

This time we did not guess. We photographed the roster sheets at both houses, entered **every child by name, age and sex**, and built the food list from the **Thai DRI 2563** nutrition standard, inside the **WHO** healthy-diet ranges, rather than from a headcount. It changed what we buy, how much of it, and how we get it there. Here is all of it.

76

children
59 Bilay · 17 Samson

11.1

mean age
35 of them are 10–14

3,058

kg of food
across three truckloads

180

days covered
no gap, no waste

~€0.17

~\$0.19 · ~฿6.51
per child, per day

~€30

~\$35 · ~฿1,171
one child fed for six months

~€2,314

~\$2,643 · ~฿89,001
all 76 children fed for six months

1 · WE COUNTED EVERY NAME					
	0–4 6	5–9 18 · 24%	10–14 35 · 46%	15–17 11 · 14%	18–19 6
AGE BAND	CHILDREN	BOYS / GIRLS	SEX SPLIT	NEEDS EACH	SHARE OF THE HOUSE'S ENERGY
0-4 years — no school lunch	6	2 / 4		1,150 kcal	5%
5-9 years	18	11 / 7		1,443 kcal	20%
10-14 years	35	18 / 17		1,771 kcal	48%
15-17 years	11	2 / 9		1,877 kcal	16%
18-19 years	6	3 / 3		2,075 kcal	10%
All children · mean age 11.1	76	36 / 40		1,676 kcal	127,956 kcal a day

A thirteen-year-old needs almost twice what a five-year-old needs. Because this house skews teenage, planning by age raised the daily requirement to **1,676 kcal per child** — about 5% above what a headcount would have told us. The **10–14 band is 46% of the children but 48% of the food**. And **6 children are under five**: too young for school, so no school lunch reaches them at all. boys girls

2 · WHAT ONE CHILD GETS FROM US ALONE, EVERY DAY — BEFORE SCHOOL LUNCH, GARDEN OR ANY OTHER DONATION					
Rice	166 g	952	222 g	40.0	~€30
Palm oil	31 g · 34 ml	kcal a day	dry weight	kg per child over 6 months	~\$35 · ~฿1,171 per child over 6 months
Mung beans	23 g NEW THIS RUN				
Iodised salt	2.5 g				

This is our delivery on its own — no school lunch, no garden, no other donor counted. It is the staple backbone: the energy, the protein, the fat and the iodine, every day for 180 days, in the store room from day one so nobody has to ration. **Mung beans are new**. Four previous runs carried rice and a little oil and nothing else. Rice protein is short of lysine, the amino acid children need to grow; beans supply exactly that, and at Makro's prices cost the same per gram of protein as rice.

3 · A FULL DAY ON THE PLATE — AND THE PART WE DO NOT PAY FOR					
	Our rice run	School lunch, 109 school days	Garden greens, 100 g	One egg or piece of fish	Other donors & own growing
Energy	57%	20%		20%	Thai daily requirement
Protein	41%	14%		17%	20%
Fat	62%	11%		20%	
Carbohydrate	56%	23%		20%	

IF NO OTHER DONOR TURNS UP

Strip out the grey band entirely — our delivery, the school lunch, the garden and the daily egg, nothing else — and a child still eats **1376 kcal a day, 82% of the standard**, every day for 180 days. That is the floor, not the plan. The houses cook to it as they always have: smaller portions, more often, nothing wasted.

THE HONEST LIMIT

Rice, beans and oil carry energy, protein, fat and iodine. They contain **no vitamin A, no vitamin C and no vitamin B12** — not a little, none. Those come from the gardens, the eggs and the fish, every day. That is not something a truck can deliver, and it is why we plan around what these houses already do rather than pretending we are the whole answer.

