
Institution for Quality Assurance in NSSO: Review and Way Forward

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Context

- In the words of Sir Arthur L Bowley, a statistical estimate may be good or bad, accurate or the reverse; but in almost all cases it is likely to be more accurate than a casual observer's impression, and in the nature of things can only be disproved by statistical methods.
 - In the words of Mark Twain, Facts are stubborn, but Statistics are more pliable.
 - It is for this reason that the quality assurance is the constant need of hour in almost all parts of Statistical Framework, we confine ourselves for special concerns in NSSO.
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The Legacy

- On the insistence of first Prime Minister of India, a large scale sample survey agency known as NSS (National Sample Survey) came into existence in 1950.
- First Round of Data Collection in October, 1950;
- National Sample Survey Organisation
- (NSSO) was created under a government set-up in 1970.

The Extant Position

- Post Rangarajan Commission, NSS Organisation becomes NSS Office and NSSO functions under National Statistical Office (NSO).
- Governing Council of the NSSO was dissolved in 2006 as all the functions of the Governing Council are assumed by the National Statistical Commission (NSC).

Structural Façade: Constituent Pillars of NSSO

- Functions under the overall direction of National Statistical Commission (NSC) with requisite independence and autonomy in the matter of collection, processing and publication of NSS data.
 - NSSO is headed by the Director General (Survey) who is responsible for the mandate of the office.
 - Four Pillars of NSSO known as ‘Divisions’ each headed by ADG(s)
 - Coordination & Publication Division (CPD), New Delhi
 - Field Operations Division (FOD), New Delhi
 - Data Processing Division (DPD) and IS Wing, Kolkata
 - Survey Design and Research Division (SDRD), Kolkata
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Quality Issues

QUALITY ASSURANCE IN NSSO

Quality of the Official Statistical Data

- What is high quality statistical Data (ARTCO)
 - Accuracy - This dimension provides information about how precisely the statistics measure the true quantities of interest.
 - Relevance - This dimension provides information that will allow you to determine whether the data presented is relevant for your particular need.
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Quality of the Official Statistical Data

- ❑ Timeliness – This dimension provides information that will help you to determine if the data is current enough for your purpose, of it relates to the period of interest.
 - ❑ Coherence – this dimension provides information about the comparability of the information with other key related statistics, and changes in this collection over time.
 - ❑ Others, such as interpretability, subjectivity (data integrity), methodology and validity.
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Quality Conscious NSSO: Institutional Arrangements

■ General Overview

- ❑ Monitoring, overseeing and approval of results by independent and professional body namely, NSC;
 - ❑ Constitution of Working Group of professional experts for adoption of appropriate scientific methodologies and survey instruments;
 - ❑ High standards for planning & designing, collection of data, verification & validation of data; and
 - ❑ Uniform and consistent training (AITOT, RTC and RRTC) to the survey personnel, preferably in local language including dialect
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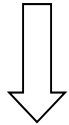
Quality Assurance at the level of data collection

- Before the beginning of the field work clear and ubiquitous understanding of the field functionalities;
 - Team work approach;
 - Effective probing for error free data capturing;
 - Supervision and Inspection norms (100%); and
 - Scrutiny of the filled in schedules by the superior officers;
 - Data Collection through CAPI
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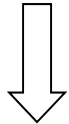
Quality Assurance at the level of data processing

- Reliance on advance processes for data processing;
- Hot scrutiny;
- Data verification;
- Multi-level validation process;
 - Content check (1st stage)
 - Coverage check (2nd stage)
 - Howler check (3rd stage)
- Technology induced data processing system

