

**METHODOLOGY FOR COMPILATION OF NATIONAL
CONSUMER PRICE INDEX (NCPI) - TANZANIA MAINLAND**

**Prepared and Edited by
Ruth Minja and Dale A. Smith**



THE UNITED REPUBLIC OF TANZANIA

**Methodology for Compilation of National Consumer Price
Index (NCPI) - Tanzania Mainland**

September 2010=100



National Bureau of Statistics,

Ministry of Finance and Economic Affairs

Dar es Salaam

December, 2010

CHAPTER 1: INTRODUCTION AND GENERAL CONCEPTS

A. INTRODUCTION

The Consumer Price Index (CPI) is a key economic indicator used by government, business, labour, academia, and other organizations to monitor price movements of a fixed basket of goods and services commonly purchased by households over a period of time. Nonetheless, as time passes, consumption patterns change due to changes in consumer tastes, fashion, technology, and, most importantly, changes in the relative prices of the goods and services in the CPI market basket. These changes cause the fixed basket of goods and services to become out of date and lead to an index that does not accurately reflect price change giving inaccurate market signal to index users.

For developing countries the International Labour Organization (ILO) recommends rebasing the CPI at least once every five years in order to update the CPI market basket for the changes in the consumption patterns of the households in the target population. Since the item sample and market basket weights for the previous CPI were based on expenditure data from the 2001 Household Budget Survey (HBS), it became urgent to rebase the index using the results of the 2007 HBS. This document presents the methodology that was used for compiling the new CPI for October 2010 that was first disseminated in November 2010.

Table 1 of the Appendix presents a comparison of the different characteristics of the new NCPI as opposed to those of the old NCPI. It will be noted that there are a number of significant improvements that have been introduced for the new NCPI. These include an expanded geographic coverage to include rural households in the CPI weights, a new market basket with an updated list of items and weights, an updated sample of outlets for price collection, improved index compilation techniques, and the use of a new internationally recommended classification system ("Classification of Individual Consumption by Purpose (COICOP)").

B. WHAT THE CPI MEASURES

The CPI measures the changes in the price of a fixed basket of goods and services that are commonly purchased by a majority of households in a given country over time. To ensure that changes in the index reflect solely price changes, product specifications like quantities, quality and type of outlets are kept unchanged over time, in so far as it is possible. When changes do occur due to the closing of pricing outlets, or the discontinuance of a product that was being priced, similar outlets and/or products are introduced in a manner that ensures pure price changes are reflected in the index. This is done by splicing these new outlet or products into the index. In addition, it is also possible, in some cases, to carry out quality adjustments to the index that adjust the index for changes in product specifications.

The CPI reflects the price movements and not the actual price levels of goods and services. Suppose indices for bread and buns for a particular period show a price percentage change of 10 % and 20% respectively. This does not mean buns costs more than bread, but it simply implies that the price of bread has risen by 10% while that of buns has risen by 20% from the based period.

The CPI could also be used as proxy to the Cost of Living when the basket of goods and services and the level of the households' well being are stable. The Cost of Living Index (COLI) indicates what one would need to spend in order to maintain a certain level of well being in the face of changes in prices of goods and services. Consumers normally make substitutions of the goods they purchase in order to maintain a certain standard of living when prices change. However, it is very difficult to construct a COLI that holds the level of well being constant. The problem is that spending habits change with variations in lifestyle, market conditions, income levels, household composition and consumer preference. In order to construct a true COLI it is necessary to have data on changes in consumption patterns on a monthly basis. This would require an HBS each month. Although there is significant research in compiling certain types of COLIs using historical data, it is not possible to compile a COLI on an ongoing basis. For this reason all countries compile a CPI rather than a COLI.

.C. **USES OF THE CPI**

In Tanzania the CPI has many uses:

- i. **Indicator of price change**—The CPI is the most common macro-economic indicator of price change. It is often used in the formulation of monetary policy and to identify the sources of price change.
- ii. **Adjustment of economic series**—The CPI is used as a price deflator in the compilation of real economic statistics and indicators, e.g., Gross Domestic Product (GDP) at constant prices.
- iii. **For indexation of wages and salaries**—Trade unions and employers use the CPI for the indexation of wages and salaries in order to maintain the purchasing power of the wages and salaries.
- iv. **For international comparisons**—The CPI is used to compare the inflation rate in Tanzania with that of other countries. These comparisons can then be used to appraise the relative economic performance of Tanzania with that of other countries. This may help determine economic and social policy for the country.

