

Action taken report on the recommendation made in the Seventy Sixth report of the Public Accounts Committee (2023-24) on the subject "Setting up of New Indian Institute of Technology"

PAC Observations	Reply by IIT Ropar
<p style="text-align: center;"><u>REPORT</u></p> <p style="text-align: center;"><u>PART-I</u></p> <p>A. INTRODUCTORY</p> <p>Indian Institutes of Technology (IITs) are autonomous, apex institutions for engineering education and research in India. As of March 2020, there are 23 IITs across the country. Out of these 23 IITs, seven IITs were set up between 1951-2001, eight IITs during 2008 and 2009 while the other eight IITs were set up between 2012- 2016. The eleventh five-year plan (2007-12) envisaged setting up of eight new IITs for the expansion and upgradation of institutions rendering technical education to meet the skilled manpower needs of the country, while also providing for social equity. All IITs are governed by the 'Institutes of Technology Act, 1961' (hereinafter referred as Act) a Central Statute, which declared the IITs to be institutions of national importance. The Act envisages that the IIT's provide for instruction and research in such branches of engineering and technology, sciences and arts, as the IITs may think fit. It also lays down that the IITs take steps for the advancement of learning and dissemination of knowledge in such branches, to hold examinations, to confer honorary degrees, to frame statutes and ordinances etc. In line with the provisions of the Act, IITs offer Undergraduate programmes in various branches of engineering and technology. Postgraduate programmes with specialization and Ph.D. programmes in engineering, science and interdisciplinary areas. The IITs also conduct basic, applied and sponsored research.</p> <p><u>Salient features of the new eight IITs</u></p> <p>2. Salient features of the new eight IITs are given below:</p>	

- Initiating construction of permanent campuses in the land allotted to new IITs by the respective state governments which commenced their academic activities initially from temporary campus.
- To undertake the infrastructure works like construction of academic buildings, hostels, laboratories etc. in a phased manner in all IITs from 2012.
- Achievement of targets of infrastructure development in a timely manner along with timely installation of equipment and proper fund management.
- Envisaging an overall target intake of 18,880 students in the initial six years (2008-14) across eight IITs.
- To increase in sanction of faculty positions linked with the increase in students i.e., sanction of faculty posts to be increased by one for every increase of students by 10 (1: 10 ratio).
- To increase the representation of students belonging to reserved categories (SC/ST/OBC) in PG and Ph.D enrolment in all eight IITs.
- To attract substantial funding from government sources towards sponsored research projects in all eight IITs.

3. C&AG Report No. 20 of 2021 (Performance Audit) on the subject 'Setting up of new Indian Institutes of Technology pertaining to Union Government, Ministry of Education contains significant results of the Performance Audit on setting up of eight new IITs during 2008-09 and covers the activities of these IITs pertaining to the period 2014-19. The Report assesses availability of land, creation of infrastructure for achieving the envisaged student enrolment, procurement of equipment and services, general financial management and academic/research activities of IITs besides oversight mechanism in administering these IITs.

4. The Public Accounts Committee (2021-22) selected the subject for detailed examination and report. Considering the significance of the issues involved in the matter, the subject was carried forward by the Public Accounts Committee (2022-23). In the process of examination

of the subject, the Committee obtained background material and detailed written replies from the Ministry of Education. They also took oral evidence of the representatives of the Ministry of Education. It was decided by the Public Accounts Committee (2023-24) to continue with examination of the subject and report. The issues so discussed are enumerated in the succeeding paragraphs.

B. CREATION OF INFRASTRUCTURE

5. Audit examined creation of infrastructure by eight IITs during the five-year period 2014-19 pertaining to (1) land allocation/availability (ii) planning by way of phasing the construction activities by respective IITs (iii) execution of phase-wise construction activities and (iv) supply and installation of equipment.

6. Audit observed that the Detailed Project Report (DPR) of MoE (erstwhile MHRD) provided that the new IITs would be residential institutes of an area about 500 to 600 acres each. The campus of each of these IITs would house the academic area and residential area for students, faculty and staff. The campus of the IITs would also contain facilities like guest house, health care (at the level of primary health clinic), small shopping centre along with banks, sports facilities, postal facilities, elementary and secondary schools for the children of faculty, staff and married students. The IITs were also to be fully equipped with laboratory equipment and computing equipment for the students to facilitate the learning process in line with the courses offered.

(a) Availability of Land

7. Government of India (GoI) requested (2006) the respective State Governments to identify and allot 500-600 acres of land (preferably land in possession of the Government) free of cost, to each of the eight IITs, with necessary social and physical infrastructure like electricity, water, rail and road connectivity. The DPR also considered availability of 500-600 acres while planning for infrastructure development.

8. From the data furnished by the IITs, Audit observed that the allotment and transfer of land by the State Governments commenced during 2008-2012. As of November 2020, allotment and transfer of

The Punjab Government has allotted 501A-3K-19 M land to the IIT Ropar. As per latest Demarcation done by the joint committee constituted by District Administration which

land was completed in four IITS (IITH, IITI, IITJ and IITP) while in four other IITS (IITBBS, IITGN, IIT Mandi and IIT Ropar), large land portions were pending possession.

9. Further, in IITGN, although 399 acres of land had been allotted to the Institute, 150 acres of land was in unsuitable condition. Hence, 165 acres of land compensating the unusable land was sought from the State Government.

10. The Committee desired to know as to why the availability of requisite suitable land was not possessed from the State Governments before taking up large scale expansion of the IIT System. In response, the Ministry of Education in their written replies submitted as under:

"When an IIT is to be established in a State, the Ministry of Education communicates with the concerned State Government and requests to allocate 500-600 acres of land free of all encumbrances. The State Government then identifies two or three sites as per availability and a Site Selection Committee comprising of senior officials from the Ministry, representative from the concerned IIT/ Mentor IIT and CPWD after visiting and inspecting the sites submits their recommendations, based on which the site is finally selected. However, taking into account the past experiences, in future, efforts would be made to impress upon the State Governments for identification of suitable land for transfer for setting up of the IIT."

11. Audit noted that in case of IIT Gandhinagar and IIT Mandi, the land availability is far less than the envisaged 500-600 in DPR.

12. The Committee desired to know about the alternate plan to create infrastructure to meet the targeted intake of student strength. In response, the Ministry in their written replies submitted as under:

"In case of IIT Gandhinagar, it is currently in possession of 399

submitted its report on 01.08.2023, IIT Ropar has the possession of 459A-16M land. There is a shortfall of 42A-3K-3M land which includes land under litigation equal to 4A-3K-3M (Annexure-A). The issue regarding allotment of land equal to shortfall has been raised on the PMG portal of the Ministry (Annexure-B). Litigations for the disputed land are continuously going on. The Institute is taking suitable steps to respond to the litigations.

No comments required from IIT Ropar please.

acre of land, which is sufficient to support a student intake of 10,000, as per the decision of the Committee for determination of land requirement of Central higher education institutions. The matter relating to requirement of additional land was taken up with the State Government at the level of Secretary. D/o Higher Education vide letter No. 11-10/2008-TS-1 (G) dated 28.10.2020."

"In the case of IIT Mandi, it is already in possession of 501 acres of land."

13. Audit scrutiny revealed that in case of IIT Gandhinagar, State Government (Government of Gujarat) stated that there was no need for additional allotment of land.

In light of the above, the Committee sought to know whether any policy is evolved by the Ministry to ensure that the minimum extent of land to be made to the IITs, which are Institutes of National Importance. The Ministry, in their written replies stated as under

"The Central Government vigorously follows up with the concerned State Government."

(b) Master Plans and construction activities - Delays in Phase-I and II works and other sampled works

14. Audit observed that each IIT developed their own Master Plan which was approved by respective BoG/BWC. These Master Plans include detailed infrastructure requirements and allocated land for various academic and non-academic purposes like housing, transportation, infrastructure etc. and their development in phased manner. The major construction works in all the eight IIT's were undertaken in Phase-I and Phase-II during 2012-19. The IITs have also executed other works like construction of compound wall, shifting of power stations, construction of roads etc. To execute these works, the IITs adopted two modes of execution i.e., (1) execution of works directly by the IITs by engaging contractors and (ii) entrusting the work to public works agencies like Central Public Works Department (CPWD), National Building Constructions Corporation (India) (NBCC) Ltd. etc., on deposit basis.

No comments required from IIT Ropar please.

(c) Phase-I and II: Overall Delays in Construction

15. Phase-I and Phase-II development in all the IITs comprised works.

Details of phase-wise works

Phase-I	construction of academic buildings, student hostels, residential accommodation for faculty and staff, laboratories in proportion to student/faculty/staff population.
Phase-II	construction of additional academic buildings, student hostels, faculty housing, staff housing, laboratories, Incubation Pike, Technology Research Parks, guest houses, sports facilities etc. in proportion to student/faculty/staff population.

16. Regarding phase wise construction works, Audit observed the following:

- (i) While construction activities under Phase-I were initiated in all the IITs during 2012, buildings under Phase-I were complete only in two IITs (IITBBS and IITJ), while they were incomplete in remaining six IITs as of March 2019.
- (ii) Phase-II works were Initiated during the period 2014-19 in five IITs (IITBBS, IITH, IITI, IITJ and IITP). Audit observed delays in execution of Phase-II building works in two IITs, namely IITBBS and IITI. Phase-II works were yet to be initiated in rest of the three IITs (IITGN, IIT Mandi and IIT Ropar).

17. According to Audit, some of the facilities that were delayed in these IITs were academic buildings including research facilities, hostels, health centres and sports facilities. As such, envisaged

Phase-I: construction activities under Phase-I have already been completed on 30.06.2023 (Annexure-C)

Phase – II works not yet started in IIT Ropar.

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campus development remained incomplete in IITs, despite a lapse of seven years since initiation of construction activities.

Completion of buildings under Phase-I and Phase-II as of March 2019

Name of the IITs	Phase-I Buildings		Phase-II Buildings	
	Planned	Completed	Planned	Completed
IITBBS	13	13	26	0
IITGN	7	3	Not initiated	Not initiated
IITH	8	6	10	0
IITI	13	12	11	0
IITJ	19	19	32	7
IIT Mandi	107	70	Not initiated	Not initiated
IITP	18	15	16	0
IIT Ropar	33	14	Not initiated	Not initiated
Grand Total	218	152	95	7

18. The committee asked about the steps that have been taken up by the Ministry/IITs for completion of the planned buildings. In response, the ministry in their written replies submitted as under:

"IITs hold regular review meeting with the PMC on regular basis to assess the progress of the work. PMC submit program activity indicating status of construction and any other related issues."

19. On being asked the present status of building completed as well as the number of buildings remained incomplete till date, the Ministry in their written replies stated as under:

"Out of the 8 IITS, IIT Jodhpur completed its campus

All the buildings under Phase-1 have been completed on 30-06-2023 (Annexure-D)

Name of the IITs	Phase-I Buildings		Phase-II Buildings	
	Planned	Completed	Planned	Completed
IIT Ropar	57	57	Not initiated yet	NA

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315 establishment project by 31.07.2021. The progress of remaining IITs as on 31.10.2022 is as under.-

S. No	Name of the IITs	Number of Buildings proposed to be constructed as per DPR	Number of Buildings completed	Number of building incomplete	% Completion	Estimated date of Completion
1	IIT Gandhinagar	66	62	4	94%	31.12.2022
2	IIT Bhubaneswar	58	47	11	87.00%	31.03.2023
3	IIT Hyderabad	41	41	---	100%	
4	IIT Jodhpur	59	58	---	100%	---
5	IIT Ropar	57	56	1	90.5%	31.03.2023
6	IIT Patna	61	52	9	96.50%	28.02.2023
7	IIT Indore	36	36	---	98%#	31/12/2022
8	IIT Mandi	107	107	---	100%	---

mandated 2, 21,000 SQM area is constructed and occupied by the Institute. Minor commissioning and rectification work is in progress which will be completed by 31.12.2022"

20. Audit observed that the IITs attributed the delays to time taken for finalization for designs, obtaining regulatory clearances, statutory approvals, default on the part of contractor, shortage of labor and remoteness of the area, etc.

