



Using the District Information System for Education to Promote Equity in Education

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What is the Briefing Paper Series?

These Briefing Papers document a collection of initiatives, funded through UNICEF and implemented jointly with the Union and State Governments of India and other partners over the past five years. It covers a range of pilots and more advanced interventions that have variously generated lessons, demonstrated potential or achieved verifiable results in the delivery of maternal health, child survival, education, environment, child protection and gender equality. Each paper provides an overview of a practice: its context, purpose, strategy and key elements of implementation as well as, to varying extents the results and costs involved. The papers go onto consider lessons and wider application of the initiative. The series aims to generate greater knowledge and support effective replication and scale up. This paper illustrates innovative utilisation of the District Information System for Education for needs-based differential programming and promoting equity in education.

Key Points

- National Institute of Educational Planning and Administration (NIEPA), now National University of Educational Planning and Administration (NUEPA) designed the District Information System for Education (DISE) as a tool to support the decentralised planning and management of the education programme. However, the use of data for policy and programming was limited.
- With the development of Right to Education legislation in 2009 and its strategic approach towards equity, UNICEF Maharashtra took the opportunity to enhance the use of DISE by improving the reliability of data and building human resource capacity for improved data entry and utilisation. Further, existing data was analysed for more granular detail to understand patterns of enrolment, target areas of low enrolment and excluded population groups. This identification of district and block level inequalities in elementary education has enabled districts to better use the information for planning and implementation.
- DISE database was also used to assess the availability of facilities for drinking water and sanitation in schools and identify schools where such facilities were either absent, gender inequitable or not adequate for the number of students. The findings are being used to advocate specific and needs-based differential programming and planning in the state.
- The initiative has shown that if implemented properly, DISE can be a powerful tool in decision-making and in advocacy for equity. Given that DISE data is already available for all states, and there are no significant additional resources required for such analyses, the practice can easily be replicated across other states of India for focused programme planning and more targeted resource allocation.

Situation Analysis and Context

Origins of DISE

The District Primary Education Program (DPEP) was initiated in late 1994 as a unique and innovative effort to achieve the objectives of universal primary education in educationally 'backward' districts of India. At the project inception stage, it was realised that a sound information base for planning and monitoring of project interventions was an almost non-negotiable requirement. For this purpose the District Information System for Education (DISE) - a school based statistical system - was developed in 1994 by the National University of Educational Planning and Administration (NUEPA), with financial assistance from UNICEF India. Data was collected from each school and sent to the district for compilation, computerisation and analysis, and further compiled at state and national level. DISE is presently operational in all the 630 districts of India. Every school's report card is available on the internet along with the district and state report card. The basic data collected from the schools is verified by the Block Education Officer or Block Resource Coordinator for its completeness and delivered to the District EMIS¹ in-charge who maintains records of all forms.

The limitations

Despite the large body of data available, **use of DISE in policy and programming is limited**. The monitoring and evaluation process is restricted to collection of data with limited focus on effective utilisation.

DISE reports were being shared upwards (school – block – district – state – national level) and aggregated at state level, without an in-depth analysis of the status at a regional or block level and without the information filtering back down through the system. Further there was no analysis across population groups such as scheduled castes and tribes that would allow for an **inclusive approach in planning**.

Moreover, in spite of DISE data collection formats being filled at source (in schools) by all states, there are questions regarding validity. District officials and field personnel were aware of pockets of persistent exclusion on the lines of gender and socio-economic grouping but existing data was not serving to highlight this or support the development of targeted interventions.

Strategy and Implementation

The Right of Children to Free and Compulsory Education Act was passed in April 2010. The legislation aims to ensure that every child aged 6-14 years is provided 8 years of elementary education in an age-appropriate classroom in the vicinity of his or her neighbourhood. The strategic focus is therefore on ensuring access to education across social groups and geographies.

UNICEF Maharashtra decided to use this as an opportunity and focused on improving the quality of data collection and analysis to better understand coverage of school enrolment.

