
SCHOOL AND MASS EDUCATION DEPARTMENT
3.4 IT Systems of Orissa Primary Education Programme Authority
Highlights

Orissa Primary Education Programme Authority (OPEPA) functioning under the School and Mass Education Department (SMED) was the State Implementing Society (SIS) for overseeing the successful implementation of national programme of Sarva Siksha Abhiyan in the State. The IT system of E-Sishu Project consisting of Child Tracking Systems (CTS), Education Personal Information System (EPIS), and Geographical Information System (GIS) developed during 2005-06 failed to serve as basic database for ensuring universal elementary education with quality education as it contained a number of deficiencies.

⇄ **Expenditure of Rs 2.74 crore made on creation of children databases during the period of 2001-02 and 2003-04 became wasteful due to its defective design, non-updation and non-use.**

{Paragraph 3.4.6.1(i)}

⇄ **Faulty planning, lack of supervision and monitoring led to non-implementation of EPIS and GIS software which remained incomplete overshooting the dates of implementation despite incurring expenditure of Rs 2.64 crore .**

{Paragraphs 3.4.6.1(ii) and (iii)}

⇄ **Acceptance of OCAC's project proposal for developing child tracking system by adopting Intelligent Character Recognition (ICR) technology led to excess payment of Rs 37.44 lakh and created an erroneous database.**

{Paragraph 3.4.6.1(iv)}

⇄ **Poor coverage in surveys during 2005-06 and 2006-07 without proper supervision led to creation of incomplete databases.**

{Paragraph 3.4.7.1(i)}

⇄ **Deficient database design and software led to development of inconsistent databases. Besides, wrong reporting modules resulted in a misleading and unreliable management information system.**

{Paragraphs 3.4.7.1(iii) and 3.4.7.2}

⇄ **Due to faulty planning, non-assessment of user requirements and inadequate design of databases, different IT systems like office automation software, District Inspectors of School Software remained unimplemented.**

{Paragraphs 3.4.8.1 and 3.4.6.1(ii)}

3.4.1 Introduction

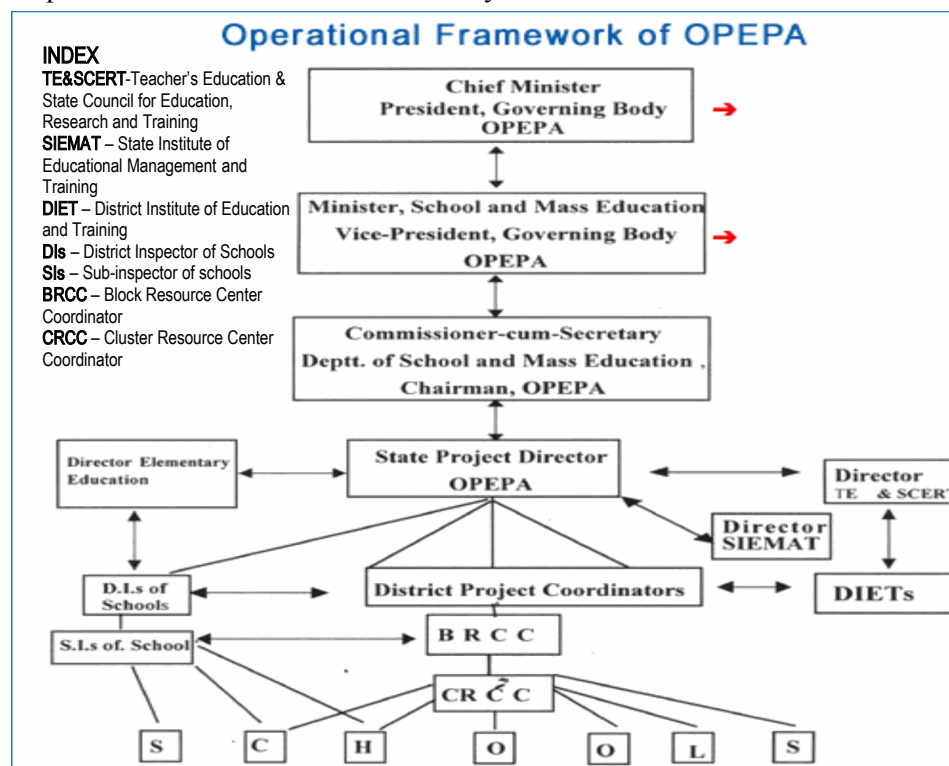
The national flagship programme of Sarva Sikshya Abhiyan (SSA) has been under implementation in the state since 2001-02 to achieve the goals of Universal Elementary Education (UEE). The programme envisaged tracking the children of 0-14 year age group for providing eight years of free and

