



**Chapter-IV**  
**Functioning of**  
**Engineering and**  
**Polytechnic Institutes**  
**Established Under Avsar**  
**Badhe Aage Padhein**



## CHAPTER – IV

### DETAILED COMPLIANCE AUDIT

#### SCIENCE AND TECHNOLOGY DEPARTMENT

#### 4 *Functioning of Engineering and Polytechnic Institutes established under Avsar Badhe Aage Padhein*

##### 4.1 Introduction

“*Avsar Badhe Aage Padhein (ABAP)*” is one of the *Saat Nischay* within the Good Governance Programme (2015-20) announced (December 2015) by Government of Bihar (GoB). It was promulgated with the motive of providing better opportunities of higher, professional and technical education in the State facilitating the contribution of youth towards economic and social betterment. Under the ABAP nine<sup>32</sup> types of institutions under the Departments of (i) Health, (ii) Science & Technology and (iii) Labour Resources Department were to be established. For the purpose of audit, Institutes under the Science & Technology Department (S&T) were selected.

##### 4.1.1 Audit Objectives

The objectives of the Detailed Compliance Audit were to assess and examine whether: -

- planning for implementation of the scheme for establishment and running of the institutions was robust and effectively implemented;
- fund provisioning was adequate and its utilisation was efficient;
- infrastructure including workshop, equipment *etc.*, and manpower, were adequate, effective and in consonance of prescribed norms; and
- monitoring mechanism was adequate and effectively operationalised.

##### 4.1.2 Audit Criteria

The audit criteria were derived from the following sources:-

- Bihar Financial Rules, 2005 and Bihar Treasury Code, 2011.
- Norms prescribed by All India Council of Technical Education (AICTE, GoI) from time to time.
- Orders, circulars, guidelines *etc.* issued by the GoB and S&T Department.

##### 4.1.3 Audit Scope, Sampling and Methodology

Detailed Compliance Audit was conducted during September 2020 to March 2021 covering the period 2016-21. Records of the office of the Principal Secretary, S&T Department at headquarters level and offices of the Principals

<sup>32</sup> **Health Department-** (i) One GNM School in every district, (ii) One Para Medical institute in every district, (iii) One Nursing college in all Medical College in every district, (iv) One ANM school in every sub-division, and (v) Five more new Medical Colleges in the State. **S&T Department-** (vi) One Polytechnic institute in every district and (vii) One Engineering College in every district. **Labour Resources Department-** (viii) One Women industrial training institute in every district and (ix) One Government Industrial Training Institute in every sub-division.

(Engineering Colleges and polytechnic institutes) at field level were test-checked. Six<sup>33</sup> out of 31 Engineering Colleges and three<sup>34</sup> out of 15 Polytechnic institutes were selected by stratified sampling method.

The Audit methodology consisted of document analysis, response to audit queries, collection of information through questionnaires, proforma, etc.

## 4.2 Planning and Financial Management

### 4.2.1 Planning for the establishment of institutes

Science and Technology (S&T) Department was responsible for establishing one Engineering College and one Polytechnic Institute each in all the 38 districts. Seven Engineering Colleges in seven districts and 29 Polytechnic Institutes in 23 districts were already functional. The GoB accordingly sanctioned the scheme (February 2016) for establishment of 31 Engineering colleges (25 new and six sanctioned earlier) with a cost of ₹ 3,015.96 crore and 15 Polytechnic institutes (11 new and four sanctioned earlier) with a cost of ₹ 841.10 crore for ensuring an Engineering College/Polytechnic Institute in each district. The construction of buildings and establishment of the institutes and commencement of the academic session was to be completed during the period 2016-21. There were, thus, going to be a total number of 38 Engineering Colleges and 44 Polytechnic Institutes in the state.

### 4.2.2 Financial Management

The GoB sanctioned (February 2016) ₹3,857.06 crore for establishment of 46 Engineering Colleges/Polytechnic Institutes. Under the scheme, funds for construction of buildings were provisioned to the Building Construction Department (BCD) under “Demand No. 3 major head 4202” and funds for acquisition of land, purchase of machines and equipment, furniture etc. were provisioned to the S&T Department under “Demand No. 43 major head 4202”.

