

## Cash Transfer Program for Urban Households in Kenya:

### The PMT weights and implementation

Once the enrolment form is completed we can apply the PMT weights in some of the questions to derive the estimated household consumption. The weights are set out in Table 1 below and were obtained from the most recent KIHBS data of 2005. In the table below you can see an example of how to obtain the scores for two households.

For the Household 1:

the enrolment form shows that the caretaker is 35 years-old and has completed form 9. Household has one adult above 18 working; has 4 children under age 14 (one with age 0, one with age 2, one with age 5 and one with age 9); has 2 adults above 15; and none of the children are OVC. As a consequence the adult equivalent scale (0.24 if under age 4; 0.65 if age between 5-14; and 1 if above 15) is equal to  $2 \times 0.24 + 2 \times 0.65 + 1 = 3.78$ . The housing infra-structure is good and the household has Piped Water inside Dwelling, uses Electricity for lightening, uses gas for cooking, has a flushed toilet, walls are made of stone and roof made of concrete. Applying the weights for this household the score is equals to 9.071 that represents a household consumption of **KHS 8,701.81** a month.

For the Household 2:

the enrolment form shows that the caretaker is 50 years-old and has completed std 1 education . Household has zero adult above 18 working; has 2 children under age 14 (one with age 3 and one with age 5); has 3 adults above 15; and both children are OVC. As a consequence the adult equivalent scale (0.24 if under age 4; 0.65 if age between 5-14; and 1 if above 15) is equal to  $2 \times 0.24 + 3 \times 1 = 3.48$ . The housing infra-structure is bad and the household uses rain as water source, uses firewood for both lightening and cooking, has a pit latrine, walls are made of stone and roof made of concrete. Applying the weights for this household the score is equals to 7.410 that represents a household consumption of **KHS 1,652.90** a month.

According to the OVC rules, the selection criteria for participation in the program will make use of the threshold points for determining potential beneficiaries:

- households with PMT score below KHS 1,791 are identified as extreme poor;
- households with PMT score between KHS 1,791 and KHS 2, 219 are identified as poor.
- households with PMT score above KHS 2, 219 are identified as non poor – not eligible

That said, household 2 would be selected for participation while household 1 not. The other variables not used in this section for the PMT formula are going to be used for the evaluation/recertification of the household.

Table 1: CT-OVC pre-defined weights<sup>1</sup> and example of an applicant with scores

		EXAMPLE of an applicant				
		PMT weights	HH1	SCORE (answer * weights)	HH2	SCORE (answer * weights)
<b>Caretaker Characteristics</b>						
Age	[ ] in years	0.00030	35	0.01057	50	0.01510
Educational level	[ ] mark one of the codes below		9		1	
	0. No education	0.00000				
	<i>Primary:</i>					
	1. std 1	0.00000			x	0.00000
	2. std 2	0.00000				
	3. std 3	0.00000				
	4. std 4	0.00000				
	5. std 5	0.00000				
	6. std 6	0.00000				
	7. std 7	0.00000				
	8. std8	0.00000				
	<i>Secondary:</i>					
	9. form1	0.08812	x	0.08812		
	10. form2	0.08812				
	11.form3 or above	0.08812				

<sup>1</sup> There may be questions about why many variables are not included in the PMT weights of the OVC Nairobi, or why other variables such as disability of household head, or disability of other members, sources of income, sector of activities, or durable goods (just to list a few) are not included. The answer is the following: (a) many relevant variables that are likely to be correlated with poverty do exist in the KIHBS data and could be used; (b) but the PMT weights were derived under the constraint that all CT-OVC applicants were already in the MIS system of the CT-OVC program; and (c) this fact had constrained us to the use of limited set of variables available in the Form 2 of the CT-OVC application form. Anyway, the addition of more variables in the set of indicator does not mean a direct improvement in the model, but they can be tested later. However, it is necessary to find the right balance to deal with over-fitting and multi-correlation of variables. These two issues are associated with the fact that indicators can be mutually correlated, that is, adding having a TV or having access to electricity variable in the model may be unnecessary because they are directly correlated.

<b>Household Characteristics</b>						
Number of adults age 18 or more working	[ ] total	0.07932	1	0.07932	0	0.00000
Number of children under 14	[ ] total		4		2	
Age of children under 14	by age: [ ] 0; [ ] 1; [ ] 2; [ ] 3; [ ] 4; [ ] 5; [ ] 6; [ ] 7; [ ] 8; [ ] 9; [ ] 10; [ ] 11; [ ] 12; [ ] 13; [ ] [ ] 14		[1] 0; [1] 2;  [1] 5 [1] 9		[1] 3;  [1] 5	
Number of members aged 15 or more	[ ] total		2		3	
Number of OVC-children under 17	[ ] total		0		2	
Derived variables for the PMT from grey area						
ADULT EQUIVALENT: (0-4 yo=0.24; 5-14yo=0.65; 15+=1)		-				
		0.34343	3.780	-1.29816	3.480	-1.19513
ADULT EQUIVALENT Square		0.02804	14.288	0.40063	12.110	0.33956
Number of children aged 0-5		-				
		0.34296	3	-1.02889	2	-0.68593
Number of children aged 0-5 Square		0.07347	9	0.66123	4	0.29388
Number of OVC-children under 17		-				
		0.16944	0	0.00000	2	-0.33888
Number of OVC-children under 17 Squared		0.02261	0	0.00000	4	0.09045
<b>What is HH main source water over the past month</b>						
Piped Water inside Dwelling	[ ]	0.44713	x	0.44713		
Rain, unprotected dug well/spring, River, Lake, Pond or Similar	[ ]	0.00000			x	0.00000
Other	[ ]	0.00000				
<b>What is Household's main source of Lighting Fuel?</b>						
Firewood	[ ]	0.00000			x	0.00000
Electricity, solar	[ ]	0.11780	x	0.11780		
Other	[ ]	0.00000				
<b>What is Household's main source of cooking fuel?</b>						
Firewood	[ ]	0.00000			x	0.00000
Gas/LPG	[ ]	0.56069	x	0.56069		
Other	[ ]	0.00000				

What is the main toilet facility for this household?						
	Flushed toilet, VIP latrine	[ ]	0.47225	x	0.47225	
	Pit Latrine	[ ]	0.33063			x
	Other	[ ]	0.00000			0.33063
The walls of the main dwelling is predominantly made of what material						
	Stone, brick, block , cement	[ ]	0.03034	x	0.03034	
	Wood Only	[ ]	0.00000			x
	Other	[ ]	0.00000			0.03034
The roof of the main dwelling is predominantly made of what material						
	Iron sheets	[ ]	0.00000			
	Tiles, concrete	[ ]	0.19145	x	0.19145	
	Other	[ ]	0.00000			x
CONSTANT			8.33883		8.33883	8.33883
FINAL SCORE (sum of scores)					9.071	7.410
Estimated Per capita consumption (KHS a month)					KHS	KHS
Exponential value of the score					8,701.81	1,652.90