

---

---

## Chapter 3: Compliance Audit

### BACKWARD CLASSES WELFARE AND TRIBAL DEVELOPMENT DEPARTMENTS

#### 3.1 *IT Audit of e-enabled services in the Backward Classes Welfare Department*

##### 3.1.1 *Introduction*

The Backward Classes Welfare (BCW) Department and the Tribal Development (TD) Department (created in November 2013 by bifurcating the BCW Department) under the Government of West Bengal are entrusted with the task of social, economic and cultural development of the people belonging to Scheduled Castes (SCs), Scheduled Tribes (STs) and Other Backward Classes (OBCs) in West Bengal<sup>1</sup>. While the BCW Department continued to be responsible for the SCs and OBCs, the affairs specific to the ST people stood transferred to the Tribal Development Department. Mandates of these Departments *inter alia* include issue of caste certificates, promotion and implementation of educational schemes for SC/ ST/ OBC students, like payment of grants and scholarships, running hostels, etc. For quick delivery of some of these services, e-enabled services have been introduced in those Departments. Between April and August 2016, Audit conducted an IT Audit of following three applications to assess their efficiency.

- ❖ Online Application for Scholarship in Studies (OASIS) (introduced in May 2013);
- ❖ Online Application for Issuance of Caste Certificate (OSCAR) (Introduced in July 2010, issue of caste certificates through this system started in December 2010) and
- ❖ Hostel Monitoring System (HMS) (introduced in 2014).

All these applications are web-based and are available in web spaces round the clock. OSCAR was developed using Postgre SQL in the back end while both OASIS and HMS had MySQL. All three applications, however, use PHP.net in the front end.

##### 3.1.2 *Organisational structure*

Both the Backward Classes Welfare (BCW) and Tribal Development (TD) Departments are headed by a Principal Secretary. He, assisted by a Special Secretary, is in overall charge of the systems and looks after its operation irrespective of whether the beneficiary is SC or ST. The Director of Backward Classes Welfare looks after payment related to OASIS and monitors the operations of HMS.

- The responsibility of issue of caste certificates under OSCAR for each sub-division is vested on the respective Sub-Divisional Officer (SDO), who

---

<sup>1</sup> In West Bengal, out of a total population of about 9.13 crore (as per Census 2011), 2.146 crore (23.51 per cent) belong to Scheduled Caste (SC) and 52.96 lakh (5.80 per cent) to Scheduled Tribe (ST), while the estimated OBC population accounts for approximately 39 per cent (Census data of OBC population not available).

issues the certificates based on enquiry reports submitted (through the Block Development Officer) by the block level inspecting officials of the BCW Department.

- For releasing scholarships to the beneficiaries under OASIS, the Project Officer-cum-District Welfare Officer (PO-DWO) or District Welfare Officer (DWO) finalises the list of beneficiaries from applications forwarded to him by the block level officials after obtaining them from the schools.
- The PO-DWO/ DWO is fully responsible for maintaining the HMS applications.

### **3.1.3 Audit coverage, scope and methodology**

The IT Audit of e-enabled services of the BCW Department was conducted between April and August 2016 through test-check of available records/ stored data of the Department, Directorate and offices of the PO-DWO/ DWO of five districts (Bankura, Purulia, Hooghly, Darjeeling and Coochbehar) selected statistically<sup>2</sup>. Apart from the district offices, seven sub-divisions and 20 blocks were also visited. Data were collected centrally from the Department after the same were authenticated by the authorities. All these data were analysed using IDEA 9.1 software.

## **Audit Findings**

### **3.1.4 Inadequacies in mapping of business rules**

A software system designed to deliver e-enabled services like issue of caste certificates, scholarship payments, etc. calls for mapping of business rules in the system *i.e.* inclusion of checks (validation controls) against clearly defined criteria based on relevant Government orders and stipulations for processing of applications. Any instance of approval of ineligible applications indicates flaw in the system in detecting and restricting such entries. This would make the system susceptible to unwanted manipulation.

Analyses of data by Audit *vis-à-vis* background records available with the district offices threw light on substantial number of instances, where the existing built-in checks failed to restrict processing of ineligible applications leading to issue of duplicate certificates, excess payment of scholarship, payments circumventing criteria of income, etc. as discussed below.

