dark blue), 20-28% & 45-55% of en (yellow), <20% & >55% of en (pink)

⁶ >60% & <30% of en (pink), 30-45% of en (yellow), 45-60% of en (dark blue)

⁷ SAM/MAM/Underweight/ Normal/ Any other

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Number coding from Annexure 2		9	10	11	12	13	
Product name		Sweet Porridge	Halwa mix (Ready to cook)	EDNF	Khichdi mix with dal analogue	Upma mix (Ready to cook)	
Developed by	Organization name	Andhra Pradesh Foods	Andhra Pradesh Foods	RAU-PUSA	Andhra Pradesh Foods	Andhra Pradesh Foods	
	State	Andhra Pradesh	Andhra Pradesh	Bihar	Andhra Pradesh	Andhra Pradesh	
1	Product preparation ¹	Government institution	Government institution	Government institution	Government institution	Government institution	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Roasted wheat rawa, Soya Dal Analogue, Sugar, Vanaspathi and Cardamom	Roasted Wheat Rawa, Roasted Soya Rawa, Sugar, Vanaspathi, and Cardamom Powder	Cereal (Wheat/ Rice)- 10g, Peanut-30g, Pulse (Green gram whole)-8g, Whole Milk Powder-12g, Sugar-30g, Ghee-10g	Roasted wheat rawa, Soya Dal Analogue, Oil, Iodized Salt, Black gram dal, dried red chillies, Turmeric powder and Jeera	Roasted Wheat Rawa, Roasted Soya Rawa, Refined Palmolein Oil, Iodised Salt, Black Gram Dal, Mustard seeds and Dried Red Chillies	
3	Readiness of product for consumption as mentioned on package/ research paper ²	NA	RTU	RTE	NA	RTU	
	Readiness of product for consumption through recipe & desk review assessment ²	RTU	RTU	RTE	RTU	RTU	
4	If any reconstitution required before eating the product (Yes/ No)	NA	NA	NA	NA	NA	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	440	432	431	427	420
		en% Protein (10-12% of en) ⁴	10	11	10	13	14
		en% CHO (28-45% of en) ⁵	NA	NA	43	NA	NA
		en% Fat (45-60% of en) ⁶	NA	29	47	NA	32
6	Whether the food product is Fortified with micronutrients	Yes (Vitamins : Vit A, Vit B1, Vit B2, Vit C, Niacin and Folic acid) (Minerals: Calcium and Iron)	Yes (Vitamins : Vit A, Vit B1, Vit B2, Vit C, Niacin and Folic acid) (Minerals: Calcium and Zinc)	NA	Yes (Vitamins: Vit A, Vit B1, Vit B2, Vit C, Folic acid, & Niacin) (Minerals: Calcium and Iron)	"Yes (Vitamins : Vit A, Vit B1, Vit B2, Vit C, Niacin and Folic acid) (Minerals: Calcium and Zinc)"	
7	Shelf life	NA	NA	NA	NA	NA	
8	Feasibility trial	Study	NA	NA	NA	NA	
		Study population ⁷ and sample size	NA	NA	NA	NA	

¹ Government Institution/Commercial /SHG/ Prepared at Household level

² Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU

³ Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink)

⁴ 8-10% & 12-15% of en (yellow), 10-12% of en (dark blue), <8 and >15% of en (pink)

⁵ 28-45% of en (dark blue), 20-28% & 45-55% of en (yellow), <20% & >55% of en (pink)

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⁷ SAM/MAM/Underweight/ Normal/ Any other

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Number coding from Annexure 2		14	15	16	17	
Product name		SF Mix, powder	Balamrutham, powder	Shakti nutrimix, powder	Davangere mix, laddu	
Developed by	Organization name	Department of Woman & Child Development, Government of Maharashtra	Telangana food	Shibipur People's Care Organisation	Medical college, Davangere	
	State	Maharashtra	Andhra Pradesh	West Bengal	Karnataka (Davangree)	
1	Product preparation ¹	SHG	Government institution	SHG	SHG	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Milk Powder-30 Peanut-20 Sugar-28 Vegetable oil-20 Micronutrient Powder-1.6	Roasted Wheat-55 Bengal gram-5 Skimmed milk powder-10 Sugar-20 Oil-10	Rice, Wheat, Whole gram (chana), Ground nut, Sugar, Salt, Cardamom, Black pepper,	Soaked & dried Ragi Powder Roasted Bengal Gram Powder Powdered roasted Groundnut Jaggery syrup	
3	Readiness of product for consumption as mentioned on package/ research paper ²	RTE	RTU	NA	RTE	
	Readiness of product for consumption through recipe & desk review assessment ²	RTE	RTU	RTU	RTE	
4	If any reconstitution required before eating the product (Yes/ No)	NA	Yes (hot water) for children below one year, for older in the form of laddu	NA	No	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	418	409	402	400
		en% Protein (10-12% of en) ⁴	5	9	10	14
		en% CHO (28-45% of en) ⁵	32	62	NA	NA
		en% Fat (45-60% of en) ⁶	63	28	NA	NA
6	Whether the food product is Fortified with micronutrients	Yes (micronutrient powder)	Yes (Calcium, Iron, Vitamin A, Vitamin B1, Vitamin B2, Vitamin C, Folic acid and Niacin)	Yes (vitamins & minerals)	NA	
7	Shelf life	NA	NA	NA	NA	
8	Feasibility trial	Study	"A Study on "Village Child Development Center (VCDC)" and its Role in Redressing Malnutrition Problem in Gadchiroli District, Maharashtra, India "	NA	NA	"Comparison study on efficacy of standard who protocol of f-75 and f100 diet versus davangere mix in management of severe acute malnutrition"
		Study population ⁷ and sample size	SAM and MAM, 13584	NA	NA	SAM, 66

¹ Government Institution/Commercial /SHG/ Prepared at Household level

² Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU

³ Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink)

⁴ 8-10% & 12-15% of en (yellow), 10-12% of en (dark blue), <8 and >15% of en (pink)

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⁷ SAM/MAM/Underweight/ Normal/ Any other

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Number coding from Annexure 2		18	19	20	21	22	
Product name		Extruded Snack food SMART SNAX	Malt food	Amrutham Nutrimitrix	Energy Food (new fortification) powder	Nutrimix powder	
Developed by	Organization name	Andhr Pradesh Foods	Central Food Technological Research Institute (CFTRI)	Kudumab-shree	Central Food Technological Research Institute (CFTRI)	Action against malnutrition, Public Health Resource Society collaboration with ekjut & Child in Need Institute (CINI)	
	State	Andhra Pradesh	Karnataka (Mysore)	Kerala	Karnataka (Mysore)	India	
1	Product preparation ¹	Government institution	Government institution	Government institution	Government institution	SHG	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Wheat Flour, Maize Flour, Bengal Gram dhal, Refined Palmoline Oil, salt, citric acid and spices	Cereal malt-40 Roasted Bengal Gram flour-20 Low groundnut flour-40	Wheat-45 Soya chunks -10 Bengal gram-15 Groundnut-10 Sugar-20	Wheat, Bengal gram dhal, defatted soy flour, sugar, vitamins, minerals and malted cereals.	Wheat/ Rice-400g Bengal gram / green gram-100g Jaggery/ Sugar Vegetable oil	
3	Readiness of product for consumption as mentioned on package/ research paper ²	RTE	NA	RTE	RTE	RTU	
	Readiness of product for consumption through recipe & desk review assessment ²	RTE	RTU	RTE	RTE	RTU	
4	If any reconstitution required before eating the product (Yes/ No)	No	NA	No	No	Yes (milk/ water)	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	400	395	364	360	324
		en% Protein (10-12% of en) ⁴	12	18	16	17	16
		en% CHO (28-45% of en) ⁵	NA	41	65	NA	76
		en% Fat (45-60% of en) ⁶	14	40	18	NA	6
6	Whether the food product is Fortified with micronutrients	Yes Vitamins: Vit A, Vit B1, Vit B2, Vit C, Folic acid, & Niacin Minerals: Calcium and Iron	Yes (vitamins & calcium salt)	NA	Yes (vitamins & minerals)	NA	
7	Shelf life	NA	NA	NA	NA	2-3 days	
8	Feasibility trial	Study	NA	NA	NA	" S&T interventions to combat malnutrition in women and children"	"Outcomes of Children with Severe Acute Malnutrition in a Tribal Day care Setting"
		Study population ⁷ and sample size	NA	NA	NA	SAM, 270	SAM, 179

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² Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU
³ Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink)
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⁷ SAM/MAM/Underweight/ Normal/ Any other

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Number coding from Annexure 2		23	24	25	26	
Product name		Sattu Maavu	Amylase rich flour, powder	SAT Mix, Powder	Bengal gram sesame biscuit	
Developed by	Organization name	Integrated Child development Services-ICDS	Action against malnutrition, Public Health Resource Society	Action against malnutrition, Public Health Resource Society	National Institute of Nutrition (NIN)	
	State	Tamil Nadu	Delhi	Delhi	Hyderabad	
1	Product preparation ¹	SHG	SHG	SHG	Government institution	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Wheat/Maize/Bajra (kambu) Flour-52 Malted Ragi Flour-5 Bengal Gram Dhal Flour-12 Powdered jag-gery-30 Minerals and Vitamins-1	Wheat and green gram sprouted (3:1)	Rice-20, Wheat-20, Black gram-20, Sugar-40	Bengalgram flour-10 Maida-15 Sesame-15 Sugar-20 Vanaspati-8 Salt-a pinch Baking powder-a pinch	
3	Readiness of product for consumption as mentioned on package/ research paper ²	NA	RTE	RTU	RTE	
	Readiness of product for consumption through recipe & desk review assessment ²	RTU	RTE	RTU	RTE	
4	If any reconstitution required before eating the product (Yes/ No)	NA	NA	Yes (milk/ water)	NA	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	323	315	312	312
		en% Protein (10-12% of en) ⁴	11	17	9	9
		en% CHO (28-45% of en) ⁵	83	76	87	47
		en% Fat (45-60% of en) ⁶	4	4	2	44
6	Whether the food product is Fortified with micronutrients	Yes (Vitamins and Minerals)	NA	NA	NA	
7	Shelf life	NA	NA	2-3 days	NA	
8	Feasibility trial	Study	“The trends analysis done by the state ICDS “	“A Study on “Village Child Development Center (VCDC)” and its Role in Redressing Malnutrition Problem in Gadchiroli District, Maharashtra, India “	“Outcomes of Children with Severe Acute Malnutrition in a Tribal Day care Setting”	NA
	Study population ⁷ and sample size	SAM, MAM and Normal	SAM and MAM, 13584	SAM, 179	NA	

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⁷ SAM/MAM/Underweight/ Normal/ Any other

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Table 1

: Most acceptable
 : Acceptable
 : Less acceptable
 : Least acceptable
 : Least acceptable/ requires modification
 : Information not available. (for colour coding, refer annexure 3)

Number coding from Annexure 2		27	28	29	30	
Product name		Hyderabad Mix	Horsegram biscuit	Cowgram biscuit	Groundnut biscuit	
Developed by	Organization name	National Institute of Nutrition (NIN)	National Institute of Nutrition (NIN)	National Institute of Nutrition (NIN)	National Institute of Nutrition (NIN)	
	State	Hyderabad	Hyderabad	Hyderabad	Hyderabad	
1	Product preparation ¹	Government institution	Government institution	Government institution	Government institution	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Wheat-40 Bengal gram-16 Groundnut-10 Jaggery-20	Horsegram flour (dehusked)-25 Maida flour-25 Sugar-20 Vanaspati-5 Salt-pinch Baking powder-pinch	Cow gram flour (dehusked)-25 Maida flour-25 Sugar-20 Vanaspati-5 Salt-a pinch Baking powder-a pinch	Groundnut(roasted)- 25, Wheat flour (roasted)-25, Sugar-20 Salt-a pinch Baking powder-a pinch	
3	Readiness of product for consumption as mentioned on package/ research paper ²	NA	RTE	RTE	RTE	
	Readiness of product for consumption through recipe & desk review assessment ²	RTU	RTE	RTE	RTE	
4	If any reconstitution required before eating the product (Yes/ No)	NA	NA	NA	NA	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	304	296	293	290
		en% Protein (10-12% of en) ⁴	14	11	11	12
		en% CHO (28-45% of en) ⁵	69	72	71	56
		en% Fat (45-60% of en) ⁶	16	16	17	32
6	Whether the food product is Fortified with micronutrients	NA	NA	NA	NA	
7	Shelf life	NA	NA	NA	NA	
8	Feasibility trial	“Locally available and natural therapeutic foods for immunomodulation in Protein energy malnutrition”	NA	NA	NA	
	Study population ⁷ and sample size	SAM and MAM	NA	NA	NA	

¹ Government Institution/Commercial /SHG/ Prepared at Household level

² Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU

³ Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink)

⁴ 8-10% & 12-15% of en (yellow), 10-12% of en (dark blue), <8 and >15% of en (pink)

⁵ 28-45% of en (dark blue), 20-28% & 45-55% of en (yellow), <20% & >55% of en (pink)

⁶ >60% & <30% of en (pink), 30-45% of en (yellow), 45-60% of en (dark blue)