The financial status of the scheme during 2016-21(excluding establishment and committed expenditure) is shown in **table 4.1**:

**Table No.-4.1**  
**Financial status of scheme**

(₹ in crore)

Year	Budgetary provision (BP)	Allotment	Expenditure	Surrender (per cent of BP)	Demand No. 43, S&T Department		Demand No. 03, BCD	
					Budgetary provision (BP)	Allotment	Expenditure	Surrender (per cent of BP)
1	2	3	4	5 (2-4)	6	7	8	9 (6-8)
2016-17	100.00	65.01	55.83	44.17 (44)	500.00	102.65	99.38	400.62 (80)
2017-18	87.45	32.33	25.87	61.58 (70)	305.00	271.47	233.60	71.40 (23)
2018-19	82.50	56.41	47.50	35.00 (42)	575.00	546.79	518.78	56.22 (10)
2019-20	88.50	55.93	41.56	46.94 (53)	665.00	654.68	641.94	23.06 (03)
2020-21	63.06	59.88	56.88	6.18 (10)	610.00	602.23	590.17	19.83 (03)
<b>Total</b>	<b>421.51</b>	<b>269.54</b>	<b>227.64</b>	<b>193.88 (46)</b>	<b>2,655.00</b>	<b>2,177.82</b>	<b>2,083.87</b>	<b>571.13 (22)</b>

(Source: Information provided by the S&T Department.)

<sup>33</sup> **Engineering college-** Bakhtiyarpur, Begusarai, Buxar, Purnia, Rohtas and Vaishali.

<sup>34</sup> **Polytechnic Institute-** Jehanabad, Samastipur and West Champaran.

It is seen from the above table that 46 and 22 *per cent* of the total budget provision were surrendered by the S&T Department and BCD respectively during the period 2016-21. This was due to delay in land acquisition, delayed construction of buildings consequently delayed establishment/functioning of the institutes. It is important to mention here that the scheme period was upto March 2021, but construction of 18 buildings out of 46 was not completed despite provisioning of funds.

### 4.2.3 Discrepancies in financial management

During the audit, following discrepancies were noticed in financial management of the scheme:

#### ➤ Excess sanctioning of funds

Test check of records of the Department revealed (October 2020) that there was an excess sanctioning of ₹84.00 crore (March 2016) for the establishment of 15 Polytechnic Institutes during 2016-21. An amount of ₹3.50 crore was sanctioned for recurring expenditure per institute per annum. This amount should have been ₹ 192.50 crore but was wrongly calculated as ₹ 276.50 crore resulting in excess sanctioning of ₹84.00 crore (*Appendix-4.1*).

#### ➤ Non-deduction of TDS under GST

Section 51 (1) of the Central Goods and Service Tax Act, 2017 and Bihar Goods and Service Tax Act, 2017 provides for deduction of tax at the rate of two *per cent* from the payment made to the supplier of taxable goods, where the total value of supply exceeds two lakh and fifty thousand rupees.

Test-check of records of the Department revealed (October 2020) that while making payment of ₹16.20 crore (March 2019) to the Bihar Police Building Construction Corporation (BPBCC) towards supply of prefabricated portable cabins (taxable goods) for 12 Engineering Colleges/Polytechnic Institutes<sup>35</sup>, TDS amounting to ₹32.40 lakh was not deducted. Further, TDS amounting to ₹ 16.30 lakh was also not deducted while making payment of ₹8.15 crore (July 2019) to the Bihar State Electronic Development Corporation Limited (BELTRON) towards supply of computers (taxable goods) for 19 Engineering Colleges<sup>36</sup>.

#### ➤ Non-deduction of TDS of VAT

Section 40 (1) of the Bihar Value Added Tax Act, 2005 provides that tax at specified rate shall be deducted at the time of payment against the sale/supply of taxable goods, where the total value of supply exceeds two lakh and fifty thousand rupees.