4 · WHAT WE BUY, AND WHAT WE TURNED DOWN			5 · FOUR DECISIONS, AND WHAT EACH ONE BOUGHT	
PRODUCT	QTY	COST	DECISION	EFFECT
BILAY HOUSE · 59 CHILDREN · 2,371 KG			Standard rice instead of premium. Same grain, same 15 kg bag.	+500 kg of food
Khao Saen Dee white rice 100% 15 kg bag · ~฿280	118 bags 1,770 kg	~฿33,099	Six times more cooking oil. Oil carries 2.5x the calories per kilo — last run we hauled the light thing.	+272 kcal per child/day
Rai Thip whole mung bean 500 g x 6 = 3 kg · ~฿204	81 packs 243 kg	~฿16,484	Mung beans, for the first time. Rice protein is incomplete alone; beans supply the lysine it lacks.	protein 100%
Bonus palm oil 18 L tin · ~฿952	20 tins 360 L	~฿19,030	Buy at Ratchaburi, not Hua Hin. Puts Makro 1.5 hours from Bilay, so the trucks shuttle a second load the same day.	2 loads not 1
Iodised salt	27 kg	~฿356	Result	952 kcal/day per child, from us alone
SAMSON HOUSE · 17 CHILDREN · 686 KG			HOW ANYONE CAN CHECK IT	
Khao Saen Dee white rice 100% 15 kg bag · ~฿280	34 bags 510 kg	~฿9,537	Each house has a sheet listing how many sacks should still be in store at the end of every month — 98 in Sep, 79 in Oct, down to zero in February — with a box to write in what is actually there. Anyone can count sacks, including us.	
Rai Thip whole mung bean 500 g x 6 = 3 kg · ~฿204	23 packs 69 kg	~฿4,680		
Bonus palm oil 18 L tin · ~฿952	6 tins 108 L	~฿5,709		
Iodised salt	8 kg	~฿106		
Food total	3,058 kg	~฿89,001		

RICE RUN 5 — WHAT WE ARE ASKING FOR

~€2,314

~\$2,643 · ~฿89,001

feeds 76 children for 180 days — delivered 1 and 15 August, in store through February 2027.

~€30

~\$35 · ~฿1,171

feeds one child for six months · ~€5.00 a month

Anything unspent goes to the next run, as always.

How we worked it out

Sources, product data and the full calculation behind Rice Run 5 — so you can check every step

Everything on page 1 comes from the tables below. Nothing is rounded in our favour. Where a figure is an assumption rather than a measurement, it says so.

1 · THE REQUIREMENT — THAI DRI 2563, BUREAU OF NUTRITION, MINISTRY OF PUBLIC HEALTH

AGE BAND	ENERGY, BOYS	ENERGY, GIRLS	PROTEIN, BOYS	PROTEIN, GIRLS
1–3 years	1,000	1,000	18 g	18 g
4–5 years	1,300	1,300	22 g	22 g
6–8 years	1,400	1,350	28 g	28 g
9–12 years	1,700	1,600	40 g	39 g
13–15 years	2,100	1,800	54 g	48 g
16–18 years	2,300	1,850	59 g	47 g
Applied to our 76 children	1,676 kcal		40.1 g	

WHO RANGES APPLIED ON TOP

WHO healthy diet: fat 25-35%E, carbohydrate 55-75%E, free sugars <10%E, salt <=5 g/day iodised

Why the ration is capped, not maximised. We solve for the cheapest basket that meets energy, protein and fat, then put a ceiling on energy so nothing is over-supplied. Without that ceiling the maths drops the beans and overshoots energy — food that would spoil or go uneaten. We would rather use that money at another house. The ration sits at 31% fat of its own energy, inside the WHO band.

2 · WHAT WE BUY, AND WHAT WE TURNED DOWN — MAKRO, 2026-07-25

PRODUCT	PACK	฿/KG	KCAL/KG	CARB	PROTEIN	FAT	LYSINE
Khao Saen Dee white rice 100% ข้าวแสนดี ข้าวขาว 100% · code 208756	15 kg bag	~18.70	3,600	795 g	66 g	7 g	2,500 mg
Rai Thip whole mung bean ไรทิพย์ ถั่วเขียว · code 223366	500 g x 6 = 3 kg	~67.83	3,470	630 g	239 g	12 g	16,730 mg
Bonus palm oil โบนัส น้ำมันปาล์ม	18 L tin	~57.46	8,840	0 g	0 g	1000 g	0 mg
Iodised salt เกลือไอโอดีน	per kg	~13.20	0	0 g	0 g	0 g	0 mg

Rice and whole mung bean deliver **identical protein per baht**. That is the whole reason the beans are affordable: they cost nothing extra in protein terms, and they bring the lysine, fibre, folate and iron that polished rice lacks.

