### REPUBLIC OF RWANDA



# CONSUMER PRICE INDEX (C.P.I.) Kigali – October 2007

#### CAUTION

The National Institute of Statistics of Rwanda is very pleased to deliver to users the new Consumer Price Index (CPI) based in 2003 that replaces the previous one which was based in 1989. The Index is published every month by the 15th.

The **consumer price index (CPI)** in October has risen **0.08**% compared to last month. The annual inflation rate has shown a decline compared to last month's annual rate of 8.04% as it now stands at **7.92**%, (October 2007 compared to October 2006).

The *core inflation* – which excludes fresh produce and energy prices – went up slightly over the month by **0.22%**, and now stands at **10.10%** as compared to October 2006.<sup>1</sup>

Figure one on page two shows these data over time.

The **annual average CPI** of the last twelve months (November 2006 to October 2007) increased by **9.8%** when compared to the average of the index in the previous twelve months (November 2005 to October 2006). This small decline from 10.0% last month is a continuation of a declining annual average CPI since May 2007.

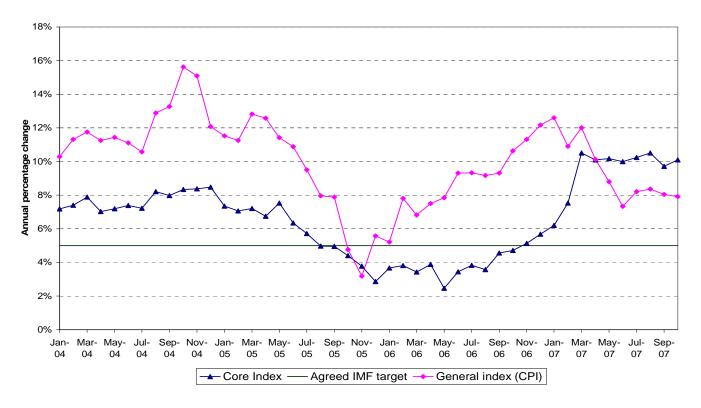
The **annual average core index** of the last twelve months (November 2006 to October 2007) increased **8.8%** when compared to the average of the index in the previous twelve months (November 2005 to October 2006). This is an increase in the rate of inflation from last month's 8.4%.

The second figure on page two shows the annual average time series.

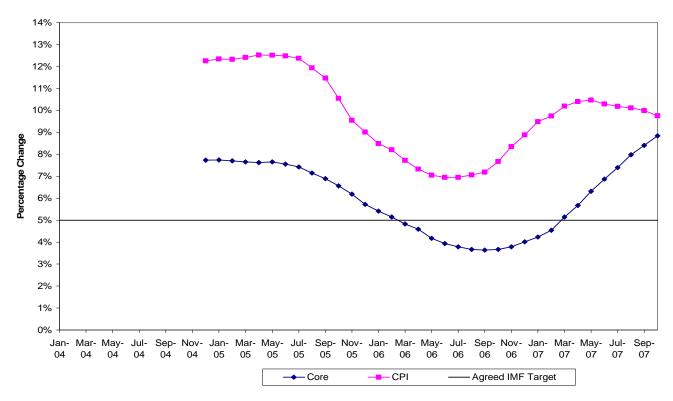
Please see section 'CPI and Core Inflation (Annual Average Percentage Change)' for more details on annual average inflation rates.

<sup>&</sup>lt;sup>1</sup> Core inflation is a measure of inflation which excludes items that face volatile price movements. Therefore, it records the underlying movement of prices in the economy without taking into account the large swings in prices of seasonal food production and any prices shocks to energy.

#### Annual changes (Comparison with the same month of the previous year)



### **CPI and Core Inflation (Annual Average Percentage Change)**



Note: Data not available before December 2004 for annual averages.

Although prices for food and non-alcoholic beverages did not increase significantly over the month (only +0.01%), the price of fish increased considerably (+6.01%). All other categories did not experience substantial price changes. Changes over the year show upward pressure driven mostly by *housing*, *water*, *electricity*, *gas and other fuels*. This is largely due to rising prices of rents (+54.1%), and water (+34.8%).