Test check of records of Bakhtiyarpur Engineering College, Patna revealed (January 2021) that TDS amounting ₹13.70 lakh was not deducted while making payments of ₹1.27 crore to the suppliers (March 2016) for supply of taxable

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<sup>35</sup> *Engineering College- Darbhanga and Rohtas; Polytechnic Institute- Bhagalpur, Gaya, Madhepura, Muzaffarpur, Nalanda, Patliputra Patna, Saharsa, Saran, Sheohar and Womens Polytechnic Phulwarisharif Patna.*

<sup>36</sup> *Araria, Arwal, Aurangabad, Bhojpur, Buxar, Gopalganj, Jehanabad, Kaimur, Khagaria, Kishanganj, Lakhisarai, Madhubani, Munger, Nawada, Samastipur, Sheikhpura, Sheohar, Siwan, and West Champaran.*

goods. Similarly, TDS amounting to ₹18.64 lakh was also not deducted by Shershah Engineering College, Rohtas while making payments of ₹ 2.36 crore to the suppliers (September 2016 to March 2017) towards supply of taxable goods.

The Principal of both the institutions replied (January/February 2021) that TDS were not deducted due to lack of knowledge.

#### ➤ Irregular payment of advance

Rule 176 of the Bihar Treasury Code (BTC), 2011 provides that no money should be withdrawn unless it is required for immediate payment. Rule 177 of the BTC provides that no money shall be drawn to prevent lapse of budget. Further, rule 131 (Q) of the Bihar Financial Rules (BFR), 2005 provides that ordinarily, payments should be released only after the supplies made.

However, Audit observed that:

- The Department paid an advance of ₹16.20 crore (March 2019) to BPBCC for supply/construction of prefabricated portable cabins for 12 Engineering Colleges/Polytechnic Institutes with a cost of ₹23.86 crore in violation of the above mentioned rules.
- The Department paid ₹8.15 crore (July 2019) as hundred *per cent* advance to the BELTRON against pro-forma invoice for supply of computers and printers *etc.* to 19 Engineering Colleges in violation of the above mentioned rules. Despite of advance payments the BELTRON had not submitted the utilisation of advance.

### 4.3 Establishment of institutions

Under the scheme, Engineering Colleges and Polytechnic Institutes were to be established through acquisition of suitable land and construction of building thereon.

#### 4.3.1 Deficiencies in acquisition of land

In the acquisition of land and construction of building thereon, audit noticed that there were issues in the land acquired for two institutions:

- Section 22 (2) of the Bihar Building By-Laws, 2014 provides that construction of any building shall not be allowed within a strip of 100 metres from the outer boundary of the riverfront. Test check of records of the Department revealed (October 2020) that the Department accorded (January 2019) an administrative approval for construction of building of Government Polytechnic, Jehanabad at a cost of ₹36.35 crore. However, the Executive Engineer, BCD, Jehanabad found (April 2019) that the proposed land was not suitable for construction. The Chief Architect, BCD declared the land unfit for construction and requested DM, Jehanabad (April 2019) to provide alternative land. Accordingly, allotment of land was changed and the Department informed accordingly to BCD (February 2021). Further information was not found on record.

Thus, due to selection of unsuitable land, the construction work had not started even though the scheme ended in March 2021. Since 2019-20, the Government

Polytechnic, Jehanabad was functioning from the premises of the Polytechnic, Patliputra, Patna.

- For construction of an Engineering College in Jehanabad, the land measuring 7.5 acre was transferred (March 2019) to the Department free of cost. A three-member site inspection committee<sup>37</sup> had mentioned in its report (November 2018) that the proposed land was 125 metres away from the highway and acquisition of additional 12,000 sqft land would be required for approach road. However, the Department accorded administrative approval of ₹73.13 crore (February 2019) for construction without ensuring availability of land for approach road.

The construction of building was completed (May 2021) but without an approach road. This had been pointed out by audit in October 2020 itself. However, the Department issued a letter to the District Magistrate Jehanabad, for acquisition of land measuring 60.97 decimal (26,556 sqft) for the approach road only in January 2022.