⁷ SAM/MAM/Underweight/ Normal/ Any other

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Table 1

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 : Least acceptable/ requires modification
 : Information not available. (for colour coding, refer annexure 3)

Number coding from Annexure 2		31	32	33	34	
Product name		Kuzhandai Amudhu, powder	Bengal gram- biscuit	Wheat gram laddu	Nutrimix powder	
Developed by	Organization name	Sri Avinashilingam Home Science College for Women	National Institute of Nutrition (NIN)	National Institute of Nutrition (NIN)	Development Research Communication and Service Centre	
	State	Tamil Nadu	Hyderabad	Hyderabad	West Bengal	
1	Product preparation ¹	not available	Government institution	Government institution	SHG	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Roasted maize flour-30 Green gram flour-20 Roasted groundnut-10 Jaggery-20	Bengal gram flour-25 Wheat flour-25 Sugar-20 Vanaspati-5 Salt-a pinch baking powder-a pinch	Whole wheat-30 Greengram dal-20 Groundnut-8 Sugar/Jaggery-20	Wheat (whole)-40 Rice-40 Grams (channa)-7.5 Moong (dal)-7.5 Groundnut-5; sprouted, dried, roasted and powdered	
3	Readiness of product for consumption as mentioned on package/ research paper ²	NA	RTE	NA	RTU	
	Readiness of product for consumption through recipe & desk review assessment ²	RTU	RTE	RTE	RTU	
4	If any reconstitution required before eating the product (Yes/ No)	NA	NA	NA	Yes (milk/water and sugar)	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	282	277	274	249
		en% Protein (10-12% of en) ⁴	14	11	15	16
		en% CHO (28-45% of en) ⁵	67	66	70	71
		en% Fat (45-60% of en) ⁶	17	22	13	10
6	Whether the food product is Fortified with micronutrients	NA	NA	NA	NA	
7	Shelf life	NA	NA	NA	NA	
8	Feasibility trial	Study	"Nutritional evaluation of a maize-based indigenous infant food, "Kuzhandai Amudhu"	NA	NA	NA
		Study population ⁷ and sample size	NA	NA	NA	NA

¹Government Institution/Commercial /SHG/ Prepared at Household level

²Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU

³Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink)

⁴8-10% & 12-15% of en (yellow), 10-12% of en (dark blue), <8 and >15% of en (pink)

⁵28-45% of en (dark blue), 20-28% & 45-55% of en (yellow), <20% & >55% of en (pink)

⁶>60% & <30% of en (pink), 30-45% of en (yellow), 45-60% of en (dark blue)

⁷SAM/MAM/Underweight/ Normal/ Any other

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Table 1

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 : Information not available. (For colour coding, refer annexure 3)

Number coding from Annexure 2		35	36	37	38	
Product name		HCCM (high calorie cereal milk) semisolid	Rice milk mix, powder	Sesame based nutritious supplement, paste	Dhal based n nutritional supplement for foods, granular	
Developed by	Organization name	Christian Medical College	Central Food Technological Research Institute (CFTRI)	Central Food Technological Research Institute (CFTRI)	Central Food Technological Research Institute (CFTRI)	
	State	Tamil Nadu (Vellore)	Karnataka (Mysore)	Karnataka (Mysore)	Karnataka (Mysore)	
1	Product preparation ¹	Pvt institution	Government institution	Government institution	Government institution	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Milk-100ml Flour (any)-15g Cooking Oil-5ml Sugar-2 tea-spoons	Rice,Sugar,green gram and skimmed milk powder	Sesame seeds, Whey protein concentrate, Refined p almeoin oil, Lecithin, Sugar	Moong dhal, Turmeric powder, Vitamin premix	
3	Readiness of product for consumption as mentioned on package/ research paper ²	RTE	RTU	RTE	RTE	
	Readiness of product for consumption through recipe & desk review assessment ²	RTE	RTU	RTE	RTE	
4	If any reconstitution required before eating the product (Yes/ No)	NA	NA	No	NA	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	222	NA	NA	NA
		en% Protein (10-12% of en) ⁴	9	NA	NA	NA
		en% CHO (28-45% of en) ⁵	44	NA	NA	NA
		en% Fat (45-60% of en) ⁶	46	NA	NA	NA
6	Whether the food product is Fortified with micronutrients	NA	Yes	NA	Yes (Vitamin Premix)	
7	Shelf life	NA	NA	8 months in PET Bottles and 1 year in glass bottles	4 months	
8	Feasibility trial	Study	“Locally made ready-to-use therapeutic food for treatment of malnutrition: A randomized controlled trial”	“ S&T interventions to combat malnutrition in women and children”	“ S&T interventions to combat malnutrition in women and children”	
	Study population ⁷ and sample size	118 Participants randomized to either intervention, RUTF (n=61), HCCM (n=57)	SAM, 270	SAM, 270	SAM, 270	

¹ Government Institution/Commercial /SHG/ Prepared at Household level
² Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU
³ Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink)
⁴ 8-10% & 12-15% of en (yellow), 10-12% of en (dark blue), <8 and >15% of en (pink)
⁵ 28-45% of en (dark blue), 20-28% & 45-55% of en (yellow), <20% & >55% of en (pink)
⁶ >60% & <30% of en (pink), 30-45% of en (yellow), 45-60% of en (dark blue)
⁷ SAM/MAM/Underweight/ Normal/ Any other

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Table 1

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 : Information not available. (For colour coding, refer annexure 3)

Number coding from Annexure 2		39	40	41	42	
Product name		Krishna Poshak Mix, laddu	High protein rusk	Fortified Mango bar	Nutri Chikki with added spirulina	
Developed by	Organization name	Krishna Institute of Nursing Sciences	Central Food Technological Research Institute (CFTRI)	Central Food Technological Research Institute (CFTRI)	Central Food Technological Research Institute (CFTRI)	
	State	Maharashtra (Karad)	Karnataka (Mysore)	Karnataka (Mysore)	Karnataka (Mysore)	
1	Product preparation ¹	Pvt institution	Government institution	Government institution	Government institution	
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)	Jawar, rice, wheat, Bengal gram dhal, black gram dhal, green gram dhal, ground nuts, ghee & jaggery	Wheat flour Defatted soya flour Fat Sugar	Mature ripe mango pulp, dehydrated carrot powder, cane sugar	Peanuts Jaggery Spirulina	
3	Readiness of product for consumption as mentioned on package/ research paper ²	RTE	RTE	RTE	RTE	
	Readiness of product for consumption through recipe & desk review assessment ²	RTE	RTE	RTE	RTE	
4	If any reconstitution required before eating the product (Yes/ No)	No	NA	No	No	
5	Nutrient composition	Energy (Kcal) (>400Kcal /100 gm) as per diet cal ³	NA	NA	NA	NA
		en% Protein (10-12% of en) ⁴	NA	NA	NA	NA
		en% CHO (28-45% of en) ⁵	NA	NA	NA	NA
		en% Fat (45-60% of en) ⁶	NA	NA	NA	NA
6	Whether the food product is Fortified with micronutrients	NA	Yes	Yes (Beta carotene, zinc, ascorbic acid and calcium)	NA	
7	Shelf life	NA	NA	6months	3months	
8	Feasibility trial	Study	“Effectiveness of ‘Krishna Poshak Mix’ on Nutritional Status of Rural Anganwadi Children “	“ S&T interventions to combat malnutrition in women and children”	“ S&T interventions to combat malnutrition in women and children”	
		Study population ⁷ and sample size	SAM, MAM and Normal, 54	SAM, 270	SAM, 270	SAM, 270

¹ Government Institution/Commercial /SHG/ Prepared at Household level

² Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU

³ Above 450 Kcal (dark blue), 400-450 Kcal (light blue), 350-400 Kcal (yellow), below 250-350 Kcal (orange), below 250 Kcal (pink)

⁴ 8-10% & 12-15% of en (yellow), 10-12% of en (dark blue), <8 and >15% of en (pink)

⁵ 28-45% of en (dark blue), 20-28% & 45-55% of en (yellow), <20% & >55% of en (pink)

⁶ >60% & <30% of en (pink), 30-45% of en (yellow), 45-60% of en (dark blue)

⁷ SAM/MAM/Underweight/ Normal/ Any other



Annexure 1: Assessment tool for the assessment of the product

Checklist Part 1:

A. General Information

S.No	Information	Details
1	Name of the Product	
2	Developed by (organization name)	
3	State (developing organization)	
4	Formulation	Powder/Paste/ Any other _____
5	Product preparation	Government Institution/Commercial /SHG/ Prepared at Household level
6	Packaging required	Yes/ No
7	Name of the essential equipment which is required for making product	a) Blender/Mixer b) Microwave c) No special equipment required d) Any other name of machine/ equipment, _____
8	Final product to be consumed as	Meal/ Snack/To be added as Sprinkle
9	Ready to Use	Yes/ No
10	Is any reconstitution required before eating the product	Yes/ No If Yes, with milk/water/ sugar/jaggery/ any other _____
11	Is Cooking required before consumption	Yes required/ Not required/Can be used both way
12	Are there any special instructions for use provided	Yes/ No If Yes, Details _____
13	Are there any Contraindications for Use (If Any)	Yes/ No If Yes, Details _____



B. Nutritional Composition & Assessment

S. No	Information	Details
1	List of ingredients with amount(g)	
2	Which type of oil was being used (Provide details)	
3	Nutritive Value of final product (100g) (If available)	ESSENTIALS
		Energy (kcal)
		Protein (g)
		Carbohydrate (g)
		Fat (g)
		Calcium (mg)
		Iron (mg)
		Sodium (mg)
		Potassium (mg)
		Phosphorus (mg)
		Magnesium (mg)
		Zinc (mg)
		Copper (mg)
		Selenium (µg)
		Folic acid (µg)
		Vitamin A (mg)
		DESIRABLES
		Iodine (µg)
		Vitamin D (µg)
		Vitamin E (mg)
		Vitamin K (µg)
		Vitamin B1 (mg)
		Vitamin B2 (mg)
Vitamin C (mg)		
Vitamin B6 (mg)		
Vitamin B12 (µg)		
Niacin B3 (mg)		
Pantothenic acid B5 (mg)		
Biotin (µg)		



4	<p>If nutritive values of product is not available, calculate as per NIN Nutritive value of Indian Foods (NVIF)-2017</p> <p><i>AOAC, 2006 method for proximate composition (proteins, fats, moisture etc) Other standard methods for fats soluble vitamins, water soluble vitamins, minerals etc</i></p>				
5	Whether the food product is Fortified with micronutrients	Yes/ No If Yes, Details _____			
6	Quantitative Assessment	Raw ingredients		Final product	
		en% Protein _____ en% CHO _____ en% Fat _____		en% Protein _____ en% CHO _____ en% Fat _____	
7	Qualitative Assessment of Protein (per 100g)	Raw ingredients		Final product	
		Animal origin _____ Plant origin _____		Animal origin _____ Plant origin _____	
8	Protein digestibility-corrected amino acid score (PDCAAS) If available				
9	Presence of phytochemicals	Yes/ No If Yes, Details _____			
10	Whether product consist of any food additives	Yes/ No If Yes, Details _____			
11	Whether product consist of any food preservatives	Yes/ No If Yes, Details _____			
12	<p>Is there any method used to increase shelf life/ enhancing nutritive value of raw ingredients before preparation of product</p> <p>Whether safety trials done for the product?</p>	Drying/ Fermenting/ Freezing/ Dry Salting/ Sealing/ Cellaring/ Roasting/ Germination Any other _____			
13	For how long the ingredients & final product can be safely stored (Shelf life)				
		ROOM TEMPERATURE		REFRIGERATION	
		With Air Tight Containers	Without Air Tight Containers	With Air Tight Containers	Without Air Tight Containers
	Food ingredients				
	Food product				



C. Details on usage of food product (Eg: 12-13m child with SAM/MAM, weigh 5 kg)

S.No	Information	Details
1	Amount to be used per meal	
2	Frequency per day	
3	Any other food to be given, requirement of water	
4	Percent of total day's intake met by using the prescribed amount of the product	
5	Whether any menu has been developed using this food product?	
6	Costing (If available)	a) Raw food product per 100g b) Costing to family for 1 day using the food product
	If not available, cost for preparing 1 kg of food product	a) Cost of ingredients _____ b) Approx. cost for product preparation ____ c) Approx. cost for adding any micronutrient etc _____ d) Packaging cost e) Any other cost (Infrastructure/ manpower)
7	Food testing information available	Yes/ No, If yes (response to a-c) a) Acceptability b) Tolerability c) Possible adverse effect _____ d) How much quantity of the food product child is able to consume? _____



D. Evidence on Food product

Has this product been tested for feasibility of scale up/ acceptability /efficacy/ effectiveness , if yes, specify details		
1	Study Title	
2	Kind of study	Feasibility/acceptability/efficacy/effectiveness
3	Author	
4	Publication	Report published/Not published
5	Type of study	Observational/ Experimental design Any other_____
6	Duration of study	
7	Study population	SAM/MAM/Underweight/ Normal/ Any other_____
8	Sample Size	
9	Sampling strategy	
10	Details of the intervention <ul style="list-style-type: none"> • Formulation used • Frequency and prescribed amount • Natural food included or not 	
11	Period of follow up	
12	Process indicators Impact indicators Documentation of SAEs	
13	Experience shared	
14	Interpretation	<ul style="list-style-type: none"> • Whether this product have been used for SAM child. If yes, total number_____ • If not used for SAM whether the product have been used for MAM child. If yes, total number _____
15	Conclusion	



