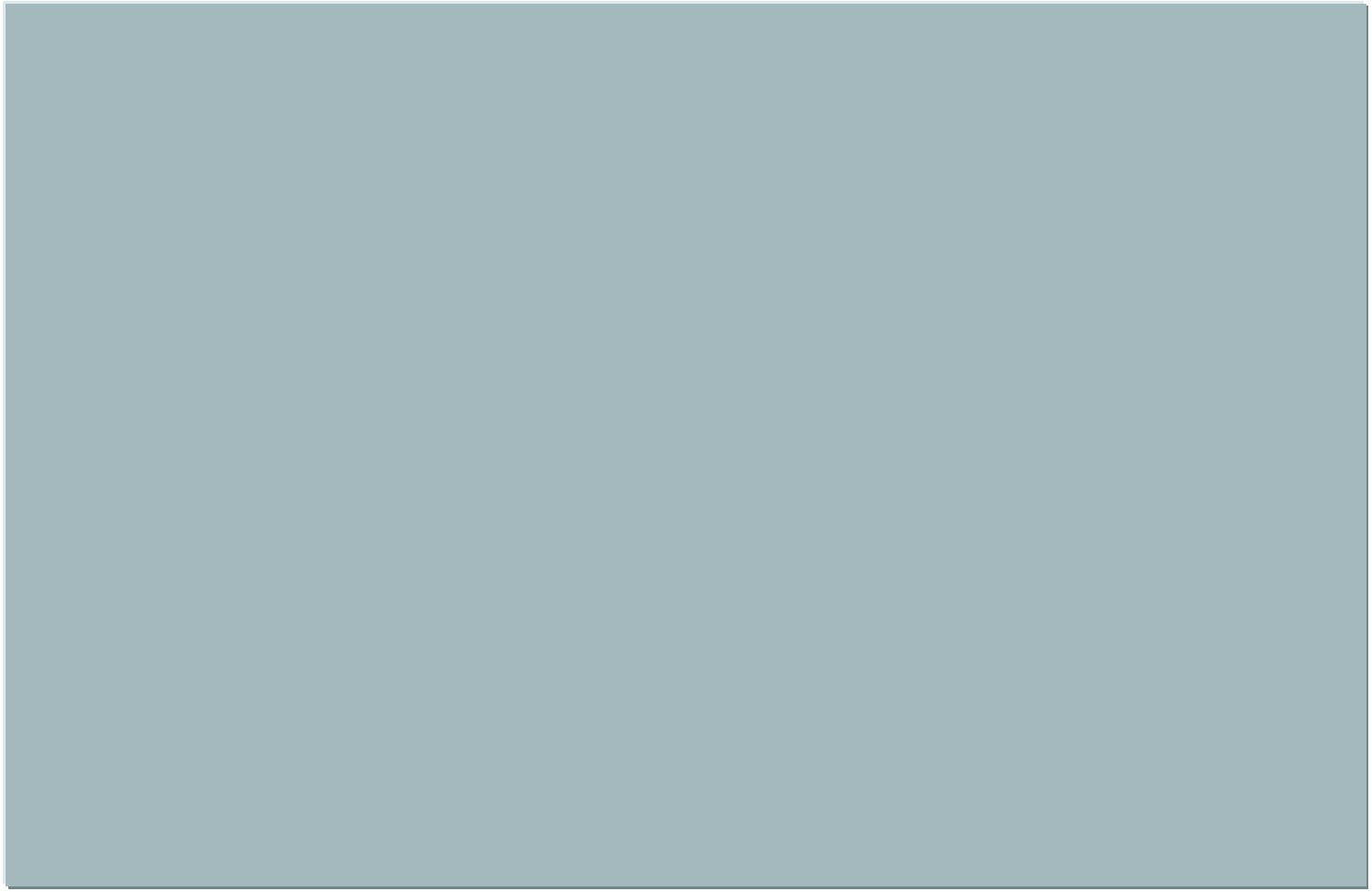
World Food Programme

WFP Nutrition

Experience in using new products

MAM Meeting, Geneva 2008

WFP
World Food Programme



Modification of CSB

CSB considered to be ineffective in addressing moderate acute malnutrition, because of:

- Inadequate composition (micronutrients, energy density, lipids, fibres, anti-nutrients)
- Sharing at HH level