.D. **TYPES OF CPI PRODUCED IN TANZANIA**

Several different types of consumer price indices will be compiled in Tanzania:

- i. **NCPI**—the National CPI is compiled based on monetary expenditures relating to consumption for all households both urban and rural with all levels of income. The NCPI provides the headline estimate of inflation for the country.
- ii. **NCPI2**—the weights for this index are based on monetary as well as non-monetary consumption. Non-monetary consumption includes imputed rent for homeowners and households living in rent free accommodations. The weights also reflect the market value of goods produced for own consumption such as food produced and consumed at home. Currently, the NCPI2 is compiled on an experimental basis for internal use. This index will be used for indexation in compiling the national accounts and for other economic research.

- iii. **HCPI**—the Harmonized CPI is compiled by member states of SADC/COMESA on the basis of strict guidelines. In particular, the HCPI weights do not include non-monetary expenditures. In addition, components for health care and education are not currently included. This index is compiled based on domestic expenditures that include expenditures by diplomats and visitors to the country. Likewise, expenditures by residents of Tanzania outside the country are not included. The HCPI will be released in early 2011.
- iv. **CICPI**—The Core Inflation CPI provides an estimate of the underlying inflation rate. The CICPI is based on the NCPI. This index is compiled by excluding product and services that demonstrate highly variable price change. These include certain fresh fruits and vegetable and items such as fuel whose prices are determined exogenously to the economy of Tanzania. Also excluded are prices for water and electricity which are subsidized and administered by the government. It should be noted that the CICPI would be compiled and disseminated by the National Bank of Tanzania (NBT) rather than the NBS since it is an analytical index based on only part of the official NCPI.

E. REFERENCE POPULATION FOR THE CPI

- i. The reference population for the CPI is all types of private resident households from all socio-economic-economic and income groups. A CPI household may be comprised of only one person, a couple, a family and/or non-related persons that meet the definition of a household which depends mainly on the sharing of household resources for meals and household expenses.
- ii. Expenditures for both urban and rural households from all geographic areas of the country are included.
- iii. Institutional households such as groups of persons living in religious institutions, educational institutions, hospitals, prisons and others are excluded.

F. SCOPE OF THE CPI

All household monetary expenditure related to personal household consumption fall within the scope of the NCPI. However, business related household expenditures are excluded. These include the purchase of stocks, bonds, business related capital, real estate and any other business related expenses. In addition, expenditures related to capital goods that are used for both business and personal purposes require special treatment in determining the market basket weights. Consider, for example, the purchase of a vehicle that is used for both business and personal purposes. Both the purchase price as well of the cost of operating the vehicle, need to be divided between personal or business consumption based on the proportion of use for business. The business portion is excluded from the CPI weights.

Also excluded from the CPI are certain types of expenditures that are more related to income than consumption. These include life insurance premiums income taxes, and social security payments. Property taxes are excluded also. In addition, money transfers are excluded from the CPI weights.

Although the value of non-monetary household consumption is excluded from the scope of the NCPI, certain types of non-monetary consumption are included in the NCPI2. The most important type of non-monetary consumption is own account production that can be classified into several categories:

- i. Goods produced for own consumption**—these are goods mainly produced by subsistence households. They include basic food items such as rice, wheat, maize, vegetables, fruit, dairy products, fish, and meat. Some households may also produce clothing and items of furniture for their own use.
- ii. Owner-occupied housing services**—these services are produced by all households that own the dwelling in which they live. The homeowner purchases a dwelling and pays the property taxes, fire insurance, and maintenance costs. The services

provided by this dwelling are then used (consumed) by the household. The value of these services is usually measured by estimating the market value of the rent that could be obtained for the dwelling. For the HBS, each household that owns a house in which the household is living is asked to estimate the market value of the rent. These data are then used to estimate imputed rent for homeowners. This imputed rent for homeowners is included in the market basket weights for NCPI2. Imputed rent is also estimated and included in the market basket weights for those households living rent free.

iii. Other Own account household services—these are services produced by all households. They include the preparation of meals, the care of children, the sick and the elderly, cleaning and maintenance of dwellings and the transport of household members. None of these goods and services is purchased by households. They are consumed without the need to purchase because they are produced within the household. These own account household services are excluded from both the NCPI and the NCPI2.