Checklist Part 2:

Final Assessment of product (To be assessed by Technical team)

1. Interpretation:

- Whether this product have been used for SAM child. If yes, total number _____
- If not used for SAM whether the product have been used for MAM child. If yes, total number _____

2. Whether the food product is developed by SHG/ prepared at household level

3. Whether use of this food product will be helpful in meeting daily requirement of

- a. Energy (175-200 Kcal/kg/day)
- b. Protein (3-5 g/kg/day) 10 – 12% en
- c. CHO (25-30%en)
- d. Fat/ Lipid (45-60%en)

4. Whether the food product is acceptable for 6-59 months or it is for any specific age group.

5. Is the food product soft and crushable: Yes/ No

6. Whether there will be a need of any additional food item to meet minimum dietary diversity

7. Does the product fulfils the micronutrient requirement of the child

8. Does the food product has more than 50% Of proteins from milk/dairy products

9. Does the food product mineral composition alters the acid base metabolism of the children with Severe Acute Malnutrition

10. Does product have any artificial flavouring?

11. Safety Issues

a. Is there any possibility of adulteration (Y/N)

If yes, elaborate for each item, e.g. heavy metals, antibiotics _____

b. Is there any possibility of contamination (Y/N)

If Yes, Major component (Physical/ chemical/ microbiological/ contamination) _____

12. At room temperature, what is the shelf life of prepared product (<7 days/7-14 days/>14 days)

13. Overall Impression of the product



Annexure 2: Detailed Analysis of Mapped Foods

A. General Information									
Product name	Developed by		Product preparation ¹	Packaging required	Essential equipment required to make product ²	Final product to be consumed as ³	Readiness of product for consumption as mentioned on package/ research paper ⁴	If any reconstitution required before eating product ⁵	Any special instructions for use provided ⁶
	Organization	State							
1 Spirulina Fortified Nutri Ladu	Radhakrishna Food Services Pvt. Ltd.	Maharashtra	Commercial	Yes	NA	Meal/ Snack	RTE	No	NA
2 Ready to eat Therapeutic food, paste (under research)	ICAR-IIMR	Hyderabad	Government institution	Yes	blender/mixer	snack	RTE	no	no
3 Ready to eat Supplementary food, paste	ICAR-IIMR	Hyderabad	Government institution	Yes	blender/mixer	snack	RTE	no	no
4 Ready to eat Supplementary food, paste	ICAR-IIMR	Hyderabad	Government institution	Yes	blender/mixer	snack	RTE	no	no
5 Ready to eat Supplementary food, paste	ICAR-IIMR	Hyderabad	Government institution	Yes	blender/mixer	snack	RTE	no	no
6 Indian Multipurpose food (IMPF)	Central Food Technological Research Institute (CFTRI)	Mysore, Karnataka	Government institution	NA	NA	NA	NA	NA	NA
7 Low GI multigrain flour, powder	ICAR-IIMR	Hyderabad	Government institution	Yes	pulverizer, vibro-sifter	meal	RTU		no
8 Modified therapeutic food (MTF)- Ready to eat nutritious powder	Andhra Pradesh Foods	Andhra Pradesh	Government institution	Yes	NA	NA	RTE	NA	Yes, food package should not be opened or touched with wet hands
9 Sweet Porridge	Andhra Pradesh Foods	Andhra Pradesh	Government institution	NA	NA	NA	NA	NA	NA
10 Halwa mix (Ready to cook)	Andhra Pradesh Foods	Andhra Pradesh	Government institution	Yes	NA	NA	RTU	NA	NA
11 EDNF	RAU-PUSA	Bihar	government institution	Yes	NA	NA	RTE	NA	NA
12 Khichdi mix with dal analogue	Andhra Pradesh Foods	Andhra Pradesh	Government institution	NA	NA	NA	NA	NA	NA
13 Upma mix (Ready to cook)	Andhra Pradesh Foods	Andhra Pradesh	Government institution	Yes	NA	NA	RTU	NA	NA

NA: Not available; NC: Not calculated

¹ Government Institution/Commercial /SHG/ Prepared at Household level. ² (a) Blender/Mixer; (b) Microwave; (c) No special equipment required; (d) Any other name of machine/ equipment. ³ Meal/ Snack/To be added as Sprinkle. ⁴ Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU. ⁵ Yes/ No. If Yes, Details _____ ⁶ Yes/ No. If Yes, Details _____

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Annexure 2: Detailed Analysis of Mapped Foods

A. General Information									
Product name	Developed by		Product preparation ¹	Packaging required	Essential equipment required to make product ²	Final product to be consumed as ³	Readiness of product for consumption as mentioned on package/ ⁴ research paper ⁴	If any reconstitution required before eating product ⁵	Any special instructions for use provided ⁶
	Organization	State							
14 SF Mix, powder	Department of Woman & Child Development, Government of Maharashtra	Maharashtra	SHG	NA	NA	Snack	RTE	NA	NA
15 Balamrutham, powder	Telangana food	Andhra Pradesh	Government institution	Yes	NA	NA	RTU	Yes (hot water) for children below one year, for older in the form of laddu	NA
16 Shakti nutrimix, powder	Shibipur People's Care Organisation	West Bengal	SHG	NA	NA	NA	NA	NA	NA
17 Davangere mix, laddu	Medical college, Davangere	Karnataka (Davangere)	SHG	NA	NA	NA	RTE	No	NA
18 Extruded Snack food SMART SNAX	Andhra Pradesh Foods	Andhra Pradesh	Government institution	Yes	NA	Snack	RTE	No	NA
19 Malt food	Central Food Technological Research Institute (CFTRI)	Karnataka (Mysore)	Government institution	NA	NA	NA	NA	NA	NA
20 Amrutham Nutrimix	Kudumabshree	Kerala	ICDS-THRS Scheme	Yes	NA	NA	RTE	It can be having either directly or to mix milk or water	NA
21 Energy Food (new fortification) powder	Central Food Technological Research Institute (CFTRI)	Karnataka (Mysore)	Government institution	Yes	Single trunk elevator, grain grader cum seed cleaner, fluidized bed roaster, cooler, impact pulveriser, storage bins, gram toaster, and ribbon mixture	NA	RTE	No	NA
22 Nutrimix powder	Action against malnutrition, Public Health Resource Society in collaboration with Ekjut & Child in Need Institute (CINI)	India	SHG	Yes	a) Mixer	Snack	RTU	Yes (milk/water)	If kept in seal packet have longer shelf life
23 Sattu Maavu	Integrated Child development Services-ICDS	Tamil Nadu	SHG	NA	NA	Meal	NA	NA	NA

NA: Not available; NC: Not calculated

¹ Government Institution/SHG/ Prepared at Household level. ² (a) Blender/Mixer; (b) Microwave; (c) No special equipment required; (d) Any other name of machine/ equipment, _____, ³ Meal/ Snack/To be added as Sprinkle. ⁴ Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU. ⁵ Yes/ No. If Yes, milk/water/ sugar/jaggery/ any other _____, ⁶ Yes/ No. If Yes, Details _____

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Annexure 2: Detailed Analysis of Mapped Foods

A. General Information									
Product name	Developed by		Product preparation ¹	Packaging required	Essential equipment required to make product ²	Final product to be consumed as ³	Readiness of product for consumption as mentioned on package/ research paper ⁴	If any reconstitution required before eating product ⁵	Any special instructions for use provided ⁶
	Organization	State							
24 Amylase rich flour, powder	Action against malnutrition, Public Health Resource Society	Delhi	SHG	NA	NA	Sprinkler	RTE	NA	NA
25 SAT Mix, Powder	Action against malnutrition, Public Health Resource Society	Delhi	SHG	No	a) Mixer	Snack	RTU	Yes (milk/water)	If kept in seal packet have longer shelf life
26 Bengal gram sesame biscuit	National Institute of Nutrition (NIN)	Hyderabad	Government institution	NA	NA	NA	RTE	NA	NA
27 Hyderabad Mix	National Institute of Nutrition (NIN)	Hyderabad	Government institution	NA	NA	NA	NA	NA	NA
28 Horsegram biscuit	National Institute of Nutrition (NIN)	Hyderabad	Government institution	NA	NA	NA	RTE	NA	NA
29 Cowgram biscuit	National Institute of Nutrition (NIN)	Hyderabad	Government institution	NA	NA	NA	RTE	NA	NA
30 Groundnut biscuit	National Institute of Nutrition (NIN)	Hyderabad	Government institution	NA	NA	NA	RTE	NA	NA
31 Kuzhandai Amudhu, powder	Sri Avinashilingam Home Science College for Women	Tamil Nadu	NA	NA	NA	NA	NA	NA	NA
32 Bengal gram- biscuit	National Institute of Nutrition (NIN)	Hyderabad	Government institution	NA	NA	NA	RTE	NA	NA
33 Wheat gram laddu	National Institute of Nutrition (NIN)	Hyderabad	Government institution	NA	NA	NA	NA	NA	NA
34 Nutrimix powder	Development Research Communication and Service Centre	West Bengal	SHG	NA	NA	NA	RTU	Yes (milk/water and sugar)	2 heaped spoons in 1 glass of water/ milk with sugar twice a day
35 HCCM (high calorie cereal milk) semisolid	Christian Medical College	Tamil Nadu (Vellore)	Pvt institution	NA	NA	NA	RTE	NA	NA
36 Rice milk mix, powder	Central Food Technological Research Institute (CFTRI)	Karnataka (Mysore)	Government institution	NA	NA	NA	RTU	NA	NA

NA: Not available; NC: Not calculated

¹ Government Institution/Commercial /SHG/ Prepared at Household level. ² (a) Blender/Mixer; (b) Microwave; (c) No special equipment required; (d) Any other name of machine/ equipment. ³ Meal/ Snack/To be added as Sprinkle. ⁴ Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU. ⁵ Yes/ No. If Yes, milk/water/ sugar/jaggery/ any other ⁶ Yes/ No. If Yes, Details _____

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

A. General Information									
Product name	Developed by		Product preparation ¹	Packaging required	Essential equipment required to make product ²	Final product to be consumed as ³	Readiness of product for consumption as mentioned on package/research paper ⁴	If any reconstitution required before eating product ⁵	Any special instructions for use provided ⁶
	Organization	State							
37 Sesame based nutritious supplement, paste	Central Food Technological Research Institute (CFTRI)	Karnataka (Mysore)	Government institution	Yes	Roasting machine, colloid mill, Bottle filling machine and sealing machine, Homogenizer, Pre-cleaner / Grader	NA	RTE	No	NA
38 Dhal based nutritional supplement for foods, granular	Central Food Technological Research Institute (CFTRI)	Karnataka (Mysore)	Government institution	NA	Destoner, Blender, Trays	Sprinkler	RTE	NA	NA
39 Krishna Poshak Mix, laddu	Krishna Institute of Nursing Sciences	Maharashtra (Karad)	Pvt institution	NA	NA	Snack	RTE	No	NA
40 High protein rusk	Central Food Technological Research Institute (CFTRI)	Karnataka (Mysore)	Government institution	Yes	Mixer, Baking pans, Baking oven, Slicing machine, Cooling rack	Snack	RTE	NA	NA
41 Fortified Mango bar	Central Food Technological Research Institute (CFTRI)	Karnataka (Mysore)	Government institution	Yes	Fruit washer, Stirrer, Fruit pulper, SS Preparation tables, Boiler, SS blending tank with agitator and pump, SS steam jacketed kettles, Hot air drier	Snack	RTE	No	NA
42 Nutri Chikki with added spirulina	Central Food Technological Research Institute (CFTRI)	Karnataka (Mysore)	Government institution	Yes	Drum Roaster, Splitting machine, Stainless steel trays, Candy cooker cum mixer, Sheetting and cutting machines	Snack	RTE	No	NA

NA: Not available; NC: Not calculated

¹ Government Institution/SHG/ Prepared at Household level. ² (a) Blender/Mixer; (b) Microwave; (c) No special equipment required; (d) Any other name of machine/ equipment, _____; ³ Meal/ Snack/To be added as Sprinkle. ⁴ Ready to Eat/ Ready to Consume = RTE; Ready to use/ Ready to Cook = RTU. ⁵ Yes/ No. If Yes, milk/water/ sugar/jaggery/ any other _____; ⁶ Yes/ No. If Yes, Details _____

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment available from label							
Product name	Ingredients with amount (g)	Type of oil used	Nutritive Value of product 7				Whether the food product is Fortified with micronutrients 8
			Energy (Kcal)	Protein (g)	Carbohydrate (g)	Fat (g)	
1	Spirulina Fortified Nutri Ladu	NA	546.44	20.4	37.24	35.08	Yes (Spirulina)
2	Ready to eat Therapeutic food, paste (under research)	no	500	17.96	38.53	47.53	NA
3	Ready to eat Supplementary food, paste	vegetable oil	465.88	13.36	48.06	24.47	yes (vitamins and minerals)
4	Ready to eat Supplementary food, paste	vegetable oil	464.6	13.23	48.6	24.14	yes (vitamins and minerals)
5	Ready to eat Supplementary food, paste	vegetable oil	463.32	13.11	49.13	23.82	yes (vitamins and minerals)
6	Indian Multipurpose food (IMPF)	NA	NA	NA	NA	NA	Yes, vitamins A, Vitamin D, Thiamine, Riboflavin Calcium carbonate
7	Low GI multigrain flour, powder	no	456.2	4.56	67.45	21.14	NA
8	Modified therapeutic food (MTF)- ready to eat nutritious powder	Hydrogenated oil	440/100g	14/100g	NA	15/100g	Yes, Vitamin A, Vitamin B1, Vitamin B2, Vitamin C, Folic acid, Niacin, Calcium, iron
9	Sweet Porridge	Hydrogenated oil	440/100g	10.5/100g	NA	NA	Yes (Vitamins : Vit A, Vit B1, Vit B2, Vit C, Niacin and Folic acid) (Minerals: Calcium and Iron)

NA: Not available; NC: Not calculated
 7 As mentioned on packet/ research paper, if available). * Yes/No. If Yes, Details _____.