¹Education Management Information System

Improving the quality of data

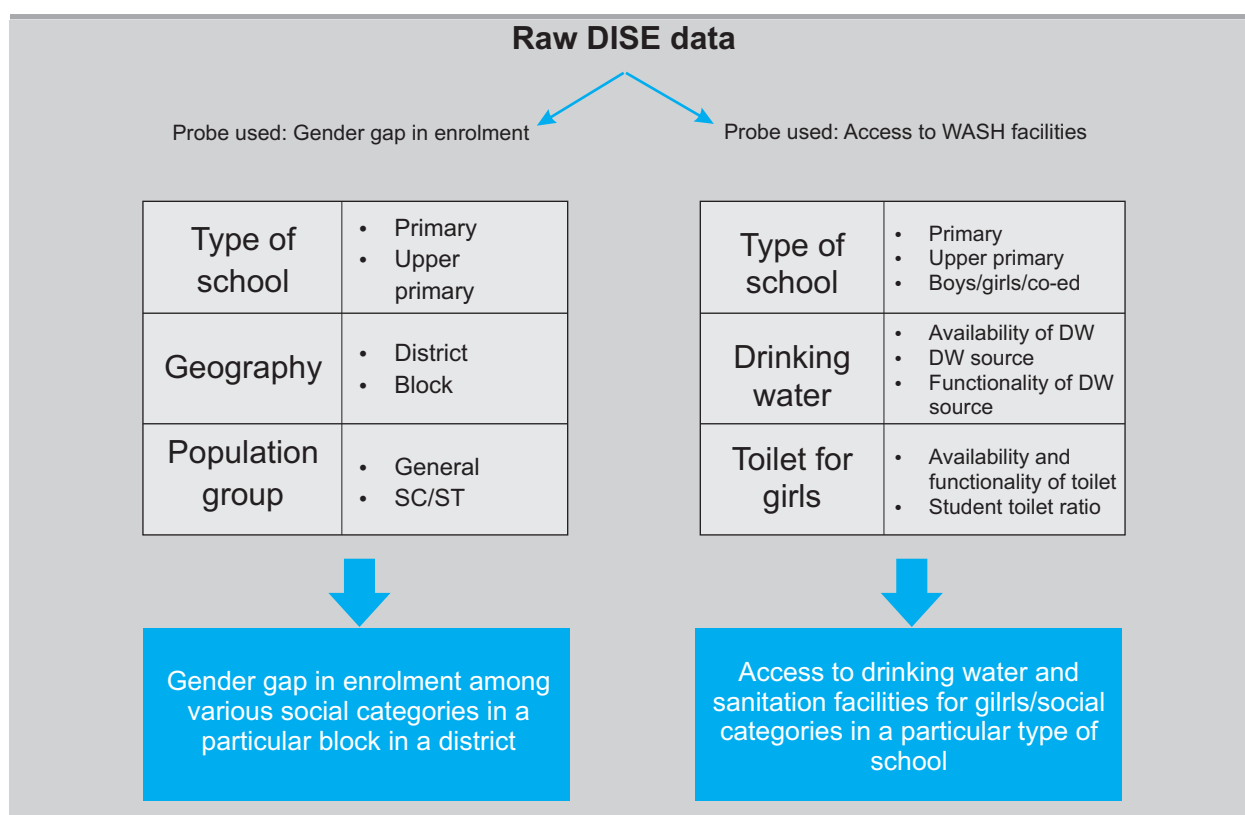
UNICEF Maharashtra conducted a series of workshops in September 2009 in three districts² of Maharashtra to **assess and verify DISE data; and strengthen the capacity of officials to collect and utilise the data.** Head Masters, Kendra Pramukh (Cluster Heads), Block Education Officers, and Data Entry Operators attended the four-day workshops in each district, which included two days of field visits and data entry.

