

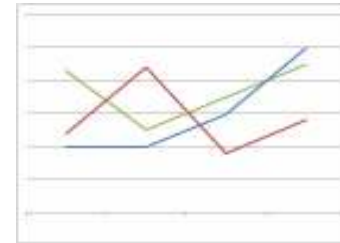
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དཔལ་ལྷན་འབྲུག་གཞུང་།
རྒྱལ་ཡོངས་ཚུལ་དམུག་བཀོད་འཛིན།



NATIONAL STATISTICS BUREAU



**CONSUMER PRICE INDEX (CPI) FOR
QUARTER ENDING 30TH SEPTEMBER 2010**

**NATIONAL ACCOUNTS
&
PRICE DIVISION**

Catalogue No. 101

3rd Qtr. 2010

$$CPI = \frac{\sum \frac{P_1}{P_o} (P_o Q_o)}{\sum P_o Q_o} \times 100$$

Where:

P_1 and Q_o are as described above.

$\frac{P_1}{P_o}$ is the price relative (PR)

The price relative is computed for each of the specifications. It is the current average price divided by the base year average price times 100. It is the simplest form of index number.

Indices at the 4-digit group level are computed as the simple average of the price relative belonging to the group.

Indices at the 3-digit group level are computed as the weighted average of the 4-digit group indices belonging to that group. Like wise, similar formula is used for 2-digit and 1-digit group.

The overall index is then computed by using the weighted average of the indices of the 12 major group items.

9 Survey Forms

The following are the survey forms for collection of retail prices of commodities and services:

1. Form CPI 1 = Agricultural Products.
2. Form CPI 2 = Fresh Fish and Meat.
3. Form CPI 3 = Processed Food and Non-alcoholic Beverages.
4. Form CPI 4 = Alcoholic Beverages, Cigarettes and non- food.
5. Form CPI 5 = Fuel, Electricity, Transportation, Communication & School Fees.
6. Form CPI 6 = Monthly Rentals.

10 Index Construction

The average prices of commodities and services, based on price surveys, are computed for each product. This is the sum total of all the prices for particular items divided by the number of quotations. The formula used in computing CPI is the weighted arithmetic mean of price relatives, a variant of the Laspeyres formula with fixed base period weights. It is expressed as:

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FOREWORD

National Statistic Bureau (NSB) is pleased to release the 3rd quarter **Consumer Price Index** (CPI) Bulletin for the quarter ending 30th September 2010.

It reports on changes in the average retail price of a fixed basket of commodities and services purchased by households for personal consumption. This is the 29th Series of CPI Bulletin published by NSB.

The current Bulletin is constructed using the 3rd Qtr. 2003 as the base year. It covers the price movements of 370 commodities and services observed in 23 major urban areas. Prices of agricultural products are collected monthly, while the prices of other commodities and services are collected on a quarterly basis.

NSB would like to thank all agencies and stakeholders who provided timely data for publication of this Bulletin.

October 2010

National Statistics Bureau
Thimphu: Bhutan

7. Sample Outlets

Sample outlets are establishments or retail outlets from which prices of commodities/services are collected or quoted. These include shops, footwear stores, tailoring shops, hotel bars, hairdressers, etc. Retail outlet centers are selected based on a set of criteria viz. location, popularity of the establishment along the line of goods sold, consistency and completeness of stock and permanency of the outlet.

8. Pricing Period and Procedures

The accuracy of any statistic depends on the reliability of the basic information collected. This is especially true for CPI. While it is necessary to have reliable weighting systems and compilation methods, collecting the basic price information in an accurate and methodical fashion is equally important. Prices of all agricultural items, being more volatile in nature, are collected monthly, that is, on the 1st Saturday of the month. Prices of all other items are gathered during the first week of the 2nd month of every quarter.

School fees and related charges are collected once a year, that is, at the start of the academic year and is used for all succeeding quarters until the next academic year. Price collection is done by our District Statistical Officers (DSO) through personal visits to retail outlets.

