

Creating Large Scale Database: A Success Story of UDISE

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Background

Free and compulsory education for all children up to the age of fourteen years is a Constitutional commitment in India. For the successful implementation of any educational programme, effective monitoring and an efficient information system are essential. The existing data system to plan and monitor education in India was very outdated. NIEPA took up the responsibility of creating a reliable EMIS for planning education in India. The development of the EMIS started in NIEPA as Computer Operated Project on Education (COPE) which was later transformed into District Information System in Education (DISE) initially covering primary education, thereafter, extended to elementary education, and secondary education at subsequent stages. UDISE remains as one of the largest and reliable data sets in school education in the world.

This note presents the success story of DISE, and later Unified-DISE (UDISE), its evolution since inception which resolved most of the limitations, and helped immensely in strengthening EMIS in India.



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The Traditional Information System

The erstwhile Department of Education (*Ministry of Education, Culture and Sports*) used to collect educational statistics through the Education Statistics (ES I to VI) Series Forms. Form ES-I was developed to collect numeric information on the number of institutions, enrolment, and teachers whereas information relating to financial, income, and expenditure variables were proposed through Form ES-II. Form ES-III was developed to collect information on examination results, so as Form ES-IV, for information on SC and ST population. District-wise information was proposed to collect through Form ES-V and information on special studies through Form ES-VI. With the implementation of ES-Series forms, the time lag at one stage increased to about seven to eight years. At this stage, the idea of the computerisation of educational statistics cropped up. For the computerisation, three new forms, namely, S-1, S-2, and S-3 were evolved. To tone up the educational statistics, the scheme of Computerisation of Educational Statistics was further strengthened in the year 1993-94. Despite this, time lag always remains the major area of concern.

Evolution of DISE

The DPEP

In 1994-95, the Government of India launched *District Primary Education Project* (DPEP). The focus of DPEP was on primary education and it emphasised on district planning. To realise the goals of DPEP, the Government of India felt that a sound information system is essential for the successful monitoring and implementation of the programme. In the light of the above, the Ministry of HRD in 1994-95, as part of the DPEP national endeavour, decided to design and develop a school-based computerized information system and entrusted the responsibility to the *National Institute of Educational Planning and Administration* (NIEPA), New Delhi. with financial assistance from UNICEF.

Such a comprehensive and integrated approach was necessitated by the fact that the then-existing system could not provide school-level data, and that it was highly limited in scope and coverage. Similarly, the use of educational statistics for planning and monitoring in the decentralized framework was also minimal. In the absence of school-specific data, there were no systematic checks on the internal consistency of data. Data on many critical variables were either not collected at all or were not processed to facilitate decision-making. In tune with the spirit of the DPEP, the district was selected as a nodal point for data collection, computerization, analysis, and use of school-level data. {Not needed in other words, it was decided school be a unit of data collection, and the district, as the unit of data dissemination (Figure 1.1)}.

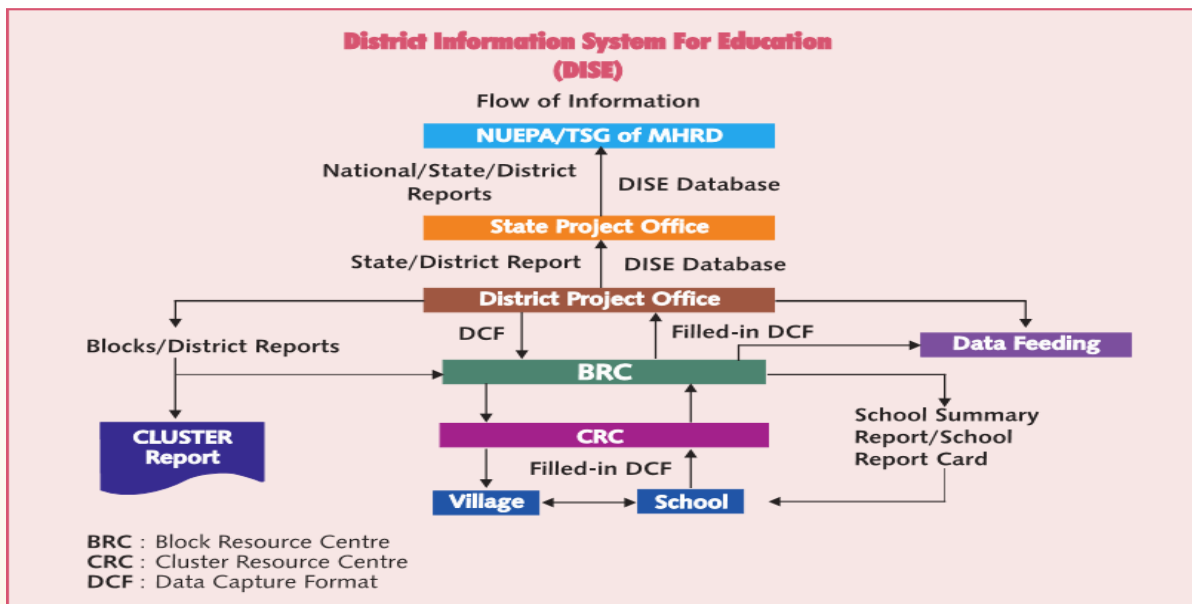


Figure 1.1 : Data Flow Diagram

Evolution of DISE

NIEPA designed and developed core Data-Capture Formats in consultation with the experts and states. Accordingly, the NIEPA designed the software in-house for implementation at the district level (initially in the case of the primary level) and provided necessary technical and professional support to all the DPEP districts and states. The first version (d-base) of the software, named *District Information System for Education* (DISE), was released in the middle of 1995.