.G. Classification and the structure of the new CPI market basket

The rebased NCPI follows the internationally recommended Classification of Individual Consumption by Purpose (COICOP). The use of COICOP results in a change in the publication format for the new NCPI. The composition of the 12 major groups of COICOP is significantly different from the composition of the major groups of the old NCPI. Because of this difference, the new NCPI are disseminated with indices for the 12 major groups of COICOP as well as several additional index aggregations.

The 12 major groups of COICOP are:

1. Food and Non Alcoholic Beverages
2. Alcoholic Beverages, and Tobacco
3. Clothing and Footwear
4. Housing, Water, Electricity, Gas and Other Fuel
5. Furnishing, Housing Equipment and Routine Maintenance of the House
6. Health
7. Transport
8. Communication
9. Recreation and Culture

10. Education
11. Restaurants and hotels
12. Miscellaneous goods and services

The additional indices are;

- **Food and Non-alcoholic Beverages**—combining food consumed at home and food consumed in restaurants
- **Energy and Fuels**—combining electricity and other fuels for use at home with petrol and diesel
- **All Items Less Food**
- **All Items Less Food and Energy**

Table 2 of the Appendix provides a concordance between the major groups of the new NCPI and the old NCPI. It will be noted that every major group of the new index is composed of either partial components of the major groups of the old index, or a combination of major groups of the old index. For this reason, it was decided that no attempt would be made to link the index series backwards for the major groups of the new NCPI. Nonetheless, the index series for these major groups are available from October 2009 forward for the new NCPI since they must be used to calculate the 12 month changes for the first 12 months of the new index. However, these overlap indices for the major groups are not appropriate for calculating official monthly index series for the new index. The official NCPI was the old NCPI up through September of 2010.

CHAPTER 2: COMPARISON OF MARKET BASKET WEIGHT

Table 3 of the Appendix presents a comparison of the weights for the old NCPI, the new NCPI, the HCPI, and the NCPI2. The weights for the first three index series are based on monetary consumption, while the weights for the NCPI2 are based on both monetary and non-monetary consumption. All of the series are derived using the 12 major groups (divisions) of the COICOP classification system. In order to derive these weights for old NCPI it was necessary to map the old CPI weights into the 12 major

groups of COICOP. Nonetheless, the old index has not been compiled by this classification system.

Column 3 of Table 3 of the Appendix contains the weights of the old NCPI which are based on household expenditure data from urban households surveyed in the 2001 HBS. Column 4 refers to corresponding data obtained from both urban and rural households from the 2007 HBS. As time passes consumption patterns change causing expenditures to change. When comparing expenditure data from two time periods, it is important to understand that expenditures are based on both quantities of goods and services purchased and the prices of these goods and services. This means that expenditures can change because of changing consumption patterns (based on quantities) or changing prices. Since the goal of a CPI is to hold the quantities constant, expenditure survey data from the HBS are generally updated for price change from the period when the data were collected (the year of the HBS) to the period when the new CPI is initiated. This meets the conceptual requirement for a Laspeyres index, i.e., that quantities are held constant. Column 5, therefore, contains the 2007 HBS expenditure weights updated for price change between calendar year 2007 and October 2009 when the compilation of the new NCPI was initiated.

While it makes sense to update the HBS data for price change for compiling the new NCPI, it must be remembered that the assumption justifying this procedure is that quantities (consumption patterns) do not change. Although it would be better to use expenditure data from a more recent HBS, thereby capturing the most recent changes in consumption patterns, more recent data do not exist. This makes updating HBS expenditure data for price change an imperfect process.

When comparing the weights from two sets of CPI weights from two different HBS surveys, several types of comparisons can be made. The first is simply comparing the HBS data directly without updating the weights for price change. The second is to update the old CPI weights for price change to the year of the new HBS. This has not yet been done. It would require some effort, since it must be done at the detailed item

level, and price indices have not been compiled at the detailed item level for the old CPI.