* Abbreviations used in this performance review have been expanded in Glossary of abbreviations at pages 243-248.

compulsory elementary education to all the children of 6-14 years age group by 2010. The OPEPA functioning under the School and Mass Education Department (SMED) was the implementing authority of the programme in the state. There were about 6.7 million children (6-14 years) in about 70000 educational institutions (which included 18000 EGS centers & 6000 private schools) in the state as per the reports of OPEPA.

3.4.2 Organizational set up

Orissa Primary Education Programme Authority (OPEPA) had a Governing Body and an Executive Committee to regulate its activities. While the Chief Minister was the Ex-Officio President of the Governing Body, the Minister, School and Mass Education was the Vice President. The State Project Director (SPD) was the Member-Secretary of the Governing Body. At the district level, the State Implementing Society (SIS) was assisted by a District Project Coordinator (DPC) to oversee the implementation of SSA. At the block level, the scheme was executed by the Block Resource Centre Coordinators (BRCCs) while the Cluster Resource Centre Coordinators (CRCCs) are responsible for execution at the Panchayat level.



3.4.3 IT Systems of OPEPA

3.4.3.1 District Information System for Education (DISE)

As designed by the Government of India, the DISE had been the backbone of an integrated educational management information system operating at the district, state and national level since 1996-97. The DISE was to provide district level school data for planning, monitoring and review of various

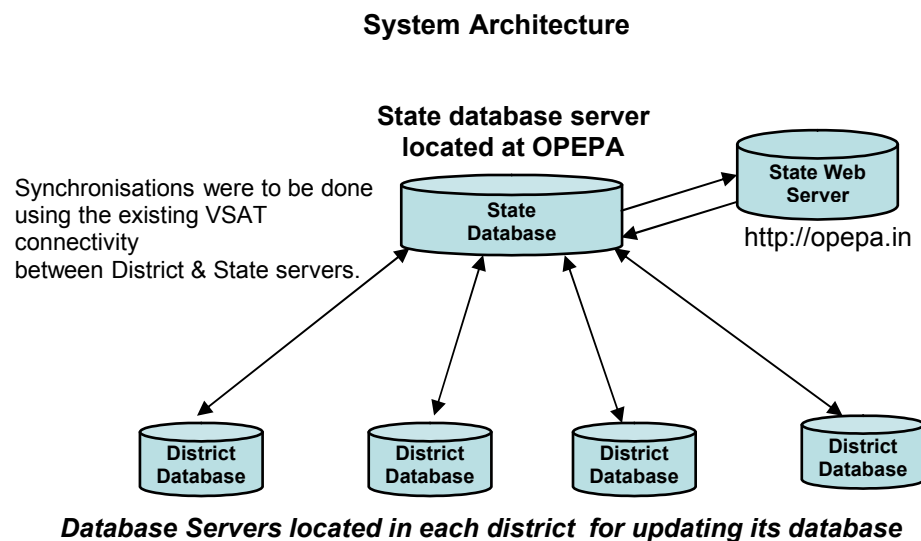
project interventions. Under the system, data received from schools were being computerised at the district level and disseminated up to the school level in various ways which among others, comprised information on location of schools, management type, teachers, school buildings and equipment, enrolment by gender and age, incentives and number of disabled children in various grades. However, from 2005-06 onwards, the State Government developed the e-Shishu system from which the DISE data was compiled for formulation of Annual Work Plan and Budgets (AWPBs) and approval of various child related interventions in the state by the Government of India.

3.4.3.2 e-Shishu

Project e-Shishu was devised with the aim to track each child whether the child was attending the school or not along with their demographic attributes, education, financial status and many other details with the following objectives of facilitating:

- planning activities under various interventions to achieve the goals of SSA,
- specific action plan for out of school children based on the reason for being out of school,
- formulation of plans for future entrants to the education system with infrastructure,
- minimising/elimination of duplicate and fake enrolments altogether,
- development of each child based on his/ her achievements to ensure quality education and
- decision support system for planners and administrators.

The project e-Shishu had the following system architecture.