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment available from label								
Product name	Ingredients with amount (g)	Type of oil used	Nutritive Value of product 7				Whether the food product is Fortified with micronutrients 8	
			Energy (Kcal)	Protein (g)	Carbohydrate (g)	Fat (g)		
10	Halwa mix (Ready to cook)	Roasted Wheat Rawa, Roasted Soya Rawa, Sugar, Vanaspati, and Cardamom Powder	Hydrogenated oil	432/100g	12/100g	NA	14/100g	Yes (Vitamins : Vit A, Vit B1, Vit B2, Vit C, Niacin and Folic acid) (Minerals: Calcium and Zinc)
11	EDNF	Cereal (Wheat/Rice)- 10g, Peanut-30g, Pulse (Green gram whole) -8g, Whole Milk Powder-12g, Sugar-30g, Ghee-10g	NA	475	12.6	NA	NA	NA
12	Khichdi mix with dal analogue	Roasted wheat rawa, Soya Dal Analogue, Oil, Iodized Salt, Black gram dal, dried red chillies, Turmeric powder and Jeera	NA	427/100g	14/100g	NA	NA	Yes (Vitamins: Vit A, Vit B1, Vit B2, Vit C, Folic acid, & Niacin) (Minerals: Calcium and Iron)
13	Upma mix (Ready to cook)	Roasted Wheat Rawa, Roasted Soya Rawa, Refined Palmolein Oil, Iodised Salt, Black Gram Dal, Mustard seeds and Dried Red Chillies	Unsaturated oil	420/100g	14.4/100g	15/100g	NA	Yes (Vitamins : Vit A, Vit B1, Vit B2, Vit C, Niacin and Folic acid) (Minerals: Calcium and Zinc)
14	SF Mix, powder	Milk Powder-30, Peanut-20, Sugar-28, Vegetable oil-20, Micronutrient Powder-1.6	Unsaturated oil	513	16.5	NA	28	Yes (micronutrient powder)
15	Balamrutham, powder	Roasted Wheat-55, Bengal gram-5, Skimmed milk powder-10, Sugar-20, Oil-10	NA	414/100g	11/100g	NA	NA	Yes (Calcium, Iron, Vitamin A, Vitamin B1, Vitamin B2, Vitamin C, Folic acid and Niacin)
16	Shakti nutrimix, powder	Rice, Wheat, Whole gram (chana), Groundnut, Sugar, Salt, Cardamom, Black pepper,	NA	402/100g	10.4/100g	NA	5.3/100g	Yes (vitamins & minerals)
17	Davangere mix, laddu	Soaked & dried Ragi Powder, Roasted Bengal Gram Powder, Powdered roasted Groundnut, Jaggery syrup	NA	100/25g	3.5/25g	NA	NA	NA
18	Extruded Snack food SMART SNAX	Wheat Flour, Maize Flour, Bengal Gram dhal, Refined Palmoline Oil, salt, citric acid and spices	Unsaturated oil	400	12	NA	6	Yes Vitamins: Vit A, Vit B1, Vit B2, Vit C, Folic acid, & Niacin Minerals: Calcium and Iron

NA: Not available; NC: Not calculated
 *As mentioned on packet/ research paper; if available). * Yes/ No. If Yes, Details _____.

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment available from label							
Product name	Ingredients with amount (g)	Type of oil used	Nutritive Value of product 7			Whether the food product is Fortified with micronutrients 8	
			Essentials	Carbohydrate (g)	Fat (g)		
			Energy (Kcal)	Protein (g)			
19	Malt food Cereal malt-40 Roasted Bengal Gram flour-20 Low groundnut flour-40	NA	NA	10g/40g	NA	NA	Yes (vitamins & calcium salt)
20	Amrutham Nutrimix Wheat-45 Soya chunks -10 Bengal gram-15 Groundnut-10 Sugar-20	NA	391/100g	16.1/100g	69.4/100g	5.4/100g	NA
21	Energy Food (new fortification) powder Wheat, Bengal gram dhal, defatted soy flour, sugar, vitamins, minerals and malted cereals.	NA	360/100g	15/100g	NA	NA	Yes (vitamins & minerals)
22	Nutrimix powder Wheat/Rice-400g Bengal gram /green gram-100g Jaggery/Sugar Vegetable oil	Unsaturated oil	120-150 /100g cooked	2-3g/100g	NA	NA	Can be done with electrolyte mineral solution
23	Sattu Maavu Wheat/Maize/Bajra (kambu) Flour-52 Malted Ragi Flour-5 Bengal Gram Dhal Flour-12 Powdered Jaggery-30 Minerals and Vitamins-1	NA	360/100g	9-10g/100g	NA	NA	Yes (Vitamins and Minerals)
24	Amylase rich flour, powder Wheat and green gram sprouted (3:1)	NA	NA	NA	NA	NA	NA
25	SAT Mix, Powder Rice-20, Wheat-20, Black gram-20, Sugar-40	NA	380/100g	8/100g	NA	NA	NA
26	Bengal gram sesame biscuit Bengalgram flour-10 Maida-15 Sesame-15 Sugar-20 Vanaspoti-8 Salt-a pinch Baking powder-a pinch	Hydrogenated oil	NA	NA	NA	NA	NA

NA: Not available; NC: Not calculated
 7 As mentioned on packet/ research paper, if available). * Yes/No. If Yes, Details _____.



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment available from label							
Product name	Ingredients with amount (g)	Type of oil used	Nutritive Value of product 7				Whether the food product is Fortified with micronutrients 8
			Energy (Kcal)	Protein (g)	Carbohydrate (g)	Fat (g)	
27	Hyderabad Mix Wheat-40 Bengal gram-16 Groundnut-10 Jaggery-20	NA	330/86g	11.3/86g	NA	NA	NA
28	Horsegram biscuit Horsegram flour (dehusked)-25 Maida flour-25 Sugar-20 Vanaspatti-5 Salt-pinch Baking powder-pinch	Hydrogenated oil	NA	NA	NA	NA	NA
29	Cowgram biscuit Cow gram flour (dehusked)-25 Maida flour-25 Sugar-20 Vanaspatti-5 Salt-a pinch Baking powder-a pinch	Hydrogenated oil	NA	NA	NA	NA	NA
30	Groundnut biscuit Groundnut(roasted)- 25, Wheat flour (roasted)-25, Sugar-20, Salt-a pinch Baking powder-a pinch	NA	NA	NA	NA	NA	NA
31	Kuzhandai Amudhu, powder Roasted maize flour-30 Green gram flour-20 Roasted groundnut-10 Jaggery-20	NA	305/80g	11.5/80g	NA	NA	NA
32	Bengal gram- biscuit Bengal gram flour-25 Wheat flour-25 Sugar-20 Vanaspatti-5 Salt-a pinch baking powder-a pinch	Hydrogenated oil	NA	NA	NA	NA	NA
33	Wheat gram laddu Whole wheat-30 Greengram dal-20 Groundnut-8 Sugar/Jaggery-20	NA	NA	NA	NA	NA	NA

NA: Not available; NC: Not calculated
 7 As mentioned on packet/ research paper; if available). 8 Yes/No. If Yes, Details _____.

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment available from label							Whether the food product is Fortified with micronutrients 8
Product name	Ingredients with amount (g)	Type of oil used	Nutritive Value of product 7				
			Energy (Kcal)	Protein (g)	Carbohydrate (g)	Fat (g)	
34	Nutrimix powder	Wheat (whole)-40 Rice-40 Grams (channa) -7.5 Moong (dal)-7.5 Groundnut-5; sprouted, dried, roasted and powdered	NA	NA	NA	NA	NA
35	HCCM (high calorie cereal milk) semi-solid	Milk-100ml Flour (any)-15g Cooking Oil-5ml Sugar-2 teaspoons	NA	187/100ml	NA	NA	NA
36	Rice milk mix, powder	Rice,Sugar,green gram and skimmed milk powder	NA	NA	NA	NA	Yes
37	Sesame based nutritious supplement, paste	Sesame seeds, Whey protein concentrate, Refined palmolein oil, Lecithin, Sugar	Unsaturated oil	NA	NA	NA	NA
38	Dhal based nutritional supplement for foods, granular	Moong dhal, Turmeric powder, Vitamin premix	NA	NA	NA	NA	Yes (Vitamin Premix)
39	Krishna Poshak Mix, laddu	Jawar, rice, wheat, Bengal gram dhal, black gram dhal, green gram dhal, ground nuts, ghee & jaggery	NA	NA	NA	NA	NA
40	High protein rusk	Wheat flour,Defatted soya flour Fat Sugar	NA	NA	NA	NA	Yes
41	Fortified Mango bar	Mature ripe mango pulp, dehydrated carrot powder, cane sugar	NA	NA	NA	NA	Yes (Beta carotene,zinc,ascorbic acid and calcium)
42	Nutri Chikki with added spirulina	Peanuts Jaggery Spirulina	NA	NA	NA	NA	NA

NA: Not available; NC: Not calculated
 7As mentioned on packet/ research paper; if available). * Yes/ No. If Yes, Details _____.

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment																		
If nutritive values of product is not available, calculate as per NIN 2017																		
Product name	Essentials																	
	Energy (Kcal)	Protein (g)	Carbohydrate (g)	Fat (g)	Calcium (mg)	Iron (mg)	Sodium (mg)	Potassium (mg)	Phosphorus (mg)	Magnesium (mg)	Zinc (mg)	Copper (mg)	Selenium (mgs)	Folic acid (µg)	Vitamin A (µg) retinol	Vitamin A ((µg)) carotene		
1 Spirulina Fortified Nutri Ladu	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
2 Ready to eat Therapeutic food, paste (under research)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
3 Ready to eat Supplementary food, paste	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
4 Ready to eat Supplementary food, paste	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
5 Ready to eat Supplementary food, paste	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
6 Indian Multipurpose food (IMPF)	462	22	23	31	78	4.275	15.79	743	360	187.75	3.22	0.902	12.86	126.4	0	60.06	60.06	
7 Low GI multigrain flour, powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
8 Modified therapeutic food (MTF)- ready to eat nutritious powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
9 Rice milk mix, powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10 Sweet Porridge	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
11 EDNF	430.507188	10.3456	45.8812	22.671	40.8484	1.8512	7.921	342.76	188.63	88.4336	1.4922	0.4076	8.3146	42.6266	6.99	19.6924	19.6924	
12 Upma mix (Ready to cook)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

NA: Not available; NC: Not calculated

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment																		
If nutritive values of product is not available, calculate as per NIN 2017																		
Product name	Essentials																	
	Energy (Kcal)	Protein (g)	Carbohydrate (g)	Fat (g)	Calcium (mg)	Iron (mg)	Sodium (mg)	Potassium (mg)	Phosphorus (mg)	Magnesium (mg)	Zinc (mg)	Copper (mg)	Selenium (mgs)	Folic acid (µg)	Vitamin A (µg) retinol	Vitamin A ((µg)) carotene		
13 Halwa mix (Ready to cook)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
14 SF Mix, powder	418	6	33	29	46.2	11.93	10.08	170.88	10717	51.274	12.205	1.663	0.987	20.49	17.475	920.651		
15 Balamrutham, powder	409	9	63	13	46.964	2.9875	11.42	286.15	201	76.85	2.1	28.3105	30.216	27.64	9.91	35		
16 Nutrimix powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
17 Davangere mix, laddu	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
18 Extruded Snack food SMART SNAX	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
19 Kuzhandai Amudhu, powder	395	17	41	17	67.344	4.32	11.2	605	335.8	160.8	3.0806	0.734	28.714	94.984	0	44.712		
20 HCCM (high calorie cereal milk) semisolid	364	14	59	7	49.56	3.86	5.75	539.55	279	112.55	2.495	0.51	31.16	78.72	0	28.67		
21 Sesame based nutritious supplement, paste	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	
22 Amrutham Nutrimix	324	13	61	2	40.752	4.39	6.166	484.2	317	123.6	3.01	0.556	48.4	60.472	0	35.424		
23 Sattu Maavu	323	9	67	2	84.34	4.5	12.09	442.47	228.69	122.2	2.14	0.4	33.33	49.2	0	22.1		
24 Malt food	315	14	60	1	52.6	4.2	4.9	568.7	324.5	143.2	2.8	0.6	41.6	58.8	0	4.6		
25 SAT Mix, Powder	312	7	68	1	19.47	1.768	4.42	311.38	144.02	60.81	1.24	0.24	14.41	24.35	0	2.62		
26 Khichdi mix with dal analogue	312	7	37	15	210.51	3.1995	5.2	184.7	156.3	76.4	1.634	0.335	8.134	45.38	0	19.43		
27 Hyderabad Mix	304	10	52	5	49.95	3.83	10.62	465.02	232.01	111.58	2.132	0.43	276	53.123	0	29.887		
28 Horsegram biscuit	296	8	53	5	72.35	2.635	3.42	303.25	102	45.67	0.8975	0.365	7.372	44.81	0	15.135		