Improved FBF

- CSB + the **V&M premix** has been enhanced with additional or elevated levels of micronutrients (vitamins B6, D, E and K, iron, iodine, calcium, potassium and phosphorus)

- CSB ++ improved MN profile, better protein quality by addition of 8% milk powder, dehulling of soya (less fibre), higher fat content, tighter microbiological specs

Using new products

- CSB+ has replaced old CSB in all WFP operations
- CSB ++ used in Niger, Burkina Faso, Cambodia to-date. Planned for other countries in 2012
- Ready-to-use supplementary foods for in x countries to-date
- MNPs being used in 4-5 countries

Effectiveness (1)?

MNPs

- Bangladesh refugees: cohort follow-up study of <5s : 38% reduction in anaemia
- Bangladesh EMOP: wide variation in compliance; lower anaemia in <5's and PLW in districts with higher compliance
- Nepal, refugees: compliance high; 1st survey no change; 2nd survey 20% reduction in anaemia

Effectiveness (2)?

CSB, RUSFS

- Comparative studies different types of CSB to be undertaken in Mali (UC Davis, HKI, Unicef, WFP), Malawi (Project Peanut butter) and Burkina Faso
- Comparative study CSB/RUSF finalized in Ethiopia (WFP, Univ. of Toronto)

Micronutrient powder (MNP)

an alternative approach to supplementation and fortification, these powders are used to fortify foods at home

- ✓ contain multiple micronutrients to meet daily requirement
- ✓ come in small individual sachets as a single daily dose
- ✓ available in multi-dose packages for School Feeding
- ✓ tasteless, odourless and easily dissolvable
- ✓ composition for malaria and non-malaria endemic areas
- ✓ can either be provided to the general population or to specific target groups
- ✓ can be designed according to the target group needs

CSB Plus (WSB Plus)

- To better meet micronutrient needs of older children and adults, the **V&M premix** has been enhanced with additional or elevated levels of micronutrients (for vitamins B6, D, E and K, iron, iodine, calcium, potassium and phosphorus).
- Oil and sugar should be added to increase energy density and palatability (e.g. 200 g CSB+, 20 g oil and 15 g sugar).
- **Nutritional value:** 380 kcal/100 g dry product, 14% protein, 6% fat and 5% max crude fibre.
- CSB producers have been informed of the new premix requirements. CSB Plus with the upgraded micronutrient premix will automatically replace conventional CSB at the beginning of 2010.
- There will be no change in packing.
- The product will approximately cost US$ 500-650 per MT.
- **Shelf life:** 12 months

CSB Plus Plus

- CSB Plus Plus includes higher and more digestible levels of essential macronutrients (fats and proteins), a reduction in fibre content and enhanced inclusion of vitamins and minerals.
- **Fibre reduction** due to dehulling of soya beans
- Protein quality improved by inclusion of **dry skimmed milk**. DSM is not only a source of animal protein, but specific peptides (proteins components) may have a positive impact on immune and digestive systems.
- **Sugar** is included for palatability and energy and **oil** provides energy density.
- CSB Plus Plus is a fine flour very palatable to young children and has higher protein and fat and lower fibre levels than CSB Plus. The MN profile is the same as CSB Plus.

CSB Plus Plus

- **Composition:**

15-20% Soya dehulled	9% Sugar
57-62% Corn	3% Refined soya bean oil
8% DSM	Vitamins and minerals

- **Sugar and oil** are included during the manufacturing process, therefore they do not need to be added separately in the ration.
- **Nutritional value:** 420 kcal/100 g dry product, 16% protein, 9% fat and 3% max crude fibre.
- Producers are limited and all procurement has to go through HQs Procurement Unit (OMLP).
- The product is packed in small bags (1.5 – 6 Kg)**.**
- Shelf life: 12 months

Other implications…

- Storage capacity
  - RUSF / MNP= compact & small rations
  - CSB Plus Plus: one instead of three commodities
- Food losses:
  - infestation risk low with RUSF
  - Short shelf life CSB Plus Plus
- Sustainability? Is this an issue?
- Cost versus effectiveness?

Which product for whom and when?