21. When asked about the efforts made by the Ministry for speedy execution of works, the Ministry of Education submitted as under:
"Most of the above mentioned reasons attributed to delay are for which clearances need to be obtained and resolved at the

S. No.	Name of the IITs	Number of Buildings proposed to be constructed as per DPR	Number of Buildings completed	Number of building incomplete	% Completion	Estimated date of Completion
5	IIT Ropar	57	57	...	100%	30.06.2023

The Work has been completed within the given timeline i.e. 30.06.2023.(Annexure-D)

No comments required from IIT Ropar please

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Institute level. These clearances are specific to the requirements of the State Government norms. IITs need to do regular follow up with the State Government."

22. The Committee further sought to know about the action taken against the delinquent officers/contractors so as to ensure that such lapses do not occur in future. In response, the Ministry in their written replies stated as under:

"Liquidated damages are imposed on the delinquent contractors including encashment and forfeiture of Performance guarantees and even blacklisted the firm, wherever applicable as per the agreement."

IIT Ropar agrees with the reply of the Ministry please.

(e) **IIT-WISE SIGNIFICANT DEVELOPMENT AUDIT FINDINGS IN INFRASTRUCTURE DEVELOPMENT**

IIT BHUBANESWAR (IITBBS)

23. IITBBS commenced its activities under the mentorship of IIT Kharagpur at the latter's campus with effect from 2008. The scheduled date of shifting was July 2015 and the permanent campus of IIT Bhubaneswar (located at Arugul) started its academic operations from the academic session 2015-16 onwards.

(i) **Availability of land**

24. Audit observed that Government of Odisha allotted (2009-10) 943.27 acres to IITBBS and accordingly the master plan of the Institute was prepared for development of infrastructure projects in phased manner. The allotted land included 305.11 acres of forest land. Out of the forest land, 148.91 acres was not handed over to the IIT till November 2020. As such, the reduction in availability of allotted land would prove to be a limiting factor in future expansions.

25. The Committee desired to know the reasons for reduction in availability of land allotted to IIT Bhubaneswar. In their written replies, the Ministry submitted as under.

"There is no such proposal to reduce the Land committed by

State Government to IIT Bhubaneshwar. IIT Bhubaneshwar has taken physical possession of entire 943.47 acre of agreed land. (Govt Land: 628.799 acre, Forest Land-302.377 acre and Private land- 12.295 acre) from Govt of Odisha by 2011 in phases for its permanent campus at Argul. Correction of RoR of 10.95 acre of private land in the name of this IIT has also been completed."

26. On being asked about the efforts made by ITs/Ministry for possession of entire allocated land with requisite process of conversion of Forest land, the Ministry in their written replies stated as under:

"The State Govt has now sanctioned (January 2022) lease for 618.665 acre of Government Land for which advance possession was given earlier. It has claimed arrear ground rent, cess and cost of tree amounting to 44,66,120 for payment and then to sign the lease doods. Lease deed for alienation of Govt Land of 618.665 acre will be executed shortly after payment of the amount of ₹44.66 lakh claimed by the State Govt."

(ii) **Execution of works**

27. Audit noted that Phase-I works (11 works) in IITBBS were executed by CPWD. Out of these, only four works (faculty housing and administrative building) were completed as per schedule. The remaining seven works (lab complex, schools of electrical sciences, mechanical sciences, infrastructure, basic sciences, boys' hostel and compound wall) scheduled to be completed by October 2013 to March 2016 were however, completed by October 2014 to May 2016. Thus, the delay ranged between one and twenty months (as of 31 March 2019).

28. Audit further found that Phase-II works were executed by NBCC. Out of three works, two works (boys' hostel and package works) which were scheduled to be completed by October 2018/February 2019 were not completed by March 2019. The delay in completion ranged between one month and five months (as of 31 March 2019). Further, third work of Sewage Treatment Plant was under progress as of March 2019 (Scheduled completion by November

2019).

29. The Committee sought to know as to why IITs, being new, were entrusted with Architecture/ construction activities instead of a separate dedicated body to manage MoUs/Construction contracts to allow IITs to devote full time to academic activities. In response, the Ministry stated as under:

"It is a policy matter. IIT Bhubaneshwar had entrusted CPWD with execution of works under Phase I (up to 2015). Due to delay in construction and midway abandonment of a contractor, IIT BBS engaged NBCC as a project management consultant for phase II works from 2015 onwards. As a result, out of 58 buildings (Phase I 23, Phase II 35), all 23 buildings under Phase I have been completed and handed over to the IIT. Nine buildings (phase II) are in finishing stage and are likely to be completed by 31.10.2022. Remaining two buildings under Phase II (LHC-2 and auditorium) are expected to be completed by 31.03.2023.

30. On being asked about the specific reasons for the delay in completion of works ranging from one month to twenty months, the Ministry replied as under:

"The delay in completion of works by NBCC under Phase II is primarily due to deployment of inadequate manpower and on some plea or other. The matter has been regularly and aggressively monitored and pursued. Besides, due to delay in execution of work and midway abandonment, penalty of ₹ 30.89 cr (Phase I ₹ 4.52 cr and Phase II ₹ 26.37 cr) has been imposed and recovery has been made from contractors through CPWD/NBCC."

31. Regarding the mechanism developed by IITs/Ministry to mitigate further delays in ongoing works on these aspects, the Ministry in their written replies submitted as under:

"In order to mitigate further delays in ongoing works, it is intended to introduce a robust monitoring mechanism through a

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team of experienced engineering and contract management Professionals from reputed organization/PSUs."

(iii) **Faulty execution of fire safety works**

32. National Building Code, 2005 (NBC) provides that while taking up construction of building projects, the design should include statutory fire-fighting strategies.

33. In IITBBS, a consultant (Consulting Engineering Service (CES) India Pvt. Ltd.) was engaged (May 2010) to provide Project Development and Project Management Services for various buildings like hostels, staff quarters, guest houses etc., under Phase-I

34. Audit observed that designs which were non-compliant with the fire safety norms of NBC 2005 were adopted for construction and buildings were built, thereby exposing the occupants to fire hazards. As a result, certain portions of six buildings already constructed had to be dismantled (June 2015) at a cost of ₹32 lakh. Later, IITBBS estimated that an additional ₹2.18 crore would have to be incurred for installing firefighting systems to meet the requirements of NBC 2005.

35. The Committee enquired whether any action has been taken against the Building and Works Committee (BWC) for these lapses. In reply, the Ministry submitted as under:

"Building and works committee is a statutory committee under clause 9 of the First Statute of IITBBS. It also has representation of external technical experts. It is a monitoring and advisory body. It has taken all steps with required due diligence to minimize the delay in execution and to penalize the contractors for delay."

36. The Committee desired to know the status of ₹92.55 lakh, which was not released to the consultancy firm. In response, the Ministry in their written replies stated as under.

"₹ 92.55 lakh payable to the Consultant M/s CES as calculated by the committee has not been released to them. The Institute has decided not to release ₹92.55 lakh to this consultancy

agency due to deficiencies in its plan and design."

37. The Committee also desired to know as to whether the building is now fire safety compliant and whether the students & faculty are utilizing the buildings for their scheduled activities. In this regard, the Ministry submitted their replies as under:

"All these academic and hostel buildings are fire safety compliant with fire hydrant, fire sprinklers system, overhead tanks etc. Portable fire extinguishers have also been installed in these buildings in sufficient quantity to take care of any fire hazard. Other fire safety works for the administrative buildings are under execution."

38. When enquired about the systems against the estimate of actual expenditure incurred for installing firefighting 2.18 crore to meet the requirements of fire safety norms of NBC 2005, the Ministry in their written replies submitted as under:

"Out of estimate for 2.18 cr, fire safety works valued at 99.25 lakh has been executed. The executed works include fire hydrants, fire sprinklers, fire alarms system, fire extinguishers, overhead tanks etc. These have been made operational to comply with the fire safety norms of NBC 2005."

IIT GANDHINAGAR

39. IITGN commenced its activities during August 2008 from a temporary campus at Vishwakarma Government Engineering College, Chandkheda under the mentorship of IIT Bombay. It later shifted to its permanent campus at Palaj, Gandhinagar during July 2015 to March 2016.

(i) Availability of land

40. Audit observed that the Government of Gujarat allotted (September 2010) 399 acres of land. Out of this, 150 acres was in ravines and prone to flooding and erosion. In lieu of this 150 acres, a request was made by IITGN for 165 acres of alternate land, which was not acceded by the State Government. Thus, only 249 acres suitable

for construction was available with IITGN as of November 2020. As such, the extent of land allotted by the Gujarat Government (50 per cent) did not meet the required 500-600 acres of land to be made available to IIT as per the DPR. IITGN itself stated that the shortage in land availability is detrimental to future expansion of the campus.

41. The Committee desired to know as to why such a land which was in ravines and prone to flooding and erosion was selected as a part of the allotted land to IITGN. In response, the Ministry in their written replies submitted as under:

"Initially, 403 acres of land was allotted by the State Government to IIT Gandhinagar and occupation thereof was given in July 2012. Subsequently, 04 acres of disputed land was taken back by the State Government. Out of 399 acres of land with IIT Gandhinagar, some of the area has ravines and, therefore, entire land is not economical for construction work. IIT Gandhinagar nevertheless has made efforts to reclaim the suitable portions for construction and developed the ravine area appropriately to be used for non-construction purpose. A Site Selection Committee was formed by the Ministry of Education (MHRD at that time) in May 2009 to assess the sites identified by the Government of Gujarat for establishment of IIT Gandhinagar. Out of the three sites visited and assessed by

the Committee, the site at Palaj Village was recommended for establishment of IIT Gandhinagar."

42. On being enquired as to whether any further steps were taken by IITGN or MOE with the State Government for additional transfer of land in lieu of unsuitable land. In response, the Ministry in their written replies submitted as under.

"IIT Gandhinagar had made all possible efforts to get extra land allotted but Government of Gujarat has not allotted additional land so far. IIT Gandhinagar has been regularly following up on this issue. In July 2016, Government of Gujarat wrote to MHRD that there is no need for additional transfer of land to IIT Gandhinagar. Thereafter, IIT Gandhinagar has been regularly following up with MHRD to pursue this matter with Government

of Gujarat, as can be seen from our letters dated 19 September 2016, 19 February 2020 and 24 February 2020 to the Ministry (copy enclosed as Annexure 2, Annexure 3 and Annexure 4). MoE (MHRD then) had also written to State Government of Gujarat vide D.O. letters no. 11-10/2008-TS-I dated 29.04.2008, 13.05.2010, 02.03.2015 & 28.02.2020 to consider the request of IIT Gandhinagar."