5. Weights

The weights denote the relative importance of each index item in the total index. CPI weighting patterns, as well as the market basket, are typically constructed using household expenditure or living standard survey data. Item-wise income and expenditure details of households are crucial for CPI weighting purposes. The current CPI weights are as per the *Bhutan Living Standard Survey (BLSS)*, conducted by NSB in 2003.

6. Market Basket

A market basket refers to a sample of goods and services which is representative of all goods and services purchased by households. It is constructed by combining items into groups of similar commodities. It consists of 370 items which are categorized into 12 major groups, which are given as follows.

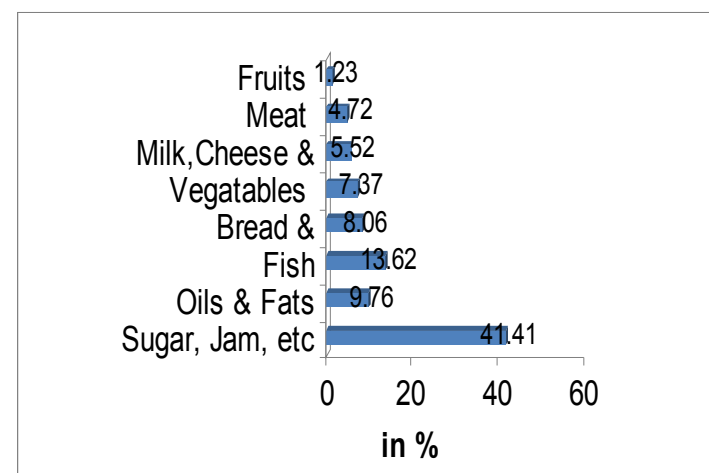
1. Food and Non-Alcoholic Beverages.
2. Alcoholic Beverages, Tobacco and Narcotics.
3. Clothing and Footwear.
4. Housing, Water, Electricity, Gas and Other fuels.
5. Furnishing, Household equipment and Routine Household Maintenance.
6. Health.
7. Transport.
8. Communication.
9. Recreation and Culture.
10. Education.
11. Restaurant and Hotels.
12. Miscellaneous Goods and Services.

HIGHLIGHTS

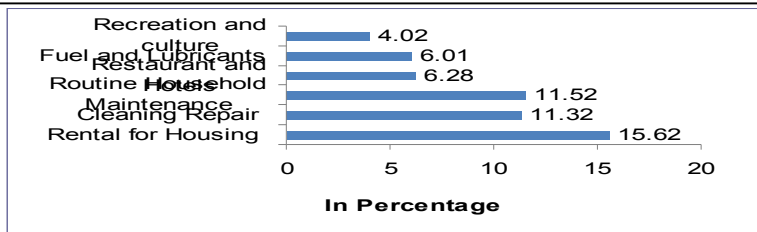
Year-on-Year Inflation

The annual inflation, as reflected by CPI, is estimated at 7.15% for the quarter ending 30th September 2010. This is an increase of 3.73 percentage points from 3.42 % in the same quarter of the previous year. These changes in prices were brought about by 7.43% increase in non-food items and 6.63 % increase in food items. Refer *Table 1* for details.

Increase in prices of food items was contributed largely by sugar, jam, etc by 41.41 %, fish by 13.62%, oils and fats by 9.76%,



bread and cereals by 8.06%, vegetables by 7.37%, milk, cheese, and eggs by 5.52%, and meat by 4.72% respectively.



Quarter-to-Quarter Inflation

The quarterly inflation rate for the 3rd quarter ending 30th September 2010 moderated at 1.66 %, as compared to 3.33% in the previous quarter. Non food prices rose by only 1.32%, while food prices registered 2.30% rise. Refer *Table 1* for details.