	Ration size	Nutrient profile/ serving	Target group	Recommended use
CSB+	200 g 20 g oil 15 g sugar	997 Kcal 28 g protein 32 g fat	24-59 months Pregnant/lactating Women (PLW)	Treatment
CSB++	200 gram	840 Kcal 32 g protein 18 g fat	6-23 months	Treatment Prevention
Plumpy Doz	46.3 gram	247 Kcal 5.9 g protein 16 g fat	6-23 months	Prevention
Suppl. Plumpy	92 gram	500 Kcal 12.5 g protein 32.9 g fat	6-59 months	Treatment
Nutributter	20 gram	108 Kcal 2.56 g protein 7.08 g fat	6-23 months	Prevention
MNP	1 gram	1 RNI of MNs	6-23 months 6-59 months PLW	Treatment Prevention

Advantages and disadvantages

	Blanket feeding: 6-23 months			
	Advantages	**Disadvantage**	**Context**	**Combination with TSF**
CSB++	•Easy packaging •Only 1 commodity •High Kcal value •Known product •High quality product (high concentration essential amino acids)	•Cooking required •Requires safe cooking and sanitation •Sharing at HH level •Shelf life	•High stunting levels •High GAM levels •(possibly) high micronutrient deficiencies	•Consider total Kcal provided (e.g. in lean season). •Consider if 2 different types (a RUSF and a FBF) of food are needed/more adequate. •Consider if overlap of children can be eliminated (delivery channel)
Plumpy Doz	•Easy packaging (1 pot=1 week) •Only 1 commodity •Medium Kcal value •No cooking required •Low contamination risk •High quality product (high concentration essential amino acids)	•New (unknown) product •(Possibly) low Kcal value •Local production limited •Sustainability?	•High stunting levels •Relative GAM levels •Micronutrient deficiencies •High food insecure areas (lean season)	
Nutributter	•Easy packaging •Only 1 commodity •Low Kcal value •No cooking required •Low contamination risk •High quality product (high concentration essential amino acids)	•New (unknown) product •(Possibly) low Kcal value •Local production limited •Sustainability?	•High stunting levels •Low GAM levels •Micronutrient deficiencies	
MNP	•Easy packaging (1 sachet= 1 dose) •No Kcal •Ready to use •Can be adapted to specific needs of target group	•New (unknown) product •No local production •Needs adaptation of iron in malaria endemic areas	•Micronutrient deficiencies •Low GAM and stunting levels	•Consider total intake of micronutrients from food and supplementation