In spite of the imperfect nature of the process of comparing the results of the two HBS surveys, it is still worthwhile to make such comparisons. It will be noted that, under the COICOP classification system, food is divided into two components—Food and Non-Alcoholic Beverages (consumed at home) and Food and Beverages Consumed in Restaurants (and other locations away from home). An approximate estimate of total food is obtained by combining the weights for major groups 1 and 11. This is possible since the weight of hotel accommodations is quite small. It can thus be noted that the budget share of food has decreased from 60.9 percent to 49.4 percent between the two surveys. It should be noted that the data are not directly comparable since the data from the old were based on urban areas only.

CHAPTER 3: SELECTION OF THE BASKET OF GOODS AND SERVICES

AND OUTLETS FOR MONTHLY PRICE COLLECTION

A. General Principles used in selecting the new CPI basket of goods and Services

In the new CPI basket of goods and services, all products with expenditure shares of at least 0.001 were included. Availability of products in the markets for a reasonable period of time and the possibility of specifying a clear product description to ensure constant quality over time were also considered. With the exception of certain essential products such as salt and soap, products with expenditure shares below the threshold were not selected. However, their expenditure shares were distributed across other products within the subgroup in which they reside. In this manner the price movements for these items are represented by the price movement of products included in the new CPI market basket.

B. New items included in the CPI basket

The number of items selected for pricing has been expanded from 207 in the old CPI to 224 in the new CPI. The following are some the new items selected:

- Industrially bred live chicken (Big)
- Baby foods excluding milk
- Millet grain
- Chapati
- Gas
- Sofas
- Repair and maintenance of vehicles including spare parts
- Mobile phone Services
- Musical systems
- Still Cameras
- Primary school fee – Private
- Dhobi--Laundry (kufua na kupasi)
- Dental services (Kung'oa jino)
- Internet services
- DVD/VCD player
- Perfumes for Ladies
- Apples (Imported)
- Bitter tomatoes (Nyanya chungu)
- Green peas (Njegere -zilizomenywa)
- Honey from large bees
- Fruit juices Industrial made, Bottled
- Shorts - kaptula - KADET/KHAKI
- Motorcycle fare (Shortest distance one passenger)
- Bajaj fare (Shortest distance one passenger)
- Simple Hairdressing for Women

C. ITEMS FROM THE OLD CPI BASKET THAT WERE ELIMINATED

The following are some of the items that have been removed from the CPI market basket:

- Men's kanzu
- Men's shuka (msuli wa kuvaa)
- Hurricane lamp
- Kettle (non- electric)
- Aspirin

D. PRINCIPLES FOR SELECTING NEW CPI OUTLETS

The new CPI basket list of goods and services was tested for pricing in the Arusha and Dodoma regions to assess possible outlets for price collection and the availability of these goods and services. The outlets selected for monthly pricing are those commonly visited by households. In determining the number of outlets to be covered, consideration was given to the price variability across outlets. For those products with large price variation, more outlets were selected, e.g., clothing and footwear, fresh fruits and vegetables, etc. Correspondingly, for items whose prices are relatively uniform and standard, fewer outlets were selected. E.g., Electricity and water bill.

Types of outlets selected for both food and non food items include: open markets, supermarkets, neighborhood shops, groceries, restaurants, hotels, shopping centers and other retail outlets. For price-regulated items such as school fees and utilities, price data are obtained from the relevant authorities.

For the monthly price survey, prices are collected in urban Regional Headquarters in all 21 regions in approximately four outlets per item. For non-processed food items, price collectors go to the shops/markets on three consecutive days for price collection. The food items are purchased and weighed. The prices are then converted to price per kilo, or other standard unit of measurement, for index compilation.

CHAPTER 4: INDEX COMPILATION

The CPI for Tanzania is compiled using an Excel-based software that employs the current period to previous period price relative version of the Laspeyres index compilation formula. This formula is sometimes referred to as the modified Laspeyres index formula. It should be noted that although the modified index compilation formula is algebraically equivalent to the current period to base period version of the Laspeyres index compilation formula, the modified Laspeyres formula allows more flexibility for introducing new items, new outlets, and new product specifications when substitutions of outlets or products are necessary. Quality adjustments are also facilitated with the modified Laspeyres index formula.

Elementary aggregates for obtaining the first level of detailed price relatives for the index are compiled using a matched price geometric mean formula. Since no expenditure weights are available at the price quotation level, the geometric mean is considered to be a superior formula for compiling these aggregates. Nonetheless, the higher level aggregations for the new CPI are carried out using weighted arithmetic means consistent with the Laspeyres index calculation formula.