In the food group, prices of vegetable items increased by 12.09%, food products by 2.98%, bread and cereals by 1.81%, milk, cheese and eggs by 1.8% respectively. However, the fruit prices dropped by 12.50%

Non-food items recorded an increase of 1.66 %. This is mainly because of increase in fuels and lubricants by 2.12 %. Diesel and petrol prices went up as a result of increase in dealer's commission and base price in the month of July and September.

Purchasing Power of Ngultrum (PPN)

The PPN, as measured by CPI, is recorded at 68 Chheltrum for 3rd quarter ending 30st September 2010. In other words, Ngultrum 100 in 2010 is worth only Ngultrum 67 at 2003 prices. In general, increase in prices of goods and services in the economy reduces the purchasing power of money. Refer *Table 1* for details.

3. *Rebasing of CPI*

CPI derives its usefulness in its representation of how much a typical market basket behaves over a specific time period. When the basket of the reference year no longer represents what households commonly purchase, the CPI becomes irrelevant and would tend to give wrong market signals.

Bhutan's CPI had 1979 as the base year. However, significant changes had taken place since then – economically, socially and technologically. A number of new products have emerged in the market, resulting to a change in consumption pattern and preferences of households. In order to capture these changes for a more meaningful price comparison, the revision of base year, the weights, the fixed market basket and the sample outlets was carried out in 2003.

4. *Base Period*

The base period is the period, usually a year, during which the index number is set to 100, although it could be any number, for instance, 1,000 or 1. 100 is usually selected to keep the calculation of percentage changes from the base year to the current period simple and effective.

The year 2003 was chosen as the base year since it was the year when the *Bhutan Living Standard Survey (BLSS)* was conducted. Household income expenditure surveys or living standard surveys are conducted from time to time to determine CPI weights and market basket.

2. Background

The first CPI in Bhutan was published in 1979. It produced two types of price indices:

a Main CPI

This was produced at the national level as the main CPI. Prices were collected from 17 towns in the month of June and December every year. CPI weights were based on the *Consumer Expenditure Survey* undertaken in 1979. The average prices of individual items from all towns were weighted, depending on the importance of each item in the spending patterns of the population, and aggregated to compute price index at the group and the national level.

b Quarterly Food price Index of Thimphu

This was compiled as a quarterly series from June quarter 1988. The index reflected the average prices of food items collected from selected shops in Thimphu. Prices of fruits and vegetables were collected every month from the fruit and vegetable market.

TABLE 1. CONSUMER PRICE INDEX: FOOD AND NON-FOOD COMPONENTS (4th Qtr. 2005 to 3rd Qtr. 2010)
(3rd Qtr. 2003=100)

CPI CLASSIFICATION	Wt.	2005				2006				2007				2008				2009				2010						
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
FOOD INDEX	31.67	109.4	110.32	114.63	115.03	115.12	116.32	125.52	124.73	125.30	123.10	140.98	140.35	140.02	140.51	150.38	154.21	155.06	157.83	160.75	164.44							
NON-FOOD INDEX	68.33	112.1	113.97	116.61	116.80	118.07	118.35	121.64	121.73	121.55	122.82	130.38	131.19	130.96	130.71	131.83	131.46	131.92	133.84	139.39	141.23							
TOTAL	100	111.24	112.81	115.98	116.24	117.14	117.71	122.87	122.68	122.74	124.81	133.74	134.09	133.83	133.81	137.70	138.67	139.25	141.44	146.15	148.58							
PERCENTAGE CHANGE YEAR ON YEAR																												
FOOD	31.67	5.02	2.13	6.76	5.83	5.23	5.44	9.50	8.43	8.84	10.99	12.32	12.32	11.75	8.84	6.67	9.88	10.74	12.33	6.90	6.63							
NON-FOOD	68.33	4.89	3.58	5.50	5.20	5.33	3.84	4.31	4.22	2.95	3.78	7.19	7.77	7.74	6.42	1.11	0.21	0.73	2.39	5.73	7.43							
TOTAL	100	4.93	3.13	6.17	5.39	5.30	4.34	5.94	5.54	4.78	6.03	8.85	9.30	9.04	7.21	2.96	3.42	4.05	5.70	6.14	7.15							
PERCENTAGE CHANGE QUARTER TO QUARTER																												
FOOD	31.67	0.65	0.84	3.91	0.35	0.08	1.04	7.91	-0.63	0.46	3.03	9.20	-0.45	-0.24	0.35	7.02	2.55	0.55	1.79	1.85	2.30							
NON-FOOD	68.33	0.96	1.67	2.32	0.16	1.09	0.24	2.78	0.07	-0.15	1.04	6.16	0.62	-0.18	-0.19	0.86	-0.28	0.35	1.46	4.15	1.32							
TOTAL	100	0.86	1.41	2.81	0.22	0.77	0.49	4.38	-0.15	0.05	1.69	7.15	0.26	-0.19	-0.01	2.91	0.70	0.42	1.57	3.33	1.66							
PURCHASING POWER OF NGULTRUM (PPN)																												
PPN	1.00	0.90	0.89	0.86	0.86	0.85	0.85	0.81	0.82	0.81	0.80	0.75	0.75	0.75	0.75	0.73	0.72	0.72	0.71	0.68	0.67							