The sub-systems which were developed on *asp / asp.net* with **SQL server-2000** under the e-Shishu were as below:

3.4.3.3 Child Tracking System

A database of all the children of 0-14 years with their name, age, sex, caste, educational status, the reasons for not attending school and other indicators was developed on the basis of data collected through household survey as Orissa Child census 2005 using intelligent character recognition (ICR) technology where specially designed formats filled in with handwritten data by the surveyors/enumerators were scanned and captured into a database. This database was loaded in the State database server and district servers. The objective was to develop an online child tracking system (CTS) wherein the current status of each child would be available in the web.

3.4.3.4 CTS validation and Updation system

CTS validation process was adopted to rectify the errors in entries like name of the child, guardian's name, date of birth, educational status etc. made in the child database after survey (school for the children who are attending school and household for drop outs and new born babies).

The child updation process was adopted to update changes of the class, education progress indicators (percentage of marks secured in the annual examination), school, drop outs of schools and new admissions of the children.

3.4.3.5 Geographical Information System

A Geographical Information System (GIS) based on geographical positioning system (GPS) was developed for maintaining data on infrastructure of all educational institutions of the state for speedy and accurate decision making to ensure quality education. In the GIS software, layers of information on educational institutions were put on a single map from which a problem¹ and its unique solution were to be found out. Root level information on various educational institutions of the state like school infrastructure, teacher position, student strength, distance from habitations, distance from nearest institutions etc. were located on GIS map for planning, emergency operation and tracking pupils.

3.4.3.6 Educational Personal Information System

The District Inspector of School Software (DISS) was developed (2001) with Visual Basic as front-end and SQL server as backend for automation of administrative works in respect of the District Inspector of Schools (DIs) with the objective to reduce the administrative workload of the DIs so that they could devote more time for providing quality education. This system had provision for computerisation of the personal information, pension and gratuity, payroll, treasury transactions and legal matters in respect of all the teachers working under district inspector of schools. Subsequently, DISS was modified (2006) as Education Personal Information System (EPIS) by

¹ Absence of infrastructure, distance between the education institutions.

expanding its scope to accommodate the requirements of all the 432 drawing and disbursing officers² (DDOs). The EPIS was designed to provide a database of all the DDOs of a district at the DPOs level and its synchronisation with the state server every month through existing VSAT connectivity for on-line centralised monitoring and reporting.

3.4.4 *Audit objectives*

- ▼ To assess whether the general controls ensured
 - development and implementation of various IT systems were in conformity with requirement and the time schedules
 - economy and effectiveness of the IT Systems developed.
 - procurement of IT assets conforming to the provisions of the general financial rules / guidelines from time to time,
- ▼ To evaluate whether various application controls ensured
 - integrity of the data maintained,
 - reports generated were reliable and as per requirement.

3.4.5 *Audit scope and methodologies*

Analysis of different IT systems developed by the OPEPA during 2001 to 2007 and their implementation were covered in Audit. The application and general controls were analysed in respect of (i) Child Tracking System (CTS), (ii) Employees Personal Information System (EPIS), (iii) Geographical Information System (GIS) and (iv) District Information System on Education.

The authenticity and reliability of the data for the years 2005 and 2006 was analysed using Structured Query Language (SQL) in SQL Query Analyser. Audit of OPEPA was conducted during December 2006 to May 2007 through test check of records of SIS i.e. OPEPA, 16 selected District Project Coordinators³ and 23 schools under five DPCs on random selection basis.

Audit Findings

3.4.6 *General Controls*

3.4.6.1 *System development planning*

In order to achieve universal elementary education under SSA, OPEPA executed the programmes through District Project offices and sub-ordinate offices under it. For this various data were to be collected, computerised and compiled in a systematic process for effective planning and progress monitoring. During 2001-06 various IT systems like Child database, District Inspectors of School Software, Child tracking system, EPIS and GIS were developed.

² District Project Offices : 30, District Inspector of Schools : 75, Block Development Officers : 314, Urban Local Bodies : 11, OPEPA and DEE)

³ Anugul, Balasore, Baragarh, Baripada, Bhadrak, Cuttack, Dhenkanal, Ganjam, Jagatsinghpur, Jajpur, Kandhamal, Kendrapara, Khurda, Nayagarh,, Puri and Sambalpur

The various systems developed by OPEPA during 2001-2006 lacked planning resulting in a deficient management information system as discussed below.