Thus, in the absence of timely acquisition of land for approach road, the constructed building and the expenditure there against (₹79.29 crore) was rendered idle since May 2021. Since 2019-20, the Engineering College, Jehanabad had been functioning from the premises of Engineering College, Gaya (February 2022).

#### **4.3.2 Non-achievement of targets of construction**

Under the ABAP, buildings for 31 Engineering Colleges (25 new and six sanctioned earlier) and 15 Polytechnic Institutes (11 new and four sanctioned earlier) were to be constructed during the period 2016-21.

The target for completion of construction of the buildings for earlier sanctioned institutes and newly sanctioned institutes was three and two years respectively. Thus, construction of buildings of all Engineering Colleges and Polytechnic Institutes was to be completed by 2020-21. However, buildings of fourteen<sup>38</sup> out of 31 Engineering Colleges and four<sup>39</sup> out of 15 Polytechnic Institutes were not completed even the scheme ended in March 2021. Even, buildings of nine<sup>40</sup> Engineering Colleges and four Polytechnic Institutes were not completed yet (February 2022).

Delay in completion of construction of buildings was attributable to delayed availability of suitable land as well as delay in execution of construction work. This deprived the students enrolled in these institutions of proper infrastructure/ facilities.

#### **4.3.3 Avoidable expenditure**

Rule 126 of BFR, 2005 provides that authority delegated with financial powers has responsibility and accountability to bring efficiency, economy and transparency

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<sup>37</sup> Comprises of representative of District Magistrate, Jehanabad, Officer on Special Duty, Engineering College, Gaya and Principal Polytechnic Institute, Tekari, Gaya.

<sup>38</sup> Arwal, Aurangabad, Bhojpur, Buxar, Jehanabad, Katihar, Khagaria, Madhubani, Munger, Samastipur, Sheikpura, Sheohar, Siwan and Vaishali.

<sup>39</sup> Arwal, Bhojpur, Jehanabad and West Champaran.

<sup>40</sup> Bhojpur, Buxar, Katihar, Khagaria, Samastipur, Sheikpura, Sheohar, Siwan and Vaishali.

in public procurement. It also provides for fair and equitable treatment of suppliers and promotion of competition. Further, Rule 131(R) provides that all Government purchases should be made in a transparent, competitive and fair manner, to secure best value for money and Rule 131(H) provides for invitation of tenders by advertisement for procurement of goods of estimated value ₹25 lakh and above. Further, Rule 202 (4) provides that works estimated to cost above ₹10 lakhs may be got executed through a Public Works Organisation after consultation with the Building Construction Department.

Test-check of records of the Department (October 2020) revealed that the Department decided (February 2019) to make prefabricated portable cabins for classroom, staffroom, laboratory and library for thirteen<sup>41</sup> institutions. The work was sanctioned (February and August 2019) for ₹26.43 crore by the Finance Department, GoB on clarification from the Department that portable cabins could be set up quickly while construction of permanent buildings would take another two years. The work was allotted (February/August 2019) to BPBCC without inviting tenders. The BPBCC levies agency charges<sup>42</sup> for construction work whereas BCD, responsible for construction of Government buildings, does not levies agency charges. Construction works of buildings of Engineering Colleges/Polytechnic Institutes under ABAP was entrusted to the BCD. But, construction work of portable cabins was neither entrusted to the BCD nor consultation obtained from the BCD and work was allotted to the BPBCC in violation of provisions of the BFRs. Thus, the Department would have to pay ₹1.50 crore in the form of agency charges (centage) to the BPBCC for the allotted work. Out of ₹1.50 crore agency charges, ₹0.41 crore was adjusted by BPBCC against the completed work of ₹6.32 crore (February 2022).

It was observed that out of 13 institutes, work was completed only at two institutes (Women's Polytechnic Phulwarisharif Patna and Patliputra, Patna), cancelled at two institutes (Engineering College, Rohtas and Polytechnic Institute, Madhepura) and was under progress in remaining nine institutes (February 2022).