#### **3.1.4.1 Payment of scholarship to financially ineligible beneficiaries**

Government offers various scholarships to the students belonging to SC/ ST/ OBC category. However, these scholarships were payable only to students belonging to families with income less than certain stipulated levels as under.

<b>Name of the scholarship</b>	<b>Family income ceiling for receiving scholarships</b>
Post-Matric Scholarship to SC/ ST	₹ 250,000 <i>per annum</i>
Pre-Matric (CS) Scholarship for students belonging to SC/ ST (IX & X)	₹ 200,000 <i>per annum</i>

<sup>2</sup> Sampling was done through Probability Proportional to Size Without Replacement (PPSWOR) with percentage of SC/ ST as size.

Name of the scholarship	Family income ceiling for receiving scholarships
Pre-Matric Scholarship to OBC Students	₹ 44,500 <i>per annum</i>
Post-Matric Scholarship to OBC Students (XI onwards)	₹ 100,000 <i>per annum</i>

Data analysis of OASIS showed that in 3389 cases scholarships have been disbursed among students whose family income was more than the prescribed limit. It was seen by Audit that while designing the data base table structure, the field for family income was set as character, instead of numeric. This had made the system unable to have any validation control to detect and bar applicants with family incomes beyond the stipulated limit. Resultantly, the system accepted entry of garbage data e.g. amounts prefixed by “Rs.”, amounts in words, etc. in the family income field. Between May 2013 and February 2016, this led to irregular payment of scholarships of ₹ 1.38 crore to 3389 financially ineligible students violating the income criteria.

The Department, in its reply (December 2016), accepted the audit observations and intimated that the issue of payment of benefits to ineligible beneficiaries was being addressed. It was further intimated that the field capturing family income has since been changed to numeric while necessary checks were also being introduced in the system.

#### **3.1.4.2 Scholarship paid to beneficiaries without entering caste certificate**

As per the departmental rule, scholarships to SC/ ST/ OBC students should be distributed only on submission and verification of caste certificates. Accordingly, there should have been a built-in check in the system to ensure processing of the application only against a valid caste certificate number. Data analysis of OASIS application, however, showed that in 2845 cases, either no certificate number had been entered in the system or the certificate number was entered as zero. In the absence of any control in the system, these applications were processed in OASIS allowing scholarships of ₹ 97.10 lakh in those 2845 cases.

The Department accepted (December 2016) the audit observation and intimated that the caste certificate number has since been made mandatory for processing any application for scholarships.

#### **3.1.4.3 Payment of scholarship to beneficiaries having no bank account**

With a view to ensuring accurate targeting of the beneficiaries, curbing pilferage and duplication as well as expediting the process of releasing scholarships, Government of India introduced the Direct Benefit Transfer (DBT) in 2013. DBT involved direct transfer of financial benefits electronically to the individuals' bank accounts. As OASIS application was a DBT based system, the beneficiary's bank account should have been made a mandatory field in the system.

Data analysis, however, showed that in case of 3144 beneficiaries, no bank account numbers were available in the system though scholarships amounting to ₹ 1.06 crore had been disbursed to them. Evidently, bank account was not made a mandatory field indicating a lacuna in the system. In the absence of records, the process of distribution of scholarship to beneficiaries in such cases could not be ascertained in audit.

In its reply (December 2016), the Department stated that the audit observation had been well taken. It has also been intimated that quoting beneficiary's bank account number has since been made compulsory.

#### ***3.1.4.4 Inadmissible payment of hostel fees to beneficiaries studying in schools having no hostel***

Scholarships for SC/ ST/ OBC students are released in different components e.g. tuition fees, other fees, hostel fees, day scholar fees, etc. Students staying in hostels (hostellers) are entitled to receive hostel fees.

At the time of applying online a student is to indicate whether he stays in a hostel and can also select the name of the hostel (from a drop down menu) he stays in. In case an applicant stays in hostel, a hostel flag in the back-end application is stored as "Y", while in case of day scholars it would be "N".

Data analysis of OASIS showed that there was no validation control in the system to bar release of hostel fees to any applicant with a hostel flag "N". It was observed by Audit that ₹ 7.24 crore was released to 10,866 students as hostel fees though they were not staying in any hostel. The test-checked offices could not provide any reason for it.