(ii) Execution of works in Phase-I

43. Audit observed that twenty-six works under Phase-I were initiated by IITGN. Out of these works, 14 were completed (academic buildings, faculty/staff housing, boundary wall, electrical connections, hostels etc.) and two works (Institute's guest house and Director's residence, amphitheater and sport facilities) were under progress. It was seen that in respect of these 16 works executed, there was a delay ranging between one month and thirty seven months as of 31 March 2019. The balance ten works (water pipeline connection, HT connection and other allied activities) were completed within scheduled time.

44. The Committee sought to know as to what steps have been taken by the MoE to intervene in this matter so as to resolve the issues on time. In this regard, the Ministry submitted in their written reply as under:

"Ministry has been convening review meetings to assess the progress of the construction activities. The progress is also reported during the FC/BOG meetings regularly wherein; representative of the Ministry is also a member. Further, after setting up of HEFA, the projects are regularly monitored before release of funds/loans and for appraisal to the HEFA Board."

(III) Tendering and awarding of works

45. Rules 163 to 176 of GFR 2005 stipulate the process of identification, shortlisting and selection of consultants and outsourcing of services, CVC Circular No 23/7/07 dated 5 July 2007 also inter alia states that a tendering process or public auction is a basic requirement for the award of contract by any government agency.

46. Audit scrutiny revealed that architectural consultancy services for five works which included the construction of academic buildings, sports complex etc., in Phase-I was awarded on nomination basis at a consultancy fee of ₹7.64 crore, without following the said provisions of GFR. Further, it was also seen that the Owner's Architect and later a company owned by the Owner's Architect were also appointed on a nomination basis. A civil engineer from the company owned by the Owner's Architect was also appointed on a nomination basis.

47. The Committee desired to know about the action taken on IIT's statutory bodies for violation of GFR in awarding the work on nomination basis and review the consultancy work with regard to quality and meeting the timelines by the Ministry/IITs. In response, the Ministry in their written replies submitted as under:

"It has already been clarified that the consultant in question M/s. Mitimitra initially was selected on the basis of wide competition for comprehensive architectural services for non-residential buildings comprising of Academic Buildings under Phase-1A as per relevant provision contained in GFR-2005 for procurement of Goods and Services. It would be relevant to quote the following extract of the RFP for the above selection:-

IITGN envisages that in the first instance, it will assign the task of comprehensive architectural services for Non-Residential Buildings comprising academic buildings, laboratories, lecture halls and support facilities for about 1200 students to the Consultant. Subsequently, IITGN will develop the remaining buildings and facilities in a phased manner. Depending upon requirement, this may be assigned to the same or any other consultant at the sole discretion of IITGN

After having considered the performance(s) of all three architectural consultants engaged by IITGN namely (1) M/s. HCP Design, Planning & Management Pvt. Ltd. for Student Hostels (ii) M/s. VastuShilpa Consultants for Residential Buildings (iii) M/s. Mitimitra Consultants for Academic Buildings in the light of above provision, only M/s. Mitimitra Consultants was found suitable to be considered for other works.

Accordingly the consultant was awarded works of Sports Complex, 1BHK 2BHK & Studio Apartments and Academic Buildings-2 after obtaining their willingness. As scope of the work in original RFP had already been defined with a rider that further work under Phase-1 (ie., Phase-1B) shall be awarded based on performance under Phase-1A, the above works were awarded. It would therefore not be reasonable to say that the said works were awarded to M/s. Mitimitra Consultants on nomination basis.

Regarding owner's architect, as was clarified earlier that the initial appointment of the consultant as owner's architect was on the basis of formal / Informal search for a professional consultant who was willing to initiate the process of selection of various architect consultants i.e. for Master Plan, detailed architectural planning of buildings and infrastructural development including bulk services. It may be seen that the scope of his services was not that of a usual consultant but different and somewhat open ended for which he was found to be suitable based on experience, capabilities and willingness to undertake the role of an advisor and coordinator in architectural matter including the process of selection of various architectural consultants. In this regard it is clarified that the work had physically completed by M/s. Torrent Power in July-2015 and campus energized. The completion date of 26.10.2016 mentioned in the statement of the Audit is in respect of final settlement of accounts with M/s. Torrent Power which took some time in seeking clarification from them in regard to expenditure. In this regard it is once again stated that institute started functioning from the new campus from July 2015 and buildings were occupied in phases along with services and thus accomplished entire shifting from temporary campus to permanent campus in a few months' time. The institute has since been functioning from the new campus since 2015 and keeping pace of infrastructural development with the requirement of the institute."

(iv) **Blocking up of funds for Research Park**

48. Department of Science and Technology (DST), Gol approved

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(September 2016) Grant-in-Aid of ₹90 crore to IITGN for construction of a Research Park and released ₹40 crore and ₹16.10 crore in September 2016 and March 2019 respectively.

49. Audit observed that although the funds were received by IITGN in September 2016, IIT released an advance of ₹29.60 crore to CPWD (as per the MoU) only in June 2018 for the construction of the Research Park. As such, there was a delay of 22 months on part of IIT in releasing the funds to CPWD which delayed the construction of Research Park.

50. The Committee sought to know whether any initiative has been taken up at any level to review the idling of grants with IITs/CPWD to prevent delays in research infrastructure. In reply thereto, the Ministry submitted as under:

"The Research Park in IIT Gandhi Nagar has been established / funded by the Ministry of Science & Technology and M/o Education is not having any role in its funding.

However, it may be seen from the allotment of fund of ₹90 Crore to IITGN for

Research Park project that ₹3.00 Crore was made available to IITGN for establishment of Temporary Research Park and Incubation Centre on temporary basis till permanent building comes in position. While at one hand process of engagement of an architect consultant for comprehensive consultancy services was initiated soon after, the process of establishing the temporary centre also was taken in hand in parallel to provide the facilities to various stakeholders intended to make their establishment at IITGN. This work was completed in shortest possible time and Research Park/Incubation Centre started functioning from temporary centre w.e.f 31.10.2017. As many as 17 stakeholders have been functioning since then. Besides an amount of ₹5.45 Crore was remitted to Ministry of Science & Technology as interest earned on their deposit. It may thus be seen that the interest of stakeholders and that Ministry of Science & Technology had been kept in mind while dealing this project. It may be appreciated that no liability be incurred by the IITGN or CPWD unless availability of fund is fully ensured and

that Ministry of Science & Technology deposits the fund installment with IITGN and in turn to CPWD on requirement basis"

IIT HYDERABAD

51. Audit observed that IIT Hyderabad commenced its activities from a temporary campus at the Ordnance factory estate, Yeddumailaram, during 2008 under the mentorship of IIT Madras. Later, the Government of Andhra Pradesh (erstwhile) handed over 575.04 acres of land during 2008-12 at Kandi village, Sangareddy district, Telangana for permanent campus. As per the data made available to audit, the first academic building was completed in June 2016 and other buildings, namely hostels, dining, staff housing etc. were completed during February 2017 to April 2019.

(i) Execution of works: Delay in Phase-I construction

52. Audit pointed out that all the works under Phase-I were taken up as a single contract (construction of permanent campus) during the year 2012 and were scheduled for completion by November 2014. A building-wise analysis revealed that there were delays ranging between two to five years in completion of the buildings like Chemical Engineering block, Mechanical Engineering block, Civil Engineering block, hostel blocks and residential housing. Only 31 per cent of agreement value amounting to ₹222.74 crore was spent within the agreement period of 24 months and none of the buildings was completed within the original agreement period of 24 months. As a result, the planned campus facilities as mentioned above could not be offered timely to student/staff and other residents.

53. Audit observed that the delay in construction resulted in depriving the students and faculty of the benefits of full-fledged infrastructure. Audit observed that at least three batches of students starting from 2014 completed their graduation without availing the complete benefit of the new campus like new academic buildings/laboratories and permanent hostel facilities.

54. Apprising the Committee about the reasons for such long delays in completion of buildings, the Ministry in their written replies submitted

as under:

"IIT Hyderabad (IITH) started functioning independently and operating educational programs in 2011. There were some justifiable delays in construction which are attributed to:

- The land dispute on a parcel of land located inside the main campus affected the construction of service buildings. Due to the pending court case, the electrical substation required to power academic buildings had to be shifted and entire service lines emanating from the substation had to be re-designed. This delayed energizing the academic building.
- Bypass road to Nanded was passing through the campus and across the main academic area. The road had to be diverted by the district authorities before the start of construction of the academic buildings.
- There were overhead High Tension (HT) electrical lines passing through Academic areas. It took considerable time for shifting of these power lines before construction could be started.
- Frequent Strikes over Telangana agitation for state formation during the year 2013 had a high impact on the progress and movement of goods, labour and materials.
- Occasions of hindrances due to natural calamities like severe monsoons.
- General and state elections in 2014 caused labour exodus to their home states.
- Demonetization in the year 2016 and Implementation of Goods Services Tax (GST) in the year 2017 resulted in cash flow problems, which also contributed to some delays.

55. The Committee desired to know as to why funds were not made available to IIT Hyderabad. In the written replies, the Ministry stated as

under:

"There has been some delay in completion of the project. It is submitted that the Ministry has been releasing funds, as and when demanded by the institute and as per the Budget allocation for this purpose. Funds in the amount of 368 Cr were released and utilized up to FY 2015-16, which resulted in the completion of hostels for 800 students and an academic building of 2.0 lakh sqft, including all required services. The academic activity was shifted to the permanent campus in 2015. Subsequently, funds were released after the approval of the RCE (approved vide letter no. D.O. No. 34-1/2016-TS-I dated 8th July 2016). The project was completed in 2019."

56 The Committee further desired to know as to whether the funds flow was sufficient from Ministry to complete the work within two years (agreement period by November 2014). In response, the Ministry in their written replies submitted as under.

"There has been some delay in completion of the project. However, Phase I was planned and construction was initiated in 2012. The academic activity of the students was planned and completed in a Phase-wise manner and the students were not deprived of the benefits of the infrastructure. As mentioned before, hostels for 800 students and an academic building of 2.0 lakh sq. ft, including all required services was made ready and academic activity was shifted to the permanent campus in 2015. Hostels and academic buildings to support the activity of 1200 students were completely operational by 2016. Hostels for 2000 students were completed in all respects by 2017. The housing for faculty and staff, however, were completed in 2019. Within three years of the approval of the RCE, the total infrastructure, including the housing and all facilities for student strength of 2000, had been completed and made operational."

(H) Inordinate delay in taking up of Phase-II

57. Audit scrutiny revealed that Phase-II works were estimated to cost ₹1,776.50 crore. Out of this, Japan International Co-operation Agency (JICA) sanctioned a loan of ₹ 1,501.72 crore to Gol during

January 2014. The remaining ₹274.77 crore was funded by Gol and the release of funds started from 2013-14. The project period was four years from 2013-14 to 2016-17. Phase-II works included, among other works, construction of Laboratory complexes under Technology Incubation Park (TIP) and Technology Research Park (TRP). TIP and TRP were intended to provide space for start-ups.

58. Audit observed that the work pertaining to Phase-II was however awarded during March 2019, ie, after five years from the date of loan agreement and scheduled to be completed by March 2022 (36 months from March 2019). As a result of the delay, the intended objective of advancement of academic and research activities in the Campus could not be achieved till date. This reflected inaction on the part of BWC/BoG in monitoring fund release and taking up of the construction activities in timely manner.