Thus, while the Department failed to comply with the prescribed provisions, selection of BPBCC without inviting tenders resulted in avoidable expenditure of ₹ 0.41 crore and non-completion of the construction work after lapse of three years from the date of sanctioning with stipulated period of six months.

#### ***4.3.4 Unfruitful expenditure***

AICTE, Approval Process Handbook (APH) (Appendix 17.1.29) 2015-16 provides that applicant seeking approval of new technical institute shall submit an affidavit that no high-tension line was passing through the campus including hostel. In case high-tension line passes through the campus/hostel a certificate from competent authority (Electricity Board) that it will not affect the safety of building/students/faculty/staff *etc.* is required.

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<sup>41</sup> ***Engineering college-*** Darbhanga, Motihari and Rohtas; ***Polytechnic institute-*** Bhagalpur, Chhapra, Gaya, Madhepura, Muzaffarpur, Nalanda, Patliputra Patna, Saharsa, Sheohar, and Womens Polytechnic Phulwarisharif Patna.

<sup>42</sup> *Agency charges @ 7 per cent up to ₹10.00 crore and 5 per cent for more than ₹ 10 crore*

Test-check of records of the Department revealed (September 2020) that for construction of building for Polytechnic Institute at Sheikhpura, a three-member site inspection committee<sup>43</sup> constituted (January 2014) by the S&T Department, submitted its report (September 2014) without mentioning the existence of a high-tension line passing through the site and declared it suitable. The Department issued a letter (February 2015) to the BCD to provide the technically approved estimate along with layout plan of the building. The BCD submitted (April 2015) lay-out plan to the Department for approval along with site map depicting existence of high tension line. The Department accorded (July 2015) administrative approval for ₹42.55 crore upon the conditional approval of lay out plan submitted by the BCD that high-tension line would be shifted before commencement of construction work.

It was further observed that the Department neither ensured shifting of high-tension line before commencement (September 2016) of construction work nor could obtain an NOC from electricity board. Meanwhile the construction work was completed (August 2018) at a cost of ₹ 48.70 crore but the same was not handed over and remained unoccupied due to non-shifting of high tension line which would entail an additional expenditure of ₹ 36 crore.

As an alternative, to make the building usable, it was decided (December 2021) that existing main gate of the building would be closed, boundary wall would be constructed parallel to the transmission line and girls hostel and sick room would be closed. Accordingly, an amount of ₹59.40 lakh was sanctioned in February 2022.

Thus, failure of the Department to ensure that no high tension line was passing through the campus including hostel in compliance with the provisions of the APH of AICTE resulted in unfruitful expenditure of ₹48.70 crore as the constructed building ever since its completion (August 2018) could not be put to use and remained unoccupied (February 2022). Students enrolled in the institute were deprived of intended educational benefits as the institute was still functioning from the premises of Polytechnic Institute, Lakhisarai.

- **Unsuitable land taken on lease**

A test-check of records of the Department revealed (October 2020) that a land measuring Seven acre and 53.5 decimal was earmarked for being taken on lease for construction of an Engineering College in Sheohar district. A three-member site inspection committee<sup>44</sup> reported (June 2017) the proposed land fit for construction and mentioned that no High Tension Line was passing through the land. On the basis of suitability report, the land was acquired on lease at a cost of ₹2.92 crore (December 2017) and an administrative approval of ₹73.13 crore was accorded (July 2018) for construction of building. The construction work was to be completed within two years i.e. by June 2020.

It was noticed that in layout plan issued (January 2019) by the Chief Architect, BCD a High Tension Line was passing above the land. The Department had

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<sup>43</sup> Comprises of Addl. Collector Sheikhpura, Principal Nalanda Engineering College Chandi and Principal Govt. Polytechnic Institute Barauni.

<sup>44</sup> Comprises of Addl. Collector Sheohar, Principal Government Engineering College, Sitamarhi and Principal Baddiujma Khan Govt. Polytechnic Institute, Sitamarhi.

given conditional approval (February 2019) that no construction work would be started before shifting the High Tension Line. However, the work was started (December 2020) and 50 per cent of work was completed without shifting the High Tension Line (February 2022).