(i) Design of database in 2001 and 2003

The SSA programme required development of computerised database and its maintenance at the district level with the provision for updating the information annually for tracking the educational progress of each child in the 0-14 years age group for micro planning at habitation level. Household surveys were conducted by the OPEPA in two phases in the state (14 districts: 2001-02 and 16 districts: 2003-04) and the data collected on the children through these house hold surveys were computerised incurring expenditure of Rs 2.74 crore without provision for updating, making it unuseful. The information generated, if any, was not used for planning purposes. The database, however, could not be produced to audit for analysis. Thus, Rs 2.74 crore spent for creation of the above database was wasteful.

(ii) Adhoc approach towards computerisation of District Inspectors of Schools

The OPEPA with the objective of utilising more of their time towards education than administrative works decided (January 2001) to develop District Inspector of Schools Software (DISS) system by computerisation of personal information, i.e., pay roll, court cases, scheme monitoring and finance management etc. Accordingly, the work was awarded (May 2001) to a private agency M/s. TQM consultancy at a cost of Rs 13.20 lakh for development of DISS software, its installation, training and maintenance of the software for one year in 20 out of the 75 DIs in the State (at the rate of Rs 0.66 lakh per DI) with the stipulation to complete the work by August 2001. As per the terms of reference (TOR), 90 per cent of the cost was to be paid after installation of the software and the remaining 10 per cent after three months of successful operation of the software. However, due to non-availability of hardware in the 20 targeted DIs the system was implemented (September 2001) only in six other DIs⁴ where hardware were available and the work was abandoned thereafter. The, data, if any, generated through the software could not be produced to audit for analysis stating that there was no scope to keep the database as the same was rejected and revised subsequently. Thus, defective planning for implementation of a system without provision for hardware resulted in non-implementation of the software.

Subsequently the OPEPA, procured the required hardware and supplied to all the 75 DIs in the State (March 2004-November 2005), at a cost of Rs 40.81 lakh and decided (March 2005) to implement the DISS in all the 75 DIs by May 2005 by outsourcing the work. The work was awarded to Industrial Development Corporation Software Limited (ISL) at the rate of Rs 6500 per location. However, due to delayed installation of the hardware in these offices the implementation of DISS was abandoned (February 2006) and it was decided to expand the scope to another 357⁵ offices besides the 75 DIs with a

⁴ Salepur, Cuttack, Puri, Athagarh, Nilgiri, and Bhubaneswar.

⁵ Blocks – 314, ULB – 11, DPO - 30, DEE-1 and OPEPA – 1.

redesigned software 'Educational Personal Information System (EPIS)' to make it web enabled. The work of development of system software including comprehensive maintenance of the same for one year, training to staff etc was awarded (July 2006) to ISL at a cost of Rs 98.94 lakh with the stipulation to complete the work by November 2006 for which Rs 39.57 lakh (advance: Rs 9.89 lakh and implementation at six pilot sites: Rs 29.68 lakh) was paid as of December 2006. Although the work in the above six sites was stated to have been completed by December 2006 test check of records in two such sites at Khurda revealed that the system installed were non functional and the required generation of reports like pay bills, pay slips, acquittances etc. were being done either at the OPEPA headquarters office or by the vendor at Bhubaneswar. Besides, during test check of other 15 sites it was noticed that the installation of the system was in progress (June 2007). Thus, due to improper planning leading to delay in execution of the project by the vendor, the benefits under EPIS were yet to be derived (June 2007) despite incurring expenditure of Rs 87 lakh.

(iii) *Arbitrary approach in Development of Geographical Information System*

OPEPA planned for implementation of a GPS based GIS software for mapping of all educational institutions of the State and creation of infrastructure database to be used as a decision support system tool for the top management in speedy and accurate decision making related to quality education.

The project consisted of two parts: (i) development of GPS based GIS software for mapping all educational institutions (approximately 76850) of the State and creation of infrastructure database at State and the district levels and (ii) web hosting of GIS package at State and District Project offices. The work was entrusted (April 2006) to Orissa Construction Corporation limited (OCC) at a cost of Rs 2.09 crore (Part-I) and Rs 0.61 crore (Part-II) with the stipulation to complete the work by 31 July 2006, of which Rs 62.64 lakh (30 *per cent* of work value) for part - I and Rs 30.58 lakh (50 *per cent* of the work value) for the second part respectively were paid (May 2006) as advance.