59. On being asked as to whether the absorption capacity of the IIT to utilize the JICA funds/loan provided was assessed by the Ministry before releasing the funds to IITs. In response, the Ministry in their written replies submitted as under

"A detailed assessment was performed by JICA. It may be noted that Phase II of IITH campus development was taken up under the IITH Campus Development Project funded by JICA. This work is on-going and will provide for additional facilities (academic, sports, incubation and innovation etc) and hostels space for additional 2500 students. A draft EFC for IIT Hyderabad-Japan Collaboration under the broader Indo-Japan Collaboration with ODA loan was prepared by IITH. The EFC report was submitted by MoE (the then MHRD) to the Ministry of Finance for its approval. A proposal was considered by the EFC at two meetings of Expenditure Finance Committee. This was also reviewed by the PMO. The recommendations were then placed before the Cabinet Committee for Economic Affairs (CCEA) when it approved the proposal for a total cost of 1776.50 of which the loan amount was for 1501.72, the remaining being the central share of 274.77. In this connection, it may be mentioned that the EFC had made detailed examination of the proposal both with regard to the need and capacity and based on that, it had made its recommendation.

The IITH has both the need and capacity to utilize the JICA funds when the proposal for collaboration was submitted in 2010, it was a newly born (2008) institute of National Importance, which required funds for creating initial infrastructure like any IIT or a Central or State University when they are created."

60. When asked about the action taken against the concerned authorities (BWC/FC/BOG or any other) for their inaction in respect of inordinate delay of five years in awarding the contract (2019) after having signed the loan agreement with JICA in 2014, thereby limiting the infrastructure development. In their written replies, the Ministry stated as under

"Appointment of the contractors and consultants requires approval of JICA in every stage such as approval of prequalification documents, evaluation, tender documents and its scrutiny etc. This process could only be accomplished by March 2019 for construction of buildings.

Documents and other relevant information pertaining to the delay in implementation have been evaluated and the delay has been found to be due to the Institutional practices of JICA, which were not suited for the construction of buildings with detailed architectural work. The framework for loan agreements with JICA was suited for large infrastructure projects, which are decided after a techno-economic analysis. The framework for the loan agreement did not have provisions for the construction of buildings and procuring high-end equipment. Therefore, considerable time was spent in determining the process of Implementation after the loan agreements were to be signed. The tendering process was started in 2018 after the approval of the revised EFC in 2018 and the construction was started in 2019. There was no lack of commitment from the Ministry or IITH."

61. The Committee further sought to know whether any policy was devised to comply with utilization of external aided loans in a timely manner. In response, the Ministry in their written replies submitted as under:

"It is to be noted that the implementation of the JICA funded project is to be taken up under the rules and agreement conditions of JICA. In addition to the requirements of JICA, a Project Advisory Committee has been set up at IITH to monitor the progress of construction. In addition, monitoring by BWC and BoG is also ensured."

(iii) **Construction of STPs after occupancy of buildings due to delay in tendering and avoidable expenditure of ₹ 56.62 lakh**

62. Two Sewage Treatment Plants (STPs) were proposed (September 2014) by BWC in the campus to meet sewage treatment requirements of hostels and academic buildings. IITH intended to re-use the treated effluent for Heating, Ventilation and Air-conditioning (HVAC), toilet flushing and horticulture in the permanent campus. The cost was estimated at ₹17 crore for civil works of both STPs (₹10 crore) and Electro-Mechanical (EM) works for first STP (seven crore).

63. Audit observed that although the BWC was aware that STPs were to be built before occupancy of the buildings, it could not decide upon the appropriate technology for their operation. As such, the work relating to STPs was not considered during the tendering (August 2012) for Phase-I works. It was further observed that the STP works (Civil works) were entrusted in September 2014 during the execution of Phase-I works, to Phase-I contractor only. The contract was awarded as an additional item of work instead of putting this work to tender. This was in violation of GFR whereby IIT lost the opportunity of competitive prices. Moreover, the EM works of STP were separately awarded in March 2018 and completed in June 2019. Meanwhile, as the buildings were occupied during 2015, IIT planned for temporary sewage disposal by way of septic tanks, dispersion channels, soak pits etc. at an expenditure of ₹56.62 lakh (2015-18).

64. The Committee sought to know about the direction/action, if any, initiated by the MoE against the IIT Hyderabad's statutory bodies/consultant for failure to provide appropriate STP technology along with tenders floated for Phase-I despite engagement of a consultant for finalizing the designs and appropriate technology and

action taken against the concerned persons for incurring avoidable expenditure of 56.62 lakh on temporary sewage disposal. In response, the Ministry in their written replies submitted as under:

"The expenditure was incurred for disposing off sewage in a responsible manner, before the STP was made fully operational. Further this did not create additional financial burden considering the operational cost of the STP. There is a minimum load required to operate the STP efficiently. With increasing occupancy, the load

required to operate the STP efficiently was reached in 2019. In view of the justification of IIT Hyderabad, no action was taken by MoE against IIT Hyderabad.

65. The Committee also desired to know about the action taken to avoid such lapses in future in replies, the Ministry stated as under

"The observation is noted and it will be ensured that all necessary infrastructures will be developed simultaneously."

(iv) **Instances of undus benefit to Consultants**

❖ **Avoidable financial burdem-12.86 crore**

66. Audit scrutiny revealed that IITH appointed (September 2011) a consultancy firm (M/s Tata Consulting Engineers Ltd) as Project Management Consultant (PMC) for providing consultancy services, prior to awarding of Phase-I construction works. The consultancy fee for PMC was fixed at 1.81 per cent of the cost of construction works and the consultant was engaged for 36 months. The contract also provided for the payment of additional compensation for monitoring the progress of work even beyond the contractual period. The contract for the construction project (Phase-I works) was awarded in November 2012 at a contract value of ₹643.97 crore and was to be completed within 24 months thereafter. Accordingly, the fee payable to PMC worked out to ₹11.00 crore (1.81 per cent of ₹643.97 crore) at the end of 36 months.

67 Audit observed that the contract work of construction project (Phase-I) could not be completed within the stipulated period of 24 months (Le.. by November 2014) and was inordinately delayed by five years before completion in April 2019. As the consultancy fee for PMC was fixed at 1.81 per cent of the cost of construction works (#643.97 crore), the consultant was paid ₹8.54 crore (09/2011 03/2019) for the completed portion of the work. Additionally, the PMC was paid on monthly basis, a total 12.86 crore from 2015-16 to 2018-10 for delayed period beyond 42 months. As such, the consultant got two parallel payments (from 03/2010 03/2015) Le, the original consultancy fee (@1.51 per cent of ₹637.97 crore) as well as monthly compensation from the 43rd month for the same consultancy services without providing any additional service. This led to avoidable payment on account of the additional compensation paid to the consultant

68 The Committee desired to know about the specific reasons for the delay of 5 years for completion of project and also enquired about the Ministry's failure to monitor the pace of project so as to ensure timely completion thereof. In response, the Ministry In their written replies submitted as under:

"As per the statutes of the Institute, the powers have been delegated to the Institute and there are various bodies like BWC, FC and BoG for regular monitoring the progress of the Infrastructure facilities. The problems/difficulties any which are beyond the purview of these bodies are brought to the notice of the Ministry, are addressed and taken up with the concerned agencies for remedial /redressal."

69. When asked about the action taken against the PMC for not monitoring the progress of construction works, the Ministry in their written replies submitted as under.

"Overall, there has been no cost overrun in the construction (Phase 1). The final completion cost of the project is less than the tendered cost by ₹ 8.29 Cr. The savings in the completion costs could be possible by strict monitoring due to the full deployment of PMC over the project duration."

70. On being asked why the consultant was paid 8.54 crore (from

09/2011 till 03/2019) for the completed portion of work, the Ministry in their written replies stated as under:

"The consultancy period was from September 2011 to March, 2019, for which consultancy fees was paid as per the terms and conditions of agreement ie 18.54 crores. After assessing the requirement of PMC beyond 54 months, as per the terms of contract given in the original RFP document, the consultants were paid fees after obtaining requisite approvals

71. Apprising the Committee about the contributory reasons for paying two parallel payments to the consultant (from 03/2016 till 03/2019) ie, the original consultancy fee as well as monthly compensation from the 43 months for the same consultancy services without providing any additional service, the Ministry in their written replies stated as under

"The payments were made following the conditions of the agreement between IIT Hyderabad and the PMC. No double payment was made. One payment was made as per the contract for the period from September 2011 to March, 2019 and the remaining being fees paid for the period of retaining the consultants beyond this period at the agreed rates as per the contract."

72. The Committee enquired that any punitive action has been taken against the guilty and the extra payment made to PMC has since been recovered. In response, the Ministry in their written replies stated as under:

"There has been no willful deficiency on the part of any of the stakeholders that led to the delay in the completion of the project. Several intangible factors beyond the institute's control cannot be quantified as it followed the standard procedures and CPWD Codal Provisions, and the construction work was taken up and completed as early as possible, despite the various constraints. For instance, during the contract period, delays occurred due to many reasons like All India Truckers Strike, Agitation for Telangana State formation, and

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implementation of GST etc. Because of these justified reasons, work was delayed, which were beyond the control of any stakeholder and cannot be accounted for beforehand. All these issues were discussed in detail and approved by the Project Advisory Committee (PAC), which was appointed by Competent authority and further put to the notice of the Building Works Committee (BWC) followed by a detailed discussion at the highest-level body of IITH ie, Board of Governors (BoG) and it was approved. The payments made to the PMC were strictly as per the terms of the contract given in the original RFP document. No changes were made subsequently and due process was followed in assessing the requirement of the PMC services and necessary financial approvals were obtained."

❖ **Indefinite time frame in contract**

73. Audit found that a contract was entered (March 2011) for providing consultancy services (design) for 'Architectural, Structural, Mechanical, Electrical and Plumbing (MEP) and Educational Technologies for the Computer Science and Engineering (CSE) Department. The consultancy fee was fixed at five per cent of the 'accepted bid value' of the proposed building, irrespective of completion cost. Provision for stage-wise payments in ten installments was made in the agreement, based on the progress of the work and the final payment was to be made when the consultant submitted the 'As-Built drawings'. As such, the contract had no completion date and the consultant was to be paid as and when the milestones mentioned in the contract were completed. A consultancy fee amounting to ₹42.02 lakh was paid (March 2011 to December 2012) for the work done up to Stage 6.

74. Audit observed that the actual construction work of the CSE department, was taken up only in July 2019 i.e., after a delay of eight years, at an awarded cost of ₹47.38 crore. IITH recalculated the six stage-wise payments previously made to the Consultant as the earlier payments were made based on the estimated cost and not the accepted bid value. Hence, the payment to the consultant was revised to ₹70.36 lakh (September 2019) based on the 'accepted bid value' of the work done till December 2012. Resultantly, an additional fee

amounting to ₹28.34 lakh (₹70.36 lakh - ₹42.02 lakh) was paid in September 2019. As such, delay of eight years in awarding the contract for the construction imposed an additional liability on the IIT, due to a natural escalation in costs over time.