Thus, due to selection of unsuitable land and failure of the Department to ensure shifting the high tension line resulted in non-completion of the construction of building even the scheme ended in March 2021. Since 2019-20, the Government Engineering College, Sheohar was functioning from the premises of Motihari College of Engineering, Motihari.

#### 4.4 Manpower management

Chapter-I (8.1) of AICTE APH, 2016-17 provides that in no circumstances, unless the appointment of all teaching and other staff is in place, the Institutes shall commence the program. Chapter 6.7 and 6.8 provides that technical institutions shall follow the Norms for faculty requirements and Cadre ratio at Diploma/Under Graduate Level. The faculty - student ratio for undergraduate level and diploma level was 1:15 and 1:20 respectively for the year 2016-17 and 2017-18 which was further amended to 1:20 and 1:25 respectively from the year 2018-19 onwards.

In respect of the Institutes established under *Avsar Badhe Aage Padhein*, there was a shortage of 90 per cent in teaching staff and shortage of 98 per cent in non-teaching staff in 31 engineering colleges, while there was a shortage of 80 per cent in teaching staff and shortage of 96 per cent in non-teaching staff in 15 polytechnic institutes (February 2022) as detailed in [Appendix-4.2](#).

In the test checked colleges/institutes, status of teaching and non-teaching staff was as detailed in [table 4.2 below](#):

**Table no. 4.2**  
**Shortage of teaching and non-teaching staff**

Sl. No.	Name of Engineering college/ polytechnic institute	Teaching			Non-teaching		
		Sanctioned Post	PIP (Regular)	Vacancy (per cent)	Sanctioned Post	PIP (Regular)	Vacancy (per cent)
1.	Engineering College, Bakhtiyarpur	64	33	31 (48)	53	04	49 (92)
2.	Engineering College, Buxar	77	05	72 (94)	50	00	50 (100)
3.	Engineering College, Vaishali	76	06	70 (92)	50	01	49 (98)
4.	Engineering College, Rohtas	64	23	41 (64)	38	0	38 (100)
5.	Engineering College, Begusarai	64	19	45 (70)	77	10	67 (87)
6.	Engineering College, Purnea	77	10	67 (87)	50	02	48 (96)
7.	Polytechnic Institute, Samastipur	35	08	27 (77)	31	00	31 (100)
8.	Polytechnic Institute, Jehanabad	35	10	25 (71)	38	01	37 (97)
9.	Polytechnic Institute, West Champaran	35	08	27 (77)	38	01	37 (97)

The actual shortage of teaching staff against the sanctioned strength ranged from 48 to 94 *per cent* while that of the non-teaching staff ranged from 87 to 100 *per cent*.

Bihar Public Service Commission (BPSC) published advertisement for recruitment of teaching staff in September-October 2020, which was still under process. Requisitions for appointment of non-teaching staff (technical as well as non-technical) was sent to Bihar Staff Selection Commission (BSSC) and Bihar Technical Service Commission (BTSC) between January to December 2021 but advertisement was not published by BSSC/BTSC (February 2022). Thus, the Department could not get teaching as well as non-teaching staff appointed against acute and persistent vacancies.

The acute and persisting shortage of teaching faculty as well as non-teaching staff could adversely affect the quality of technical education and it goes against the spirit of the scheme. Thus, functioning of Engineering Colleges/Polytechnic Institutes almost without staff (teaching & non-teaching) implies that these institutes/ colleges are functioning only on papers and shows failure of the department in implementation of the scheme.

#### 4.5 Under-utilisation of seats

Chapter-VI of the AICTE APH 2016-17 prescribes norms for essential infrastructure and cadre ratio of teaching staff for Engineering Colleges and Polytechnic Institutes. Audit observed that 3,506 (26 *per cent*) out of 13,680 seats could not be filled up at undergraduate level (Engineering Colleges), while 642 (seven *per cent*) out of 8,640 seats could not be filled up at diploma level (Polytechnic Institutes) during 2016-17 to 2019-20. The under-utilisation of intake capacity of seats was due to lack of availability of man-power, infrastructure and facilities.