The workshops served to resolve many common issues that were identified: including clarification of definitions, data sourcing and verification.

Following the success of these workshops there was demand for a State Level Workshop to build capacity of all district programmers. Consequently a State level Workshop was conducted in May 2010 presided over by the State Project Director of Education in Maharashtra.

Disaggregating raw DISE data to obtain useful analyses

Raw DISE data was obtained from Sarva Shiksha Abhiyaan (SSA)³ office of Maharashtra state. This was then disaggregated using different elements for investigation in order to reveal specific population groups, **with gender, access to water and sanitation as probes.** The figure below depicts the elements used for analysis, the process followed and indicative results obtained.



² These include Chandrapur, Latur and Nandurbar districts of Maharashtra

³SSA is the Government of India's flagship programme for elementary education.

Gender gap in school enrolment

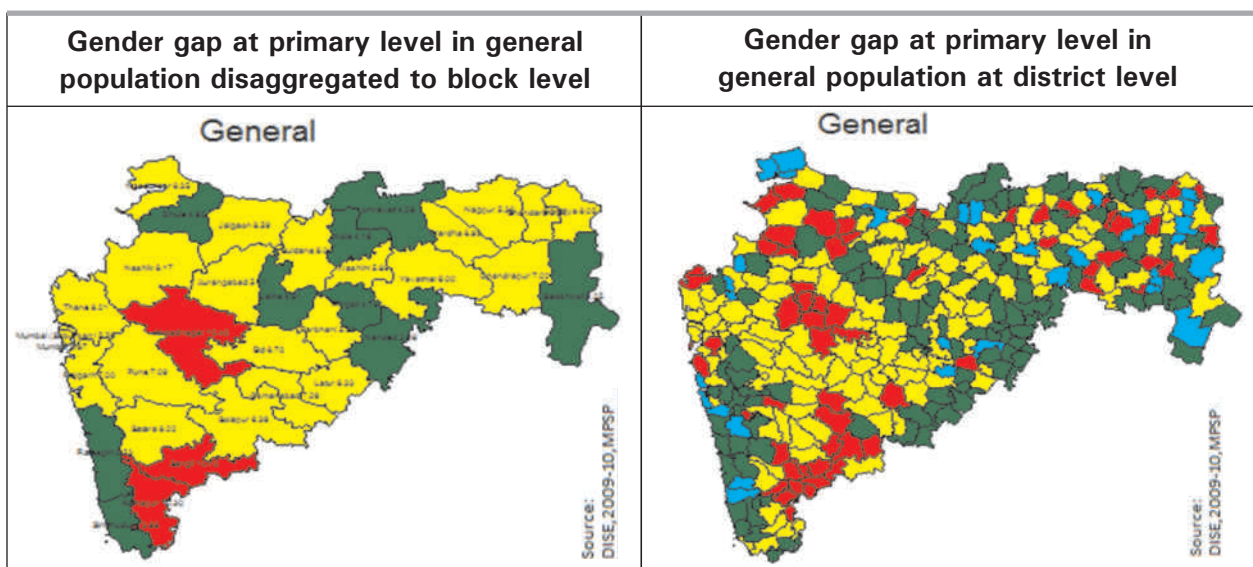
Currently, school enrolment is measured through the Gross Enrolment Ratio and the Net Enrolment Ratio. These ratios provide an estimate of the coverage across different stages of the education system. Comparison of GER with NER highlights the incidence of under-aged and over-aged enrolment, and a sharp discrepancy between them indicates that the system's internal efficiency could be improved.

However, these ratios do not provide more nuanced specifications to understand patterns of enrolment and target areas of children not enrolled. UNICEF Maharashtra facilitated the **analysis of disaggregated data by gender and block**. Raw DISE data for Maharashtra was obtained and investigated for gender gap in enrolment at the district, block, sub-block and the cluster level (a cluster is the lowest education administration unit, which consists of 10-15 villages). The data was then categorised into three taxonomies for gender gap in enrolment - above 10%, between 5-10%, and below 5%. An in depth analysis of data, with equity and access as probes, was able to pinpoint blocks or clusters in the State where the greatest number of children were out of school. This then led to a process to design targeted interventions for these particular populations.