NA: Not available; NC: Not calculated

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment																
If nutritive values of product is not available, calculate as per NIN 2017																
Product name	Energy (Kcal)	Protein (g)	Carbohydrate (g)	Fat (g)	Calcium (mg)	Iron (mg)	Sodium (mg)	Potassium (mg)	Phosphorus (mg)	Magnesium (mg)	Zinc (mg)	Copper (mg)	Selenium (mgs)	Folic acid (µg)	Vitamin A (µg) retinol	Vitamin A ((µg) carotene
29 Cowgram biscuit	293	8	52	5	26.125	1.7	3.51	34775	122	60.92	1.11	0.21	6.637	66.3	0	2.545
30 Bengal gram sesame biscuit	290	9	40	10	21.235	1.885	3.56	2475	130.77	80.5	1.507	0.35	14.13	30.02	0	6.355
31 Shakti nutrimix, powder	282	10	47	5	47.959	2.995	10.13	448.2	208.31	125.8	1.63	0.441	7612	48.71	0	85.475
32 Bengal gram-biscuit	277	7	46	7	54.3	2.72	7.15	311.5	145.5	71.25	1.55	0.33	23.58	65.55	0	43.667
33 Wheat gram laddu	274	10	48	4	46.154	3.1782	8.83	515.32	223.89	107.26	1.69	0.4286	24.62	37.5986	0	27.129
34 Nutrimix powder	249	10	44	3	26.79	2.48	4.08	375.78	216.93	86.87	1.86	0.391	24.96	31.31	0	12.25
35 Balamrutham, powder	222	5	25	11	138.641	0.615	0.306	46.65	47.25	18.75	0.4275	0.072	7.968	4.383	40	0.4005/0
36 Energy Food (new fortification) powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
37 Dhal based nutritional supplement for foods, granular	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
38 Amylase rich flour, powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
39 Krishna Poshak Mix, laddu	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
40 High protein rusk	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
41 Fortified Mango bar	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
42 Nutri Chikki with added spirulina	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

NA: Not available; NC: Not calculated

Continued on next Page



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment												
Product name	If nutritive values of product is not available, calculate as per NIN 2017											
	Desirables											
	Iodine (µg)	Vitamin D (µg)	Vitamin E (mg)	Vitamin K (µg)	Vitamin B1 (mg)	Vitamin B2 (mg)	Vitamin C (mg)	Vitamin B6 (mg)	Vitamin B12 (mg)	Niacin B3 (mg)	Pantothenic acid B5 (µg)	Biotin (µg)
1 Spirulina Fortified Nutri Ladu	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2 Ready to eat Therapeutic food, paste (under research)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3 Ready to eat Supplementary food, paste	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4 Ready to eat Supplementary food, paste	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
5 Ready to eat Supplementary food, paste	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
6 Indian Multipurpose food (IMPF)	0	0	0.64	2.4	0.52	0.15	0	0.2625	0	9.03	1.35	1.44
7 Low GI multigrain flour, powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
8 Modified herapeutic food (MTF)- ready to eat nutritious powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
9 Sweet Porridge	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10 Halwa mix (Ready to cook)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
11 EDNF	0	0.0144	0.1628	1.9104	0.2526	0.0858	0.2412	0.1268	0	3.8244	0.5924	0.9046
12 Khichdi mix with dal analogue	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
13 Upma mix (Ready to cook)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
14 SF Mix, powder	0.08	16.036	20.12	0.521	0.723	1.917	0.656	0.658	1.76	7604	3.404	0.982
15 Balamrutham, powder	2	0.45	0.433	2.8375	18.771	27.59	3.5	0.15	0.07	117.56	0.814	1.307
16 Shakti nutrimix, powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
17 Davangere mix, laddu	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
18 Extruded Snack food SMART SNAX	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
19 Malt food	0	0	0.764	2.12	0.48	0.156	0	0.268	0	6.032	1.312	1.242
20 Amrutham Nutrimix	0	0	0.536	5.88	0.377	0.125	0	0.213	0	2.84	1.02	0.82
21 Energy Food (new fortification) powder	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

NA: Not available; NC: Not calculated
 7 As mentioned on packet/ research paper, if available). * Yes/ No. If Yes, Details _____, *9 Drying/ Fermenting/ Freezing/ Dry Salting/ Sealing/ Cellaring/ Roasting/ Germination/ Any other _____



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment												
Product name	If nutritive values of product is not available, calculate as per NIN 2017											
	Desirables											
	Iodine (µg)	Vitamin D (µg)	Vitamin E (mg)	Vitamin K (µg)	Vitamin B1 (mg)	Vitamin B2 (mg)	Vitamin C (mg)	Vitamin B6 (mg)	Vitamin B12 (mg)	Niacin B3 (mg)	Pantothenic acid B5 (µg)	Biotin (µg)
22	0	0	0.654	1.7	0.438	0.15	0	0.246	0	2.518	1.184	0.986
23	0	0	0.36	1.1	0.3	0.1	0	0.4	0	1.5	0.82	0.7
24	0	0	0.6	4.5	0.4	0.2	0	0.3	0	2.55	1.3	1.1
25	0	0	0.19	2.1	0.13	0.05	0	0.103	0	0.994	0.84	0.405
26	0	0	0.368	16.26	0.113	0.043	0	0.141	0	0.91	0.418	0.699
27	0	0	0.3744	1.19	0.305	0.098	0	0.299	0	2.51	0.835	0.8186
28	0	0	0.08	2.81	0.11	0.075	0	0.072	0	0.647	0.575	0.29
29	0	0	0.175	0.675	0.1225	0.0375	0	0.085	0	0.57	0.595	1.21
30	0	0	0.135	1	0.24	0.067	0	0.12	0	3.43	0.47	0.59
31	0	0	0.21	3.526	0.254	0.095	0	0.337	0	2.378	0.653	0.694
32	0	0	0.495	0.9	0.19	0.09	0	0.15	0	1.11	0.8	0.422
33	0	0	0.3074	2.385	0.2616	0.0806	0	0.2764	0	2.084	0.7868	0.6838
34	0	0	0.35	2.25	0.26	0.08	0	0.16	0	2.12	0.9	0.677
35	0	0	0.039	0.225	0.063	0.0225	0	0.375	0	0.355	0.1305	0.114
36	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
37	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
38	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
39	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
40	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
41	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
42	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

NA: Not available; NC: Not calculated
 *As mentioned on packet/ research paper; if available). * Yes/ No. If Yes, Details _____ * Drying/ Fermenting/ Freezing/ Dry Salting/ Sealing/ Cellaring/ Roasting/ Germination/ Any other _____



Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment												
Product name	No of micronutrient present in natural form	Quantitative Assessment						Is there any method used to increase shelf life/enhancing nutritive value of raw ingredients before preparation of product ⁹	For how long the ingredients & final product can be safely stored (Shelf life)	If Yes, Give details (Shelf life)		Any menu developed using this food product?
		Raw ingredients			Final product					Food product (Room Temperature)	With Air Tight Containers	
		en% Protein	en% CHO	en% Fat	en% Protein	en% CHO	en% Fat					
1 Spirulina Fortified Nutri Ladu	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	NA	NA
2 Ready to eat Therapeutic food, paste (under research)	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	NA	NA
3 Ready to eat Supplementary food, paste	NC	NC	NC	NC	11	41	47	NA	NA	NA	NA	NA
4 Ready to eat Supplementary food, paste	NC	NC	NC	NC	11	42	47	NA	NA	NA	NA	NA
5 Ready to eat Supplementary food, paste	NC	NC	NC	NC	11	42	46	NA	NA	NA	NA	NA
6 Indian Multipurpose food (IMPF)	19	19	20	60	NA	NA	NA	NA	NA	NA	NA	NA
7 Low GI multigrain flour, powder	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	NA	NA
8 Modified herapeutic food (MTF)- ready to eat nutritious powder	NC	NC	NC	NC	12.7	NA	306	NA	45 days	NA	NA	NA
9 Sweet Porridge	NC	NC	NC	NC	9.5	NA	NA	NA	NA	NA	NA	NA
10 Halwa mix (Ready to cook)	NC	NC	NC	NC	11.1	NA	29.1	NA	NA	NA	NA	NA
11 EDNF	20	10	43	47	NA	NA	NA	NA	NA	NA	NA	NA
12 Khichdi mix with dal analogue	NC	NC	NC	NC	13.1	NA	NA	NA	NA	NA	NA	NA

NA: Not available; NC: Not calculated

⁹ Drying/ Fermenting/ Freezing/ Dry Salting/ Sealing/ Cellaring/ Roasting/ Germination/ Any other_____

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Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment												
Product name	No of micronutrient present in natural form	Quantitative Assessment						Is there any method used to increase shelf life/enhancing nutritive value of raw ingredients before preparation of product ⁹	For how long the ingredients & final product can be safely stored (Shelf life)	If Yes, Give details (Shelf life)		Any menu developed using this food product?
		Raw ingredients			Final product					Food product (Room Temperature)	With Air Tight Containers	
		en% Protein	en% CHO	en% Fat	en% Protein	en% CHO	en% Fat					
13	Uprma mix (Ready to cook)	NC	NC	NC	13.7	NA	32.1	NA	NA	NA	NA	NA
14	SF Mix, powder	23	5	32	63	NA	NA	5ml oil	NA	NA	NA	NA
15	Balamrutham, powder	23	9	62	28	10.6	NA	NA	NA	NA	NA	NA
16	Shakti nutrimix, powder	NC	NC	NC	10.3	NA	NA	NA	NA	NA	NA	NA
17	Davangere mix, laddu	NC	NC	NC	14	NA	NA	Roasting	NA	NA	NA	NA
18	Extruded Snack food SMART SNAX	NC	NC	NC	12	NA	13.5	NA	NA	NA	NA	NA
19	Malt food	19	18	41	40	NA	NA	Roasting, Malting	NA	NA	NA	NA
20	Amrutham Nutrimix	19	16	65	18	NA	NA	NA	NA	NA	NA	NA
21	Energy Food (new fortification) powder	NC	NC	NC	16.6	NA	NA	Roasting	NA	NA	NA	NA
22	Nutrimix powder	19	16	76	6	8	NA	Roasting and addition of half teaspoon of oil at the time of cooking Made Can be ade more energy dense by adding seasonal fruits	2-3 days	2-3 days	Yes	Yes
23	Sattu Maavu	19	11	83	4	11.1	NA	Germination	NA	NA	NA	NA
24	Amylase rich flour, powder	19	17	76	4	NA	NA	Sprouting and roasting	NA	NA	Yes	Yes
25	SAT Mix, Powder	19	9	87	2	NA	NA	Roasting and addition of half teaspoon of oil at the time of cooking	2-3 days	2-3 days	Yes	Yes

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Annexure 2: Detailed Analysis of Mapped Foods

B. Nutritional Composition & Assessment												
Product name	No of micronutrient present in natural form	Quantitative Assessment						Is there any method used to increase shelf life/enhancing nutritive value of raw ingredients before preparation of product ⁹	For how long the ingredients & final product can be safely stored (Shelf life)	If Yes, Give details (Shelf life)		Any menu developed using this food product?
		Raw ingredients			Final product					Food product (Room Temperature)	With Air Tight Containers	
		en% Protein	en% CHO	en% Fat	en% Protein	en% CHO	en% Fat					
26	Bengal gram sesame biscuit	19	9	47	44	NA	NA	NA	NA	NA	NA	NA
27	Hyderabad Mix	19	14	69	16	NA	NA	NA	NA	NA	NA	NA
28	Horsegram biscuit	19	11	72	16	NA	NA	NA	NA	NA	NA	NA
29	Cowgram biscuit	19	11	71	17	NA	NA	NA	NA	NA	NA	NA
30	Groundnut biscuit	19	12	56	32	NA	NA	NA	NA	NA	NA	NA
31	Kuzhandai Amudhu, powder	19	14	67	17	NA	NA	Roasting	NA	NA	NA	NA
32	Bengal gram- biscuit	19	11	66	22	NA	NA	NA	NA	NA	NA	NA
33	Wheat gram laddu	19	15	70	13	NA	NA	Wheat can be replaced by jowar, maize or ragi.	NA	NA	NA	NA
34	Nutrimix powder	19	16	71	10	NA	NA	Roasting and Sprouting	NA	NA	NA	NA
35	HCCM (high calorie cereal milk) semisolid	19	9	44	46	NA	NA	NA	NA	NA	NA	NA
36	Rice milk mix, powder	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	NA
37	Sesame based nutritious supplement, paste	NC	NC	NC	NC	NA	NA	NA	8 months in PET Bottles and 1 year in glass bottles	NA	NA	NA
38	Dhal based nutritional supplement for foods, granular	NC	NC	NC	NC	NA	NA	NA	4months	NA	NA	NA
39	Krishna Poshak Mix, laddu	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	NA
40	High protein rusk	NC	NC	NC	NC	NA	NA	NA	NA	3 months	NA	NA
41	Fortified Mango bar	NC	NC	NC	NC	NA	NA	NA	6months	NA	Yes	NA
42	Nutri Chikki with added spirulina	NC	NC	NC	NC	NC	NC	NA	3months	NA	NA	NA