In nineteen<sup>45</sup> Engineering Colleges, which were made functional from 2019-20 by tagging with other institutes, 2,784 (61 *per cent*) out of 4,560 seats remained vacant.

Under-utilisation of seats was attributable to establishment of institutes without essential man-power (teaching as well as non-teaching staff) and infrastructure/ facilities.

#### 4.6 Lack of infrastructure, equipment, facilities etc.

Chapter-VI read with Appendix-4 and 5 of the AICTE APH 2016-17 prescribes norms regarding the minimum level of infrastructure required for technical institutions.

Audit noticed significant deficiencies in infrastructure (classroom, library, laboratory *etc.*) and deviations from the prescribed norms as described below:

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<sup>45</sup> Araria, Arwal, Aurangabad, Bhojpur, Buxar, Gopalganj, Jehanabad, Kaimur, Khagaria, Kishanganj, Lakhisarai, Madhubani, Munger, Nawada, Samastipur, Sheikhpura, Sheohar, Siwan and West Champaran.

### (A) Unavailability of building

Due to unavailability of own building, seventeen<sup>46</sup> Engineering Colleges and six<sup>47</sup> Polytechnic Institutes were functioning from the premises of other institutes, with insufficient classrooms, laboratories and hostels etc. (*Appendix-4.3*). In seven cases, three Engineering Colleges were functioning from the premises of one College detailed in **table 4.3 below**:

**Table 4.3**  
**Three Engineering Colleges functioning in the same premises**

Sl. No.	Name of the mentor College	Colleges functioning from the premises of other (mentor) college (Approximate distance (in kilometre) from the mentor college)
1	Engineering College, Nalanda	1. Engineering College, Shekhpura (70) 2. Engineering College, Nawada (55)
2	Engineering College, Motihari	1. Engineering College, West Champaran (45) 2. Engineering College, Sheohar (63)
3	Engineering College, Gaya	1. Engineering College, Aurangabad (81) 2. Engineering College, Jehanabad (50)
4	Engineering College, Purnea	1. Engineering College, Kishanganj (69) 2. Engineering College, Khagaria (136)
5	Engineering College, Jamui	1. Engineering College, Munger (85) 2. Engineering College, Lakhisarai (30)
6	Engineering College, Chapra	1. Engineering College, Gopalganj (103) 2. Engineering College, Siwan (67)
7	Engineering College, Bakhtiyarpur	1. Engineering College, Buxar (187) 2. Engineering College, Bhojpur (109)

As seen in **Table 4.3** and *Appendix- 4.3*, seven Polytechnic Institutes and two Engineering Colleges were accommodating another college/institute; seven Engineering Colleges were accommodating two other Engineering Colleges in their premises.

Under this *Nishchay*, the aim of the State Government was to provide better opportunities of technical and professional skill based education in the State. However, if college/institute has to accommodate students three times to its capacity and where the students have to travel a distance of 30 kms to 187 kms to reach the college/institute, the purpose of establishing an engineering college/ Polytechnic Institute in every district is defeated.

### (B) Unavailability of hostel facilities

- AICTE APH (Appendix-4.2.3) 2016-17 provides for adequate hostel facility for boys and girls, however residential facilities were not available for the students of five<sup>48</sup> out of nine<sup>49</sup> test-checked institutes. Of these five:

<sup>46</sup> Aurangabad, Bhojpur, Buxar, Gopalganj, Jehanabad, Khagaria, Kishanganj, Lakhisarai, Madhubani, Munger, Nawada, Samastipur, Sheikhpura, Sheohar, Siwan, Vaishali and West Champaran.

<sup>47</sup> Arwal, Bhojpur, Jehanabad, Khagaria, Sheikhpura and West Champaran.

<sup>48</sup> Begusarai, Buxar, Jehanabad, Vaishali and West Champaran.

<sup>49</sup> **Engineering colleges** at Bakhtiyarpur, Begusarai, Buxar, Purnia, Rohtas and Vaishali and **Polytechnic institutes** at Jehanabad, Samastipur and West Champaran.