Moreover, though the system had a list of hostels stored as a drop down menu, these hostels were not mapped with the schools they were attached to. As a result, an applicant had the freedom to choose any hostel irrespective of the school he was attached to (even when no hostel was attached to that school) in order to avail of the hostel fees.

The Department, in its reply (December 2016), stated that the observation of Audit in this matter had been well taken and necessary steps were being initiated to suitably modify the system as well as to recover the hostel fees from students not staying in hostels. The Department also stated that efforts were being made to recover the amount paid to student not staying in hostel.

### ***3.1.5 Lack of controls***

#### ***3.1.5.1 Multiple payment of scholarship to same beneficiary for the same academic year***

As per the extant rules, any student eligible for pre-matric or post-matric scholarship can avail of the benefit only once in an academic year. Data analysis of OASIS application, however, showed that during May 2013 to January 2016, scholarships were paid to 10,835 students multiple times ranging from two to thirty five times for an academic year. Against the maximum possible expenditure (assuming that all these students were entitled for scholarships) of ₹ 3.83 crore, total disbursement stood at ₹ 9.14 crore. Thus, 58 per cent (₹ 5.31 crore) of total payments was double/ multiple payments. This may be viewed with the following control deficiencies in the system:

- The system was not designed in a manner to embed any primary key field in the application to prevent a student from applying more than once in a year. The students were to register in the website giving their personal details and were to generate a registration number. Audit found that the same person can register multiple times giving the same details. Ideally, registration should have been a one-time process. Because of this flaw in

the system, a student could apply multiple times changing his district or changing his course or making minor changes in the data.

- The system was not designed to identify any unique field like caste certificate number or Aadhaar Card number or Bank Account number. Such a check in the system would have detected and restricted multiple releases against the same account number or same Aadhaar number.

Audit noted that the above 10,835 cases included 1288 students who had applied multiple times changing their districts (2587 applications involving payment of ₹ 2.23 crore). Similarly, there were 4216 students who received multiple payments (₹ 1.61 crore) by showing as having been enrolled for multiple courses in the same academic year.

The Department replied that the caste certificate number could not be made unique as there was no validation control in manual system of issuing caste certificates and cases of duplicate caste certificates could not be ruled out. It was further indicated that in West Bengal, the Aadhaar Card was still not widespread across all geographical locations. However, the fact remained that there was inherent weakness in the system, as it had not been designed to generate unique student ID number every year allowing each student to register in the system only once in an academic year.