TABLE 2. CONSUMER PRICE INDEX: MAJOR COMPONENTS (4th Qtr. 2005 to 3rd Qtr. 2010)
(3rd Qtr. 2003=100)

CPI CLASSIFICATION	2005		2006		2007		2008		2009		2010							
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3						
WH																		
FOOD AND NON-ALCOHOLIC BEVERAGES	29.44	108.88	109.81	114.13	114.46	114.49	115.82	125.02	124.22	124.25	128.41	130.36	149.99	154.09	155.12	158.14	161.18	164.91
ALCOHOLIC BEVERAGES, TOBACCO & NARCOTICS	2.23	116.27	116.97	121.18	122.48	123.46	122.94	132.05	131.41	138.12	145.42	146.98	151.68	155.59	155.58	156.27	153.79	155.11
CLOTHING AND FOOTWEAR	10.49	112.52	113.03	116.93	117.09	118.47	121.25	128.03	128.20	127.92	133.38	144.86	145.56	144.23	145.53	143.97	147.49	149.47
HOUSING, WATER, ELECTRICITY, GAS, & OTHER FUELS	25.68	117.91	120.76	123.09	123.60	124.32	124.24	128.89	126.78	124.73	125.41	132.99	134.73	133.70	134.80	134.94	134.92	134.35
FURNISHING, HOUSEHOLD EQUIPMENT & ROUTINE HOUSEHOLD MAINTENANCE	5.68	107.24	108.81	112.57	111.88	115.17	115.14	125.53	122.04	121.42	122.37	129.51	128.03	127.40	127.77	128.00	132.73	132.59
HEALTH	2.94	106.40	108.90	109.59	110.18	113.44	113.64	111.72	117.61	118.20	117.78	124.31	123.15	123.61	127.08	128.11	122.39	122.97
TRANSPORT	7.06	117.31	118.43	120.97	121.16	121.14	120.91	119.84	121.25	126.57	127.20	140.08	143.78	143.79	141.68	144.30	144.25	144.82
COMMUNICATION	4.10	87.59	89.81	93.33	92.68	96.48	96.51	96.34	96.92	97.01	97.51	97.67	96.95	97.06	96.90	96.55	96.93	95.45
RECREATION AND CULTURE	2.62	104.65	105.57	111.71	112.02	114.76	114.84	113.80	126.02	126.00	126.02	128.84	129.38	130.29	130.13	131.04	128.58	131.05
EDUCATION	4.04	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
RESTAURANTS AND HOTELS	3.01	115.17	116.00	116.29	116.98	117.84	117.22	116.91	118.04	118.07	118.26	127.85	127.36	127.90	124.63	128.46	127.94	128.14
MISCELLANEOUS GOODS & SERVICES	2.72	117.01	119.08	123.77	123.82	123.52	121.63	125.25	126.34	126.37	126.59	131.73	131.70	132.01	126.64	133.18	129.96	131.07
TOTAL	100.00	111.24	112.81	115.98	116.24	117.14	117.71	122.87	122.68	122.74	124.81	133.74	134.09	133.83	137.70	138.67	139.25	141.44