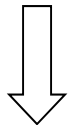
Receipt of filled-in Schedules



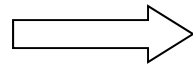
ID-Checking of all schedules in a FSU



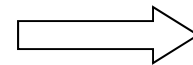
Pre-Data Entry Scrutiny



Online data entry/verification, key checks and uploading data



Online Data validation. Updation and monitoring progress



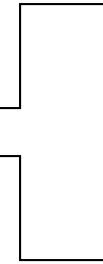
Data extraction and coverage checking



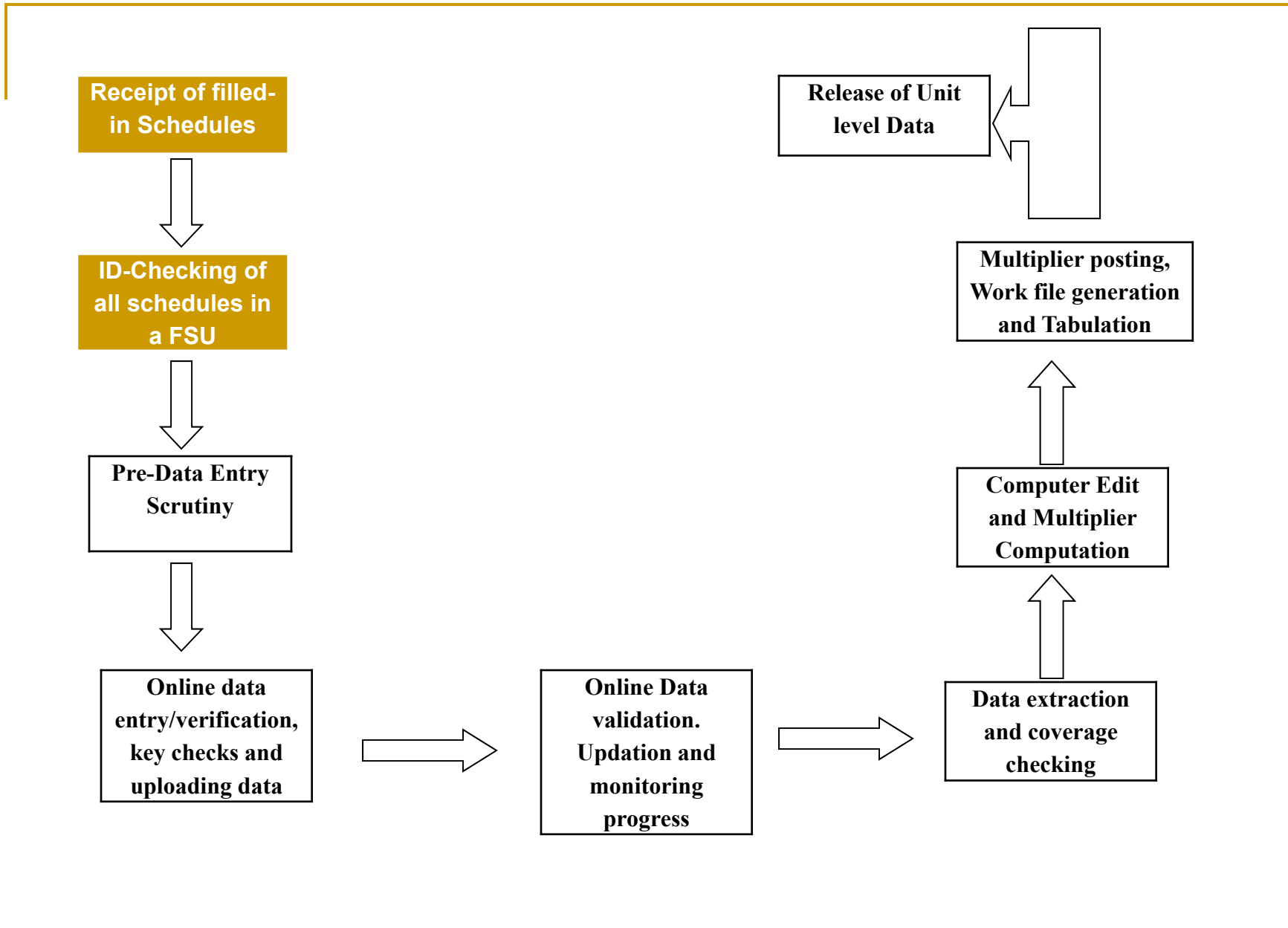
Computer Edit and Multiplier Computation



Multiplier posting, Work file generation and Tabulation



Release of Unit level Data



Issues and Concerns in NSS

- Differences between the NSS estimates and those obtained from other sources;
 - Accuracy of information provided by respondents;
 - Effect of changes in scope sampling and questionnaire design and field procedures;
 - Inherent limitations of sample surveys- deficiencies-inability or unwillingness of the respondents to give correct information;
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Continues.....

- Evidence of systematic differences in the quality of fieldwork between the Central and State level organisations;
 - Apparently reasons for these differences have not been systematically investigated and corrected;
 - Inadequate methodological research on
 - questionnaire design,
 - relative merits of single and multi purpose enquiries;;;
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- ❑ Characteristics of respondents and their ability to give needed data;
 - ❑ Reference periods; and
 - ❑ Field work procedures and related aspects
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- Only a fraction of the information that is collected is utilised;
 - Collection of even those data which are not part of the pre decided tabulation plan
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The Opportunities and Challenges for NSSO

- New opportunities----the information age and globalization
 - To bring more powerful information equipments, user friendly statistical packages , and online statistical surveys.
 - To enable better coordination each steps from questionnaire designing, data collection, data processing/analyzing to data dissemination as well as better control of the whole process;
 - To vastly reduce the human errors and operational risks, enhance the government statistical capability;
 - To improve statistical data quality and quicker turnaround; to broadens information channel for the surveys; to bring interface within statistical end-user, surveyors and information providers.
 - To empower possibilities for establishment of international standards to facilitate the cooperation of statistical theory and its utilisation in large scale surveys.
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The Opportunities and Challenges

- New challenges----the information age and globalization
 - Firstly, end-users expectations for better quality, more timeliness and easy navigated information.
 - Secondly, global business activities bring more needs for statistical information.
 - Thirdly, the enhanced research capabilities leverage the needs for regional, segregated statistical information.
 - Fourthly, the evolution of each basic element formulates quality data of the statistical information/policy formulations.
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NSSO's Transformation: Some there, some more needed

- Resorting maximum to modern Information and Communication Technology (ICT) in Collection, Processing, and Dissemination ;
- Reduction in time lag in respect of Designing of Surveys, Processing of data and Dissemination of its final Products;
- Release of Survey results within 3 months of completion of field work.
- Undertaking Methodological Studies and ad-hoc surveys having immediate Policy implications.
- Restructuring of its Divisions and reorientation of its human resources towards addressing the long term goals of the NSSO

Strategies to Achieve the Goals

- E Schedules for all surveys;
 - Computer Assisted Personal Interviewing (CAPI) Solution for data collection;
 - Real time data transmission from field to cloud servers for data validation and processing at DPD;
 - Dissemination of survey results among others through dashboards and on friendly, compatible and machine independent platforms
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- Develop and implement an evaluation system that conform to international standard and strengthen quality management awareness;
 - Establish special quality management units for statistical data, check the quality periodically;
 - Reinvent multilayer quality evaluation system;
 - Spread quality consciousness measures for the respondents; and
 - Organise data quality kiosks for the data users
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Shukriya