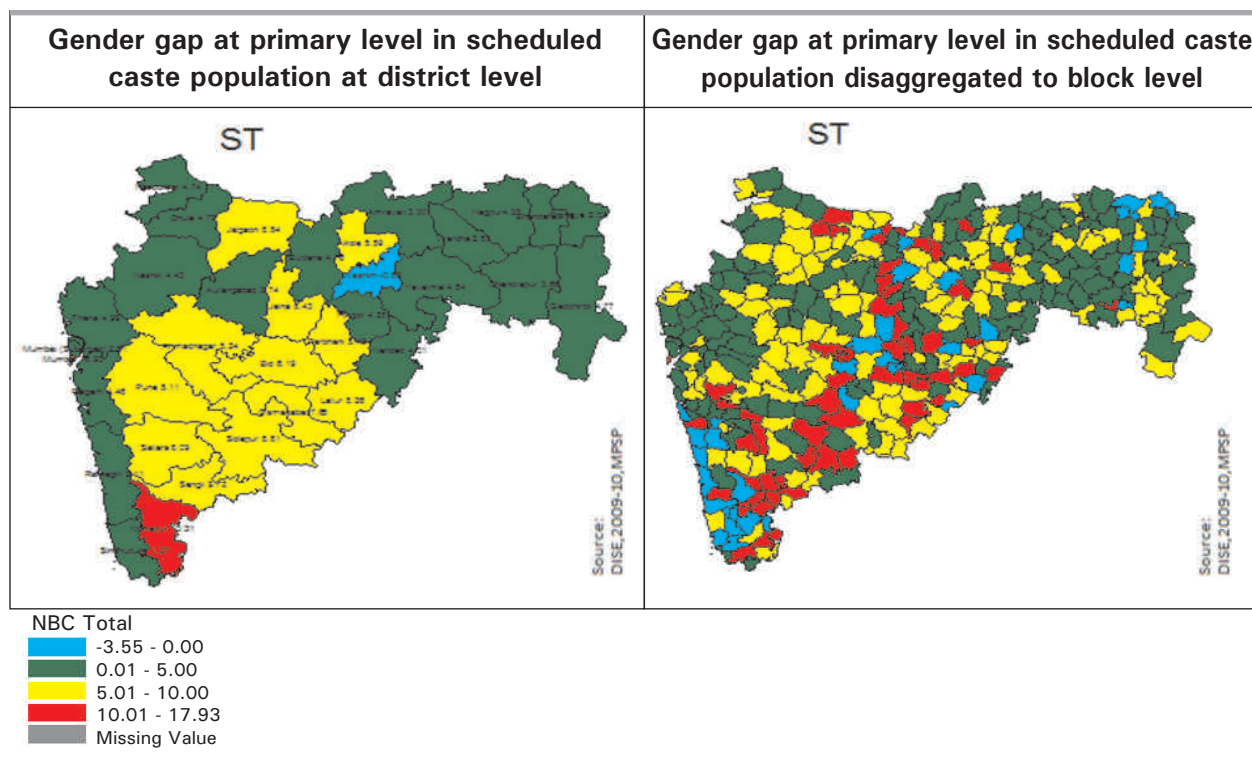
As shown in the figures below the aggregated data at the state and the district levels showed marginal gender gaps in enrolment. However, when the data was disaggregated by blocks and by social group, a **significant number of blocks and clusters had gender gaps higher than 10%**. The gap was found to be to the order of 17% for some social groups such as Scheduled Caste and Scheduled Tribes.

These findings have been shared with the Maharashtra Prathmik Shikshan Parishad⁴ and efforts have been made by them to understand the reasons for the gender gap in enrolment in these specific clusters.