CHAPTER 5: DISSEMINATION

The NBS disseminates the NCPI on a preannounced schedule on approximately the 15th of the month following the reference month of the index. It is disseminated to all users at the same time through a press conference and on the NBS website. No one outside of the NBS has access to the index prior to its publication.

The monthly press release contains index data on monthly and 12 month (year-on-year same month) index changes at the national level for the all items NCPI and for the 12 major groups based on the COICOP classification system. The press release also provides analysis of the major price changes that occurred during the month. In addition, the press release presents NCPI historical data by means of a linked historical series with a reference base of September 2010=100. The link month for linking the old NCPI to the new NCPI is September 2010. This linked historical series is also provided in Table 4 of the Appendix.

APPENDIX. TABLE 1:

TANZANIA. COMPARISON OF THE NEW NCPI WITH THE OLD NCPI				
Item Number	Item	New CPI	Old CPI	Comments
1.	Types of indices compiled	NCPI, NCPI2, HCPI, Core Inflation CPI	NCPI	The NCPI2 is compiled for internal use only.
2.	Geographic coverage	21 regions	20Regions	Arusha Region was divided into two separate regions: Arusha and Manyara after 2001 HBS
3.	Population coverage on CPI weights	Urban and rural	Urban	
4.	Source of market basket weights	2007 HBS	2001 HBS	
	Household sample size for HBS	10,756	22,178	Although the 2001 HBS covered both urban and rural households, only data from the urban households was used for the NCPI weights.
5.	Reference base	September 2010=100	December 2001=100	
6.	Classification system	COICOP (eight digit expanded version of COICOP)	National classification system (six digits)	
7.	Number of major groups	12 divisions	12 major groups	There are significant differences in the composition of the major groups. See Appendix 2 for a concordance between the two classification systems by major group.
8.	Compilation of elementary aggregates	Geometric mean	Arithmetic mean	Using geometric means for elementary aggregates is the internationally

				recommended procedure.
9.	Higher Level Index formula	Modified Laspeyres	Modified Laspeyres	
10.	Aggregation level at which weights are applied	Six digit level	Five digit level	Applying the weight at a more detailed level is a significant improvement to the index compilation methodology for the new index.
11.	Monthly index release date	Approximately the 15 th of the month following the reference month for the index.	Approximately the 15 th of the month following the reference month for the index.	

APPENDIX. TABLE 2:

CORRESPONDENCE BETWEEN THE CLASSIFICATION OF INDIVIDUAL CONSUMPTION BY PURPOSE (COICOP) USED FOR THE NEW CPI AND THE CLASSIFICATION SYSTEM USED FOR THE OLD CPI			
NEW CPI (COICOP)		OLD CPI	
Division	Description	Group Name	Corresponding Components
Division 1: Food and Non Alcoholic Beverages	Includes all types of food products including non-alcoholic beverages. <i>Note 1: Excludes meals and non- alcoholic beverages consumed in restaurants. These goods are included in Division 11. Hotels and Restaurants.</i> <i>Note 2: Cost of grinding grain to make flour is excluded. This service is included in Division 12. Miscellaneous Goods and Services.</i>	Group 1 (part): Food	All food products consumed at home.
		Group 2 (part): Drinks and Tobacco	Non-alcoholic beverages consumed at home.
Division 2: Alcoholic Beverages, and Tobacco	Includes all Alcoholic beverages (except those consumed in restaurants and bars) and tobacco.	Group 2 (part): Drinks and Tobacco	Alcoholic beverages consumed at home and tobacco.
Division 3:	Includes all clothing and footwear products.	Group 3 (part):	All clothing and footwear except

Clothing and Footwear		Clothing and Footwear	school uniforms.
		Group 11 (part): Education	School uniforms.
Division 4: Housing, Water, Electricity, Gas and Other Fuel	Includes actual rent paid by households, imputed rent (excluded for the Monetary CPI—NCPI, and included for the monetary and non-monetary CPI—NCPI2), water, electricity, gas and other fuels.	Group 4: Rent	For the NCPI, paid rent only. For the NCPI2, both paid rent and imputed rent.
		Group 5: Fuel, Power and Water	Expenditure on fuel, power and water
Division 5: Furnishing, Housing Equipment and Routine Maintenance of the House	Includes all expenditures on furnishing, household equipment and routine maintenance of the house (minor maintenance).	Group 6: Furniture and Household Equipments	Expenditure on furniture and household equipment:
		Group 7: Household Operations and Maintenance	Expenditure on household operations and maintenance
Division 6: Health	Includes all expenditures on health.	Group 8 (part): Personal Care and Health	Expenditure on Health
Division 7:	Includes transportation expenditures.	Group10 (part):	Expenditure on Transportation.