TURNED DOWN — AND WHY

Premium rice บัวชมพู — no nutritional gain over standard	~฿434/bag
Split hulled mung ถั่วเขียวเลาะเปลือก — identical food, 16% dearer	~฿78.84/kg
Makro-brand mung, 1 kg — worst value on the shelf	~฿90.20/kg
Split soybean ถั่วเหลืองซีก — cheapest protein there is, but not eaten in Karen cooking	~฿52.80/kg
Multivitamin tablets — eleven brands priced; every one cost more than buying real food	~฿42,240/total

3 · THE CALCULATION, PER CHILD PER DAY

1	Thai DRI requirement, weighted by every child's age and sex	1,676 kcal
2	less school lunch, 109 of 180 days, school-age children only	–335
3	less leafy greens from their garden, 100 g a day	–30
4	less one egg or piece of fish, bought locally	–60
5	less 20% from other donors and their own growing	–335
=	what our delivery must supply	916 kcal
6	solved for least cost, capped so nothing is over-supplied	952 kcal

We deliberately assume the houses receive a fifth of their food from elsewhere. They are supported by more people than us, and buying food that then sits in a store room until it spoils would be a poor use of your money when another orphanage has none.

THE DAILY RATION	AMOUNT	KCAL	PROTEIN	FAT
Khao Saen Dee white rice 100%	166 g	598	11.0 g	1.2 g
Rai Thip whole mung bean	23 g	80	5.5 g	0.3 g
Bonus palm oil	31 g · 34 mL	274	0.0 g	31.0 g
Iodised salt	2.5 g	0	0.0 g	0.0 g
From our delivery	222 g	952	16.5 g	32.4 g
DELIVERED	PER CHILD	BILAY HOUSE	SAMSON HOUSE	
Children	–	59	17	
Weight, 180 days	40.0 kg	2,371 kg	686 kg	
Both houses		~€2,314 · ~\$2,643 · ~฿89,001		

4 · MICRONUTRIENTS — OUR DELIVERY'S OWN SHARE OF A 10–12 YEAR OLD'S DAILY NEED

Iodine 63% 75 of 120 µg iodised salt; lunch adds more	Folate 51% 157 of 310 µg mostly from the mung bean	Magnesium 35% 85 of 240 mg rice and bean	Zinc 26% 2.4 of 9.3 mg absorption reduced by phytate
Thiamine B1 25% 0.26 of 1.05 mg polished rice poor; bean carries it	Phosphorus 25% 275 of 1,100 mg rice and bean	Niacin B3 24% 3.1 of 13 mg rice	Iron 23% 2.9 of 12.5 mg non-haem; absorption reduced
Riboflavin B2 13% 0.14 of 1.05 mg weakest vitamin in the ration	Calcium 8% 77 of 980 mg small whole fish is the real source	Vitamin A 0% none in dry goods dark leafy greens, daily	Vitamin C 0% none in dry goods greens, not overboiled
Vitamin B12 0% none in dry goods egg and fish; no plant source	Vitamin D 0% none in dry goods sunlight, egg yolk, oily fish	Lysine, holiday 134% 1,935 of 1,440 mg the reason beans are in the truck	Fat, % of run energy 31% WHO band 25–35% inside range

WHAT WE MEASURED, INFERRED, AND ASSUMED

MEASURED Bilay ages, recorded on the sheets by the house. Product prices, Makro, 25 July 2026. School calendar — 109 school days inside the 180-day window.	INFERRED Samson ages, from school grade rather than recorded. Stateless pupils often enrol one to three years late, so these may run young — and the real requirement slightly higher.	ASSUMED A rice-based school lunch at 600 kcal. Leafy greens 100 g a day from the gardens. One egg or fish per child per day. 20% of the remaining food from other donors and their own growing.
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