

MANAGEMENT OF STATISTICAL INFORMATION SYSTEM FOR COMPILATION OF CPI

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Introduction

- ▶ CSO, India releases comprehensive Consumer Price Indices (CPI) on base 2010=100 for all-India and States/UTs (provinces) separately for rural, urban and combined every month with effect from January, 2011 and annual inflation rates from January 2012 onwards.
- ▶ Ground work started in 2008.

Specification of the Need

- ▶ There were three consumer price indices: CPI(IW), CPI(AL), CPI (RL)
- ▶ CPI(IW) – for industrial workers
- ▶ CPI(AL) – for agricultural labourers
- ▶ CPI(RL) – for rural labourers
- ▶ Prior to 2011, there was no CPI for the entire population because of many difficulties.
- ▶ Therefore, there was utmost need to have one CPI representing whole population for taking policy decisions at large and for many other purposes.

Design for collecting data

- ▶ Consumption pattern and price behaviour in rural area are different from those of urban area.
- ▶ It was decided to compile separate CPI(Rural), CPI(Urban) and then combining them to arrive at one CPI (Combined).
- ▶ Items were classified into groups and subgroup considering COICOP
- ▶ Using multiple norms, item baskets for rural areas as well as urban areas were prepared.
- ▶ On the basis of their share of expenditure (on the basis of results of Consumer Expenditure Survey 2004–05), weights of items in subgroups, weights of sub-group in groups and weights of groups in totals were prepared.
- ▶ 1181 villages and 1114 quotation of 310 towns were selected using suitable sampling design.
- ▶ Specification of items were decided village/quotation wise on the basis of their popularity assessed through market survey.

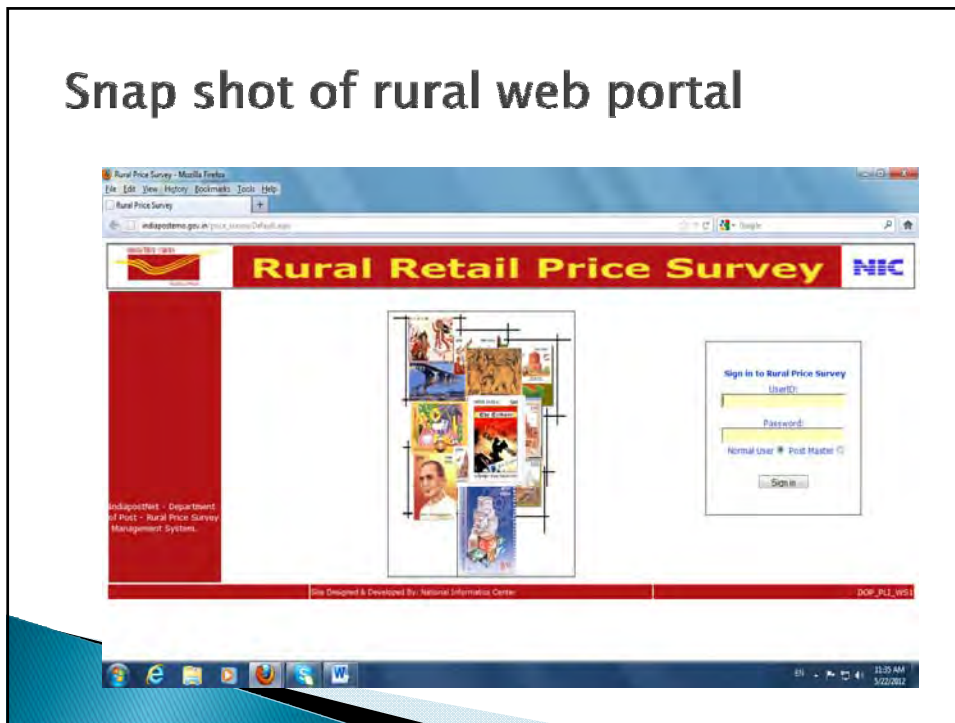
Building Data Collection Mechanism

- ▶ Post offices have reach to each village. Therefore, it was decided to entrust them with the task of rural price collection.
- ▶ In case of urban areas, Field offices of National Sample Survey Office was assigned this task.
- ▶ Two independent web portals were developed for online data submission.
- ▶ This system is in place and data are collected on line for compilation of these indices.

