



## Monitoring African Food and Agricultural Policies

### PRODUCT SELECTION FOR PRICE INCENTIVES AND DISINCENTIVES CALCULATIONS IN UGANDA

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#### A. Background

Monitoring African Food and Agricultural Policies (MAFAP) project intends to measure incentives and disincentives within the food and agricultural sector in Africa. The indicators will be estimated for commodities covering around 70% of total value of agricultural production in the country. The commodities will be selected according to the following criteria:

- (i) Contribution to food security,
- (ii) Contribution to food import bill,
- (iii) Contribution to export revenue, and
- (iv) Contribution to value of agricultural production.

In addition, the project seeks to include some pan-Africa commodities. Additional commodities of interest to the country may be included.

The selected food and agricultural commodities identified with the above criteria are classified according to their trade status (i.e., “import”, “export” or “non- traded”). In the present context, a commodity is considered “non-traded” when less than 2.5% of total production is traded (internationally), while it is considered “export” or “import” depending on whether the country is a net exporter or a net importer. This report presents the commodities selected according to each criteria and the aggregated list of commodities for analysis of incentives/disincentives.

#### B. Data Sources

Due to unavailability of data for all criteria from national sources, this analysis relies on data from different sources. Selection of the major commodities contributing to value of agricultural production is based on data obtained from FAOSTAT for 2005-2009. Value of agricultural export commodities in Uganda during 2006-2010 is obtained from Uganda Bureau of Statistics (UBoS). Selection of the major agricultural imported commodities is based on the import value data (2004-2008) obtained from FAO TradeSTAT. Data on food consumption and calorie intake is drawn from FAO- ESS Food Security. This data is only available for 2007.

## C. Results

### *Contribution to value of agricultural production*

Based on average value of production (2005-2009) in Uganda, a list of ten commodities constituting 73.6% of the value of agricultural production is compiled in Table 1. The value of agricultural production in Uganda is dominated by plantains and cassava, both of which are major food security crops. The list is quite diverse including non-tradable and tradable food security commodities, livestock products (milk and meat), and export crops (coffee and maize). It is not surprising that the list does not include any major import as these usually have low contribution to agricultural production.

**TABLE 1: COMMODITY CONTRIBUTION TO VALUE OF AGRICULTURAL PRODUCTION IN UGANDA  
(2005-2009)**

Commodity	Average value of production in million US dollars (2005-2009)	Percentage contribution to value of agricultural production (%)
Plantains	1,431.1	29.2
Cassava	537.4	11.0
Indigenous cattle meat	287.2	5.9
Cow milk	241.6	4.9
Beans	241.2	4.9
Sweet potatoes	201.0	4.1
Coffee	187.9	3.8
Bananas	161.9	3.3
Indigenous pig meat	158.5	3.3
Maize	154.6	3.2

Source: calculated from data from FAOSTAT

### *Contribution to export earnings*

Table 2 presents the major agricultural export commodities with their relative contribution to total agricultural export value in Uganda during 2006-2010. During this period, ten commodities constitute about 91% of the total value of agricultural exports in the country. However, animal/vegetable fats and oil is too aggregate for the intended analysis. Therefore, both commodities will not be selected based on export earnings. Based on the requirement that the selected commodities constitute about 70% of the total agricultural export value, coffee, fish, tobacco, tea, maize and flowers are considered for the analysis with contribution of 72% to export earnings.

**TABLE 2: MAJOR AGRICULTURAL EXPORT COMMODITIES AND THEIR RELATIVE CONTRIBUTION TO AGRICULTURAL EXPORT EARNINGS IN UGANDA (2006-2010)**

Commodity	Average export value (million US \$) (2006-2010)	Percentage contribution to total agricultural export earnings (%)
Coffee	284.592	36
Fish & fish products	125.201	16
Tobacco	57.109	7
Tea	54.750	7
Animal/Veg fats and oils	53.418	7
Sugar	44.614	6
Maize	26.691	3
Flowers	24.262	3
Cocoa Beans	22.347	3
Cotton	19.273	2

Source: computed from data obtained from UBoS

***Contribution to agricultural import bill***

Table 3 presents the major agricultural import commodities with their relative contribution to total agricultural import bill in Uganda. During 2004-2008, eight commodities constitute about 72.4% of the total agricultural import bill of the country. Despite its significant importance in the import bill during this period, Palm oil is a new crop and there are some concerns of availability of the required data for the analysis. This crop may be added in the selected commodity list as a crop with potential for smallholder farmers provided that data is available. Fatty acids was also excluded from the analysis because it is aggregated making it difficult to analyze. Therefore, these commodities were excluded from the selected import commodities.

**TABLE 3: MAJOR IMPORTED COMMODITIES AND THEIR RELATIVE CONTRIBUTION TO TOTAL AGRICULTURAL IMPORT BILL IN UGANDA (2004-2008)**

Commodity	Average import value (million US\$) (2004-2008)	Percentage contribution to total agricultural import bill (%)
Wheat	109.8	25.1
Palm Oil	87.9	20.1
Sugar	31.0	9.3
Sorghum	18.5	4.2
Peas	14.3	3.3
Fatty acids	13.9	3.2
Rice	19.0	4.4
Maize	12.3	2.8

Source: FAO FAOTrade data.