Gender gap in enrolment at district and block level for general population and Schedule tribes



⁴Maharashtra Prathmik Shikshan Praishad (MPSP), literary translated as primary education council, is in charge of the implementation of Sarva Shiksha Abhiyan in the state of Maharashtra.



Access to drinking water and sanitation facilities in schools

Water and sanitation facilities for schools are included as components under two flagship programmes of the government – Sarva Shiksha Abhiyaan and Total Sanitation Campaign (TSC). Yet there are a significant number of school children that were deprived of these basic facilities. In December 2010, UNICEF began reviewing the status of drinking water and sanitation in schools of Maharashtra by mining the raw DISE data for 94,000 schools. The analysis showed that although impressive gains had been made, approximately 654,000 children were deprived of a toilet facility in schools and 5,857 schools were without a drinking water facility in 2009-10. Additionally, approximately 30% of the schools did not have separate toilets for girls. The analysis indicated the need to focus on rural government schools for both water and sanitation facilities, and **focus on upper primary schools for separate toilets for girls**.

On the basis of the results of the analysis conducted by UNICEF Maharashtra, the Water Supply and Sanitation Department, GoM (WSSD) acknowledged that the situation demanded immediate action. Maharashtra Prathmik Shikshan Parishad conducted a school level infrastructure survey to review the status of infrastructure in schools, with TSC undertaking the review of water and sanitation facilities including drinking water, separate toilets for boys and girls and Student Toilet Ratio.

Using EDI to identify backward Gram Panchayats

An analytical study was undertaken by UNICEF Maharashtra to understand the status of each Gram Panchayat as per Right to Education requirements, so that plans could be designed and implemented accordingly. DISE data for the year 2009-2010 was used to compute Educational Development Index (EDI) to indicate the position of a Gram Panchayat in comparison to other Gram Panchayats. EDI computation was done as per the NUEPA

guidelines. Five districts of Maharashtra were considered for this study – Jalna, Yavatmal, Chandrapur, Latur and Nandurbar.

EDI ranks were categorised on a four point scale and the **25 most backward Gram Panchayats were identified**. This data has been shared at the state level to create awareness and advocate for change.

Taking the analysis to the State level

The analysis for gender gap in enrolment in primary and upper primary schools was presented at the state level to the State Program Director, District Officers and, Deputy Directors, among others. In the beginning the authorities were unwilling to accept the gender gaps presented and questioned that data sources. The methodology was explained as well as the fact that the data was taken from the main government system and this helped to facilitate their acceptance of the analysis presented.

Results and Progress

While the practice of using disaggregated DISE data as a tool for planning is only a recent occurrence, the response from government at a state and national level is encouraging and points to some potential significant institutional changes. While it is too early to measure outcome level changes to improved equity in enrolment, it is expected that, if implemented properly, DISE will prove to be a tremendous tool in decision-making and in advocacy for gender equity as a result of this innovation.

• Reducing the gender gap in enrolment

The Education Department of the State has issued directives to district authorities to use existing data to identify locations where gender disparities exist in enrolment and in access to basic infrastructure; and aim to bridge the disparities through targeted interventions. Subsequently, State education department of Maharashtra recommended that all districts undertake similar data analysis and identify blocks that need more attention. In addition to this, district authorities have been asked to explore the determinants of the disparity within the identified blocks like cultural barriers or social norms. Context-specific strategies will be ideated and established to reduce the gender gap. In addition, a training workshop was organised to build the capacity of district-level officials such as Management Information System officers and officials of Education department in the month of August 2011, to improve their data analysis skills.

Additionally, in the recent Annual Work Plan meeting of the education department the findings from DISE data analysis conducted by UNICEF were used for differential activity and financial planning. Maharashtra Prathmik Shikshan Parishad is also regularly using analysis of DISE in various forums for advocacy with other departments and ministers.