As regards part-I of the work, the firm completed the survey and submitted the data in compact disk (CD) against which the firm was paid a further Rs 83.52 lakh in March 2007. The remaining work of data integration on digital map of the State and installation of the software at the State and district levels, training to the programmers was not completed (July 2007) despite the stipulated date of completion was over by July 2006.

One month after payment of advance of Rs 30.58 lakh, the second phase (part-II) of the work was cancelled (April 2007) on the ground that the technology was new and not proven one. However, the advance paid remained unrecovered (July 2007).

Thus, faulty planning and delay in completion of the work had affected decision making activities of the OPEPA for over a year in implementation of SSA programme in the State despite incurring expenditure of Rs 1.46 crore

and excess payment of Rs 30.58 lakh. A penalty @ 0.05 per cent on the delay of the execution of the project was further leviable.

(iv) Acceptance of unreasonable project proposal

As required under the SSA programme, the OPEPA decided to have a comprehensive database of children 0-14 years age group in the lines maintained by the Karnataka Government by conducting child census and developing a database using ICR technology under which scanning of handwritten data on paper gets converted into database directly bypassing the process of manual data entry. Accordingly, the OPEPA requested (August 2005) the Orissa Computer Application Centre (OCAC) a State Government agency to avail the services of M/s CSM Ltd. the channel partner of M/s Netspider who had done the above work for Karnataka Government and submit project proposal for the work. On this, the OCAC after contacting (August 2005) the CSM Ltd. prepared a project proposal for Rs 1.54 crore and submitted the same (August 2005) to the OPEPA. Accepting the project proposal, the OPEPA placed work order with OCAC (September 2005) basing on the projected advantages of economy by use of ICR technology over the direct manual data entry.

Scrutiny of the proposal however, revealed that the comparative study of costs projected under the ICR technology and traditional manual data entry were worked out in terms of US dollar (USD) justifying the adoption of ICR technology as economical as below:

Statement showing the recurring cost to be involved in manual data entry process with capacity to process 1000 forms a day

Sl. No.	Details	Expenditure per month in USD
(i)	Payments/ Remunerations to technical staff i.e. 5 DEOs at the rate of 1200 USD per month, one Controller at the rate of 1200 USD per month and one Manager at the rate of 2000 USD per month	9200
(ii)	Rent on office space 20 USD per square meter for 50 square meter	1000
(iii)	Electricity / telephone / other expenses	10200
	Total	20400

Recurring cost for 30000 forms per month would be 20400 USD excluding the fixed costs. Thus, per form data entry cost would be $20400 \div 30000 = 0.68$ USD which was equivalent to Rs 29.73 ($0.68 \cdot 43.73$) at the exchange rate of Rs 43.73 per USD (26 August 2005) as per Reserve Bank of India portal.

It could be seen from the table that the cost of manual data entry arrived at, excluding the fixed cost (furniture, computers and networking etc.) was Rs 29.73 per form against which cost through ICR technology per form was Rs 1.32 (including 10 per cent consultancy charges). However, during CTSVU-2006, the cost of manual data entry as estimated by the OPEPA per child record was 54 paise (detailed in the *Appendix-3.7*). Similarly, the monthly remuneration of Rs 52472 (Rs 43.73 x 1200 USD) projected for one data entry operator was unrealistic as during CTSVU-2006 data entry operators were appointed by OPEPA on payment of Rs 3600 per month (@ Rs 120 per day).

Further, the project proposal contained the cost of scanning at Rs 1.20 per form which included hire charges of Re 0.83 per form for two types of scanners (i) one with 240 ppm throughput @ Re 0.69 per ICR form and (ii) two scanners each with 90 ppm throughput (Re. 0.14 @ Re 0.07 per ICR form per scanner) aggregating to 420 ppm for the three scanners. Against this projection, the OCAC was paid Rs 64.74 lakh for scanning 78.38 lakh ICR forms. However, the cost of such scanning would have been Rs 27.30 lakh by using five 90 ppm scanners aggregating to 450 ppm at the rate of Re 0.35 per form. Thus, acceptance of such proposal led to extra expenditure of Rs 37.44 lakh. The OCAC (executing agency) stated that the throughput obtained using one 240 ppm scanner was almost four times the result obtained using two 90 ppm scanners considering the batch load capacity besides extra operators were required for handling the additional scanners which would have involved additional expenditure. The reply was not tenable as the cost involved in use of extra manpower for use of three 90 ppm scanners in place of one 240 ppm scanner would have been only Rs 3.79⁶ lakh which was very less in comparison to avoidable expenditure of Rs 37.44 lakh.