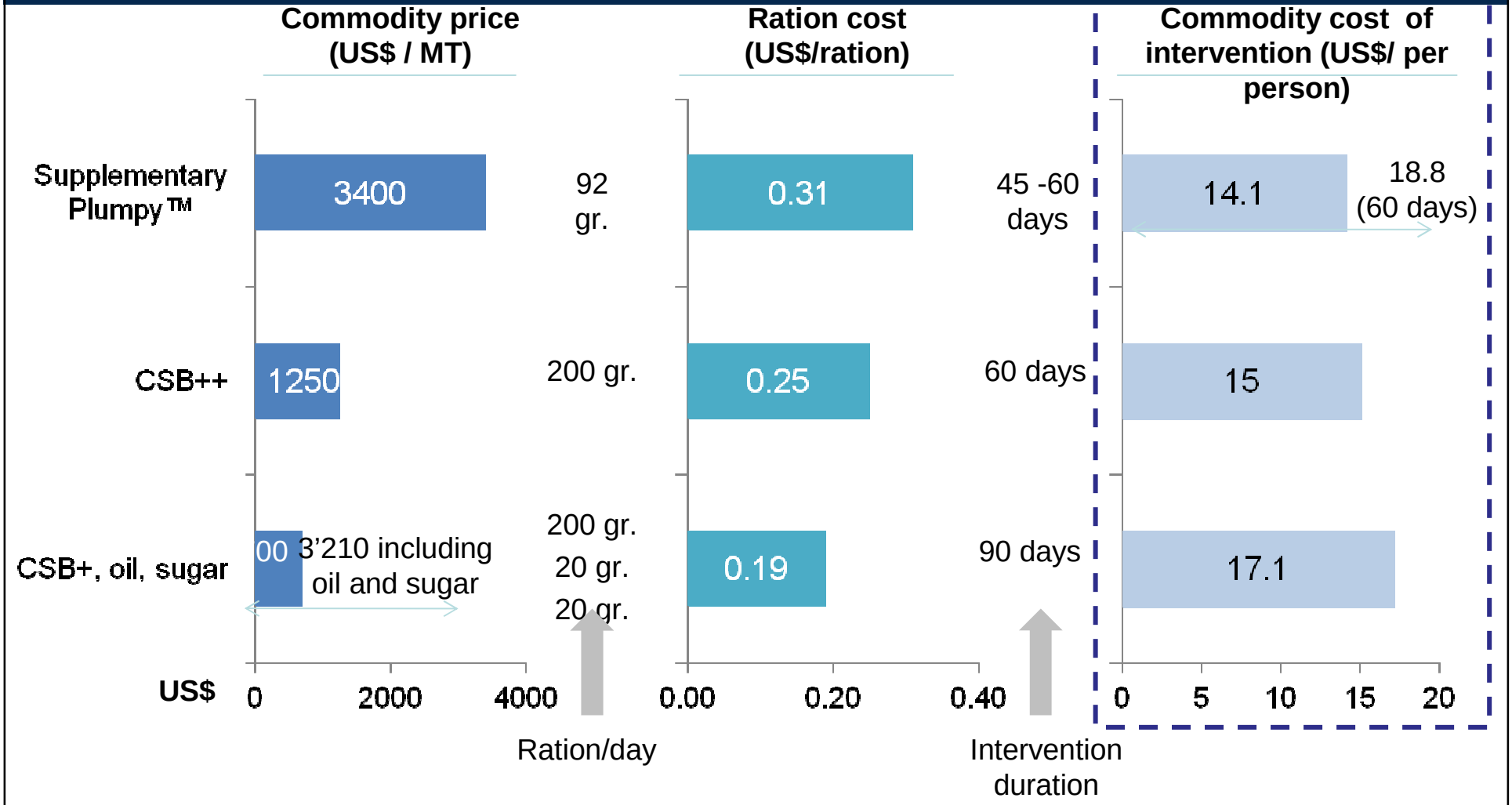
Advantages and disadvantages

	Targeted Supplementary Feeding (MAM): 6-59 months		
	Advantages	**Disadvantage**	**Comments**
CSB+, sugar, oil (6-59 months)	•Known commodities •Only one ration for all children (and PLW) •High Kcal value	•3 commodities •Premixing required (work load) •Requires re-packaging in field (contamination risk) •Not ideal for young children •Higher levels of antinutrients compared to CSB++ and RUFs •Shelf life after premixing very short •Requires storage of 3 commodities •Cooking required •Sharing at HH level	•Not the ideal option, but one of the two options to be considered while CSB++ production is still limited.
CSB++ (6-23 months) & CSB+, sugar, oil (24-59 months)	•Easy packaging of CSB++ •Only 1 commodity for young children (no premixing) •Adequate Kcal value per age group •Known products	•Different rations for spec. age groups •Pipeline management more complicated •Cooking required •Sharing at HH level •Short shelf life CSB++	•Requires adequate capacity & training health staff •Might require revision of National Protocol for MAM treatment •This is a good option !
Suppl. Plumpy (6-59 months)	•Easy packaging •Only 1 commodity •Same ration for all children •Easy storage/pipeline management •Lower Kcal value •No cooking required •Low contamination risk	•New (unknown) product •(Possibly) low Kcal value •Local production limited •More costly	•Requires re-training of health staff because of new type of product •Might require revision of National Protocol for MAM treatment •This is a good option !