Note: As of 2nd quarter ending 30th June 2003, HEALTH component was inclusive of Transport, Communication, Recreation & Culture, Education Restaurants and hotels

TECHNICAL NOTES

1. Overview

Consumer Price Index (CPI) is a measure of changes in the average retail prices of a market basket of goods and services purchased by households for day-to-day living. It shows how much, on an average, prices of goods and services have increased or decreased from a particular reference period, commonly known as the base year.

CPI plays an important role in the national policy making, both in the economic and social spheres. It is used for a wide variety of purposes: viz. for measuring the rate of inflation; as an indicator for the performance of the economy; for indexation of wages and social security benefits; as a basis for fiscal and monetary policy interventions by the governments. It is also used as a deflator to express value series in real terms, i.e., measuring the change in actual volume of transactions by removing the effects of price changes.

Graph 3: Quarter to Quarter Inflation Rate

(3rd Qtr 2003=100)

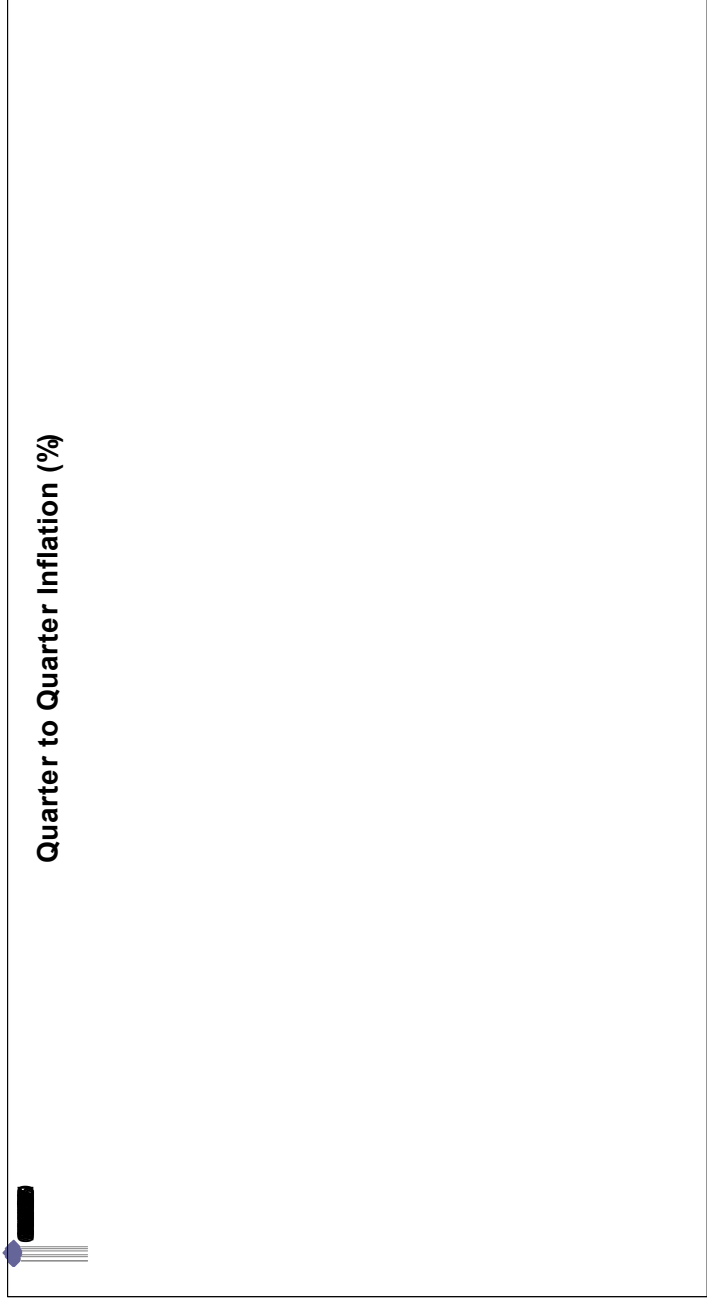


TABLE 3. CONSUMER PRICE INDEX: MAJOR COMPONENTS (4th Qtr. 2005 to 3rd Qtr. 2010)
(3rd Qtr. 2003=100)