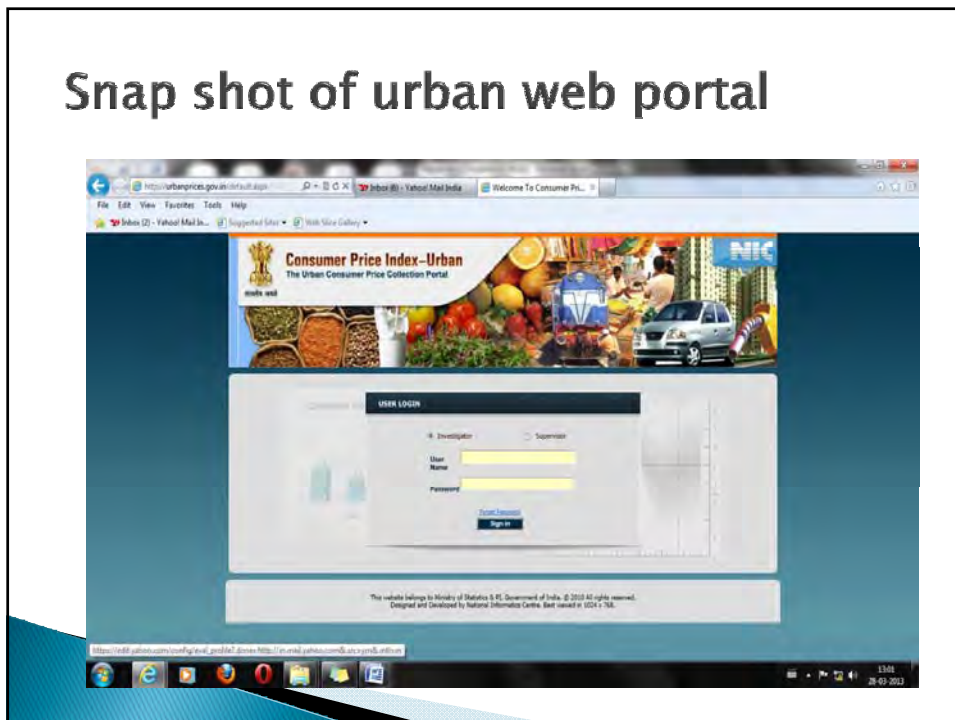
Data Collection

- ▶ Rural web portal for online collection of prices: http://indiapostmail.gov.in/price_survey
- ▶ Urban web portal for online collection of prices : <http://urbanprices.gov.in>
- ▶ These web portals are password protected. Separate password has been provided to each field office (data collecting office). One field office can not see the data collected by others.
- ▶ These web portals provide real time uploading status of schedules and no. of items for which prices have been reported

Snap shot of rural web portal



Snap shot of urban web portal



Checking uploading status of schedules and prices reported

The screenshot shows the 'Rural Retail Price Survey' interface. It features a table with columns for 'Schedule Name', 'Status', 'Last Updated', and 'Action'. The table lists various agricultural and retail items, such as 'Wheat (Kharif)', 'Wheat (Rabi)', and 'Wheat (Kharif) - 1000g', with their respective statuses and last update dates.

The screenshot shows the 'Consumer Price Index-Urban' interface. It features a table with columns for 'Item Name', 'Status', 'Last Updated', and 'Action'. The table lists various urban consumer goods, such as 'Wheat (Kharif)', 'Wheat (Rabi)', and 'Wheat (Kharif) - 1000g', with their respective statuses and last update dates.

Data entry and editing/updating by field offices

The screenshot shows the 'Rural Retail Price Survey' interface with a data entry form. The form includes fields for 'Schedule Name', 'Status', 'Last Updated', and 'Action'. The table below the form lists various agricultural and retail items, such as 'Wheat (Kharif)', 'Wheat (Rabi)', and 'Wheat (Kharif) - 1000g', with their respective statuses and last update dates.

The screenshot shows the 'Consumer Price Index-Urban' interface with a data entry form. The form includes fields for 'Item Name', 'Status', 'Last Updated', and 'Action'. The table below the form lists various urban consumer goods, such as 'Wheat (Kharif)', 'Wheat (Rabi)', and 'Wheat (Kharif) - 1000g', with their respective statuses and last update dates.

Data Processing and Validation

- ▶ Diagnostic Report –
 - an important tool for on line data scrutiny by supervisors at all levels.
 - gives quotation/village wise grouping of price data according to the variation between prices of current month and previous month.
 - Changes in the administratively controlled items such as petrol, diesel, LPG, Kerosene etc. are listed separately.
 - Diagnostic table comes very handy in locating the inconsistencies and in ensuring that only consistent and accurate data are retained in the system.