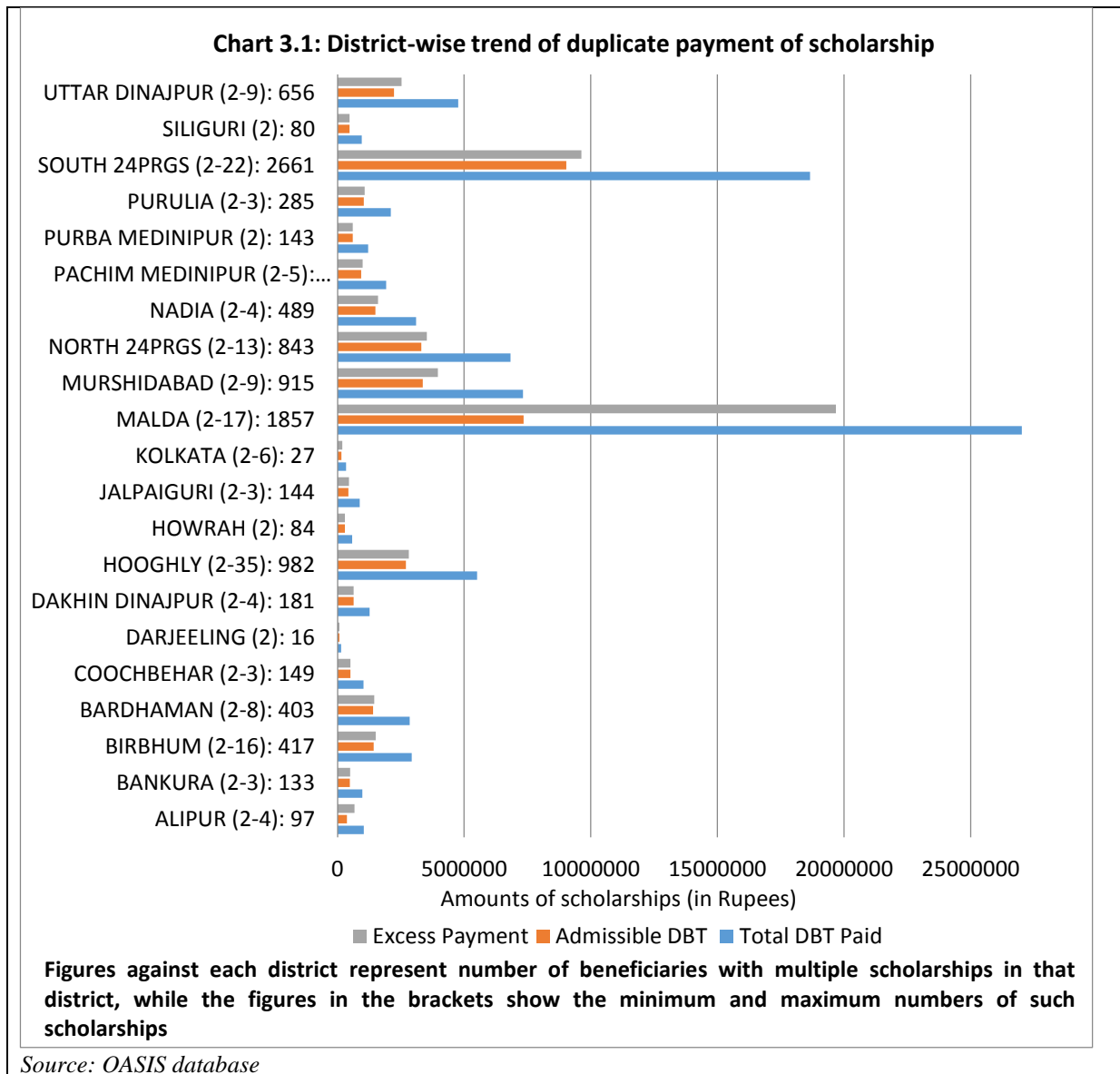
- The online application is followed by submission of hard copy of the application at the institution where the student is studying where from the application is verified and sent to the Block Development Officer (BDO)/ Municipality office for further verification. Audit noted that there was no attempt in these offices to identify duplicates during this verification process.
- After verification, go-ahead clearance was to be given by the BDO/ Chairman. However, it was found that for all practical purposes, the user-id and password of the authorities (BCW Inspector and BDO/ Chairman) were often available with the lower level staff of the office even with the Village Level Entrepreneur (VLE) of Community Service Centres (CSCs)<sup>3</sup>. Audit observed that the hard copies of applications were not systematically available with the BDO offices to perform any cross-checking of hard copy of the applications. This pointed to chances of unauthorised use of password privileges to bypass the physical verification process done in BDO offices.

**Higher tendency of duplicate payments in border districts:** The data of such duplicate payments were analysed district-wise to identify any trend of such payments. It was observed that the duplicate payments were higher in districts<sup>4</sup> having international border with Bangladesh as would be clear from the Chart below:

---

<sup>3</sup> A VLE or CSC operator is not a government employee. He is a youth with basic computer knowledge selected from the local population. As a strategic cornerstone of the Digital India Programme, a VLE is the access point for delivery of various electronic services to the villagers.

<sup>4</sup> Jalpaiguri, Alipurduar, Cooch Behar, Uttar Dinajpur, Dakshin Dinajpur, Murshidabad, Nadia, North 24 Parganas, South 24 Parganas and Malda



It transpires from the aforesaid analysis that the trend of duplicate payments of scholarships in border districts constitutes almost 64 per cent of total cases calling for stricter vigilance.

The Department has accepted and appreciated (December 2016) the audit observation and added that suitable upgradation was being made to ensure detection and restriction of multiple releases as pointed out by Audit.