CPI CLASSIFICATION	Wt.	YEAR-ON-YEAR INFLATION RATE (%)																					
		2005			2006			2007			2008			2009			2010						
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
FOOD AND NON-ALCOHOLIC BEVERAGES	29.44	4.54	2.00	6.67	5.58	5.15	5.47	9.54	8.53	8.52	10.87	12.49	12.56	11.98	8.53	6.65	10.18	11.49	13.48	7.46	7.02		
ALCOHOLIC BEVERAGES, TOBACCO & INFANCY	2.23	11.33	3.72	7.83	8.94	6.18	5.10	8.97	7.29	12.68	12.36	10.12	11.85	9.03	12.63	6.99	5.98	1.71	-1.16	-0.30	1.57		
CLOTHING AND FOOTWEAR	10.49	4.52	6.58	6.99	6.16	5.29	7.27	9.49	9.49	7.96	10.00	13.19	13.00	13.79	8.13	0.42	-0.61	1.33	2.11	2.71	4.91		
HOUSING, WATER, ELECTRICITY, GAS & OTHER FUELS	25.68	9.42	2.88	4.89	5.03	5.44	2.88	4.71	2.57	0.33	0.94	3.18	6.27	7.19	7.49	1.47	0.14	0.49	3.66	11.74	12.72		
FURNISHING, HOUSEHOLD EQUIPMENT & ROUTINE HOUSEHOLD MAINTENANCE	5.68	1.18	2.28	5.77	4.20	7.39	4.85	8.85	9.28	5.43	6.28	5.70	4.91	4.93	4.41	-1.17	3.67	4.07	2.63	6.64	4.84		
HEALTH	2.94	0.03	2.02	3.36	3.55	6.62	4.35	1.94	6.74	4.20	3.64	11.27	4.71	4.58	7.90	3.86	-0.62	-0.52	-3.23	-2.59	5.68		
TRANSPORT	7.06	6.97	8.87	8.13	4.79	3.26	2.09	-0.93	0.07	4.48	5.20	16.89	18.58	13.61	11.31	3.01	0.33	0.72	2.73	2.67	4.50		
COMMUNICATION	4.10	-12.41	-9.08	3.98	5.81	10.15	7.46	3.23	3.50	0.55	1.04	1.38	1.07	0.05	-0.63	-1.15	-0.02	-1.66	-1.64	-3.72	0.46		
RECREATION AND CULTURE	2.62	-0.53	1.58	12.10	7.04	9.66	8.78	1.87	11.61	9.79	9.74	13.22	3.49	3.40	3.26	1.71	-0.62	0.58	0.60	0.04	2.87		
EDUCATION	4.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
RESTAURANTS AND HOTELS	3.01	0.36	8.29	6.84	5.26	2.32	1.05	0.53	0.91	0.20	0.89	9.19	7.90	8.33	5.39	0.63	0.46	0.19	2.91	4.69	6.28		
MISCELLANEOUS GOODS & SERVICES	2.72	12.43	8.84	12.91	12.66	5.56	2.14	1.20	2.04	2.31	4.08	5.17	4.24	4.46	-0.75	1.10	-1.32	-0.71	4.31	-0.17	4.10		
TOTAL	100.00	4.93	3.13	6.17	5.39	5.30	4.34	5.94	5.54	4.78	6.03	8.85	9.30	9.04	7.21	2.96	3.42	4.05	5.70	6.14	7.15		