3.4.6.2 Defective design of the systems

In the development of CTS during 2005, the database on children of 0-14 years was developed from the data collected through household survey using intelligent character recognition technology. In this process, survey data were collected through non-ICR forms which were again filled in a specially designed ICR forms. The data on ICR forms were scanned and converted into database using ABBYY Form Reader software directly thereby bye-passing the process of manual data entry. During 2006 CTS validation system was developed to rectify the errors occurred in CTS database 2005.

(i) Defective input form design of 2005

During scanning process for capture of data from ICR form for building the child database in Orissa Child Census-2005, there was defective form design. In case of a guardian with more than five children additional form(s) were used to capture the child data against the same guardian. For this, static household information⁷ already available in the main form were not required to be filled up in the additional forms so that the children in the additional form(s) would be tagged to the same guardian in the main form instead of creating new guardian record(s) against the additional form(s). From the data analysis it was revealed that children information of additional form(s) were tagged against either blank guardians as separate records where other details were left blank or against duplicate guardians where the details were filled in by the enumerators. Thus, the defective input form design created duplicate as well as wrong guardians in the household list. The SPD admitted the fact and stated that steps would be taken for future improvement.

⁶ As per TOR cost of manpower and infrastructure including PCs for use of the three scanners is Rs 0.073 per ICR form i.e Rs 5.69 lakh. The proportionate cost for use of five scanners would be Rs 9.48 lakh. Thus the extra cost was only Rs 3.79 lakh (Rs 9.48 lakh – Rs 5.69 lakh).

⁷ 1. Name of Block, 2. Name of Gram Panchyat, 3. Name of Village, 4. Name of Habitation, 5. House No, 6. Enumerator Code, 7. Type of Family, 8. Constituency Assembly No., 9. Polling station No., 10. Electoral No., 11. Name of Father/Mother/Guardian/Head of family, 12. Total Number of members in the family, 13. No. of children (0-14 year age group)

(ii) Defective design of the Child Tracking System Validation and Updation-2006

For eliminating errors occurred in the Orissa Child Census-2005 database and updating the child status in 2006 OPEPA introduced (July 2006) Child Tracking System Validation and Updation-2006 (CTSVU-2006). A survey to collect the information for the updation was planned. Even though, only seven days were allotted for the same, the procedure for collection of information was changed twice during the period of survey for which the information already collected were required to be revised. This resulted in duplication of data and creation of an erroneous database, again.

(iii) Non-capture of guardian information due to defective software CTSVU-2006

The blank in-school format was supplied to the DPCs during CTSVU-2006 for validation of children who were in school but not listed in the in-school format of OCC-2005. Accordingly, data in respect of new additions of children in various schools were collected during CTSVU-2006 and entered into the database by the DPCs. Analysis of database revealed that in case of all the 1.48 lakh in-school children of the state who were newly added to the database, information about their guardian were not saved in the database due to defective software developed by the OCAC. The identity (guardian name, village name etc.) of those children was lost. Incomplete child records without guardian and village name led to persisting problem of generating village wise in-school children report and tracking the children village/guardian wise in the subsequent updations. To an audit query the SPD stated that the CTS validation and updation was conducted at school point for in-school children and at village point for out of school children. There was no scope to maintain the household details of newly identified children in the school record who were not in the earlier database. The reply was not acceptable, as for tracking a child, the village name and guardian name were important fields in the household list.

3.4.7 Application Controls

3.4.7.1 Input and validation controls

Input and validation controls over input are vital to the integrity of the system. These controls are important to check incorrect and fraudulent data being fed. Adequate input and validation controls ensure that the data received for processing are genuine, complete, correct, not duplicate and properly authorised.

(i) Inadequate survey during 2005 and 2006

During CTS-2005 a database of all the children of 0 to 14 years with their detailed information was created on the basis of the data collected through household survey. The above data were validated and updated through the CTSVU-2006 from another survey at school point for children attending schools and at households for drop-outs and new born children.

Analysis of database revealed that in 2006, 3396484 children (with date of birth between 01 April 1992 and 30 September 2005) were not covered during the survey of 2005. However, they were covered and entered as new entries during CTSVU-2006. This indicated the database created through Child census 2005 was incomplete one. The joint physical verification (June 2007) conducted by audit in presence of the CRCC concerned in the Jagannathpur village of Bipilingi Gram Panchayat (GP) of Chhatrapur Block (Ganjam district) disclosed that seven children were newly entered into the CTSVU-2006 database but not covered during OCC-2005 survey.

