

SECRETARIAT OF THE PACIFIC COMMUNITY  
REGIONAL POVERTY ANALYSIS TECHNICAL WORKSHOP  
(Noumea, New Caledonia, 22 September 2007)

*“Translating theory into practise in the Pacific context”*

**FOOD POVERTY LINE**

**THE ISSUE**

1. The Food Poverty Line (FPL) is the basis for calculating the Basic Needs Poverty Line (BNPL) against which the overall incidence of poverty is measured. The core of the FPL is the diet, menu or food basket that is costed to give the FPL.
2. The FPL is intended to represent a minimally nutritious diet sufficient for an average adult (male/female) to be able to undertake a moderately active lifestyle and receive an adequate balanced level of nutrition. It is essential therefore that it be soundly based and accurately reflects the cost of such a diet, either in terms of purchased items or the value of own produce consumed.

**MAIN APPROACHES**

3. There are two primary of methods<sup>1</sup> for estimating the FPL:

*(1) Normative FPL: represents the cost of a food basket that provides proper nutrition and is healthy, but whose primary purpose is not poverty measurement and that may not necessarily represent consumer habits.*

*(2) Semi-normative FPL: represents the cost of a food basket that is anchored to certain nutritional guidelines according to the consumption habits and market prices faced by the population.*

*The measurement methods pertaining to the first category employ a food basket produced for purposes other than poverty measurement. Although the baskets may have been constructed following methods similar to the semi-normative methods described below, they are grouped separately because the researcher does not have the option of modifying the characteristics of the basket. The only available practices presented to the Rio Group that relate to this category are the United States' current poverty line (developed by the U.S. Department of Agriculture)<sup>18</sup> and Canada's Market Basket Measure (Health Canada's Nutritious Food Basket).*

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<sup>1</sup> Compendium of Best Practices in Poverty Measurement, Expert Group on Poverty Statistics, Rio Group 2006

*The second category refers to those practices in which the food poverty line represents the cost of attaining nutritional requirements while simultaneously respecting observed consumer habits (in different degrees). It is the most widespread method for measuring absolute poverty in the world, although it is applied with many methodological variations.*

4. In the work that has been done on poverty analysis in the PICs the second “semi-normative FPL” approach has been used. The nutritional guidelines required in this method have been anchored in two principal ways. The first is based on the recommended minimum food energy requirements as established by the FAO and WHO. These are that an average adult (male/female) requires a minimum food energy intake each day of 2100 calories for a moderately active lifestyle. This benchmark is widely used in the Asia Pacific Region<sup>2</sup> for the estimation of FPLs. The second anchor has been the “model diets” developed by the SPC Nutrition Programme in conjunction with national nutrition agencies in 15 countries and territories in the region. These model diets, whilst not strictly adhering to the 2100kcal benchmark, are nevertheless designed to be low-cost, minimally nutritious menus that are based on local dietary preferences. Where they differ widely from the 2100kcal norm they would need to be adjusted accordingly.
5. In early poverty analyses carried out in Fiji (2005/06), Kiribati (2002), Samoa (2003), Tuvalu (2003 and 2006), and Tonga (2003) the SPC model diets were used as the basis for the FPLs. In all cases the model diets were reviewed and either validated or revised by the local national food and nutrition agencies/committees at the time of the poverty analysis.
6. A second approach to the semi-normative method has been to analyse the actual food consumption patterns as recorded in the household income and expenditure surveys. The analysis of the actual food consumption has focused on households in the bottom three or four deciles, to capture the diets of poorer households so that the food basket reflects the consumption preferences/choices/options of those in the lower income/consumption groups. This method has been used for the analyses in FSM (2004 and 2007) and Solomon Islands (2007). In both cases the costs of the SPC model diets have also been estimated to validate the analysis of the actual recorded expenditure.
7. To illustrate how these methods work in practice Annex 1 shows the food consumption of the lowest three deciles in Honiara. This indicates that the purchase of rice accounted for 18.7% of the food expenditure of the poorest households in Honiara. This was followed by canned tuna (6.5%), noodles (4.9%) and bread (4.2%). The most common local food consumed, either from own production or market purchases was kumara (4.5%). The 50 items listed accounted for 88.7% of all food consumption. The remainder of the table in Annex 1 shows that these foods would have provided an average daily food energy intake of 1624kcal<sup>3</sup> and would have cost SBD6.87 per adult per day. The fact that the estimated food energy value is well below the required minimum of 2100kcal per day suggests that either, many people are very undernourished or there is some under-recording in the daily diaries, the latter is more likely to be the case, although some malnutrition almost certainly does occur in the very poorest households.
8. To estimate the FPL it is therefore necessary to gross-up the recorded values to the 2100kcal minimum food energy requirement. This then gives a cost per day of SBD8.88.

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<sup>2</sup> Poverty in Asia, Measurement, Estimates and Prospects, Asian Development Bank, Economics and Research Department. 2004; and Hardship and Poverty in the Pacific, Asian Development Bank Pacific Studies Series, 2004.

<sup>3</sup> The calorific values of all foods were taken from the FAO’s South Pacific Food Composition Tables, 2002.