75. On being enquired as to why no completion date was fixed in the contract and also time-to-time review of the contract done by the MoE. In response, the Ministry in their written replies submitted as under:

"The architects agreement are based on the guidelines of the Council of Architecture which is a Statutory body established by an Act of the Parliament.

required till the completion of the project. The award of contract and subsequent agreement with the PMC is entered into by the Institute at its own level and Ministry is not a party to the agreement. However, Ministry conveys the financial sanctions and the time limits within which the project is to be completed, as per the Cabinet approval. For extension of time and for cost overrun, the proposals are received from the institute which is examined in consultation with the Finance Division of the Ministry, and on proper justification, is recommended for approval by the competent authority."

76. The Committee desired to know that any guidelines/directions have been issued on the matter as a remedial action taken. In response, the Ministry stated as under

"The observations are noted for compliance in all future projects."

(v) Non-accessibility of facilities to persons of disabilities

77. Audit noticed that Ministry of Social Justice and Empowerment launched 'Accessible India Campaign' to ensure persons with disabilities have access on equal basis with others, to physical environment, to transportation, to information and communications technologies and system and to other facilities and services opened or provided to the public.

78. Audit observed that the toilet block for male and female users of the workshop building in Heavy Labs-3 was planned and built (2019) without provision of access for physically challenged students and other users.

79. The Committee sought to know as to whether any further policy direction was issued to IITs to comply with facilities to be provided to persons with disabilities to have access on equal basis with others. In response, the Ministry in their written replies submitted as under:

"All buildings in IITH have been designed with the provisions required for the differently abled, such as grab bars, ramps etc., and are made user friendly. Additionally, the pavements along roads have been designed as per the provisions in MORTH for the differently abled persons. The provision of braille is made in all elevators."

(vi) Construction of Foot-over-Bridge (FOB)

80. Audit scrutiny revealed that the permanent campus is located along National Highway 65 (NH65) connecting Andhra Pradesh, Telangana, Karnataka and Maharashtra. The main entry to the IITH Campus abuts the NH65 carrying the traffic of Hyderabad, proceeding to other districts of Telangana and Maharashtra and vice versa Audit observed that the BWC accorded (September 2017) approval for construction of

FoB in a convenient location near the main entry of IITH to ensure safety of students, faculty, staff and other users of IIT campus. However, till October 2020, the FoB was not constructed, thus endangering the safety of IITH students, faculty and other stakeholders.

81. When enquired whether any policy direction through the MORTH/ NHAI was devised to create infrastructure such as FoB/Underpass to ensure safe crossing of National Highways by Students and other stakeholders, the Ministry stated as under:

"The National Highway 65 is proposed to be expanded to 6 lane

from the existing 4 lane. NHAI is preparing the DPR and assured to consider a Vehicle/Pedestrian Underpass (VUP/PUP) in front of the main gate of the campus."

82. When asked why the MoE could not address the issue of construction of FoB with NHAI/MORTH till September 2021 and about the steps taken by MoE to ensure completion of the FoB at the earliest, the Ministry in their written replies submitted as under:

"The matter has been taken up by IIT and, as informed above, NHAI is already preparing the DPR."

IIT INDORE

83. Audit scrutiny revealed that IITI commenced its activities from a temporary campus at Institute of Engineering and Technology of Devi Ahilyabai University from academic year 2009-10 under mentorship of IIT Bombay. Later, the Government of Madhya Pradesh allotted a total land of 501.42 acres during 2012 at Indore, Madhya Pradesh. It started functioning from new campus from February 2016.

(i) Execution of works

84. Audit found that out of 20 sampled works, four works pertain to Phase-I which were examined in Audit. All the four works were executed by IITI and were scheduled to be completed between January 2015 and September 2016. Out of the four works, three works (workshop building, hub building and campus infrastructure works) were completed between June 2015 and August 2017 with delays ranging between five and nineteen months. One work (construction of permanent campus at Simrol) costing 1307.95 crore, which was scheduled to be completed by February 2016, was yet to be completed, running into delay of 37 months as of March 2019.

85. Audit observed that out of 16 Phase-II works, seven works were scheduled to be completed prior to 31 March 2019 while the other nine works were due for completion only after March 2019. Out of these works, two works (faculty housing and football ground) remained in progress as of March 2019 with delays ranging between four and

seven months, while two works (footpath and ancillary works) were completed with delay of one to 14 months.

86. The Committee desired to know the present status of completion of Phase-1 & 11 works in IIT Indore and the specific reasons for delay in Phase-II works. In response, the Ministry in their written replies submitted as under

"The mandate given to IIT Indore to construct the area of 2,21,000 Sqm for All 21 (phase 1) + 11 (phase II) buildings & structures are complete and occupied. To ensure the better functionality and user satisfaction in long run some changes due to design, drawing, specifications, site conditions and unavoidable circumstances that arose due to global pandemic Covid-19 in Phase-II works, had caused some delay."

87. As regards the present status of the decision to impose Liquidated Damages of 30.61 crore for contractor's responsibility towards delay along with the liquidated damages since been recovered from the contractor, the Ministry in their written replies submitted as under:

"Liquidated Damages have already been recovered from the contractor by encashment of Bank guarantee, recovery of security deposit and pending bills."

88. Audit observed that the Phase I works which were scheduled to be completed between January 2015 and September 2016 were allotted to a new contractor in August 2021 with a timeline of six months to complete the work.

89. Elaborating status of completion of these works, the Ministry stated as under:

"Mandate of 2, 21,000 Square Meter of construction area is completed. Financial progress of 97.3% is achieved as on Oct. 2022 and balance and rectification works of worth 10 Crore are in progress. Delay in completion of the Work was due to difficulties in procuring matching parts for obsolete control panels, electrical devices and the worldwide shortage of

semiconductors for firefighting devices. Balance work involving electrical installation, commissioning & testing of HVAC and finishing civil work spread over 21 structures is a major reason of delay in completion due to complex nature of work being executed in the occupied buildings. Covid phase-II has reduced the pace of work. However, the balance and rectification work is expected to be completed by December 31, 2022.

(ii) Non completion of Indoor Sports Centre

90. Indoor Sports Centre (ISC) was to be constructed under the work 'Construction of Permanent Campus Phase-IA(a) Part A which was awarded (June 2014) to M/s

Simplex Infrastructure Limited (SIL). It was scheduled to be completed by February 2016; however, this was not completed even till March 2019.

91. Audit observed that against the tendered amount of ₹12.63 crore, financial progress of only ₹7.20 crore (50 per cent) was achieved till March 2019 Le., even after a delay of more than 57 months against the scheduled period of 20 months for completion.

92. The Committee sought to know the present status of the construction of Indoor Sports Centre in IIT Indore along with the status of the contract awarded in August 2021. In response, the Ministry stated as under

"Indoor Sports Complex is completed. Although rectification work involving testing and commissioning of pumps, air washers, paneling of the Squash courts and repairing of the wooden floor are in progress, which also will be completed by November 15, 2022."

93. When enquired whether any penal action has been initiated by the MoE against the previous contractor for the delay/non-performance, the Ministry in their written replies stated as under:

"Liquidated Damages of 30.61 crores has been recovered from the contractor by encashment of Bank guarantee, recovery of

security deposit and adjustment from pending bills."

(ii) **Assets created and not put to use**

94. (i) Audit scrutiny revealed that Heating, Ventilation and Air-conditioning (HVAC) facilities were to be established under the work 'Construction of Permanent Campus Phase-IA (a) Part A'. The work was allotted to M/s Simplex Infrastructure Limited (SIL) (June 2014) at a cost of ₹15.18 crore.

95 Audit observed that even after a delay of more than four years from the scheduled date of completion (February 2016), the HVAC work was not completed by the contractor. This was due to inadequate deployment of resources and procurement of materials which resulted in idling of HVAC equipment worth 27.63 crore and depriving the IIT of its intended benefits.

96 The Committee desired to know as to whether Ministry had given any policy direction(s) to ITs for effective management of such high value contracts. In response, the Ministry submitted as under

"The award of contract and subsequent agreement with the PMC is entered into by the institute at its own level and Ministry is not a party to the agreement. However, Ministry conveys the financial sanctions and the time limits within which

the project is to be completed, as per the Cabinet approval. For extension of time and for cost overrun, the proposals are received from the institute which is examined in consultation with the Finance Division of the Ministry, and on proper justification, is recommended for approval by the competent authority"

97. The Committee desired to know the present status of completion of HVAC work and use of equipment lying idle even after a lapse of more than three years. In response, the Ministry submitted as under:

"Heating, Ventilation & Air-Conditioning (HVAC) facilities were made functional in all 5 buildings of POD (academic building),

hence all the equipment are now in use. Minor works will be completed by November 30, 2022."

98. When asked about the responsibility fixed against the contractors, the Ministry in their written replies submitted as under:

"Liquidated Damages of 30.61 crores has been recovered from the contractor by encashment of Bank guarantee, recovery of security deposit and adjustment from pending bills"

99. Audit scrutiny revealed that a football ground was to be constructed (July 2016) on the south side of the sports complex in IIT campus. The site of football ground was changed (January 2019) to the north side of sports complex despite the fact that the north side of the campus was full of black cotton soil and located in a low-lying area. IIT ignored the possibility of water logging and work was awarded to contractors in July 2018 and May 2019. Further, the contract was closed in September 2018 and July 2019. An amount of 192.15 lakh was paid to the contractors.

100. Audit observed that after closure of the contracts, the football field was uneven and there were bushes all over the football ground. Thus, the football ground was not in a ready condition even after incurring expenditure of ₹92.15 lakh

101. The Committee desired to know the reasons for closing the contracts within two months despite paying 92.15 lakh to the contractors and also the reasons for closing the contract only after two months of awarding the same. In response, the Ministry submitted as under

"The performance of the contractor was not satisfactory and hence the contract was closed."

102. Audit further observed that balance of work of development of football ground has been awarded to CPWD in February 2021.

103. When enquired about the status of construction of football ground in IIT Indore campus, the Ministry submitted as under.

"Earthwork of north side of Indoor sports complex has been completed. However, as per the master plan of the institute, it was decided that complete sports arena including Synthetic athletic track, Football ground, Warm up area, sitting arrangement, Hockey Ground, Lawn Tennis, Volleyball ground and work is entrusted to CPWD. This work is being undertaken by the CPWD."

IIT JODHPUR

104. IITJ commenced its activities with the mentorship of IIT Kanpur from a temporary campus at MuganiramBangar Memorial (MBM) Engineering College, Jodhpur from 2009-10 onwards. The Government of Rajasthan allotted a total land of 872 acres at Karwad, in Jodhpur in 2011 for development of permanent campus. IITJ completely shifted its academic and research operations to its permanent campus by March 2018.

(i) Assets created not put to intended use

105. According to Audit, a joint physical verification revealed that a swimming pool constructed up to plinth level under Phase-II was abandoned after incurring expenditure of ₹1.85 crore. Construction work taken up in October 2017 was stopped in September 2018 in compliance with the guidelines issued (July 2018) by MoE stating that the grants were not to be used for development of certain infrastructure such as swimming pools.

106. The Committee enquired whether the Ministry was aware that the work of Jal building was ongoing work in IIT Jodhpur and its guidelines (July 2018) effectively stopped the work mid-way and there was any direction(s) to the IIT Jodhpur regarding half-completed work. In response, the Ministry in their written replies stated as under

"As per the Ministry of Education guidelines issued vide letter F.No.32-28/2018- TS.1 dated 16th July, 2018 (July 2018), the Building and Works Committee (B&WC) in its 19th meeting held on 21.09.2018 recommended to stop the ongoing construction work of Jal Building and the same was approved by the BoG in its 9th Special meeting held on 09.11.2018. Regarding half

completed work, the MoE vide letter of even no dated 16.07.2018, it was stated that Institution can mobilize funds from other sources for its completion."