Transport		Transportation	
Division 8: Communication	Expenditure on Communication	Group 12 (part): Miscellaneous goods and services	Expenditure on communication.
Division 9: Recreation and Culture	All expenditure on Recreation and Entertainment	Group 9 (part): Recreation and Entertainment	Expenditure on recreation and entertainment.
		Group 11 (part): Education	Expenditure of stationery, and school supplies.
Division 10: Education	Includes only tuition and school fees.	Group 11 (part): Education	Expenditure on tuition and school fees.
Division 11: Restaurants and hotels	All expenditure on Restaurants and hotels	Group 1 (part): Food	Meals and food consumed in restaurants, bars, and other locations away from home.
		Group 2 (part): Drinks and Tobacco	Alcoholic and non-alcoholic beverages consumed in restaurants, bars, and other locations away from home.
		Group 12 (part):	Expenditure on accommodation in

		Miscellaneous goods and services	hotels.
Division 12: Miscellaneous goods and services	Includes expenditures on personal care and health, insurance, financial services and those which are not classified elsewhere	Group12 (part): Miscellaneous goods and services	Expenditure on watches, umbrellas and other goods and services which are not classified elsewhere.
		Group 8 (part): Personal Care and Health	Personal care goods and services.
		Group10 (part): Transportation	Vehicle insurance.
		Group 8 (part): Personal Care and Health	Health insurance (not included in the old CPI market basket).
		Group 1 (part): Food	Cost of grinding grain to make flour.

APPENDIX. TABLE 3:

APPENDIX. TABLE 3: TANZANIA, COMPARISON OF THE WEIGHTS FOR THE OLD NCPI WITH THE WEIGHTS FOR THE NEW NCPI, THE HCPI, AND THE NCPI2 (CLASSIFIED BY COICOP)							
NO. (1)	MAJOR GROUPS BASED ON COICOP (2)	MONETARY TRANSACTIONS ONLY				MONETARY AND NON MONETARY TRANSACTIONS	
		Old NCPI Weights (2001) Urban Only* (3)	New NCPI Weights (2007) (4)	New NCPI Weights (Price Updated to October 2009) (5)	HCPI Weights Includes Tourist Expenditures** (Price Updated to October 2009) (6)	New NCPI2 Weights (2007) (7)	New NCPI2 Weights (Price Updated to October 2009) (8)
1	Food and Non Alcoholic Beverages	53.5	43.6	47.8	49.0	49.4	56.1
2	Alcoholic Beverages and Tobacco	2.1	3.1	3.3	3.4	2.4	2.3
3	Clothing and Footwear	7.1	7.7	6.7	6.9	5.9	4.8
4	Housing, Water, Electricity, Gas and Other Fuel	9.9	10.9	9.2	9.4	15.6	13.3
5	Furnishing, Housing Equipment and Routine Maintenance of the House	4.2	6.5	6.7	6.8	5.0	4.7
6	Health	0.9	1.0	0.9	***	0.8	0.7
7	Transport	9.5	10.9	9.5	9.7	8.4	6.7
8	Communication	0.5	2.7	2.1	2.1	2.1	1.5

9	Recreation and Culture	0.9	1.4	1.3	1.4	1.1	0.9
10	Education	1.8	1.5	1.7	***	1.2	1.2
11	Restaurants and hotels	7.4	5.8	6.4	6.7	4.5	4.6
12	Miscellaneous goods and services	2.1	4.9	4.5	4.7	3.8	3.2
	TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

** The old NCPI was based on market basket weights derived from urban household expenditures only. All other data in the table are for both urban and rural households.*

*** Tourist expenditures on HCPI weights are in Transport, Recreation and Culture, Accommodation Service, and Restaurants and Hotels.*