### 3.1.5.2 Duplicate issue of caste certificates through OSCAR system

Analysis of data relating to OSCAR, the application for issue of caste certificates, showed that adequate controls were not embedded into the system to prevent issue of multiple caste certificates. Applicants having identical credentials<sup>5</sup> were found to be issued multiple caste certificates. In West Bengal, a total of 50,080 such cases of duplicate/ multiple caste certificates were found as of February 2016. Out of these, 5648 had been issued online through OSCAR, while the remaining 44,432 had been issued offline before the introduction of

<sup>5</sup> e.g. name, father's name, address, etc.

the application (the details of these applications were entered into the system by the data entry operators as backlog data for integration of old and new data).

The Department stated (December 2016) that the caste certificate issuing authority had not issued multiple certificates to the same person; rather new ones had been issued only against lost certificates on valid grounds or on production of FIR.

The reply was not acceptable as there were instances where multiple certificates had been issued to the same person with different certificate numbers. This had made these newly issued certificates as new certificates for all practical purposes as the certificates were identified by their numbers only.

### ***3.1.5.3 Non-adoption of the software of the national portal***

The Department of Social Welfare, Government of India had proposed several times to merge the existing application with the national portal which could have resulted in standardisation of the software. However, this was not accepted by the Department as the application on national portal had made Aadhaar seeding mandatory. Adoption of the national software would have plugged the loop holes of duplicate payments as well as multiple issue of caste certificates as mentioned earlier in this report.

The Department stated (December 2016) that the portal of BCW Department West Bengal is in conformity with the portal of the Ministry of Social Justice and Empowerment, Government of India and it would not be difficult to integrate with the State Portal. However, the Department has also stated that the Government of India portal has not started payment of scholarship.

The reply is not acceptable as the para is related to prevention of duplicate payment/ multiple issue of caste certificate through Aadhaar seeding, which has not been made mandatory by the Department.

### ***3.1.6 Issues compromising functional efficiency***

Higher degree of operational efficiency and control, quicker processing of applications and more expeditious percolation of services to the targeted students are *inter alia* the basic objectives behind introduction of IT initiatives in BCW Department. In course of audit of OASIS, HMS and OSCAR, Audit observed certain issues affecting the efficacy of the overall system of functioning, which called for attention of the Department.

#### ***3.1.6.1 Lack of integration among various departmental applications***

Database integration is defined as combining data from different sources and providing the users with a unified view of these data. In an organisation like BCW Department where multiple applications are running, data integration would be helpful for data synchronisation, reducing data redundancy, erasing duplicity in both data and functionalities and real time information delivery.

The three applications used by the BCW Department are inter-related. While OASIS takes care of scholarship disbursement to the SC/ ST/ OBC categories, OSCAR deals with the issue of caste certificates to these communities and HMS with the allocation of hostel to students belonging to these communities. Caste certificate issued by the Department is required while applying for scholarship through OASIS application. Again, caste certificates are required for applying

for hostel accommodation through HMS as well as for calculating the quantum of scholarship admissible under OASIS.

It was observed that future integration of these three applications had not been kept in view during their development. The same would also be evident from the fact that the data characters in all these three applications were not in uniform formats<sup>6</sup>.

The Department, in its reply (December 2016), stated that it had contemplated future integration of the three systems. However, the fact remained that not only the future integration of these three systems would have been much easier had those been developed on the same platform, but also such integration would have facilitated detection of various irregularities as pointed out earlier in the report.

**3.1.6.2 Data reliability in HMS**

As the Hostel Monitoring System (HMS) was a web-based application, it was imperative that submission of application (for hostel grants/ stipends) at the micro level *i.e.* at the institution level was done online. However, it was seen by Audit that instead of online applications, the hard copies of the applications were sent physically by the head of the institutions to the block level for onward transmission to the PO-DWO/ DWO. The day-to-day activity related to awarding of stipends to hostel dwellers were being done manually at the PO-cum-DWO/ DWO offices. This resulted not only in decrease in efficiency by repetition of work but also in higher risk of human errors.