When SSA was launched in 2001, the coverage of DISE was not only extended to non-DPEP states but was also expanded to cover the entire elementary level of education.

Given the successful implementation of DISE, the coverage of DISE was extended from elementary to entire secondary and higher secondary levels of education in 2007. NUEPA designed a separate online application, namely Secondary Education MIS (SEMIS), and implemented it during the 2007-08 data collection. Though data was successfully collected through SEMIS, a few limitations remained concerning coverage and data entry. The online system continued till 2009-10 after which it was replaced by off-line software similar to DISE software for the elementary level.

From DISE to U-DISE

The system in the form of DISE (elementary) and SEMIS (secondary), had two different Data Capture Formats - one for elementary and another for secondary; two software - one off-line (DISE) and another online (SEMIS); two data entry centres; and two Nodal Officers at district and state levels respectively for SSA and RMSA which caused a lot of duplicity of efforts and created confusion among respondents.

During 2010-11, NUEPA designed one *Data Capture Format* for the entire school education, i.e. Grades I to XII, and successfully piloted it in Puducherry. In the following year, the same was successfully piloted in Puducherry and West Bengal, and data from all schools having Grades I to XII was successfully collected by using a single DCF and Software. Further, to develop a unified school education statistics system, later, MHRD constituted a committee in 2012 to suggest modalities to develop such a system that recommended the integration of DISE and SEMIS.

It was during 2012-13, for the first time, that a single *Data Capture Format* was used across the country for the entire school education sector for which the MHRD issued detailed guidelines. It was decided that all the States and UTs will print the *Data Capture Format* from the DISE software by generating the previous year's data into the current year with all constant variables printed; data entry through DISE SW would take place in the office of SSA; schools will have only one unique 11-digit Identification Code; one Nodal Officer both at the district and state levels, and issued guidelines for smooth coordination between the SSA and RMSA officers. The year 2012-13 was the first year of unification; DISE has since then been known as the **Unified-DISE** or popularly as **U-DISE**. Since 2012-13, a lot of improvement in terms of coverage, quality, sharing, dissemination, and utilisation has taken place.

Major Outcomes of U-DISE Efforts

In 2012, the Ministry of HRD (MHRD) declared U-DISE as *Official Statistics* and all parallel collection of data was discontinued and U-DISE has become the only source of information so far as the school education statistics are concerned. From 2012-13 onwards, all the Ministry of HRD publications concerning school education statistics are exclusively based on U-DISE data. The Government of India has also started submitting U-DISE data to UNESCO and UIS, as a part of its international commitment.

- Through concerted efforts, MIS units were established and made operational both at the district and state levels across the country and were equipped with the necessary hardware and software.
- The U-DISE has eliminated data gaps as comprehensive information on all aspects of school education and is now available, over a period of time, at all disaggregated levels, such as school, cluster, block, district, state, and national levels.
- Both the district elementary and secondary education annual plans are exclusively formulated based on U-DISE data.
- What is more remarkable about U-DISE is that it has drastically reduced the time lag in the availability of educational statistics, which is now down from 7-8 years to about a year at the national level, and only a few months at the district and state levels.

A variety of publications were being brought out annually based on U-DISE data which are made available (since 2001) at www.udise.in. A total of about 130 publications were brought out by NUEPA during 2005-06 to 2017-18. Through publications, information on every aspect of universalisation of elementary, as well as secondary education was disseminated at the district, state and national levels.

In addition to the web-enabled and printed publications based on the U-DISE data, the then Union Minister of Human Resource Development released School Report Cards of more than one million

primary and upper primary schools/sections (in November 2006) which were based on the DISE data. The Report Cards also provide qualitative information and a descriptive report about individual schools.

Concluding Observations

NIEPA initiated, developed, managed, and nurtured UDISE during the period 1994-95 to 2017-18; thereafter, the same is being managed by the *Department of School Education & Literacy*, Ministry of Education. Thanks to the initiatives and lead role played by NIEPA, it could reduce the time lag in the availability of educational statistics to less than a year at the national level, and only a few months at the state and lower levels, there were no more data gaps. The district annual plans under the aegis of SSA and RMSA were being exclusively been formulated based on UDISE data. Bringing out a set of 15 publications, based on one year's UDISE data, was a regular feature. The landmark year was 2012-13 when UDISE got the status of the *Official Statistics* and all parallel collection of information was discontinued. The UDISE became the only source of information so far as the school education in India is concerned.