Snap shot of diagnostic report

The screenshot shows a web application interface for a diagnostic report. The browser address bar displays http://www.indiapostmal.gov.in/Price_Survey/. The user is logged in as ADMIN. The report is for the village of Anantapur, March 2011. The main content area displays a table titled "Table A-Distribution of % change in the prices of reported items".

| Sl. No. | Pr. Change | No. of Items | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|------------|--------------|----|----|---|---|---|---|---|---|
| 1 | 10-20% | 8 | 1 | 5 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2 | 20-30% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 30-40% | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 40-50% | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 50-60% | 211 | 87 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 60-70% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 70-80% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 80-90% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 90-100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 100%+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 219 | 98 | 13 | 1 | 0 | 0 | 0 | 0 | 0 |

Data Processing and Validation

- ▶ Month to Month Price Verify –
 - Another tool where we get time series data of few months to see monthly price variation.
 - This gives an indication of seasonal variation.
- ▶ These tools (Diagnostic report and month to month price verify) are used by the CSO as well as field offices supervisors.
- ▶ CSO persons can see data of all villages and towns, where as field offices can see their respective data only.
- ▶ They have not been given access to data collected by other offices to maintain unbiasedness.
- ▶ Scrutiny observations of the CSO are sent to the field offices through emails.

Data Processing and Validation

- ▶ Real time scrutiny of data takes place using diagnostic tables, month to month price verify and scrutiny observations sent by the CSO.
- ▶ Offline scrutiny takes place at the last stage of data validation after the entire data for the month is downloaded from the portals.
- ▶ Instead of checking prices, now the price relatives (ratio of current price to its base price) are checked.
- ▶ After removing all outliers, final data are used for compilation of CPI

Compilation of CPI

- ▶ For each Rural and Urban sector following indices are compiled:
 - First, Item Indices are compiled (State-wise).
 - Item Indices are aggregated to subgroup indices using item weights (State-wise).
 - Subgroup indices are aggregated to group indices using subgroup weights (State-wise).
 - Group indices are aggregated to General Indices using group weights (State-wise).
 - These state level subgroup, group and general indices are aggregated to all India subgroup, group and general indices using state's share in countries expenditure of respective subgroups, groups and totals.
- ▶ Then Rural and Urban CPIs are combined, using the share of rural and urban areas to the total expenditure of respective subgroups, groups and totals, to compile CPI (Combined).

Analysis and Release of CPI

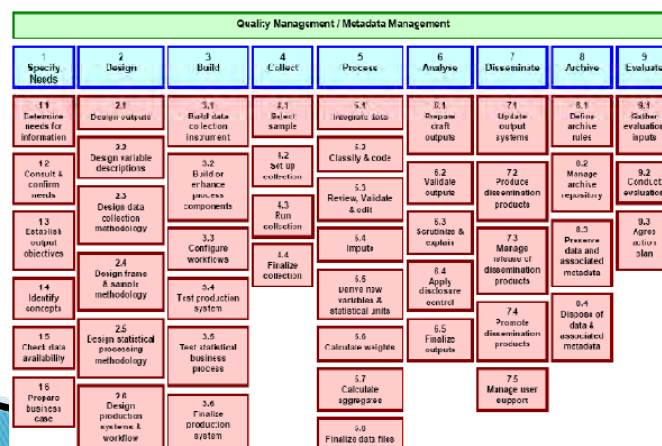
- ▶ Compiled state as well as all India level CPI(Rural), CPI(Urban), and CPI(Combined) are analysed with respect to other indices.
- ▶ Finally, all India subgroup, group and general indices and states/UTs wise group and general indices are released on 12th of every month on the web portal of the Ministry of Statistics and Programme Implementation for users.
- ▶ If 12th is not a working day, then on next the working day.

Archival of Data and Output

- ▶ Previous three months' price data are stored on respective web portals. *[Access is limited to data collecting agencies and CSO]*
- ▶ All published/released indices are available on the web site of the Ministry of Statistics and Programme Implementation (www.mospi.gov.in) in the public domain.
- ▶ For better access of users, a software is being developed, using that, one can extract customized output (CPIs) [time series or cross sectional indices] from the website.

Consistency with Business Process Model

- ▶ All the procedure involved in the compilation and release of CSO follow the steps of Business Process Model of GSBPM.



Thank You.