TABLE 4. CONSUMER PRICE INDEX: MAJOR COMPONENTS (4th Qtr. 2005 to 3rd Qtr. 2010)
(3rd Qtr 2003=100)

CPI CLASSIFICATION	Wt.	QUARTER-TO-QUARTER INFLATION RATE (%)																				
		2005			2006			2007			2008			2009			2010					
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
FOOD AND NON-ALCOHOLIC BEVERAGES	29.44	0.43	0.85	3.93	0.29	0.03	1.16	7.94	-0.64	0.02	3.35	9.52	-0.56	-0.51	0.17	7.63	2.73	0.67	1.95	1.92	1.92	2.31
ALCOHOLIC BEVERAGES, TOBACCO & NARCOTICS	2.23	3.42	0.60	3.60	1.07	0.80	-0.42	7.41	-0.48	5.87	-0.70	5.27	1.07	3.20	2.58	-0.01	0.12	-0.96	-0.31	0.86	0.86	2.00
CLOTHING AND FOOTWEAR	10.49	2.01	0.45	3.45	0.14	1.18	2.35	5.59	0.13	-0.22	4.27	8.65	-0.04	0.48	-0.91	0.90	-1.07	2.44	-0.15	1.49	1.49	1.05
HOUSING, WATER, ELECTRICITY, GAS & OTHER FUELS	25.68	0.20	2.42	1.93	0.41	0.58	-0.06	3.74	-1.64	-1.62	0.55	6.04	1.31	-0.76	0.82	0.10	-0.01	-0.42	4.01	7.90	7.90	0.86
FURNISHING, HOUSEHOLD EQUIPMENT & ROUTINE HOUSEHOLD MAINTENANCE	5.68	0.06	2.40	2.51	-0.79	3.13	-0.03	6.42	-0.40	-0.51	0.78	5.83	-1.14	-0.49	0.29	0.18	3.70	-0.11	-1.10	4.10	4.10	1.94
HEALTH	2.94	0.00	2.35	0.63	0.54	2.96	0.18	-1.69	5.27	0.50	-0.36	5.54	-0.93	0.37	2.81	1.60	-5.20	0.47	0.00	2.28	2.28	2.84
TRANSPORT	7.06	1.46	0.95	2.14	0.16	-0.02	-0.19	-0.88	1.18	4.39	0.50	10.13	2.64	0.01	-1.54	1.92	-0.03	0.40	0.44	1.86	1.86	1.75
COMMUNICATION	4.10	0.00	2.53	3.92	-0.70	4.10	0.03	-0.18	-0.44	1.14	0.52	0.16	-0.74	0.11	-0.16	-0.36	0.39	-1.53	-0.15	-2.47	-2.47	4.75
RECREATION AND CULTURE	2.62	0.00	0.88	5.82	0.28	2.45	0.07	-0.91	9.86	0.78	0.02	2.24	0.42	0.70	-0.12	0.70	-1.88	1.92	-0.11	0.14	0.14	0.90
EDUCATION	4.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RESTAURANTS AND HOTELS	3.01	3.64	0.72	0.25	0.59	0.74	-0.53	-0.26	0.97	0.03	0.16	7.94	-0.23	0.42	-2.56	3.07	-0.40	0.16	0.09	4.85	4.85	1.11
MISCELLANEOUS GOODS & SERVICES	2.72	6.46	1.77	3.94	0.04	-0.24	-1.53	2.98	0.87	0.02	0.17	4.06	-0.02	0.24	-4.83	6.00	-2.42	0.85	-0.01	1.45	1.45	1.75
TOTAL	100.00	0.86	1.41	2.81	0.22	0.77	0.49	4.38	-0.15	0.05	1.69	7.15	0.26	-0.19	-0.01	2.91	0.70	0.42	1.57	3.33	3.33	1.66

Graph 2: Year on Year Inflation Rate
(3rd Qtr 2003=100)