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Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product									
Product name	Has this product been tested for feasibility of scale up/ acceptability /efficacy/ effectiveness , if yes, specify details								
	Study Title	Kind of study ¹⁰	Author	Publication ¹¹	Duration of study	Study population ¹² and sample size	Sampling strategy		
1	Spirulina Fortified Nutri Ladu	NA	NA	NA	NA	NA	NA		
2	Ready to eat Therapeutic food, paste (under research)	NA	NA	NA	NA	NA	NA		
3	Ready to eat Supplementary food, paste	Lactose-free and Gluten-free supplementary food for moderately and chronically under nourished and method of making the same.	NA	NA	NA	NA	NA		
4	Ready to eat Supplementary food, paste	Lactose-free and Gluten-free supplementary food for moderately and chronically under nourished and method of making the same.	NA	NA	NA	NA	NA		
5	Ready to eat Supplementary food, paste	Lactose-free and Gluten-free supplementary food for moderately and chronically under nourished and method of making the same.	NA	NA	NA	NA	NA		
6	Indian Multipurpose food (IMPF)	"Indian multipurpose food and low-fat groundnut flour as supplements for school children"	IRao, B. R. H., et al	Published	5 months	Normal, 96	Boys aged 5-12 years residing in boarding school were formed into triads according to initial height, weight, haemoglobin level and nutritional status and the members of each triad allotted at random to 3 diet groups. The control group, received an isocaloric cereal diet; other two groups receive low fat groundnut flour and MPF		
7	Low GI multigrain flour, powder	A very low Glycemic Multigrain flour.	NA	NA	NA	NA	NA		
8	Modified therapeutic food (MTF)- ready to eat nutritious powder	"Sensory evaluation and acceptability trials of locally produced ready-to-eat supplementary foods for beneficiaries of ICDS in the age group of 12-35 months: a study in the Rangareddy district of Andhra Pradesh"	Annual Report-NIN Hyderabad (2013-2014)	Published	6 months	MAM, Underweight and Normal, 30	Children comprised of ICDS children in the age group of 12-35 months and their mothers/primary caregivers, consuming solid foods and the existing supplement (MTF) for at least the past 30 days, apparently healthy i.e., not suffering from any chronic diseases/ other medical complications, living in the study area for at least 6 months, no known allergy to milk products, soy products, wheat products etc., moderate underweight, stunting and wasting to normal grade children (WAZ, HAZ and WHZ > -3 z score)	Continued on next Page	

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¹⁰ Feasibility/acceptability/efficacy/effectiveness, ¹¹ Report published/Not published, ¹² SAM/ MAM/ Underweight/ Normal/ Any other



Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product									
Product name	Has this product been tested for feasibility of scale up/ acceptability /efficacy/ effectiveness , if yes, specify details								
	Study Title	Kind of study ¹⁰	Author	Publication ¹¹	Duration of study	Study population ¹² and sample size	Sampling strategy		
9	Sweet Porridge	NA	NA	NA	NA	NA	NA	NA	
10	Halwa mix (Ready to cook)	NA	NA	NA	NA	NA	NA	NA	
11	EDNF	NA	NA	NA	NA	NA	NA	NA	
12	Khichdi mix with dal analogue	NA	NA	NA	NA	NA	NA	NA	
13	Upma mix (Ready to cook)	NA	NA	NA	NA	NA	NA	NA	
14	SF Mix, powder	"A Study on "Village Child Development Center (VCDC)" and its Role in Redressing Malnutrition Problem in Gadchiroli District, Maharashtra, India"	Effective-ness	Samal, J et al	Published	6 months	SAM and MAM, 13584	The study used data of six months from July 2011 to December 2011 for analysis. During these six months 13584 children have been admitted to 2271 VCDCs organized at various Anganwadi centers of the district	
15	Balamrutham, powder	NA	NA	NA	NA	NA	NA	NA	
16	Shakti nutrimix, powder	NA	NA	NA	NA	NA	NA	NA	
17	Davangere mix, laddu	"Comparison study on efficacy of standard who protocol of f-75 and f100 diet versus davangere mix in management of severe acute malnutrition"	Efficacy	Salma Shaziya	Published	24 months	SAM, 66	This prospective study was done in nutrition rehabilitation center of Government District hospital, Madkeri among 72 severe acute malnourished children from July 2013 to June 2015. Six cases with duration of hospital stay <7 days were excluded	
18	Extruded Snack food SMART SNAX	NA	NA	NA	NA	NA	NA	NA	
19	Malt food	NA	NA	NA	NA	NA	NA	NA	
20	Amrutham Nutrimix	NA	NA	NA	NA	NA	NA	NA	
21	Energy Food (new fortification) powder	" S&T interventions to combat malnutrition in women and children"	Effective-ness	Alok Kumar Srivastava	Published	NA	SAM, 270	The study covered around 270 children including severely malnourished children of villages namely, Chamalapura hundi, Heggadahalli and Ramapura.	

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Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product									
Product name	Has this product been tested for feasibility of scale up/ acceptability /efficacy/ effectiveness , if yes, specify details								
	Study Title	Kind of study ³⁰	Author	Publication ³¹	Duration of study	Study population ³² and sample size	Sampling strategy		
22 Nutrimix powder	"Outcomes of Children with Severe Acute Malnutrition in a Tribal Day care Setting"	Effectiveness	Prasad, Vandana, et al	Published	4-6 months	SAM, 179	334 children between the ages of 18 to 59 months were screened in 16 pre-schools, and 128 children recruited after obtaining written informed consent. Ten were later excluded. Children aged 18-60 months, <2 SD weight-for-age and below but not requiring hospitalization for malnutrition were eligible		
23 Sattu Maavu	"The trends analysis done by the state ICDS "	Effectiveness	ICDS-Tamil Nadu	Published	41 months	SAM, MAM and Normal	NA		
24 Amylase rich flour, powder	"A Study on "Village Child Development Center (VCDC)" and its Role in Redressing Malnutrition Problem in Gadchiroli District, Maharashtra, India "	Effectiveness	Samal, J et al	Published	6 months	SAM and MAM, 13584	The study used data of six months from July 2011 to December 2011 for analysis. During these six months 13584 children have been admitted to 2271 VCDCs organized at various Anganwadi centers of the district		
25 SAT Mix, Powder	"Outcomes of Children with Severe Acute Malnutrition in a Tribal Day care Setting"	Effectiveness	Prasad, Vandana, et al	Published	4-6 months	SAM, 179	For this, data for children (age <3 years) for whom valid anthropometric measurements (both height and weight) were available have been considered. Such data were available for 2768 children. Of such children, 179 children had SAM (weight-for-height Z score (WHZ) <-3) according to their first weight for height measurement.		
26 Bengal gram sesame biscuit	NA	NA	NA	NA	NA	NA	NA		
27 Hyderabad Mix	"Locally available and natural therapeutic foods for immunomodulation in Protein energy malnutrition"	Effectiveness	Elizabeth KE	Published	NA	SAM and MAM	NA		
28 Horsegram biscuit	NA	NA	NA	NA	NA	NA	NA		
29 Cowgram biscuit	NA	NA	NA	NA	NA	NA	NA		
30 Groundnut biscuit	NA	NA	NA	NA	NA	NA	NA		
31 Kuzhandai Amudhu, powder	"Nutritional evaluation of a maize-based indigenous infant food, "Kuzhandai Amudhu"	NA	Devadas, Rajammal P., et al	Published	NA	NA	NA		

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³⁰ Feasibility/acceptability/efficacy/effectiveness, ³¹ Report published/Not published, ³² SAM/ MAM/ Underweight/ Normal/ Any other

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Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product									
Product name	Has this product been tested for feasibility of scale up/ acceptability /efficacy/ effectiveness , if yes, specify details								
	Study Title	Kind of study ¹⁰	Author	Publication ¹¹	Duration of study	Study population ¹² and sample size	Sampling strategy		
32	Bengal gram- biscuit	NA	NA	NA	NA	NA	NA	NA	NA
33	Wheat gram laddu	NA	NA	NA	NA	NA	NA	NA	NA
34	Nutrimix powder	NA	NA	NA	NA	NA	NA	NA	NA
35	HCCM (high calorie cereal milk) semisolid	"Locally made ready-to-use therapeutic food for treatment of malnutrition: A randomized controlled trial"	Effectiveness	Anuradha Bose et al	Published	4 months	118 Participants randomized to either intervention ,RUTF (n=61), HCCM (n=57)	334 children between the ages of 18 to 59 months were screened in 16 pre-schools, and 128 children recruited after obtaining written informed consent. Ten were later excluded. Children aged 18-60 months, <-2 SD weight-for-age and below but not requiring hospitalization for malnutrition were eligible	
36	Rice milk mix, powder	" S&T interventions to combat malnutrition in women and children"	Effectiveness	Alok Kumar Srivastava	Published	NA	SAM, 270	The study covered around 270 children including severely malnourished children of villages namely, Chamalapuram hundi, Heggadahalli and Ramapura.	
37	Sesame based nutritious supplement, paste	" S&T interventions to combat malnutrition in women and children"	Effectiveness	Alok Kumar Srivastava	Published	NA	SAM, 270	The study covered around 270 children including severely malnourished children of villages namely, Chamalapuram hundi, Heggadahalli and Ramapura.	
38	Dhal based nutritional supplement for foods, granular	" S&T interventions to combat malnutrition in women and children"	Effectiveness	Alok Kumar Srivastava	Published	NA	SAM, 270	The study covered around 270 children including severely malnourished children of villages namely, Chamalapuram hundi, Heggadahalli and Ramapura.	
39	Krishna Poshak Mix, laddu	"Effectiveness of 'Krishna Poshak Mix' on Nutritional Status of Rural Anganwadi Children"	Effectiveness	Manda Shankar Mulik et al	Published	1 month	SAM, MAM and Normal, 54	Non probability purposive sampling technique with random allocation of groups by tossing coin. The experimental group and control group	
40	High protein rusk	" S&T interventions to combat malnutrition in women and children"	Effectiveness	Alok Kumar Srivastava	Published	NA	SAM, 270	The study covered around 270 children including severely malnourished children of villages namely, Chamalapuram hundi, Heggadahalli and Ramapura.	
41	Fortified Mango bar	" S&T interventions to combat malnutrition in women and children"	Effectiveness	Alok Kumar Srivastava	Published	NA	SAM, 270	The study covered around 270 children including severely malnourished children of villages namely, Chamalapuram hundi, Heggadahalli and Ramapura.	
42	Nutri Chikki with added spirulina	" S&T interventions to combat malnutrition in women and children"	Effectiveness	Alok Kumar Srivastava	Published	NA	SAM, 270	The study covered around 270 children including severely malnourished children of villages namely, Chamalapuram hundi, Heggadahalli and Ramapura.	