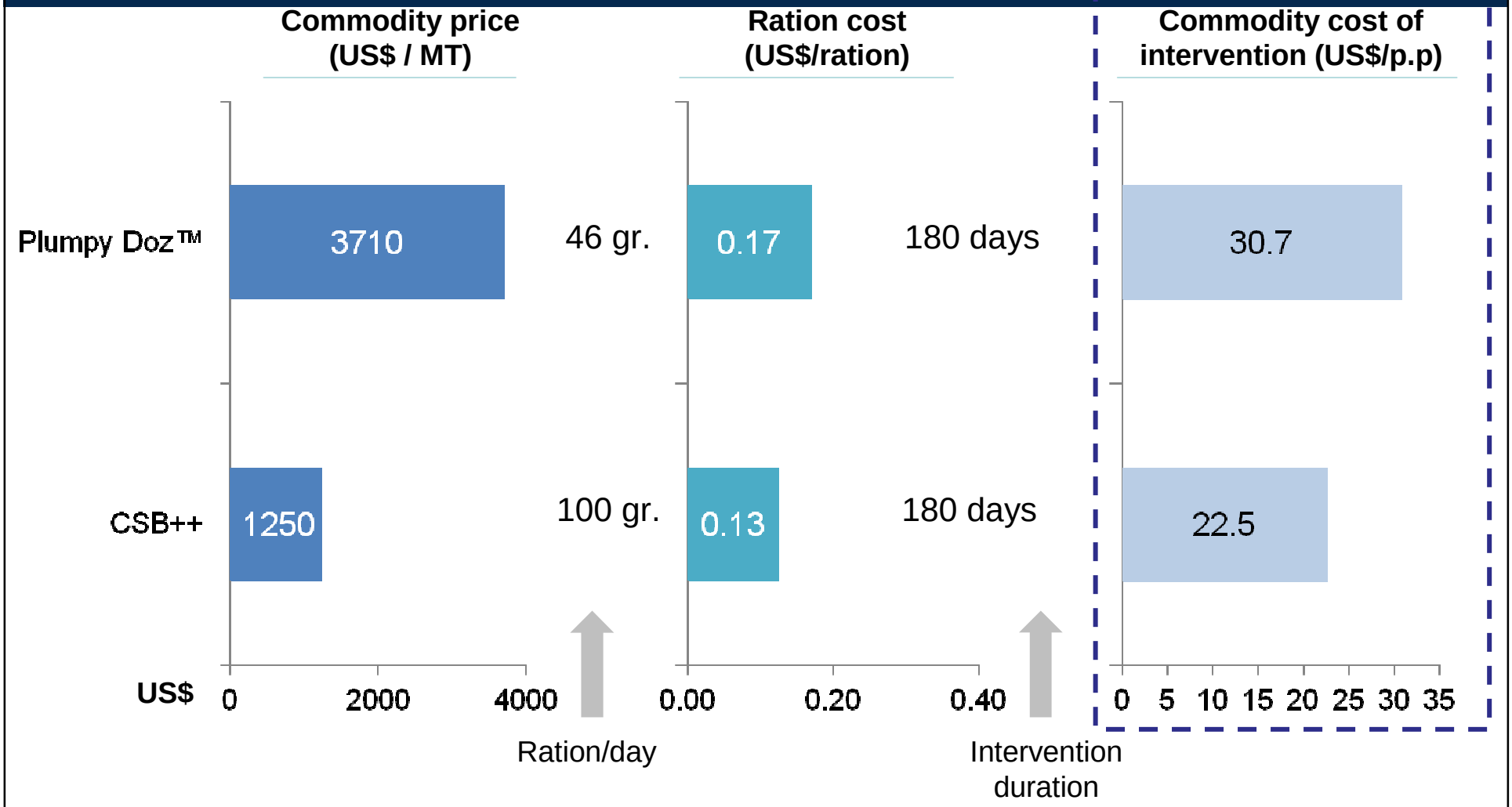
Advantages and disadvantages

	Supplementation of PLW (blanket or targeted)		
	Advantages	**Disadvantage**	**Comments**
CSB+, sugar, oil	• Known commodities • High Kcal value • Good micronutrient profile	• 3 commodities in the ration • Premixing and re-packaging required (work load) • Shelf life after premixing very short • Requires storage of 3 commodities • Cooking required • Sharing at HH level	• The ration for PLW does not require a change, i.e. a new type of product
MNP	• Easy packaging (1 sachet= 1 dose) • No Kcal • Ready to use • Can be adapted to specific needs of target group • Can be used with locally available foods	• New (unknown) product • No local production • Needs adaptation of iron in malaria endemic areas	• Micronutrient deficiencies • If Kcal/energy is not the key concern, MNP can be provided to add to the food available at HH level