**** Stage One implementation of HCPI excludes Health and Education.*

**APPENDIX TABLE 4: NCPI linked index series, December 2001- October 2010
(September 2010=100)**

LINKED NATIONAL CONSUMER PRICE INDEX FROM DECEMBER, 2001 TO OCTOBER, 2010						
PERIOD (Col 1)	Old NCPI Dec 2001=100 (Col 2)	Old NCPI September 2010=100 (Col 3)	New NCPI September 2010=100 (Col 4)	Linked NCPI September 2010 = 100 (Col 5)	Linked NCPI 1 Month Percent Change (Col 6)	Linked NCPI 12 Month Percent Change (Col 7)
Dec-01	100.00	55.19		55.19		
Dec-02	107.32	59.23		59.23	1.9	7.3
Dec-03	113.31	62.53		62.53	1.7	5.6
Dec-04	118.53	65.41		65.41	0.4	4.6
Dec-05	125.54	69.28		69.28	1.7	5.9
Dec-06	133.90	73.90		73.90	2.1	6.7
Dec-07	142.47	78.62		78.62	1.3	6.4
Dec-08	161.70	89.24		89.24	2.3	13.5
Jan-09	166.40	91.83		91.83	2.9	12.9
Feb-09	169.29	93.43		93.43	1.7	13.3
Mar-09	170.30	93.98		93.98	0.6	13.0
Apr-09	169.70	93.65		93.65	-0.4	12.0
May-09	168.80	93.16		93.16	-0.5	11.3
Jun-09	168.10	92.77		92.77	-0.4	10.7
Jul-09	168.90	93.21		93.21	0.5	10.9
Aug-09	169.60	93.60		93.60	0.4	12.1
Sep-09	173.40	95.70		95.70	2.2	12.1
Oct-09	175.30	96.74	95.88	96.74	1.1	12.7
Nov-09	177.70	98.07	94.96	98.07	1.4	12.5
Dec-09	181.50	100.17	96.35	100.17	2.1	12.2
Jan-10	184.50	101.82	97.82	101.82	1.7	10.9

Feb-10	185.60	102.43	98.99	102.43	0.6	9.6
Mar-10	185.70	102.48	99.90	102.48	0.1	9.0
Apr-10	185.60	102.43	100.47	102.43	-0.1	9.4
May-10	182.20	100.55	100.12	100.55	-1.8	7.9
Jun-10	180.20	99.45	99.89	99.45	-1.1	7.2
Jul-10	179.50	99.06	99.56	99.06	-0.4	6.3
Aug-10	180.80	99.78	99.94	99.78	0.7	6.6
Sep-10	181.20	100.00	100.00	100.00	0.2	4.5
Oct-10			99.90	99.90	-0.1	4.2

DESCRIPTION OF TABLE 4: TANZANIA, LINKING THE OLD NCPI TO THE NEW NCPI AT THE ALL ITEMS LEVEL

Table 4 presents the linked NCPI at the all items level. The old NCPI (December 2001=100) is found in Column 2. Although monthly indices are available for the entire period, only the December index values are presented for the years 2001 through 2008. In Column 3 the index values for the old NCPI have been rebased to September 2010=100. September 2010 is the link month as well as the reference base for the new index. It should be noted that this type of rebasing, where only the reference base of the index series is changed, does not have any effect on the percent changes reflected by the index series. Column 4 contains the new NCPI with a reference base of September 2010=100. Since both the old NCPI in Column 3 and the new NCPI in Column 4 have the same reference base, both index series have the index value of 100.00 in September 2010. By taking advantage of this fact the linked NCPI that appears in Column 5 can be constructed by simply splicing the two index series together at the link month of September 2010.

Columns 6 and 7 contain the 1 month and 12 month percent changes respectively for the linked NCPI. The 1 month changes can be obtained directly from the linked index series since the linked series is continuous for monthly price change. The 12 month changes for the old NCPI can also be obtained from the linked index series up through September 2010. However, in order to obtain the 12 month changes after September 2010 it necessary to use the index values from the new NCPI found in Column 4. This will ensure that the 12 month percent changes are based on the same index weights. It is for this reason precisely that there is a 12 month overlap period for the old and the new NCPI. However, it is important to note that the official index for Tanzania is the old NCPI up through September 2010, and the new NCPI beginning in October 2010.