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¹⁰ Feasibility/acceptability/efficacy/effectiveness, ¹¹Report published/Not published, ¹² SAM/ MAM/ Underweight/ Normal/ Any other

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Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product							
Product name	Details of the intervention			Period of follow up	Impact indicators	Experience shared	Reference
	Formulation used	Frequency and prescribed amount	Natural food included or not				
1 Spirulina Fortified Nutri Ladu	NA	NA	NA	NA	NA	NA	NA
2 Ready to eat Therapeutic food, paste (under research)	NA	NA	NA	NA	NA	NA	NA
3 Ready to eat Supplementary food, paste	NA	NA	NA	NA	NA	NA	NA
4 Ready to eat Supplementary food, paste	NA	NA	NA	NA	NA	NA	NA
5 Ready to eat Supplementary food, paste	NA	NA	NA	NA	NA	NA	NA
6 Indian Multipurpose food (IMPF)	Control group-Isocaloric diet Group 2: Low fat groundnut flour Group 3: IMPF	NA	NA	5 months	NA	Compared to the isocaloric controls there was a significant increase in height and weight in the children given MPF. MPF and Low fat groundnut flour were associated with significant improvement in angular stomatitis.	1. Rao, B. R. H., et al. "Indian multipurpose food and low-fat groundnut flour as supplements for school children." The Indian Journal of Pediatrics 32.1 (1965): 1-9. 2. http://annalsofcommunityhealth.in/ojs/index.php/AoCH/pages/view/nutritionalrehabilitation
7 Low GI multigrain flour, powder	NA	NA	NA	NA	NA	NA	NA

NA: Not available; NC: Not calculated

¹⁰ Feasibility/acceptability/efficacy/effectiveness, ¹¹ Report published/Not published, ¹² SAM/ MAM/ Underweight/ Normal/ Any other

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Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product							
Product name	Details of the intervention			Period of follow up	Impact indicators	Experience shared	Reference
	Formulation used	Frequency and prescribed amount	Natural food included or not				
8 Modified therapeutic food (MTF)- ready to eat nutritious powder	MTF-Roasted Wheat Flour-45g Roasted Full Fat Soya Flour-20g Sugar-25g Refined Palmolein Oil-10g Product 1: Roasted Wheat Flour-50g Roasted Bengal Gram Flour-5g Skimmed Milk Powder-10g Sugar-25g Refined Palmolein Oil-10g Product 2: Roasted Wheat Flour-55g Roasted Bengal Gram Flour-5g Skimmed Milk Powder-10g Sugar-20g Refined Palmolein Oil-10g	NA	Not	6 months	NA	1. The novel product 1 is the most accepted supplementary food for children aged 12-35 months, based on its superior sensory properties, preference and acceptability followed by product 2 compared to the existing MTF. 2. The FGDs highlighted important aspects that food product should be supplied in individual packets for each child and the service providers need to impart education to the mothers on handling, usage and storage of the supplement to ensure good compliance.	1. http://apfoods.ap.nic.in/html/mtf.htm 2. http://www.ninindia.org/AR13-14%20for%20web.pdf
9 Sweet Porridge	NA	NA	NA	NA	NA	NA	1. http://apfoods.ap.nic.in/html/SweetPorridge.htm
10 Halwa mix (Ready to cook)	NA	NA	NA	NA	NA	NA	1. http://apfoods.ap.nic.in/html/halwa.htm
11 EDNF	NA	NA	NA	NA	NA	NA	NA
12 Khichdi mix with dal analogue	NA	NA	NA	NA	NA	NA	1. http://apfoods.ap.nic.in/html/KichidiMixwithDalAnalogue.htm
13 Upma mix (Ready to cook)	NA	NA	NA	NA	NA	NA	1. http://apfoods.ap.nic.in/html/upma.htm
14 SF Mix, powder	VCDC Model	NA	Yes	NA	NA	Out of total severely and moderately acute malnourished children admitted to VCDC, 76% got improved in total but still the individual indicators show a piteous picture and needs special emphasis.	1. Samal, Janmejaya, and Fulchand A. Meshram. "A Study on "Village Child Development Center (VCDC)" and Its Role in Redressing Malnutrition Problem in Gadchiroli District, Maharashtra, India." Indian Journal of Public Health Research & Development 5.2 (2014): 162 - Given product not found in this article 2. http://www.mahmm.in/static/library/9ec671ef-e312-5d34-8514-51fa929b4043.pdf
15 Balamrutham, powder	NA	NA	NA	NA	NA	NA	1. http://wdcw.tg.nic.in/Balamrutham.html

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¹⁰ Feasibility/acceptability/efficacy/effectiveness, ¹¹ Report published/Not published, ¹² SAM/ MAM/ Underweight/ Normal/ Any other

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Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product							
Product name	Details of the intervention			Period of follow up	Impact indicators	Experience shared	Reference
	Formulation used	Frequency and prescribed amount	Natural food included or not				
16 Shakti nutrimitrix powder	NA	NA	NA	NA	NA	NA	1. https://www.researchgate.net/publication/44567897_Should_India_Use_Commercially_Produced_Ready_To_Use_Therapeutic_Foods_RUTF_For_Severe_Acute_Malnutrition_SAM
17 Davangere mix, laddu	Davangere mix and F75 & F100	Group-1: Davangere mix (4 feeds (30g/feed) along with 2 feeds of F100 diet) Group-2: F75&F100 (6-8 feeds per day)	Normal diet included one egg	NA	% of weight gain and duration of stay at hospital	The mean catch up growth for Group 1 (F75 & F100) was 4.51g/kg/d and Group 2 (Davangere Mix) was 8.5g/kg/d. Mean duration of hospital stay in group 1 was 18 days and group 2 was 12 days. Comparison of children attaining 10% body weight at discharge in group 1 and group 2 showed intervention in group 2 to be highly significant p value of <0.001.	1. Handbook for History Taking and Clinical Examination in Children by ML Kulkarni Link- https://books.google.co.in/books?id=484nD-wAAQBAJ&pg=PA60&dq=Davangere+Mix+source=bl&ots=L0JyMa0M6&sig=FLfBUdAoQMHSrQ3VIFe-zuBFk&hl=en&sa=X&ved=0ahUKewjvhv_P9J3cAhVMXC-sKHSDmD7sQ6AEIhAEwEg#v=onepage&q=Davangere%20Mix&f=false 2. https://www.njmsonline.org/wp-content/uploads/2016/01/merged-final.pdf
18 Extruded Snack food SMART SNAX	NA	NA	NA	NA	NA	NA	1. http://apfoods.ap.nic.in/html/snackfood.htm
19 Malt food	NA	NA	NA	NA	NA	NA	1. http://www.annalsofcommunityhealth.in/ojs/index.php/AoCH/pages/view/nutritionalrehabilitation
20 Amrutham Nutrimitrix	NA	NA	NA	NA	NA	NA	1. http://www.kudumbashree.org/storage/files/zutiy_40.nutrimix%20document.pdf
21 Energy Food (new fortification) powder	NA	Fortnightly	NA	6 months	Anthropometric and hematological measurements	NA	1. https://www.cftri.com/technologies/PSP/efn.pdf 2. https://www.cftri.com/PDF/PERREPORT2015-16.pdf
22 Nutrimitrix powder	NA	NA	NA	4-6 months	Z scores	76% children with SAM showed improvement over a 4-6 months period, with 37% shifting to normal anthropometric status. There was a significant shift in Z scores. This community-based intervention showed fair results for management of children with SAM at village level.	1. Prasad, Vandana, et al. "Outcomes of Children with Severe Acute Malnutrition in a Tribal Daycare Setting." Indian Pediatrics 55.2 (2018): 134-136 2. http://phrsindia.org/wp-content/uploads/2016/01/ProtocolandGuidelinesforCreches.pdf

NA: Not available; NC: Not calculated

¹⁰ Feasibility/acceptability/efficacy/effectiveness, ¹¹ Report published/Not published, ¹² SAM/ MAM/ Underweight/ Normal/ Any other

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Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product							
Product name	Details of the intervention			Period of follow up	Impact indicators	Experience shared	Reference
	Formulation used	Frequency and prescribed amount	Natural food included or not				
23 Sattu Maavu	NA	NA	NA	NA	NA	The data says % of Normal Children in the age group of 0 to 5 years has improved from 78.9% in April 2013 to 91.8% in September 2016. % of Moderately Under Weight children has reduced from 21.0% in April 2013 to 8.2% in September 2016. % of Severely Under Weight Children has been reduced from 0.167% in April 2013 to 0.050% in September 2016.	<ol style="list-style-type: none"> http://icds.tn.nic.in/weaning_food.html http://infochangeindia.org/agenda-issues/376-agenda/malnutrition/9233-plumpy-nut-or-indigenous-foods http://icds.tn.nic.in/Trends_Analysis.html
24 Amylase rich flour, powder	VCDC Model	NA	Yes	NA	NA	Out of total severely and moderately acute malnourished children admitted to VCDC 76% got improved in total but still the individual indicators show a pitteous picture and needs special emphasis.	<ol style="list-style-type: none"> Samal, Janmejaya, and Fulchand A. Meshram. "A Study on "Village Child Development Center (VCDC)" and its Role in Redressing Malnutrition Problem in Gadchiroli District, Maharashtra, India." Indian Journal of Public Health Research & Development 5.2 (2014): 162. http://www.mahnm.in/static/library/9ec671ef-e312-5a34-8514-51fa929b4043.pdf
25 SAT Mix, Powder	NA	NA	NA	4-6 months	Z scores	76% children with SAM showed improvement over a 4-6 months period, with 37% shifting to normal anthropometric status. There was a significant shift in Z scores. This community-based intervention showed fair results for management of children with SAM at village level.	<ol style="list-style-type: none"> Prasad, Vandana, et al. "Outcomes of Children with Severe Acute Malnutrition in a Tribal Daycare Setting." Indian Pediatrics 55.2 (2018): 134-136. http://pmsindia.org/wp-content/uploads/2016/01/ProtocolsandGuidelinesforCreches.pdf
26 Bengal gram sesame biscuit	NA	NA	NA	NA	NA	NA	http://vikaspedia.in/health/nutrition/nutritive-value-of-foods/low-cost-nutritious-supplements
27 Hyderabad Mix	NA	NA	NA	NA	NA	NA	annalsofcommunityhealth.in/ojs/index.php/AoCH/pages/view/nutritionalrehabilitation rguhs.ac.in/cdc/onlinecdc/uploads/05_NO16_6817.doc
28 Horsegram biscuit	NA	NA	NA	NA	NA	NA	http://vikaspedia.in/health/nutrition/nutritive-value-of-foods/low-cost-nutritious-supplements
29 Cowgram biscuit	NA	NA	NA	NA	NA	NA	http://vikaspedia.in/health/nutrition/nutritive-value-of-foods/low-cost-nutritious-supplements
30 Groundnut biscuit	NA	NA	NA	NA	NA	NA	http://vikaspedia.in/health/nutrition/nutritive-value-of-foods/low-cost-nutritious-supplements

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NA: Not available; NC: Not calculated
¹⁰ Feasibility/acceptability/efficacy/effectiveness, ¹¹ Report published/Not published, ¹² SAM/ MAM/ Underweight/ Normal/ Any other



Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product							
Product name	Details of the intervention			Period of follow up	Impact indicators	Experience shared	Reference
	Formulation used	Frequency and prescribed amount	Natural food included or not				
31 Kuzhandai Amudhu, powder	NA	NA	NA	NA	NA	NA	1. http://www.annalsofcommunityhealth.in/ojs/index.php/AoCH/pages/view/nutritionalrehabilitation 2. Devadas, Rajammal P., et al. "Nutritional evaluation of a maize-based indigenous infant food," Kuzhandai Amudhu™, Indian journal of nutrition and dietetics (1974) - full text NA
32 Bengal gram-biscuit	NA	NA	NA	NA	NA	NA	1. http://vikaspedia.in/health/nutrition/nutritive-value-of-foods/low-cost-nutritious-supplements
33 Wheat gram laddu	NA	NA	NA	NA	NA	NA	1. http://vikaspedia.in/health/nutrition/nutritive-value-of-foods/low-cost-nutritious-supplements
34 Nutrimix powder	NA	NA	NA	NA	NA	NA	1. https://www.researchgate.net/publication/44567897_Should_India_Use_Commercially_Produced_Ready_To_Use_Therapeutic_Foods_RUTF_For_Severe_Acute_Malnutrition_SAM
35 HCCM (high calorie cereal milk) semisolid	RUTF was produced by mixing together ground roasted peanut powder, milk powder, and sugar in a ratio of 30:28:25 (grams), along with 15 grams of gingili oil. Multivitamin supplements to 1 tablet per 100 g of mix HCCM- Mothers of the children receiving, High Caloric Cereal Milk (HCCM) were taught how to make the supplement. HCCM- consisted of 100 mL milk fortified with 15 g flour of mother's choice, 5 mL oil and 2 teaspoons of sugar, cooked to a porridge-like consistency.	RUTF-50g two times a day (mid morning and mid afternoon) during working days HCCM- Two servings of HCCM made with 100 mL of milk each, were advised, and were to be given at home.	Yes (normal home diet)	3 months	Weight-for-Age Z score > -2. Secondary outcomes were changes in the vitamin B12, plasma Zinc, serum albumin levels and iron status of the children	Community-based treatment showed weight gain in both groups, the gain being higher with RUTF. The Mean (SD) weight gain at 3 months was higher in the RUTF group: RUTF (n=51): 0.54 kg vs HCCM (n=45): 0.38 kg.	1. Singh, Azara Sneha, et al. "Locally made ready-to-use therapeutic food for treatment of malnutrition: A randomized controlled trial." Indian Pediatrics 47.8 (2010): 679-686 https://www.indianpediatrics.net/aug2010/679.pdf
36 Rice milk mix, powder	NA	Fortnightly	NA	6 months	Anthropometric and hematological measurements	NA	1. https://www.cftri.com/PDF/PERREPORT2015-16.pdf , 2. https://bangaloremirror.indiatimes.com/bangalore/cover-story/malnutrition-children-mysuru-cftr/articleshow/49521938.cms

NA: Not available; NC: Not calculated

³⁰ Feasibility/acceptability/efficacy/effectiveness, ³¹ Report published/Not published, ³² SAM/ MAM/ Underweight/ Normal/ Any other

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Annexure 2: Detailed Analysis of Mapped Foods