• Use of DISE to improve access to water and sanitation facilities in schools

The analysis of the status of drinking water and sanitation in schools were commended at the state and national level. Based on the successful response, UNICEF Maharashtra undertook a national level analysis of the water, sanitation and hygiene (WASH) data covering schools in rural areas. Findings were presented at the South Asian Conference for Sanitation (SACOSAN) held in Colombo, Sri Lanka in April 2011.

Based on the analysis conducted an assessment of schools identified by DISE (looking at indicators such as no toilets, low student-toilet ratio, no access to clean drinking water) is being carried out under the Total Sanitation Campaign (TSC). The hope is that DISE data will now be used for proportionate fund allocation in subsequent programme implementation plans of the state both under TSC and Sarva Shiksha Abhiyaan (SSA) to target areas most in need.

Maharashtra Prathmik Shikshan Parishadhas recently completed a school level infrastructure survey. Software has been developed for analysing this data, and UNICEF has recommended specific indicators to be included here. Data analysis is underway.

Resources and Cost

Using the DISE data for focused policy interventions and implementation of differential planning makes a compelling case in light of the **minimal costs** involved and disproportionately huge benefit from focused programme planning and implementation.

Since DISE data is already being collected by state education departments, the only additional resource required would be periodic capacity building of the MIS personnel to be able to mine and effectively analyse the collected data. Available resources can be used more efficiently and the costs for analysis can be easily built in to the existing training plan of the government.

Good Practices and Critical Success Factors

The good practice demonstrated here is the strategy employed by UNICEF to support RTE implementation. This was done by building on the existing government data system through (1) capacity building for data collection, entry and analysis and (2) showing how the evidence can be used for better analysis of the existing data system. This has two advantages: using the government system facilitates ownership of the analysed data by government; and the possibility of achieving sustainable high-impact results with limited resources.

Some critical success factors are **regular use of data in planning**. Policy makers need to use the disaggregated data while planning to truly realise its usefulness. When corroborated with good data, policies can influence the strategic growth of a sector. **Availability of funds** – once gaps are identified from data analysis, this needs to be followed through with prompt action. Schools identified with insufficient water and sanitation facilities can avail of SSA/TSC funds to ensure equitable infrastructure in schools. **Convergence between departments** - the willingness of officials from Sarva Shiksha Abhiyaan and Total Sanitation Campaign to take collective responsibility in ensuring water and sanitation facilities in schools is noteworthy. Taking this further, the District Education Officer and the District Coordinator need to collaborate and work together towards bridging the gaps. **Strong leadership and advocacy skills** – it is essential to ensure buy-in from the relevant government authorities from a leadership level.

Application and Replication and Next Steps

As part of DISE data, the school report cards are available across the country; the data can be disaggregated with each of the social groups for all critical indicators of education to the Gram Panchayat level not only in Maharashtra, but also for all states across the country. Given the low cost for conducting analysis using DISE data and huge potential benefits, the analysis can be easily replicated across the country to achieve various objectives.

Key Lessons and Recommendations

- **Sharing the data widely:** Since the Head Teachers who are responsible for providing the annual school level data seldom get to see the school wise reports, they are not aware of the overall position of their schools. Widespread sharing of the school report cards will allow schools to understand and improve their position, as well as create awareness about the importance of the DISE data.
- **Build capacity of education officials:** build the capacity of education officials to utilise the data while planning and designing the programme strategy. Currently, the monitoring and evaluation process is truncated at the data collection level, and there are limited efforts towards analysis of and utilisation of data.
- **Refine and deepen analysis with qualitative data:** Qualitative information on the status and quality of school facilities is not collected through DISE. However, for comprehensive monitoring it is important to understand the reasons behind low enrolment ratios, gender gap, quality of school facilities such as availability of water in toilets, quality of drinking water and hygiene practices. The findings from analysing such data would assist in developing targeted IEC or BCC plans for schools and community.

Further Information

Key Contacts	Websites
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