107. The Committee also enquired about the current status of the Jal building and asked whether the expenditure of 1.85 crore already incurred on the work abandoned was ratified by the Ministry. In response, the Ministry in their written replies stated as under:

"The Building is constructed till plinth level at safe stage. Institute is advised to undertake construction strictly as per approved DPR, and within the approved capital cost.

IIT MANDI

108. IIT Mandi commenced its activities from temporary campus in IIT Roorkee in 2009-10 and later shifted to another transit campus in Government College at Mandi from 2010-11. IIT Mandi shifted to its permanent campus at Kamand, Mandi in October 2012 and shifting process was completed by April 2015.

(i) Availability of land

109. Audit observed that Government of Himachal Pradesh allotted 501 acres of land to IIT Mandi. Out of this, 308 acres was forest land for which approval was pending from Ministry of Environment, Forest and Climate Change, GoI. Out of the remaining 193 acres, 19 acres was disputed and sub judice. Thus, the IIT had only 173 acres (35 per cent of the allotted land) for infrastructure development. Further, the IIT had to incur an expenditure of 3.02 crore towards shifting of power stations and lines and diversion of roads passing through the campus.

110. The Committee desired to know the present status of possession of land by the IIT Mandi. In response, the Ministry submitted as under.

"IIT Mandi was allotted 501 acres of land out of which 193 acres was animal husbandry department land. Out of this, 19 acre is disputed; case is pending in Hon'ble High court of Shimla.

Remaining 308 acre land was transferred to IIT Mandi on September, 2021, documentation formalities for mutation process of possession is still under progress by the revenue department."

111. The Committee observed that it is expected that State Government has to transfer land encumbrance free and free of cost to IIT, the IIT incurred 3.02 crore towards shifting of power station and lines and diversion of roads passing through the campus. On being desired to know Ministry's stance in this regard. In response, the Ministry submitted as under:

"Taking into consideration the work in progress and the safety of the buildings/ workers, the power line was shifted, which resulted in creation of more land for expansion. As regards diversion of road passing through the campus is concerned, the matter has been taken up with the State Government. In another case, as against the estimated cost of 1.55 cores for diversion of Mandi KamandKataula Road which was passing through allotted land for IIT Mandi, only -81.67 lakhs was released and the work has been completed."

(ii) Execution of works

112. Major construction works under Phase-I were entrusted to CPWD and NBCC. Audit examined 14 construction works taken up by IIT Mandi during 2014-19 under Phase-1. Of these, 11 works were scheduled to be completed by March 2019. However, six out of these 11 works (like academic buildings, laboratory building, recreation centre etc.) which were scheduled to be completed between October 2012 and August 2017 were completed between October 2013 and February 2018 with a delay ranging between two months and 26 months. Two major construction works, (i) construction of Phase-I North' viz., academic buildings, guest house, gymnasium, hospital and auditorium buildings and (ii) 'different buildings' viz., 22 hostel blocks, 28 faculty housing buildings, dining and club house, were entrusted to NBCC/CPWD, The construction of these buildings was scheduled to be completed by May 2018 and October 2015 respectively. However, the construction of these buildings was yet to be completed (March 2019) and delays of 10 months and 41 months respectively were

observed.

113. In one specific case, it was observed that the construction of academic and residential complex (52 buildings) was entrusted to CPWD which in turn awarded the work to a contractor for a tender value of ₹ 179.48 crore with a stipulation to complete the work by October 2015. Audit observed that the project was delayed by five years with nine out of 52 buildings remaining incomplete as of November 2020.

114. The Committee sought to know as to whether any policy intervention has been made in this regard by the Ministry. In response, the Ministry in their written replies submitted as under

"IITs are autonomous bodies and Ministry of Education does not interfere in the routine administrative/review process. However it monitors the progress through FC and BOG when the status of construction is placed before the FC and BOG IITs have Building & Works Committee, which regularly monitors the construction progress of the IIT. IIT Mandi has been reviewing progress of work on monthly basis with PMC by conducting Construction Review Meetings. Due to delay in completion of work and non-performance of firms/ contractor, CPWD forfeited Performance Guarantee (PG)& Security Deposit (SD) amounting to 12,35,72,748/- and credited to work. Similarly, NBCC due to delay in completion of work and non-performance of firm forfeited PG amounting to 13.41.44,625/- COVID-19 pandemic also contributed to delay in completion of work as most of the migrant laborers had left and it took considerable time to re-start the work."

(iii) Non accessibility of facilities to persons with disabilities

115. Ministry of Social Justice and Empowerment launched Accessible India Campaign to ensure persons with disabilities have access on equal basis with others, to physical environment, to transportation, to information and communications

technologies and system and to other facilities and services opened or provided to the public.

116. Audit observed that out of the 80 completed buildings, facilities of ramps and toilets for wheelchairs was constructed only in 32 buildings and Braille symbols and auditory signals in elevators or lifts was provided only in eight buildings.

117. The Committee desired to know the present status of the buildings with regard to providing facilities to the persons with disabilities along with any such facilities have been provided in all the buildings. In response, the Ministry submitted as under.

"Buildings have been provided with ramps/toilets to make it disabled friendly."

IIT PATNA

118. IITP commenced its activities, under the mentorship of IIT Guwahati, from a temporary campus at Navin Government Polytechnic in Patna in the year 2008-09. Later, the Government of Bihar allotted a total land of 500.45 acres during 2011 at Bihta, Patna, IITP shifted to its new campus in July 2015.

(i) Execution of works

119. Audit examined all three Phase-I works (entrusted to CPWD, NBCC and EIL) executed during 2014-19. These three works included academic buildings, hostels, faculty housing, hospital, school and workshops. The works were scheduled to be completed between June 2014 and December 2017. Delays were observed in completion of two works, namely academic building and residential complex, ranging between 18 months and 22 months (as of March 2019). The third work which included hostels, staff quarters etc. and scheduled for completion by December 2017 was still in progress with the delay of 15 months (as of March 2019).

120. The Committee desired to know the present status of the completion of third work which included Hostels and Staff Quarters. In response, the Ministry in their written replies submitted as under.

"Third work includes Hostel and Staff quarters which was

started on 27/10/2016 has been completed on 31/12/2019. Girl's Hostel, Boys Hostel and C type quarters with Gymkhana were completed on 04/07/18, 24/05/19 and 31/12/19 respectively, as per priority."

121. MoE in their replies stated that (September 2021) the works awarded to NBCC were delayed due to agitation by local people for land compensation and change in the layout of internal brick work partition in all buildings.

122. The Committee also desired to know about the initiatives taken by IIT/State Government to resolve the same. In reply, the Ministry submitted as under:

"State Government took suitable remedies and the matter was resolved. Phase I Work was completed and inaugurated by Hon'ble Prime Minister on 25/07/2015."

123. When enquired about the action if any initiated by IIT against the contractor for failing to complete the works as per schedule, the Ministry in their written replies submitted as under:

"EIL(PMC) has recommended for time extension without any LD on agency and submitted reasons for delay. It will be placed in next BWC meeting."

IIT ROPAR

124. IIT Ropar commenced its activities, under the mentorship of IIT Delhi, from the premises of former Government Women Polytechnic, Rupnagar. Later, the Government of Punjab allotted (2009) 501 acres of land for development of the permanent campus. The IIT started shifting its activities to the permanent campus from July 2018. Complete shifting to the permanent campus was not achieved as of March 2019.

(i) Availability of land

125. 501 acres of land was allotted to IIT out of which 20 acres of

The Punjab Government has allotted 501A-3K-19 M land to

land was under dispute litigation. In August 2019, the campus got flooded. A portion of the boundary wall and some equipment/furniture were damaged and IIT Ropar suffered a loss of 73.46 crore due to the damage caused by the floods. Further, expenditure would have to be borne by IIT Ropar for replacement of the damaged items.

126. The Committee desired to know the present status of the availability of land of 20 acres which was under dispute/litigation. In response, the Ministry stated as under:

"IIT Ropar has taken up the land related issues with the State Government to get it resolved."

127. The Committee also desired to know that any efforts have been taken by the Ministry/IIT to prevent further damage to the IIT campus in case of recurrence of floods.

"Regarding flood related issues, the Institute has brought the matter to the notice of Govt. of Punjab, Deputy Commissioner, Ropar and the Chief Secretary Govt. of Punjab. The damaged boundary wall has been designed with suitable openings to allow flow of runoff, Institute has requested for river draining works on rivulet Budhki that passes through the campus. Proposal for the same has been sent by Water Resources Department to their higher authority for approval."

(ii) **Execution of works**

128. Out of the 12 works examined, 11 works pertained to Phase-I construction. All the 11 works were entrusted to CPWD. Nine out of these 11 works, consisting of administrative, academic, residential and hostel blocks etc., scheduled to be completed between April 2017 to April 2019 were completed with a delay ranging between 4 months and 39 months.

the IIT Ropar. As per latest Demarcation done by the joint committee constituted by District Administration which submitted its report on 01.08.2023, IIT Ropar has the possession of 459A-16M land. There is a shortfall of 42A-3K-3M land which includes land under litigation equal to 4A-3K-3M (Annexure-A). The issue regarding allotment of land equal to shortfall has been raised on the PMG portal of the Ministry (Annexure-B). Litigations for the disputed land are continuously going on. The Institute is taking suitable steps to respond to the litigations.

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The Institute is in contact with the State Government for a suitable solution to control the flood Annexure-E).

It is submitted that all the buildings under Phase-I have already been completed as on 30.06.2023(Annexure-C).

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129. The Committee desired to know as to whether Ministry has issued any guidelines to IITs for timely formulation of project designs which require subsequent changes/revisions in scope etc. In response, the Ministry in their written submitted as under:

"Initially after the Cabinet Approval for setting up of the IITs, a common DPR was prepared for adoption by all the IITs. However, later on while considering the revised cost estimates, as per the requirement, site specific changes / modifications were permitted to adapt to the requirements."

130. The Committee also desired to know the Impact of such revisions caused halting/slowing the pace of the progress of the campus development along with the action taken by the Ministry to overcome such situations. In response, the Ministry in their written replies submitted as under:

"It is accepted that there has been delay in execution/completion of the project. Ministry has been impressing upon all IITs to strictly follow the Contracts, monitor the progress of projects and implement the penalty clauses, wherever necessary."

(iii) Tendering and Awarding of works

131. For Phase-IA, the contract for architectural consultancy was awarded to M/s Sikka Associates (SA) and an agreement was entered into with this firm. Accordingly, it was Report No. 20 of 2021 24 Performance Audit on Setting up of new Indian Institutes of Technology agreed to pay 1.80 per cent of the project cost of the buildings and services, as per the tendered cost or actual cost, whichever would be less, for the works designed by the consultant. IIT also awarded (November 2015) the consultancy contract to SA for Phase-IB on same terms and conditions, on a nomination basis, without calling for fresh tenders. This was in violation of the selection process as envisaged in Rules 163 to 176 of GFR 2005.

132. The Committee desired to know as to whether any guidelines / guidance have been formulated by MoE for selection of consultants to avoid stated violation of GFR. In response, the Ministry submitted as

The delay in completion of 1A work was due to floods in Aug 2019. However, the Phase-1 construction work has already been completed on 30.06.2023.

under.