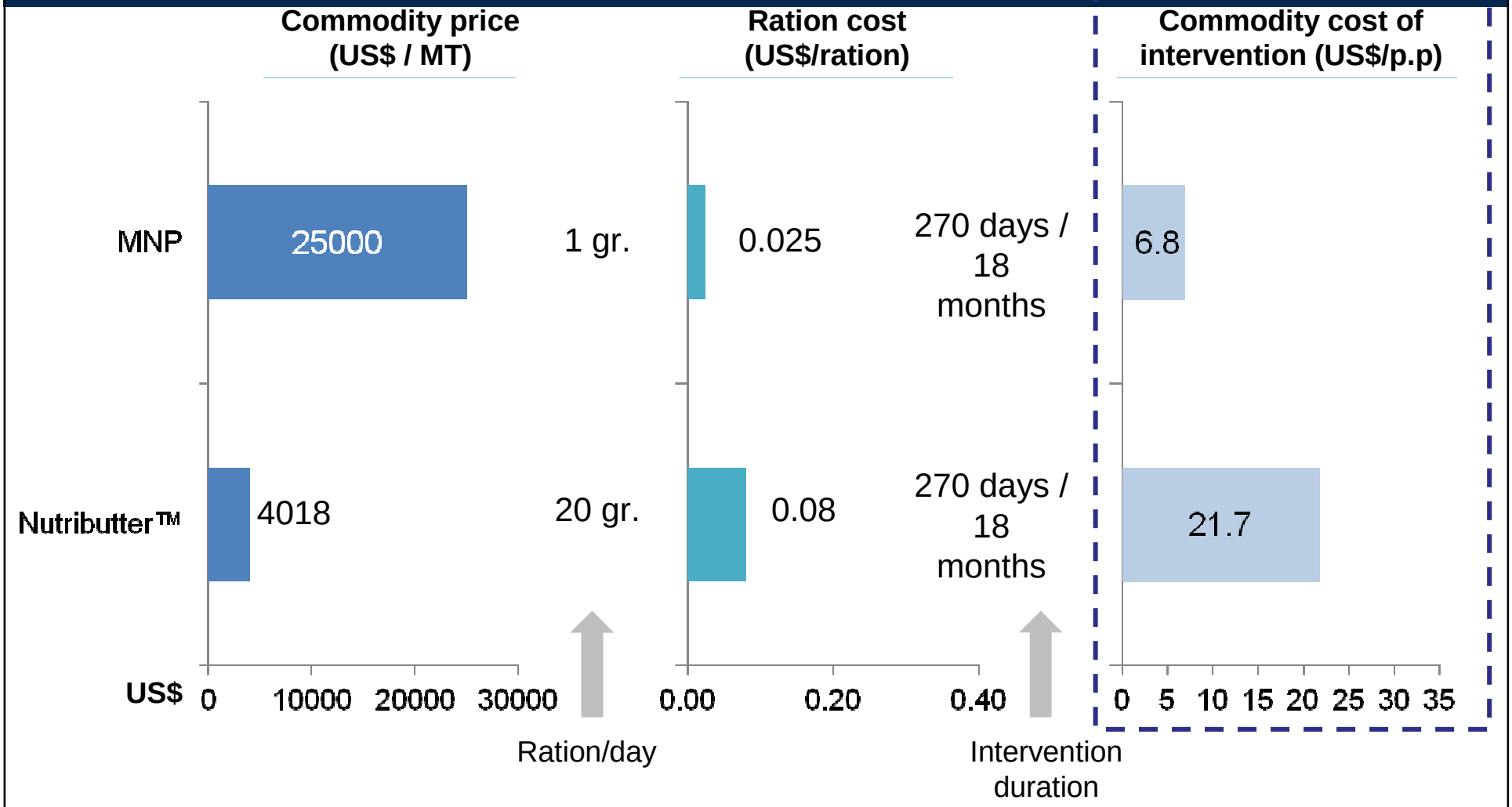
MAM treatment – cost of MT vs. cost of individual treatment



MAM prevention – cost of MT vs. cost of individual course



prevention – cost of MT vs. cost of individual course



Communicating with the consumer MNP example

Universal sachet design - WFP

- Image shows use, can be used universally
- Not branded
- Manufacturing info on the back
- Instructions etc on the box = unit of distribution

WFP Nepal

World Food Programme

Box is the unit of distribution

- Local language & local name
- Appropriate color
- Displays: target group(s), frequency of use
- Composition, # sachets, best before date
- Manufacturer info, including small space for trademark
- Donated by WFP/DSM partnership

MNP Philippines