9. The Solomon Islands urban “SPC model menus” is at Annex 2. These model menus for male and female adults have an average calorific food energy value of 2096kcal per day with an estimated daily cost of SBD9.11, that is SBD0.23 above the value calculated from the actual grossed-up food consumption as recorded in the diaries. This therefore validated the use of either the model menus or the actual food consumption as the basis for the FPL for Solomon Islands urban households.
10. Similar analyses for Solomon Islands rural households suggest that the actual consumption pattern would generate a FPL of SBD3.93 per adult per day, while the SPC rural model menus (not shown in Annex 2) generates a figure of SBD5.17. The primary cause of the wider gap between the two estimates for the FPL is the higher consumption of rice and noodles in the actual diet compared to the model menu through its impact on the price/calorie ratio.
11. The two methods therefore provide a valid basis for estimating the FPL, although in general, the SPC model menus tend to generate higher estimates for the fall than those suggested by the actual consumption patterns. Thus using the SPC model menus would tend to give higher levels of poverty than the actual data.

### **RECOMMENDED APPROACH**

12. It is recommended that both the actual food consumption data and the SPC model menus be evaluated for the FPLs that each would generate and their comparative nutritional value (by comparing the relative contribution of food groups to each approach). The final FPL to be used for the actual estimation of the BNPL and the incidence of poverty should then be based on the lower of the two estimates, unless the actual food consumption approach is lower and is considered of significantly less nutritional value.

ANNEX 1

Estimated Food Expenditure and Calorie Intake									
Honiara Households									
Principal Diary Items Lowest Three Per Capita (a.e) Expenditure Deciles									
	Food Item	Weighted Expenditure per Diary	% of Diary Expenditure	Grossed-up expenditure value	unit price: all from Honiara CPI	unit: kg unless otherwise indicated	kcal value per 100g	kcal per day per a.e	cost per day
	A	B	C	D	E	F	G	H	I
13207	Rice	\$10,014,832	18.7	\$11,284,919	4.75		123	371.8	1.44
12319	Second grade Taiyo	\$3,472,944	6.5	\$3,913,385	5.01	180g	290	51.9	0.50
13206	Noodles	\$2,624,194	4.9	\$2,956,995	2.01	85g	99	15.8	0.38
11209	Kumara	\$2,412,184	4.5	\$2,718,098	2.60		129	171.6	0.35
13101	Bread all sorts	\$2,254,476	4.2	\$2,540,390	9.00		242	86.9	0.32
11202	Cabbage (slippery)	\$2,200,545	4.1	\$2,479,620	4.00		65	51.3	0.32
12301	Tuna/bonito	\$2,140,519	4.0	\$2,411,981	9.00		204	69.6	0.31
12304	Other fish	\$2,063,599	3.9	\$2,325,306	20.00		130	19.2	0.30
13105	Cabin biscuits	\$1,723,245	3.2	\$1,941,788	1.78	85g	414	48.8	0.25
11203	Casava	\$1,579,244	3.0	\$1,779,524	2.30		177	174.2	0.23
12201	Chicken	\$1,497,559	2.8	\$1,687,480	34.00		231	14.6	0.21
13209	Flour	\$1,385,737	2.6	\$1,561,477	4.50		349	154.1	0.20
16201	Sugar	\$1,129,172	2.1	\$1,272,374	3.55	500g	390	88.9	0.16
13102	Buns	\$1,105,718	2.1	\$1,245,946	15.00		439	46.4	0.16
17143	Betelnut	\$1,024,714	1.9	\$1,154,669	1.10	100g whole nut	352	14.1	0.15
17139	Coffee Mix	\$991,978	1.9	\$1,117,781	1.00	20g	100	2.8	0.14
12303	reef fish	\$702,368	1.3	\$791,442	20.00		130	6.5	0.10
15101	Cooking oil	\$602,551	1.1	\$678,967	6.18	500ml	878	61.4	0.09
13106	Doughnuts (puta)	\$591,598	1.1	\$666,624	5.00	100g	439	7.4	0.08
11106	Coconut (dry nut)	\$575,446	1.1	\$648,425	0.90	nut	283	25.9	0.08
12103	Meat in brine	\$570,001	1.1	\$642,288	38.67		198	4.2	0.08
12109	Tinned Corn Beef	\$564,864	1.1	\$636,501	16.50	340g	192	3.2	0.08
12202	Chicken parts	\$551,250	1.0	\$621,160	19.00		231	9.6	0.08
18120	Fish and chips	\$532,190	1.0	\$599,683	10.00	plate	375	0.0	0.00
11105	Coconut (drinking)	\$518,947	1.0	\$584,761	1.40	nut	16	0.9	0.07
11118	Watermelons	\$441,842	0.8	\$497,876	4.20		24	3.6	0.06
11103	cooking bananas	\$381,506	0.7	\$429,889	2.17	kg	110	27.7	0.05
12113	Tinned luncheon meat	\$378,474	0.7	\$426,472	4.81	198g	192	4.3	0.05
12101	Fresh beef	\$360,219	0.7	\$405,902	38.67		198	2.6	0.05
11247	Beans (snake beans)	\$321,790	0.6	\$362,599	6.00		30	2.3	0.05
15102	Butter/margarine	\$310,898	0.6	\$350,326	13.00	450g	727	11.2	0.04
16101	Soft drinks	\$252,667	0.5	\$284,710	4.09	355ml	165	1.5	0.04
11211	Taro	\$229,584	0.4	\$258,700	3.00		99	10.9	0.03
13116	PNG Biscuits	\$229,461	0.4	\$258,561	1.78	85g	242	3.8	0.03
11110	Mangoes	\$223,737	0.4	\$252,111	4.00		68	5.5	0.03
11217	Other fresh vegetables	\$219,683	0.4	\$247,544	4.00		30	2.4	0.03
11245	Spring onions	\$219,064	0.4	\$246,846	13.00		26	0.6	0.03
11216	Tomatoes	\$215,042	0.4	\$242,314	7.30		15	0.6	0.03
11225	Chinese cabbage	\$214,114	0.4	\$241,268	7.00		65	2.9	0.03
11214	Onions and chives	\$205,636	0.4	\$231,715	13.00		26	0.6	0.03
11112	Pawpaws	\$201,737	0.4	\$227,322	2.13		51	6.9	0.03
12312	Other tinned fish	\$175,190	0.3	\$197,407	5.01	180g	290	2.6	0.03
11132	Bananas (Ripe)	\$173,890	0.3	\$195,943	2.50		103	10.3	0.02
13107	Other cakes and pastries	\$169,868	0.3	\$191,410	15.00		242	3.9	0.02
17118	Salt	\$162,380	0.3	\$182,973	4.49		0	0.0	0.02
16202	Twisties etc	\$161,019	0.3	\$181,439	1.83	50g	250	1.6	0.02
11246	Peanuts	\$144,186	0.3	\$162,472	12.80		568	9.2	0.02
16211	Brown sugar	\$112,874	0.2	\$127,189	8.00		390	7.9	0.02
17104	Tea	\$104,210	0.2	\$117,426	1.97	50g	0	0.0	0.01
	Total Food per Diary List	\$48,438,946		\$54,581,997				1624.0	6.87
	Total Food Exp Lowest 3I	\$54,581,997							
	C1 Diary % of Total		0.887						