In terms of annual changes (October 2007 compared to October 2006), consultations at health centers and hospitals are responsible for the 14.12% rise in health related services (see 'health' category below). School fees are the main cause for the 11.90% price increase in the 'education' category. Finally, prices at hotels and restaurants have led to the 13.97% rise in the 'hotels and restaurants' category.

The table below gives more in depth information on the price movements throughout the past months and year:

Base 100: 2003

	Divisions		Indice	s for th	e follow	ing mo	nths:	Chan	over	
	❖ Groups	Weights	Oct 06	Jul 07	Aug 07	Sep 07	Oct 07	1 month	3 months	12 months
	GENERAL INDEX	10 000	136.4	144.3	146.0	147.1	147.2	0.08	2.01	7.92
01	Food and non-alcoholic beverages	3 709	149.9	150.6	155.2	157.9	157.9	0.01	4.86	5.29
0111	<ul> <li>Bread and cereals</li> </ul>	625	144.2	146.0	148.0	149.7	150.0	0.16	2.72	3.97
0112	❖ Meat	345	120.2	119.8	121.3	120.9	121.9	0.86	1.75	1.43
0113	❖ Fish	114	137.3	154.7	151.2	150.3	159.4	6.01	3.03	16.08
0117	<ul> <li>Vegetables</li> </ul>	1 332	171.4	169.4	178.7	182.3	181.5	-0.42	7.12	5.88
012	Non-alcoholic beverages	180	125.7	131.7	132.6	132.8	132.5	-0.16	0.61	5.43
02	Alcoholic beverages and tobacco	221	116.2	129.0	128.4	127.8	129.2	1.13	0.19	11.18
03	Clothing and footwear	500	106.0	108.5	109.8	108.5	109.2	0.64	0.65	3.00
04	Housing, water, electricity, gas and other fuels	1 579	162.8	192.5	192.2	192.6	192.0	-0.28	-0.26	17.92
05	Furnishing, household equipment and routine household maintenance	764	116.9	119.7	119.9	119.7	120.5	0.66	0.73	3.15
06	Health	708	107.5	123.0	122.1	122.5	122.7	0.14	-0.24	14.12
07	Transport	987	121.8	123.6	123.6	123.6	124.4	0.60	0.60	2.10
08	Communication	37	135.7	135.3	135.3	135.3	135.3	0.00	-0.01	-0.28
09	Recreation and culture	206	112.4	107.7	106.6	107.4	108.0	0.58	0.26	-3.89
10	Education	432	139.5	156.1	156.1	156.1	156.1	0.00	-0.01	11.90
11	Restaurants and hotels	273	125.3	142.1	142.1	144.6	142.8	-1.23	0.50	13.97
12	Miscellaneous goods and services	584	109.6	109.9	110.2	110.9	111.2	0.32	1.25	1.51

Month	Oct 06	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Sep 07	Oct 07
Index (2003=100)	136.4	135.7	137.0	140.0	142.9	146.4	145.9	143.9	143.2	144.4	146.0	147.1	147.2
Annual changes	10.6	11.3	12.1	12.61	10.9	12.0	10.1	8.8	7.3	8.3	8.4	8.0	7.9

The table below can explain the recent price movements in the economy by looking at different sources of inflation. It shows that 'local goods' are inflationary, contrary to those which are 'imported'; over the past year (Octobr 2007 to October 2006) we see a **10.09%** increase in prices for locally produced goods compared to only **2.34%** rise for imported goods. This is important when considering that locally produced goods account for 70% of the basket of goods and services included in the CPI calculations, and imports are only 30%.

This table also highlights that 'fresh produce' prices rose **5.86%** as compared to October 2006. This is lower than recent price changes; for example, between June 2006 and April 2007 these annual rates were never below 15%. These high rates started going down in February this year. Because of their important weight in household consumption, fresh produce have been known to drive inflation in the country.

In addition, this month's prices have shown a fall in *fresh products*, by **0.44%** and an increase in *local products*, by **0.12%**. Last month, these rates were higher (2.24% and 0.56%, respectively). The *energy* index rose slightly by 0.27% over the month; it had gone down by 0.11% last month. However over the year prices are 0.33% higher.