- Engineering College, Buxar was operating from the premises of Engineering College, Bakhtiyapur located at a distance of 187 kms from district headquarters of Buxar.
- Engineering College, Vaishali was operating from the premises of Polytechnic Institute, Vaishali.
- Polytechnic Institute of West Champaran was operating from the premises of Polytechnic Institute, Motihari located at a distance of 45 kms from district headquarters of West Champaran.
- Polytechnic Institute of Jehanabad was operating from the premises of Polytechnic institute, Patliputra Patna located at a distance of 50 kms from the district headquarters of Jehanabad.

### **(C) Lack of Laboratories**

AICTE APH (Appendix-4.2.1 (B) and 5.2) 2019-20 envisage about the minimum area requirement of laboratory and provides that the laboratories shall have equipment as appropriate for experiments as stated/suitable for the requirements of the affiliating University/ Board's Curriculum.

However, none of the test-checked institutes had proper laboratory (February 2022) for imparting practical training to the students. Four<sup>50</sup> out of nine test checked institutions were dependant on tagged institutes.

- In Engineering College, Purnea, only 44 out of required 75 laboratories were available.
- In Engineering College, Bakhtiyapur, laboratories were not available for four semesters in civil and mechanical branches, for three semesters in Electrical branch and for two semesters in computer science branch.
- In Polytechnic Institute, Samastipur, only 53 out of required 62 laboratories were available. Though, only 37 laboratories were functional.
- In Engineering College, Begusarai, only 15 out of required 23 laboratories were available for Computer Science Engineering.
- In Engineering College, Rohtas, 54 out of required of 62 laboratories were available.

**(D)** AICTE APH (Appendix-6.1.13) 2019-20 envisage that at least five MoUs should be executed with different industries for internship. However, six<sup>51</sup> out of nine test-checked institutes had not executed such MoUs.

Insufficient infrastructure thus created a poor learning environment and adversely affected the quality of technical education in the State.

## **4.7 Monitoring mechanism**

Adequate and effective monitoring mechanism is essential for proper execution of a scheme. This enables the supervisory officers to better manage and monitor the scheme.

Audit observed (December 2020) that the Department did not have any MIS system, state level monitoring unit, internal audit wing, grievance redressal

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<sup>50</sup> Buxar, Jehnabad, Vaishali and West Champaran.

<sup>51</sup> Bakhtiyarpur, Begusarai, Buxar, Jahnabad, Samastipur and Vaishali.

cell as well as periodic evaluation mechanism for the scheme. The Principals of test checked institutes replied (January – March 2021) that mechanism for monitoring of work-in-progress was not available at the institute level and neither any target was fixed nor any joint inspection/verification was conducted by the Department and BCD officials.

Resultantly, the desired monitoring was not carried out by the Department and due to lack of monitoring unsuitable land was selected, portable cabins were not constructed and adequate laboratories were not available.

#### **4.8 Conclusion**

*Avsar Badhe Aage Padhein (ABAP)* was one of the *Saat Nischay* for providing technical and professional skill based education in Bihar and the Department of Science and Technology was responsible for its implementation through construction and establishment of different institutions under its aegis. The Department could not implement the scheme properly due to acute shortage of teaching and almost non-availability of non-teaching staff against the norms prescribed by the AICTE that could adversely affect the quality of technical education. Objective of the scheme was also defeated by delayed acquisition of land, acquisition of unsuitable lands, non/delayed construction of buildings by the BCD, insufficient infrastructure, equipment, facilities *etc.* Further, due to absence of effective monitoring mechanism of the Department, unsuitable land was selected, buildings/portable cabins were not constructed and adequate laboratories were not available. With colleges/institutes accommodating students three times to their capacity and students having to travel a distance of 30 kms to 187 kms to reach the college/institute, the purpose of the resolve for establishment of an Engineering College/Polytechnic Institute in every district is defeated. The intended objectives of the resolve to provide quality technical and skill based education could not be achieved even after lapse of five years.

The matter was reported (October 2020) to Government. Despite reminder; the reply is awaited (April 2022).