"In this regard, it is reiterated that both the works were sub divisions of the one original project. The work was distributed in three phases only to facilitate the execution of work properly because a lot of changes had to be made in the designs of the project at every stage."

(f) **Procurement of Equipment**

133. Audit observed that each IIT has its own procurement policy/manual detailing therein the purchase procedures, guidelines and proper delegation of powers. An examination of the process of procurement of equipment and services by IITs over the period 2014-19 was conducted for selected sampled cases.

134. The impact of delays in procurement, installation and idling of equipment on the intended objectives (administrative, academic and/or research projects) was studied and analysed. Similarly, the process exercised by these IITs in procuring services and adherence to the terms and conditions as stipulated in the agreements were also examined

(i) **Supply of Equipment**

135. Time schedules are important part of any contract and the suppliers must deliver the goods within the scheduled date mentioned in the Purchase Order (PO). During analysis of the data and connected records pertaining to procurement of equipment (selected sample), Audit observed that in 106 out of the 340 sampled cases, there were delays in supply of equipment (including high value equipment) ranging between 31-536 days. These substantial delays in supply of the equipment delayed subsequent stages of installation and utilization. As a result, the faculty and students could not get the facility of these resources which defeated the intended purpose of their procurement.

136. The Committee sought to know as to whether there was a review by IITs for delays in supply of the equipment. In response, the Ministry submitted as under:

IIT Agrees with the reply of MoE.

It has been the endeavour of IIT Ropar to carry out all the purchases without delays. However, sometimes the delays in supplies occur due to reasons beyond the control of Institute such as nationwide strikes, bandhs, corona pandemic etc. Moreover, whenever there are delays in the supply of equipments etc., penalties/LD charges are imposed on the vendors. Asum of Rs.12,72,340/- were imposed and recovered as penalties/LD charges from the vendors for late supply during the FY 2022-23 only (Annexure-F).

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"All the procurements are being made as per GFR 2017, S&P norms of IITs and Gol stipulated procedures. In most cases, there were undue delays. Cases where delay was unjustified, penalties were imposed."

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137. The Committee also sought to know that any measures been taken by IITs to avoid recurrence of such delays in future. In response, the Ministry submitted as under.

- a) **"IIT Bhubaneswar:** Procurement procedure developed by IIT Bhubaneshwar makes it mandatory for procurement of equipment after due assessment of requirement and their timely installation within 30 days of delivery. This is being ensured.
- b) **IIT Hyderabad:** Yes. IITH has reviewed the delays in supply of the equipment and accordingly instructions were issued to all concerned Intenders to go in for procurement of equipment only when the requisite infrastructure is ready for installation of the equipment.
- c) **IIT Indore:** The detailed review of delay in delivery has been done and delay of delivery is in few cases. The delay in delivery is mainly of two types

1. Beyond control of supplier such as transport strike, COVID, flood etc.
2. Delay attributable to the supplier. In such cases the liquidated damage is imposed as per purchase order terms and conditions."

"As a practice, IIT Indore has initiated below mentioned process to streamline the delivery process as per order.

- Inclusion of delivery schedule, timeline and scope of supply in NIT.
- Detailed briefing to all prospective supplier in pre-bid meeting and detailed pre-bid report is uploaded on website, GeM/CPPP.

- Delivery date is clearly mentioned in purchase order along with installation timeline.
- In case of approval of drawing/layout the same is done before placement of order.
- Follow-up by user department and MMS towards timely delivery of the equipment.
- In case of any delay by the supplier, liquidated damages is imposed as per purchase order."

138. The Committee further desired to know whether the status of the installation of equipment in the laboratories of aforesaid IIT was reviewed by the Ministry along with the specific reasons for delay in commissioning of equipments in their laboratories. In response, the Ministry in their written replies submitted as under:

"Once the Government approves cost for setting up of the IIT, it is communicated to the respective IITs and is reviewed at the level of Ministry only when the concerned IIT brings the matter to the notice of Ministry."

139. The Committee sought to know that Ministry would like to revisit the procurement policies particularly with regard to the procurement of equipment of high value when the site readiness was delayed/non-availability of space. In response, the Ministry stated as under:

"Ministry is not having any direct role over the procurement of the equipment. However, some of the IITs have informed that they go in for procurement of equipment only when the requisite infrastructure is ready for installation of the equipment."

140. The Committee also sought to know as to whether the IIT's have evolved any policy to provide proper investigation/assessment of the equipment/availability of accessories for timely installation of equipment. In response, the Ministry submitted as under:

"IITs go in for procurement of equipment only when the requisite infrastructure is ready for installation of the equipment."

(ii) **Shortfall in Laboratory facilities**

141. Laboratories are a crucial part of an engineering institute as they provide means for testing theories and gain hands-on knowledge of various concepts. Ministry in its DPR envisaged that the IIT's would need laboratory equipment as well as computer equipment and that the list of such equipment will be based on the academic curriculum of the IIT as well as research programme to be developed by the faculty of the IIT. It was expected that all laboratories and buildings would be fully developed over a period of eight years.

142. Audit observed shortfalls in the availability of laboratory facilities in respect of four IITs. Thus, laboratory infrastructure created in the IITs was not sufficiently equipped to cater to the needs of the students even after lapse of 10 years from their setting up

143. The Committee desired to know the present status of the laboratories regard to availability of equipment in response, the Ministry replied as under

"All the IITs are having enough number of lab equipment, components and accessories to meet the requirement. At present, full-fledged laboratory facilities are available and are working satisfactorily."

144. The Committee also desired to know as to whether any review of laboratories facilities was made to ensure that full-fledged laboratories were available in the IITs. In response, the Ministry replied as under

"The laboratories facilities have been reviewed from time to time to ensure full-fledged functioning and availability. Thus, at present there is no shortfall of equipment."

145. The Committee further desired to know that the Ministry has initiated any action to review the Infrastructure facilities created for the laboratories in all the IITs and timely availability of adequate equipment therein in response, the Ministry submitted as under:

"IITs are autonomous bodies and the Ministry is not involved in the day to day matters academic matters administrative matters."

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As and when any requirement for procurement of equipment which are not readily available in the Indian market/GEM, based on the information furnished by the Institutes in the prescribed format, administrative approval of the Ministry is given for floating Global Tender Enquiry (GTE)."

C. Financial Management

146. IITs are autonomous institutions under MoE which receive Grants (both Capital and Recurring), Loans (both from internal and external agencies) from Gol. They also generate Internal revenues through fee, publications, interests, consultancy works among other things.

147. Audit examined the financial management across these eight IITs under four broad areas viz., fund availability, its application, resource mobilization and investment of funds.

(a) Revision in the Capital Outlay

148. Audit observed that MoE approved (July 2008) project cost of 6,080 crore (1760 crore per IIT) for establishment of eight new IITs over a period of six years (2008- 14). This was further revised twice. The revision was necessitated by time and cost overrun due to delays in handing over of sites by State Governments which further resulted in cost escalation, delay due to procedures involved in getting statutory approvals, cost enhancement in various other factors like rise in equipment costs, salaries, taxes etc. and site-specific infrastructure provisions like underpass, foot over bridge etc. Thus, the non-completion of infrastructure development within project period resulted in spill-over of the infrastructure development beyond six years, necessitating the revision of the capital outlay from 6,080 crore to 14,332 crore for a period of 13 years.

149. The Committee desired to know the present status of overall infrastructure development in the IITs. In response, the Ministry in their written replies submitted as under.

"Out of the 8 IITs, IIT Jodhpur completed its campus establishment project by 31.07.2021. The progress of remaining

IITs as on 31.10.2022 is as under:-

S. N o.	Name of the IITs	Number of Buildings proposed to be constructed as per DPR	Number of Building s completed	Number of building Incompl ete	% Completi on	Estimate d date of Completi on
1	IIT Gandhinagar	66	62	4	94%	31.12.2022
2	IIT Bhubaneswar	58	47	11	87.00%	31.03.2023
3	IIT Hyderabad	41	41	---	100%	
4	IIT Jodhpur	59	58	---	100%	---
5	IIT Ropar	57	56	1	90.5%	31.03.2023
6	IIT Patna	61	52	9	96.50%	28.02.2023
7	IIT Indore	36	36	---	98%#	31/12/2022
8	IIT Mandi	107	107	---	100%	---

mandated 2. 21,000 SQM area is constructed and occupied by the Institute Minor commissioning and rectification work is in progress which will be completed by 31.12.2022"

150. The Committee also desired to know the action taken by the MoE for ensuring timely completion of projects. In response, the Ministry in their written replies submitted as under:

"Ministry from time to time reviews the projects with the IIT's to keep track of the progress being made and resolve issues hindering the projects. The slow progress of the work is taken up with the concerned PMC/CPWD at appropriate level and punitive measures are also taken, wherever necessary."

(b) Utilisation of funds

Name of IITS	Number of building s propose d to be construc ted as per DPR	Number of buildings complete d	Number of building incomple t e	Completi on	DOC
IIT Ropar	57	57	----	100%	30.06.2023

151. Ministry allocates and releases head-wise funds to IITs based on Budget Estimates submitted by IITs. Audit observed that the initial grants were to be utilised by 2014, but that could not be achieved by IITs due to delay in execution. Despite delayed execution, almost all the funds received by the IITs for infrastructure development had been utilised by 2019-20. At the end of 2020, the amount unutilised was 224.26 crore. Audit also observed that expenditure incurred was within the available funds in respect of all the eight IITs except IIT Ropar where it was marginally in excess by 4 per cent (158.50 crore excess) to the end of 2019-20.

(i) Utilization of Japan International Cooperation Agency (JICA) Loan

152. Govt entered (2014) into an MoU with Japan International Cooperation Agency (JICA) in respect of IITH for infrastructure development (Phase-II) for the period 2013-14 to 2016-17. The total cost approved for the project was 1,776.50 crore. The scope of the work included construction works, procurement of goods and services and consulting services over a period of four years for Phase-II in IITH. The project period was extended by the Ministry (June 2017) upto 2022-23 without cost overrun.

153. Audit observed that before the time extension was granted to the project in 2019, against the available funds of 107.64 crore (upto 2013-17 which was initial project period), IITH had spent only 8.04 crore (0.03 per cent) on the project. Subsequently, from 2017-18 the utilization of funds picked up and unspent JICA funds was 38.11 crore at the end of March 2020.

154. The Committee sought to know as to why MoE has released the funds to IIT Hyderabad without utilizing the funds released previously. In response, the Ministry in their written replies submitted as under:

"The procurement process for the equipment was initiated, however, the requirement of International Competitive bidding for JICA and their elaborate procedures and checks involving multiple stakeholders such as CAAA, Bank of Japan, Tokyo, Bank of India Tokyo and JICA Tokyo resulted in delay in the

The Phase-1 work has already been completed. Funds received and utilized for Phase-1 work are as under:

1. Total funds received till date (for construction, furniture and equipment) = Rs. 1500.38 Cr.
(Funds received from HEFA = Rs. 523.51 Cr. + from MoE = Rs. 976.87 Cr.)
2. Total funds utilized = Rs. 1500.38 Cr.
(Annexure-G)

utilization of funds. The Ministry of Education has been releasing funds, based

on the demands raised by the IIT Hyderabad and after obtaining requisite approvals."