## **Underlying, Imported and Other Indices**

	Weights	Indice	s for the fo	ollowing m	onths:		Changes	in % over:	
	•	Oct-06	Jul-07	Aug-07	Sep-07	Oct-07	1 month	3 months	12 months
General Index	10 000	136.4	144.3	146.0	147.1	147.2	0.08	2.01	7.92
Local Goods Index	6 956	141.8	153.0	155.1	155.9	156.1	0.12	2.04	10.09
Food and non-alcoholic beverages	2 627	156.2	155.7	161.2	163.4	163.9	0.35	5.29	4.94
Housing, water, electricity, gas and other fuels	1 501	161.2	192.5	192.0	192.4	191.9	-0.26	-0.30	19.04
Transport	698	114.3	114.2	114.2	114.2	114.2	0.02	0.02	-0.14
Imported Goods Index	3 044	123.2	123.4	124.3	126.1	126.1	0.00	2.15	2.34
Food and non-alcoholic beverages	1 082	134.1	136.9	139.6	144.2	142.8	-0.95	4.32	6.50
Furnishing, household equipment	533	115.5	118.3	118.0	118.0	118.8	0.67	0.42	2.92
Transport	289	139.5	146.2	146.1	146.2	148.7	1.70	1.71	6.61
Kigali Index	7 679	134.7	142.5	144.2	145.4	145.5	0.05	2.06	8.03
Provinces Index <sup>(1)</sup>	2 321	142.1	150.3	152.1	152.9	153.1	0.16	1.85	7.73
Fresh Products <sup>(2)</sup> index	1 829	165.9	164.9	172.5	176.4	175.6	-0.44	6.50	5.86
Energy index	761	229.1	231.0	229.6	229.3	229.9	0.27	-0.47	0.33
General Index excluding fresh Products and energy <sup>(3)</sup>	7 410	119.6	130.3	130.9	131.4	131.7	0.22	1.05	10.10

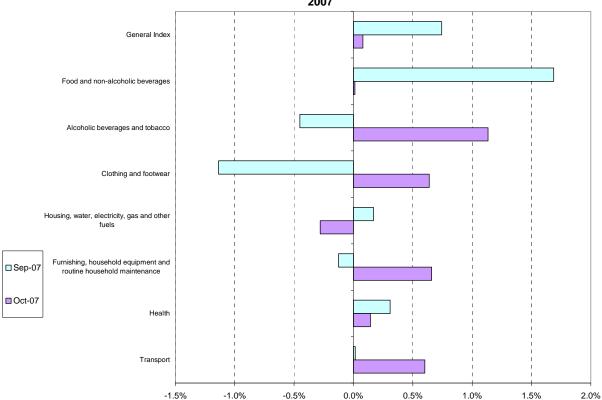
<sup>(1)</sup> This is the national index without Kigali

The figure below shows the monthly price fluctuations in the CPI. It highlights that the prices of 'alcoholic beverages and tobacco' have registered the largest increases over the month.

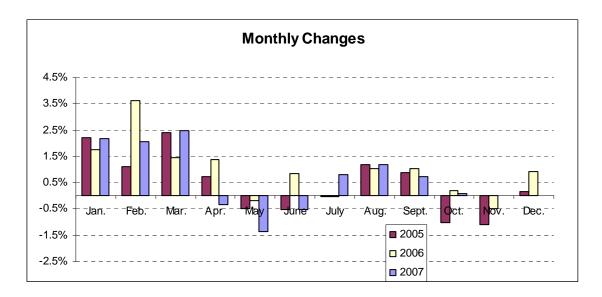
<sup>(2)</sup> Fresh products are food products which have seasonal fluctuations

<sup>(3)</sup> Proxy for underlying inflation

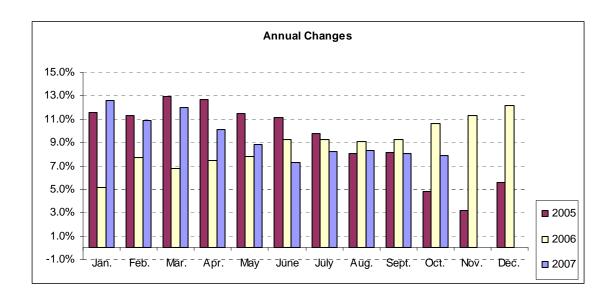




The chart below describes monthly changes over the last 3 years.