Similarly, 1447112 children (born between 01 April 1993 and 30 September 2005) covered in the Child Census 2005 database were not available in CTSVU 2006. Joint physical verification (June 2007) of Tangiapada village of Tangiapada GP of Khurda Block (Khurda district) by audit revealed that though 16 children of the above village reading in Tangiapada Sebashram who were covered in OCC-2005 survey, were not entered in the CTSVU-2006 data making the database incomplete.

A test check of attendance registers of 23 primary and upper primary schools of five districts (Khurda, Nayagarh, Kandhamal, Puri and Dhenkanal) selected at random for the month of September 2006 with the data in the CTSVU database 2006 disclosed that as per the database there were 4432 students in these schools. Out of these, 3000 were found covered in the attendance registers while 1222 were not found in the attendance registers and 210 were duplicated in the database.

Thus, due to non-monitoring and supervision, the surveys could not produce a complete and reliable database.

(ii) Adoption of unsuitable technology in data capture process

ICR technology was adopted to capture data from manually filled in ICR forms in respect of survey of 2005. The limitations of the ICR Technology like recognising the alphabet impressions / shapes from non-uniformly filled in ICR forms, data captured from 180-degree rotated/tilted images due to wrong placement of ICR forms in the scanner etc were not examined. As noticed, errors in the fields like name of the child, guardian's name, relation, date of birth (DOB), educational status, mother tongue, religion, category, disability types etc. were present in the database. OPEPA admitted that there were errors in village name up to 25 per cent in the database which was subsequently reduced to 5 per cent. Thus the data in the database lacked integrity and was not reliable.

(iii) Absence of validation in the software

(a) The date of birth of the child is one of the most important information in the entire Child Census exercise which determines the critical factor of age of the children of 0-14 year age group for carrying out various activities under the SSA. Analysis of database revealed that abnormal dates of birth were

present in the child list of 2005 and 2006 as detailed below:

(in numbers)

Sl. No.	Nature of incorrect	2005 child list	2006 child list
1	Date of birth contained '01/01/1900'	100142	32099
2	Date of birth contained dates less than '01/04/1992' for 2005 and '01/04/1993' for 2006 as cut off dates	89756	714439
3.	Date of birth (DOB) contained future dates i.e. DOB greater than 10 October for 2005 (being the last date of survey 2005) and 5 August for 2006 (being the last date of survey 2006) (i.e. future dob collected during survey of 2005 and 2006)	108152	5434
Total		298050	751972

Thus, the age-specific information on children generated from the system for various plans like Annual Work Plan etc was unreliable.

(b) The tables relating to CTS-2005 and CTSVU-2006 which were transaction tables got data from several master tables with unique codes of different items like school, village, category, religion, education and so on. Analysis of the transaction tables of 2005 and 2006 revealed that the transaction table contained codes which either did not exist in master tables or the codes of master tables and transaction tables did not match as detailed below:

Fields	Number of cases in 2005	Number cases in 2006
Village	1629510	117506
Educational Institutes	675464	115480
Gender	171417	83978
Relation	200534	111519
Category	102929	51129
Religion	118553	61600
Education Status	108181	83085
Reason out of school	840184	7509389
Class drop out	982554	7530217
Mother tongue	258449	78330
Disability	838517	555554

Further 10436 duplicate children in 2005 and 13862 in 2006 were present in the database. *(Appendix -3.8)*

Thus absence of validation controls led to presence of unreliable data in the database. The SPD accepted the observation and noted for future improvement.

3.4.7.2 Output controls

(i) Misleading Management Information System

The Child Tracking Databases 2005 and 2006 (Extended Form of VER as a substitute of Manual VER) were stated to have been used to provide different statistical information on children. Analysis of the Child Tracking Databases 2005 and 2006 revealed that there were discrepancies between the figures derived from database and that exhibited in the different reports. In case of out of school children brought back to school shown in the AWPB 2007-08 was 65420 and the same was exhibited in the CTS web report 2006 whereas

the actual figure as per database was 44492 indicating non integration of the web report with the database.