	calories		Cost	\$
J. Calories per day from Diary	1624	M	Per Diary	6.87
K. Basic Needs Energy Requirement	2100	N	Per basic need	8.88
L. Diary % of basic Needs	0.773	O	Per week	62.17

Note: All purchased items priced from Honiara CPI, other prices from average diary values

ANNEX 2

**Solomon Islands Menu**

**URBAN**

Source: SPC Nutrition Programme and SI Ministry of Health

Food Item	food energy values			Male Menu			Female Menu		Average adult		CPI Cost of Menu
	unit	number of units	calorie value (kcal)	units	number of units	calorie value in diet	number of units	calorie value in diet	number of units	calorie value in diet	
<b>Breakfast</b>											
slices white bread	gram	100	242	gram	200	484.0	180	435.6	190	459.8	1.71
butter/magarine	gram	100	727	gram	10	72.7	10	72.7	10	72.7	0.13
jam/honey	gram	100	325	gram	10	32.5	10	32.5	10	32.5	0.17
tea	gram	100	0	ml	250	0.0	250	0.0 2.5	250	0.0	0.01
milk	gram	100	66	ml	40	26.4	40	26.4 1.5	40	26.4	0.10
sugar	gram	100	394	gram	10	39.4	10	39.4	10	39.4	0.04
<b>Lunch</b>											
rice white boiled	gram	100	123	gram	360	442.8	240	295.2	300	369.0	1.43
tinned tuna	gram	100	290	gram	50	145.0	50	145.0	50	145.0	0.25
bele leaves	gram	100	29	gram	100	29.0	100	29.0	100	29.0	0.43
coconut cream	gram	100	254	ml	40	101.6	40	101.6	40	101.6	0.04
<b>Dinner</b>											
cassava/kumara (boiled)	gram	100	91	gram	250	227.5	180	163.8	215	195.7	0.54
fresh fish (baked/grilled)	gram	100	130	gram	150	195.0	150	195.0	150	195.0	2.84
coconut milk	gram	100	16	ml	50	8.0	80	12.8	65	10.4	0.59
<b>Drinks</b>											
tea	gram	100	0	ml	250	0.0	250	0.0 2.5	250	0.0	0.01
milk	gram	100	66	ml	40	26.4	40	26.4 1.5	40	26.4	0.10
sugar	gram	100	394	gram	10	39.4	10	39.4	10	39.4	0.04
coconut milk	gram	100	16	nut	125	20.0	125	20.0	125	20.0	1.13
coconut flesh	gram	100	81	gram	50	40.5	50	40.5	50	40.5	0.70
<b>Snacks</b>											
sweet biscuit	gram	100	451	gram	25	112.8	25	112.8	25	112.8	0.14
banana	gram	100	103	gram	150	154.5	200	206.0	175	180.3	0.45
<b>total calorie value</b>						2197.5		1994.1		2095.8	9.11
										<b>weekly cost</b>	<b>63.76</b>