### ***Contribution to food security***

Although more sophisticated methods may be adopted, a commodity is relevant for food security when it represents a large share of total food consumption and calorie intake (all in daily per capita values). Table 4 presents the major food security commodities with their relative contribution to average daily intake in Uganda. The average calorie intake per capita per day in 2007 was 2044. Plantains, cassava and maize dominate the list of the major food security commodities with over 40% of the calorie intake. It is important to note that most of these crops, except for beans, are carbohydrates. This is so because of the criterion used here. Other foods like meat and milk are already captured under value of agricultural production above.

**TABLE 4: MAJOR COMMODITIES CONSUMED BY THE HOUSEHOLD AND THEIR RELATIVE CONTRIBUTION TO CALORIE INTAKE UGANDA (2007)**

Commodity	Average calorie intake (cal/capita/day)	Percentage contribution to total calorie intake (%)
Plantains	348	17
Cassava	285	14
Maize	205	10
Sweet potatoes	190	9
Millet	122	6
Beans	109	5
Sugar	85	4
Wheat	79	4

Source: computed from data obtained from FAO ESS Food Balance Sheet (2007).

### **D. Analysis**

The relative contribution of the commodities to the different criteria is summarized in Table 5. Most of the selected commodities by a given criterion contribute as well as to other criteria except for non-tradables such as cassava and plantains. For example, coffee makes substantial contribution to both value of production and export earnings while maize contributes modestly to value of production, export earnings and calorie intake.

The final selection proceeds as follows. Starting from the selected commodities which constitute at least 70% of the value of production, we add any major import or export not covered above if it represents more than 5% of total exports or imports or more than 1% of total country's agricultural output. Then, we add any major staple food in diet not covered above if it represents more than 5% of total diet or more than 1% of total country's agricultural output. Finally, we check whether Africa-wide and regional-wide key products are included, if not add if it represents more than 1% of total country's agricultural output. Based on the above, sixteen commodities are selected and include the following: plantains,

cassava, maize, cattle meat, fish and fish products, cow milk, sweet potato, coffee, banana, pig meat, tea, sugar, wheat, sorghum and millet.

**TABLE 5: SUMMARY OF THE CONTRIBUTION OF THE MAJOR COMMODITIES UNDER ALL CRITERIA**

	Commodity	Percentage contribution to			
		Value of Production	Value of export	Import bill	Calorie intake
1	Plantains	29.2	-	-	17.0
2	Cassava	11.0	-	-	14.0
3	Cattle meat	5.9	0.3	-	1.0
4	Cow milk	4.9	-	0.3	
5	Beans	4.9	-	1.0	5.0
6	Sweet potatoes	4.1	-	-	9.0
7	Coffee	3.8	36.0	-	0
8	Bananas	3.3	0.03	-	1.0
9	Pig meat	3.2	-	-	2.0
10	Maize	3.2	3.0	2.8	10.0
11	Fish & fish products	-	16.0	-	1.0
12	Tobacco	0.8	7.0	0.2	0
13	Tea	0.9	7.0	-	0
14	Sugar	1.6	6.0	9.3	4.0
15	Flowers	-	3.0	-	0
16	Cocoa Beans	0.2	3.0	-	0
17	Cotton	0.6	2.0	-	0
18	wheat	0.1	-	25.1	4.0
19	Sorghum	0.3	0.2	20.1	2.0
20	Peas	0.1	-	4.2	0.0
21	Rice	0.9	0.44	3.3	2.0
22	Millet	2.4	-	-	6.0
	poultry	0.0			0.0
	potato	2.0			1.0
	goats	1.5			0.0
	citrus	-		0.3	0.0
	pineapples	0.0			0.0
	apples	-		0.1	0.0

Source: Data compiled from the sources of Table 1-4.

However, this list may not be manageable given the time and resources available. Besides, it may be important to include other priority commodities promoted by the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and considered as strategic enterprises. Strategic enterprises excluded by the used criteria are listed at the bottom of Table 5 and include poultry, potatoes, goats, citrus, pineapple and apples. To accommodate some of these commodities, some of the selected commodities must be removed. Based on this, tobacco, pig meat, banana, sugar and sorghum are eliminated from the

selected list and substituted for by poultry and potato. Therefore the final list of selected commodities include thirteen commodities: plantains, cassava, maize, cattle meat, fish and fish products, cow milk, sweet potato, coffee, tea, wheat, millet, poultry and potato.

The selected commodities can be classified according to MAFAP classification as follows:

1. Non-traded: plantains, millet, sweet potato, and cassava.
2. Exports: maize, cattle meat, coffee, tea and fish.
3. Imports: wheat.
4. Potential commodities: poultry and potatoes.
5. Africa-wide and region-wide commodities: cassava and maize.

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