The chart below records the annual change in the CPI and thus shows that price levels in October 2007 compared to October 2006 are **7.92%** higher. This rate is a fall from the **8.04%** in September 2007.



### **CPI and Core Inflation (Annual Average Percentage Change)**

In October 2007 the **annual average CPI** was 9.8% as compared to an annual average of 10.0% last month. For the first time since February, this rate is no longer in double digits. This is shown graphically on page two.

Driving this rise has been the increase in the price index for 'food and non-alcoholic beverages', which contributed 4.06% to the overall annual average CPI. Disaggregating further the increase can be attributed to the price of vegetables, which contributed 2.66%, a decrease from last month's 2.87%. This rate has steadily been going down since May.

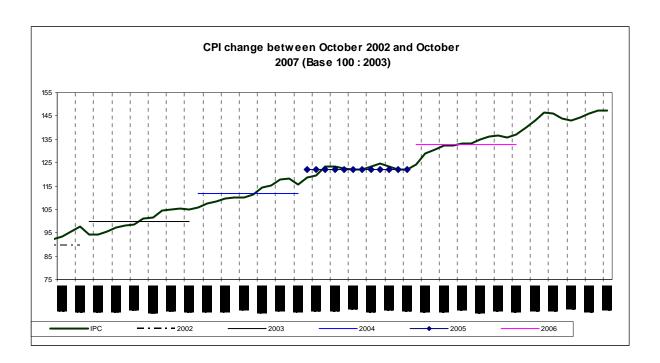
The **annual average core inflation** stands at 8.8% in October up from 8.4% in September 2007. 'Housing, water, gas, electricity and other fuels' has been another significant factor increasing annual average **CPI** and **core inflation**. The rise associated with 'housing, water, gas, electricity and other fuels' contributed 3.10% to the overall CPI and has been sourced to: rising rents in Kigali; a water tariff increase in January 2007; the continuing effect of the rise of the electricity tariff in December 2005 (not included in core); and the rise in price of charcoal due to governmental environmental policy attempting to prevent deforestation (not included in core).

The table below shows the evolution of these indicators over time. On a monthly basis the annual average inflation rate fell by 0.2 percentage points while the core increased by 0.4 percentage points for the second time in a row.

## Evolution (over 12 months) of the rate of inflation (%)<sup>(1)</sup>

MONTH	Oct. 06	Nov. 06	Dec. 06	Jan. 07	Feb. 07	Mar. 07	Apr. 07	May 07	Jun. 07	Jul. 07	Aug. 07	Sep. 07	Oct. 07
General index	7.7	8.3	8.9	9.5	9.8	10.2	10.4	10.5	10.3	10.2	10.1	10.0	9.8
Core / Underlying	3.7	3.8	4.0	4.2	4.5	5.1	5.7	6.3	6.9	7.4	8.0	8.4	8.8

<sup>(1)</sup> In October 2007 the average index of the last twelve months (November 2006 to October 2007) increased by 9.8% compared to the average index of the previous twelve months (November 2005 to October 2006).



The figure above shows the time series of the general price index with horizontal lines identifying annual averages.

The next table shows a summary of the average annual indices and inflation rates over the past three years:

Annual Average Indices and Annual Average Inflation Rates Over the Past 3 Years

Year	2004	2005	2006
General Index Excluding Fresh Products and Energy	107.6	113.7	118.3
Imported Products Index	110.9	119.2	122.5
CPI	112.0	122.1	132.9
Core inflation	7.7%	5.7%	4.0%
Imported inflation	10.9%	7.4%	2.8%
General inflation	12.3%	9.0%	8.9%

The final two tables contain time series data:

## **Underlying Inflation**

	Nov-05	Dec-05	Jan- 06	Feb- 06	Mar- 06	Apr- 06	May- 06	Jun- 06	Jul-06	Aug- 06	Sep- 06	Oct- 06
General index excluding fresh products												
and energy	114.0	114.1	116.0	116.6	117.1	117.6	117.5	118.0	118.2	118.4	119.8	119.6
Monthly												
change (in %)	-0.20	0.04	1.74	0.46	0.43	0.47	-0.10	0.41	0.20	0.16	1.15	-0.14
Annual underlying inflation rate												
(in %) <sup>(4)</sup>	6.2	5.7	5.4	5.1	4.8	4.6	4.2	3.9	3.8	3.7	3.6	3.7

	Nov- 06	Dec- 06	Jan- 07	Feb- 07	Mar- 07	Apr- 07	May- 07	Jun- 07	Jul-07	Aug- 07	Sep- 07	Oct- 07
General index excluding fresh products	00	00	01	01	01	01	- 01	- 01	3ui-01	01	01	01
and energy	119.9	120.5	123.2	125.4	129.4	129.5	129.5	129.8	130.4	130.9	131.4	131.7
Monthly change (in %)	0.21	0.56	2.25	1.72	3.22	0.10	-0.04	0.25	0.46	0.40	0.41	0.22
Annual underlying inflation rate (in %) <sup>(4)</sup>	3.8	4.0	4.2	4.5	5.1	5.7	6.3	6.9	7.4	8.0	8.4	8.8

<sup>&</sup>lt;sup>(4)</sup>In October 2007 the average index of the last twelve months (November 2006 to October 2007) increased by **8.8%** compared to the average index of the previous twelve months (November 2005 to October 2006)

## **Imported Inflation**

	Nov-05	Dec-05	Jan- 06	Feb- 06	Mar- 06	Apr- 06	May- 06	Jun- 06	Jul-06	Aug- 06	Sep- 06	Oct- 06
Imported products												
index	118.6	118.7	118.8	119.3	120.8	122.0	123.1	123.4	123.7	124.1	123.9	123.2
Monthly change (in %)	-0.56	0.08	0.09	0.39	1.27	0.98	0.95	0.25	0.27	0.29	-0.18	-0.54
Annual imported												
inflation rate (in %) <sup>(5)</sup>	-	7.4	6.6	5.8	5.2	4.6	3.9	3.3	3.0	2.8	2.5	2.4

	Nov- 06	Dec- 06	Jan- 07	Feb- 07	Mar- 07	Apr- 07	May- 07	Jun- 07	Jul-07	Aug- 07	Sep- 07	Oct- 07
Imported												
products												
index	123.9	124.1	124.9	125.7	124.9	123.3	123.3	122.7	123.4	124.3	126.1	126.1
Monthly												
change (in %)	0.57	0.13	0.65	0.65	-0.62	-1.29	0.00	-0.50	0.61	0.67	1.48	0.00
Annual												
imported												
inflation rate												
(in %) <sup>(5)</sup>	2.6	2.8	3.2	3.5	3.6	3.5	3.4	3.1	2.7	2.4	2.4	2.3

<sup>&</sup>lt;sup>(5)</sup> In October 2007 the average index of the last twelve months (November 2006 to October 2007) increased by **2.3%** compared to the average index of the previous twelve months (November 2005 to October 2006)

#### **METHODOLOGICAL NOTICE**

The Consumer Price Index is a Laspeyres index that covers household consumption as it is used by national accounts. The reference population for the CPI consists of all households living in urban areas in Rwanda.

The household basket includes 438 products observed in many places spread all over the administrative centers of all provinces in Rwanda. All kinds of places of observation are selected: shops, markets, services, etc. More than 25,000 prices are collected every month by enumerators of the National Institute of Statistics of Rwanda and of the National Bank of Rwanda.

The base year for the CPI is the year 2003.

The weights used for this new index are the result of the Household Living Conditions Survey (EICV) conducted in 2000-2001 with a sample of 6,450 households.

The splicing with the old index is feasible using the splicing coefficient of 3.889. If you divide the old index by this coefficient, you will be able to make comparisons with the new index based in 2003.

Additional methodological documentation can be obtained at the National Institute of Statistics of Rwanda, Economic Statistics Department.

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