C. Evidence on Food product							
Product name	Details of the intervention			Period of follow up	Impact indicators	Experience shared	Reference
	Formulation used	Frequency and prescribed amount	Natural food included or not				
37 Sesame based nutritious supplement, paste	NA	Fortnightly	NA	6 months	Anthropometric and hematological measurements	NA	1. https://www.cftri.com/technologies/PSP/sbn.pdf 2. https://www.cftri.com/PDF/PERREPORT2015-16.pdf
38 Dhal based nutritional supplement for foods, granular	NA	Fortnightly	NA	6 months	Anthropometric and hematological measurements	NA	1. https://www.cftri.com/technologies/CONP/dbn.pdf 2. https://www.cftri.com/PDF/PERREPORT2015-16.pdf
39 Krishna Poshak Mix, laddu	Krishna Poshak Mix and ICDS supplementary diet	Experimental group- Krishna laddu (2 laddus 50g) Control group- ICDS diet for 1 month	NA	NA	Weight gain and MUAC	Experimental group gained more weight pre & posttest Mean 13.61 & 14.08 & mid arm circumference pre & posttest Mean 14.90 & 15.14 after getting Krishna Poshak Mix laddus than control group weight pre & posttest Mean 13.62 & 13.78 & mid arm circumference pre & posttest Mean 14.64 & 14.74.	1. https://www.ijsr.net/archive/v3i4/MDIwMTMxNDA5.pdf
40 High protein rusk	NA	Fortnightly	NA	6 months	Anthropometric and hematological measurements	NA	1. https://bangaloremirror.indiatimes.com/bangalore/cover-story/malnutrition-children-mysuru-cftr/article-show/49521938.cms - limited information 2. https://www.cftri.com/technologies/BP/hpr.pdf 3. https://www.cftri.com/PDF/PERREPORT2015-16.pdf
41 Fortified Mango bar	NA	Fortnightly	NA	6 months	Anthropometric and hematological measurements	NA	1. https://www.cftri.com/technologies/FVP/fmb.pdf 2. https://bangaloremirror.indiatimes.com/bangalore/cover-story/malnutrition-children-mysuru-cftr/article-show/49521938.cms - limited information 3. https://www.cftri.com/PDF/PERREPORT2015-16.pdf
42 Nutri Chikki with added spirulina	NA	Fortnightly	NA	6 months	Anthropometric and hematological measurements	NA	1. https://www.cftri.com/technologies/CONP/ncs.pdf 2. https://bangaloremirror.indiatimes.com/bangalore/cover-story/malnutrition-children-mysuru-cftr/article-show/49521938.cms 3. https://www.cftri.com/PDF/PERREPORT2015-16.pdf

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^a Feasibility/acceptability/efficacy/effectiveness, ^b Report published/Not published, ¹² SAM/ MAM/ Underweight/ Normal/ Any other

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Annexure 3: Selection of Appropriate Food Items

The selection of appropriate food items was done on the basis of parameters detailed below with colour coding*

1. Product Preparation (Centralized or decentralized production; with preference given to SHG)
 - a. Self Help Groups (SHG) level (Raw material and Production preparation):
 - b. Government Institution (Raw material and Production preparation)
 - c. Raw material supply through government but disclaimer by community
 - d. Commercial / Pvt
2. Availability of ingredients
 - a. Locally available (preparation level community level):
 - b. Region/ community specific
 - c. Locally not available at HHL
3. Final product type (Readiness of product for consumption) (These are reviewed on the basis of information available from package or research paper of the respective product. In addition, after desk review of all products, categorization of each product was compiled & completed as in most of the case the information was missing).
 - a. Ready to Eat/ Ready to Consume= RTE :
 - b. Ready to use/ Ready to Cook=RTU
4. Reconstitution required
 - a. Yes
 - b. No :
5. Nutrient composition
 - a. Energy : (>400Kcal /100 gm) as per diet cal; above 450 dark blue , 400-450 (light blue), 350-400 (yellow), below 250-350 (orange), below 250
 - b. Protein: en% Protein (10-12% of en) (8-10% & 12-15% yellow, 10-12% dark blue , <8 & >15% pink)
 - c. Fat: en% Fat (45-60% of en) (>60% & <30% pink, 30-45% yellow, 45-60% dark blue)
 - d. Carbohydrates: en% CHO (28-45% of en) (28-45% dark blue, 20-28% & 45-55% yellow, <20% & >55% pink)
 - e. Fortified : Yes
6. Shelf Life
 - a. <1 month:
 - b. >1 month:
7. Feasibility Trial (if any)
 - a. Yes
 - b. If yes, SAM/ MAM child ; Yes Dark Blue colour No

The parameters were considered more acceptable when product preparation was decentralization using locally available ingredients & products was ready to eat, requiring no reconstitution, had higher nutrient density, was fortified, had a longer shelf life & feasibility trial had been conducted.

The consideration & acceptability of these parameters could vary depending upon the context.

* Coding depicts the difference/ preference over one another and it is not necessarily depicts the declination of any product. All criteria in wholesome should be considered in selection of appropriateness of the product.

colour depicts most acceptable, depicts acceptable, depicts less acceptable, and means least acceptable/ requires modification.

Note: The information that is not available is highlighted by



Annexure 4A: Selected Suitable food items

Based on the above parameter, the food items selected are enlisted below

Suitable food items	Items that can be used after reconstitution	Items that can be used with combination/ reconstitution/ or as a snack/ sprinkler	Could not be assessed due to lack of information	Not Suitable
EDNF, RAU-PUSA, Bihar	Modified therapeutic food (MTF)-Ready to eat nutritious powder, Andhra Pradesh Foods, Andhra Pradesh	Horsegram biscuit, National Institute of Nutrition (NIN), Hyderabad	High protein rusk, Central Food Technological Research Institute (CFTRI), Karnataka (Mysore)	Fortified Mango bar, Central Food Technological Research Institute (CFTRI), Karnataka (Mysore)
Indian Multipurpose food (IMPF), Central Food Technological Research Institute (CFTRI), Mysore, Karnataka	Hyderabad Mix, National Institute of Nutrition (NIN), Hyderabad	Bengal gram- biscuit, National Institute of Nutrition (NIN), Hyderabad	Rice milk mix, powder, Central Food Technological Research Institute (CFTRI), Karnataka (Mysore)	Nutri Chikki with added spirulina, r, Central Food Technological Research Institute (CFTRI), Karnataka (Mysore)
Davangere mix, laddu, Medical college, Davangere, Karnataka (Davangree)	SAT Mix, Powder, Action against malnutrition, Public Health Resource Society, Delhi	Cowgram biscuit, National Institute of Nutrition (NIN), Hyderabad	Sesame based nutritious supplement, paste, Central Food Technological Research Institute (CFTRI), Karnataka (Mysore)	Energy Food (new fortification) powder, r, Central Food Technological Research Institute (CFTRI), Karnataka (Mysore)
Shakti nutrimix, powder, Shibipur People's Care Organisation, West Bengal	Sattu Maavu, Integrated Child development Services-ICDS, Tamil Nadu	Groundnut biscuit, National Institute of Nutrition (NIN), Hyderabad	Dhal based nutritional supplement for foods, granular, Central Food Technological Research Institute (CFTRI), Karnataka (Mysore)	HCCM (high calorie cereal milk) semisolid, Christian Medical College, Tamil Nadu (Vellore)
Ready to eat Supplementary food, paste, ICAR-IIMR, Hyderabad	SF Mix, powder, Department of Woman & Child Development, Government of Maharashtra, Maharashtra	Bengal gram sesame biscuit, National Institute of Nutrition (NIN), Hyderabad	Krishna Poshak Mix, laddu, Krishna Institute of Nursing Sciences, Maharashtra (Karad)	Spirulina Fortified Nutri Ladu, Radhakrishna Food Services Pvt. Ltd., Maharashtra
Ready to eat Supplementary food, paste, ICAR-IIMR, Hyderabad	Khichdi mix with dal analogue, Andhra Pradesh Foods, Andhra Pradesh	Wheat gram Ladoo, National Institute of Nutrition, Hyderabad	Ready to eat Therapeutic food, paste (under research), ICAR-IIMR, Hyderabad	
Ready to eat Supplementary food, paste, ICAR-IIMR, Hyderabad	Upma mix (Ready to cook), Andhra Pradesh Foods, Andhra Pradesh	Amylase rich flour, powder, Action against malnutrition, Public Health Resource Society, Delhi	Low GI multigrain flour, powder ICAR-IIMR, Hyderabad	
	Halwa mix (Ready to cook), Andhra Pradesh Foods, Andhra Pradesh	Extruded Snack food SMART SNAX, Andhra Pradesh Foods, AP		
	Sweet Porridge, Andhra Pradesh Foods, Andhra Pradesh			
	Malt food, Central Food Technological Research Institute (CFTRI), Karnataka (Mysore)			
	Kuzhandai Amudhu, powder, Sri Avinashilingam Home Science College for Women, tamil Nadu			
	Nutrimix powder, Development Research Communication and Service Centre, West Bengal			
	Nutri Mix, Powder, Action against malnutrition, Public Health Resource Society, Delhi Child in Need Institute (CINI), West Bengal			
	Amrutham Nutrimix, Kudumabshree, Kerala			
	Balamrutham, powder, Telangana food, Andhra Pradesh*			

*Balamrutham +: NIN has introduced a modified version of Balamrutham. It provides 460 KCal/11g protein per 100g. This product has improved energy, calcium, folic acid and niacin contents compared to the Balamrutham.



Annexure 4B: Details on Selected Suitable food items

Product name		EDNF	Indian Multipurpose food (IMPF)	Davangere mix, laddu	Shakti nutrimix, powder	
Developed by	(Organization name)	RAU- PUSA	Central Food Technological Research Institute (CFTRI)	Medical college, Davangere	Shibipur People's Care Organisation	
	State	Bihar	Mysore, Karnataka	Karnataka (Davangree)	West Bengal	
1	Product preparation (Government Institution/Commercial /SHG/ Prepared at Household level)		Government institution	Government institution	SHG	SHG
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)		Y	Y	Y	Y
3	Readiness of product for consumption (Ready to Eat/ Ready to Consume)= RTE (Ready to use/ Ready to Cook)=RTU As mentioned on package/ research paper		RTE	Not Available	RTE	Not Available
	RTE/ RTU	Through recipe & desk review assessment	RTE	RTU	RTE	RTU
4	If any reconstitution required before eating the product (Yes/ No)		Not Available	Not Available	No	Not Available
5	Nutrient composition	Energy	431	462	400	402
		en% Protein	10	19	14	10
		en% CHO	43	20	Not Available	Not Available
		en% Fat	47	60	Not Available	Not Available
6	Whether the food product is Fortified with micronutrients (Yes/ No)		Not Available	Yes	Not Available	Yes
7	Shelf life		Not Available	Not Available	Not Available	Not Available
8	Feasibility trial	Study Trial (Y/N)	Not Available	Y	Y	Not Available
		Study population (SAM/ MAM/Underweight/ Normal/ Any other) and sample size	Not Available	Normal, 96	SAM, 66	Not Available



Annexure 4B: Details on Selected Suitable food items

	Product name		Ready to eat Supplementary food, paste	Ready to eat Supplementary food, paste	Ready to eat Supplementary food, paste
	Developed by	(Organization name)	ICAR-IIMR	ICAR-IIMR	ICAR-IIMR
		State	Hyderabad	Hyderabad	Hyderabad
1	Product preparation (Government Institution/ Commercial /SHG/ Prepared at Household level)		Government institution	Government institution	Government institution
2	Ingredients with amount(g) locally available(LA)/ region specific (RS)		N	N	N
3	Readiness of product for consumption (Ready to Eat/ Ready to Consume)= RTE (Ready to use/ Ready to Cook)=RTU As mentioned on package/ research paper		RTE	RTE	RTE
	RTE/ RTU	Through recipe & desk review assessment	RTE	RTE	RTE
4	If any reconstitution required before eating the product (Yes/ No)		no	no	no
5	Nutrient composition	Energy (Kcal)	463	466	465
		en% Protein	11	11	11
		en% CHO	42	41	42
		en% Fat	46	47	47
6	Whether the food product is Fortified with micronutrients (Yes/ No If Yes, Details _____)		yes (vitamins and minerals)	yes (vitamins and minerals)	yes (vitamins and minerals)
7	Shelf life		Not Available	Not Available	Not Available
8	Feasibility trial	Study Trial (Y/N)	Y	Y	Y
		Study population (SAM/MAM/Underweight/ Normal/ Any other) and sample size	Not Available	Not Available	Not Available

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Disclaimer:

This is a working document that has been compiled by editor(s) of the document. It is the compilation of various locally produced food items that has been used for the management of children with malnutrition in the community. This activity was carried out by Kalawati Saran Children's Hospital (KSCH), New Delhi in collaboration with National Institute of Nutrition (NIN), Hyderabad. It has been prepared to facilitate the exchange of knowledge and to help States in deciding food items for their community based severe acute management programme.

The statements in this publication are the views of the author(s) and do not necessarily reflect the policies or the views of KSCH, NIN and UNICEF.

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