Further, cross-verification of manual data in respect of number of beneficiaries of hostel grants as on a certain date collected from the office of the test-checked PO-DWO/ DWO, with the corresponding centralized automated data and reports generated from HMS online system, displayed significant variations as under:

**Table 3.1: Discrepancies between HMS data base and district level records**

Name of the District	Number of beneficiaries as per HMS data				Number of beneficiaries as per manual records of the district			
	SC	ST	OBC	Total	SC	ST	OBC	Total
Bankura (As on 10-03-2016)	2627				7886	11308	0	19194
Hooghly (As on 04-05-2016)	5953	139	0	6092	598	668	0	1266
Purulia (As on 06-06-2016)	216	564	4	784	1594	4804	332	6730
Darjeeling (As on 20-06-2016)	6046	262	0	6308	37	395	0	432
<b>Total</b>	<b>12215</b>	<b>965</b>	<b>4</b>	<b>13184</b>	<b>10115</b>	<b>17175</b>	<b>332</b>	<b>27622</b>

\* Break-up not available in Hostel Monitoring System as of 10-03-2016.

In case of Coochbehar, website was down during audit.

Source: HMS database and records of test-checked PO-DWO/ DWO

Thus, the data captured in HMS had little reliability and relevance as far as number of beneficiaries were concerned. Further, continued dependence on manual application has frustrated the objective of round the clock online services under HMS.

The Department intimated (December 2016) that extensive field visits had since been chalked out to collect data from all the hostels in a time-bound manner, so that more reliable and authentic student data could be captured in HMS.

<sup>6</sup> OSCAR was developed using Postgre SQL in the back end while both OASIS and HMS had My SQL. All three applications, however, use PHP.net in the front end.



### **3.1.6.3 Deficient training programme for departmental staff**

Trained staff is an imperative for effective and efficient operation of any IT system. Audit found that the Department did not chalk out any training programme to equip the staff as evident from the fact that trained staff was available only in one (Purulia) out of five test-checked districts. Thus, district offices had to depend largely on the contractual staff for running the system which can potentially compromise the confidentiality of sensitive Government data.

Attributing this situation to the shortage of staff, the Department stated that sensitization programme would be organised emphasising on corrective measures on the audit observations.

### **3.1.7 Lack of business continuity plan**

OASIS application was developed and was being maintained by a private vendor (M/s Diligent Tech) who had been selected through tender process. As per the agreement (August 2013), the vendor was also to provide adequate manpower (at least one per district) to assist the departmental functionaries. The vendor was to be paid at ₹ 1.74 on the basis of valid records for each candidate every year.

Scrutiny of the agreement showed that the vendor was the sole owner of the application and there was no binding on the vendor to hand over the software to the Department. This agreement was valid for three years and it was renewed every year without any modification in conditions. This indicated lack of business continuity plan as the Department would not be in a position to continue with the operations if the vendor chose to discontinue.

It may be mentioned that had the Department adopted the application with the national portal it would have avoided the dependency of the Department on a private vendor.

The Department stated (December 2016) that it had procured a local server for data backup, which was being updated periodically. The reply underscored the fact that the Department had no ownership on the application software, which were more crucial from the viewpoint of business continuity.

### **3.1.8 Conclusions**

Though the Department took IT initiatives for quick delivery of some of its services, test-check of three applications for disbursement of scholarships (OASIS), Hostel Management (HMS) and issue of caste certificates (OSCAR) showed that there was much scope to increase the efficiency and effectiveness of these applications.

OASIS application was not mapped fully with the business rules. The system was deficient in validation control and processed applications for scholarships without adhering to the income criteria and even without information on bank accounts. Audit noted that the system also allowed payment of hostel fees even where the students were not residing in hostels. Lack of controls would be

further evidenced from the instances of multiple payments of scholarships to the same students in the same academic year as they could apply for scholarships multiple times by changing districts, courses, etc. This may be viewed with the fact that user-ids and passwords were available even to lower level non-Government functionaries at the block level, leaving the system exposed to unauthorised intrusions.

The efficiency of the services delivered under HMS was compromised as the data entry was not being made from the school/ hostel level. Reliability of the data was also doubtful as substantial variation was observed between number of beneficiaries of hostel grants as per district level records and those captured in the HMS.

As a serious weakness in the business continuity plan, the vendor was found to be the owner of the data as per the agreement. The Department would not be in a position to continue with the operations if the vendor chose to discontinue.

Thus, there are various areas of control weaknesses in the IT applications used by the BCW Department, which call for immediate attention.