3.4.8 Other points of interest

3.4.8.1 Office Automation System

For the purpose of making the office paperless, the OPEPA awarded (May 2001) the work of developing an office automation system to Kalinga Software Pvt. Ltd., Bhubaneswar at a cost of Rs 9.58 lakh with the stipulation to complete the work by June 2001. Accordingly, the software was developed and training was imparted to staff of OPEPA. However, the office automation system could not be put to use (February 2007) due to non-availability of hardware and co-ordination. The State Project Director, OPEPA stated that the software was successfully designed and implemented during 2002-03 using the then hardware and software. Further, he added that they were ready to implement it with the present networking and hardware environment. The reply was not acceptable as neither the implementation of the software system could be shown to audit nor any documentary evidence on such implementation could be made available to audit.

3.4.8.2 Excess expenditure due to irregular payment

As per the terms of reference with the OCAC for developing database in respect of Orissa Child Census-2005, the OCAC was to be paid Rs 1.98 (Scanning: Rs 1.20 + Software: Rs 0.60 + Ten *per cent* consultancy charge: Rs 0.18) for data capture using ICR technology per form. Accordingly, after the survey, the 30 District Project Coordinators (DPCs) handed over data in 78.38 lakh ICR formats to the OCAC for creation of the database through scanning. Analysis of database also revealed that only 74.18 lakh records were created in the database for the entire state against 78.38 lakh ICR formats scanned. This led to excess payment of Rs 3.32 lakh to the OCAC as the SPD failed to verify the database before making payment. This also indicated that the database was incomplete.

3.4.8.3 Computerisation of household data without children

As required under the provisions of the SSA programme, the project proposal for Orissa Child Census-2005 contained creation of the database of children of 0-14 years age group capturing child data on name, age, sex, caste, educational status, the reasons for out of school and other indicators. However, the scanning of 78.38 lakh ICR formats for creation of the database included 24.48 lakh ICR formats relating to childless houses. The scanning of ICR formats on households without children was not necessary, as the database on those households containing only the household identification numbers and name of the guardians was of no use to OPEPA or any other department of the Government dealing with child related interventions. Besides, these household data having no children was also not used in the subsequent updation during CTSVU-2006 with the help of existing software rendering wasteful expenditure of Rs 62.13 lakh.

3.4.8.4 Diversion of SSA fund

As directed by the State Government (December 2004) the SPD diverted SSA funds of Rs 5.28 lakh for supply of 15 computers for computerisation of the

SMED department for strengthening monitoring the activities of the OPEPA as no funds were allocated in the AWPB approved by the Government of India.

3.4.9 Conclusion

Review of different IT systems developed by the OPEPA disclosed deficiencies in the System Development planning when adhoc and arbitrary approaches were adopted. There were various rounds for the collection and feeding of data in a computerised system but each was marred by the improper planning like incorrect sequencing of the acquisition of hardware and software, deficient system and database designs etc. These resulted in the incomplete capture of information. The systems developed also had deficient application controls leading to incorrect data in the database. Thus the reliability of information in the databases was questionable.

The system was developed with the view to capture information using the ICR technology. However, the controls on the input through the ICR could not be exercised leading to incorrect inputs into the database. Moreover, the use of the ICR technology itself was questionable as it was a costly alternative and was adopted through a justification which was on patently incorrect basis. Further, more than 24 lakh records pertaining to childless households were collected and input into the system leading to excess expenditure. Thus adoption of ICR technology led to development of an unreliable, inconsistent and erroneous database of children at a cost of Rs 5.05 crore during OCC-2005. The CTSVU-2006 system developed at a cost of Rs 2.76 crore to rebuild the database of OCC-2005 also failed due to defective software, absence of supervision and monitoring.

Due to faulty planning, implementation of EPIS and the GIS remained incomplete, as well, overshooting the scheduled dates of completion after incurring expenditure of Rs 2.64 crore.

3.4.10 Recommendations

- ✚ Appropriate source document and input document design should be ensured.
- ✚ The database design should meet the requirements of the system and map the input document and the source document.
- ✚ “Unique Child ID” should be allotted for each child for their identification.
- ✚ Responsibility and accountability of the BRCCs, CRCCs and school teachers in respect of collection of field level data should be ensured.
- ✚ Initiatives should be taken at the district level for prompt, periodic and regular updation of the databases.
- ✚ The input and validation controls should be built in to ensure completeness and correctness of the data.
- ✚ The adhoc approach in the planning of the computerisation efforts should be avoided.

The matter was reported to Government (August 2007); reply was not received (September 2007)