155. The Committee also sought to know that any responsibility was fixed on the part of IIT Hyderabad for the delay in pre-construction activity/execution of project. In response, the Ministry submitted as under.

"There was no willful deficiency on part of MOE or IIT Hyderabad since appointment of the contractors and consultants requires approval of JICA in every stage such as approval of prequalification documents, evaluation of tender documents and its scrutiny etc. This process could only be accomplished by March 2019 for construction of buildings.

Documents and other relevant Information pertaining to the delay in implementation have been evaluated and the delay has been found to be due to the institutional practices of JICA, which were not suited for the construction of buildings with detailed architectural work. The framework for loan agreements with JICA was suited for large infrastructure projects, which are decided after a techno-economic analysis. The framework for the loan agreement did not have provisions for the construction of buildings and procuring high-end equipment. Therefore, considerable time was spent in determining the process of implementation after the loan agreements were to be signed. The tendering process was started in 2018 after the approval of the revised EFC in 2018 and the construction was started in 2019. There was no lack of commitment from the Ministry or IITH."

(c) Generation of Internal Receipts

156. Rule 230 (6) of GFR 2017 stipulates that the grant sanctioning authorities should take into account the internally generated resources while awarding the grants. They should also consider laying down targets for internal resources generation by the grantee Institutions or

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Organisations every financial year, particularly where grants are given on recurring basis every year.

157. Audit observed that the proportion of the internal receipts against the recurring expenditure was very low in IITs ranging between 12 per cent (in IITBBS) and 61 per cent (in IITJ) even after having been established over a decade. Low proportion of internal receipts forces the IITs to be heavily dependent on grants for meeting recurring expenditure. Audit also observed that no targets were set for the generation of internal receipts by the MoE for any of the eight IITs.

158. The Committee desired to know the reasons for not fixing any targets for the IITs for generation of internal receipts. In response, the Ministry stated as under:

"IIT's are continuously working upon increasing their Internal Revenue Generation. Ministry has also issued draft guidelines to IITs regarding Endowment funds."

159. The Committee also desired to know as to whether IIT's have identified any other sources for Increase in generation of internal revenues. In reply, the Ministry stated as under:

"Efforts are being made to raise IRG by

- Introduction of new Self sponsored Certificate Courses/short-term courses.
- Raising endowment funds from Alumni and Philanthropists, Industry etc.
- Increasing the number of Sponsored Research Projects and Consultancy Projects etc."

D. Academic Programmes and Research Activities

160. The Detailed Project Report (DPR) of the Ministry for setting up of new IITs noted that only 5,000 seats were available in the existing IITs as against three lakh aspirants appearing in the Joint Entrance Examination (JEE) during 2006. It was felt that an equal number of talented and deserving students got left out due to lack of opportunity

and the situation could be corrected to some extent by establishing additional IITs.

161. Further, regarding research activities, the DPR stated that the spirit of education in the IITs is research-based learning by exposing students to laboratory work in intensive manner. It was also stated that the new IITs are intended to have strong sponsored research activity and develop a research and technology development atmosphere with sizable infrastructure.

162. The Committee sought to know the reasons for the delay in introduction of the 10 courses in IIT Bhubaneswar. In response, the Ministry in their written replies submitted as under

"The required infrastructure could not be completed on time. Faculty strength could not be increased as per the requirement of prospective plan. Shortage of technical staff was also one of the reasons."

163. The Committee also sought to know the progress if any has been made by the IIT Bhubaneswar and Jodhpur in introducing the academic courses. In response, the Ministry submitted as under.

"IIT Bhubaneswar offers 34 courses as of now. IIT Jodhpur offers 78 programmes as of now."

164. The Committee further sought to know as to why the post-doctoral fellowship program in IIT Jodhpur which was supposed to commence from the academic session 2011-12 was not started as of March 2019. In response, the Ministry submitted as under:

"The strength of the experienced faculty members was less in the initial years and infrastructure was inadequate for offering post-doctoral fellowships."

(a) Creation of Student Intake

165. MoE's DPR on setting up of new IITs during Eleventh five-year plan period stipulated the year-wise intake of students during the first six years.

While agreeing with the reply of MOE it is further add that the institute was operating from the transit campus. The institute shifted to its permanent campus in the year 2019 and continuously

166. Audit observed that none of the eight IITs attained the stipulated cumulative intake of 2,360 students at the end of the sixth year (2013-14). The percentage of non-achievement of targeted intake was highest in IIT Ropar (77 per cent) and lowest in IITH (42 per cent). As against the overall targeted intake of 18,880 students, only 6,224 students (33 per cent) were admitted in all the eight IITs during the first six years, thereby not fully achieving its objectives of maximizing educational opportunity to students. Further, it was observed that till 2018-19, only IITH was able to achieve the targeted student intake.

167. The Committee desired to know as to what initiative have been taken up by the MoE for addressing the issue in order to achieve the envisaged student intake and the current status of student intake in all the eight IIT, course wise, PG wise, Doctoral and postdoctoral fellowship program wise. In response, the Ministry in their written replies submitted as under

"While conveying the approval of the Government for setting up of a new IIT, the targets fixed for the intake of students are also conveyed to each IIT which has to be met progressively over a period of time, in proportion with the infrastructure facilities which could be developed by these IITs. However, as there has been some delay in construction of buildings and other infrastructure like lab etc., the intake of students has been lesser. However, these IITs are having the following student strength.

IIT	UG	PG	Ph.D.	Total
IIT BBS	1858	499	346	2701
IIT Gandhinagar	876	377	539	1792
IIT Hyderabad	1520	1184	1055	3759
IIT Indore	1259	423	560	2242
IIT Jodhpur	1507	1182	640	3329
IIT Mandi	1060	535	419	2014
IIT Patna	1238	305	663	2206
IIT Ropar	1336	404	731	2471
Total	10654	4909	4953	20514

(b) Enrollment in PG Programmes

increasing the intake and thus the strength of the students is increasing. The following is the updated data of students strength as on 11.01.2024:

IIT	UG	PG	MED	Ph.D.	Total
IIT Ropar	1517	533	14	926	2990

IIT	UG	PG	MED	Ph.D.	Total
IIT Ropar	1517	533	14	926	2990

168. IITs offer Postgraduate programmes (M.Tech., M.Sc., M.A. and MBA apart from M.Phil) in various branches of Engineering and Technology and other branches. There are two modes of intake for PG i.e..

- a. MoE funded PG courses (entrance through GATE for M.Tech and through JAM for M.Sc.)
- b. Project funded/industry sponsored/externally agencies funded/self- sponsored.

169. Audit noticed from the information provided by IITs on intake, enrolment and vacant seats in PG programmes, that there was shortfall in enrolment into PG programmes against the available intake in all of the eight IITs during 2014-19 which ranged from 12 per cent (IITH) to 48 per cent (IITGN). The overall average shortfall was 28 per cent across eight IITs (2,193 students against 7,713 seats).

170. The Committee sought to know as to whether the IITs have conducted any feasibility study prior to introduction of these PG courses. In response, the Ministry in their written replies submitted as under:

"The respective Senate of the IITs keep on restructuring courses, as per the requirement of Industries, to provide skilled manpower for the growth of the nation."

171. The Committee also sought to know that MoE has devised any policy guidance to IITs for reviewing these courses with respect to introduction, withdrawal of some areas to be covered in order to align these PG courses with the actual requirements of industry scientific advancements. In response, the Ministry submitted as under

"Senates of the IITs are empowered to take decisions regarding academic matters. Ministry offers its comments/views when such matters are placed before FC and BOG.

IIT Ropar has started its PG courses from 2015 onwards in both modes (M.Tech&M.Sc) and increasing courses and seats in these programs. At present the Institute is running 13 M.Tech programs in various specializations and 4 MSc. Programs (Inclusive of MSc in Data Science and management as Joint Degree program with IIM Amritsar). In M.Tech , The Institute is also offering special seats for industry sponsored candidates i.e. DRDO and Armed forces, CWC,ISRO, CGWB, CWPRS, NIH, NWDA

The Institute has increased the M Tech seats from 20 seats in AY 2015-16 to 220 in AY 2023-24. Similarly, the Institute has also increased the M.Sc. seats from 32 seats in AY 2015-16 to 135 in AY 2023-24

The Institute designs the courses with the recommendations of IITs and Industry experts. The task force committee duly constituted for this purpose recommends the course curriculum and other parameters for starting any course.

All the courses are reviewed by Institute level academic committees based on the present industry/ academic requirements.

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(c) Enrollment in PhD Programme

172. IITs offer various Ph.D programmes in Engineering and Science disciplines and interdisciplinary areas. The information of IIT-wise intake, enrolment and vacancies during the period 2014-19 was examined. Audit noticed that out of the eight IITs reviewed, five IITs (IITI, IITJ, IIT Mandi, IIT Patna and IIT Ropar) offered their Ph.D. programmes without fixing the intake in these courses. The remaining three IITS (IITBBS, IITGN and IITH) fixed the year-wise intake themselves at the beginning of each academic year. The percentage of shortfalls were significant in the case of IITBBS and IITGN indicating, among other things, a lack of interest by the students in the Ph.D programmes offered by these IITs. Audit observed that IITs might like to reassess the utility of these courses and take the initiative to restructure these courses to make them more attractive to students. Further, the failure to fix intake targets by IITI, IITJ, IIT Mandi, IITP and IIT Ropar deprived these IITs of a holistic approach in ascertaining the present status and future requirements of resources for effective and efficient operation of these Ph.D programmes. This would also affect the availability of skilled manpower from these IITs in the long run.

173. The Committee desired to know about assessing the utility of these courses by IIT and the steps taken to restructure these courses to make the more attractive to students. In response, the Ministry in their written replies submitted as under.

"The respective Senate of the IITs keeps restructuring courses, as per the requirement of Industries to provide skilled manpower for the growth of the nation."

174. The Committee also desired to know as to whether the IITs student intake has not been fixed and any action has initiated to fix the intake targets in PhD programs. In response, the Ministry submitted as under:

"Some of the IITs have taken steps to fix the intake of PhD students. However, depending upon the available faculty strength and other infrastructure, other IITs are also admitting PhD students."

The Institute has started admissions in PhD programs in AY 2008-09 and continuously doing efforts to increase the strength. The special drives are also conducted for PhD student admissions. The Institute is also offering admissions in PhD program to international, part time and ERP candidates from reputed organizations

The strength of PhD students has increased from 10 in AY 2009-10 to 926 in AY 2023-24. Presently the Ph.D. students are more than 30% of total student strength

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(d) Faculty Positions

175. MoE sanctioned (August 2008/February 2009) 30 posts per year for initial three years at the time of setting up of 's. Further, the Ministry permitted the increase in sanction of the faculty positions linked with the increase in the intake of students i.e., sanction of faculty posts is increased by one for every increase in intake of students by 10 (1:10 ratio). Subsequently, the Kakodkar Committee also recommended inter alia the faculty student ratio (FSR) as 1:10. IIT Council, while accepting (November 2011) the recommendations of Kakodkar Committee considered the increase in faculty strength across all IITs in the country from around 4000 (2011) to 16000 by 2020, enabling creation of a large pool of high-quality faculty and researchers.

176. Audit observed that the IITs have been recruiting faculty consistently. However, the pace of recruitment of faculty did not correspond to the student intake/enrolment, resulting in vacancies in faculty positions. This shortage was observed even to the end of March 2019 in all IITs except in IIT Ropar,

177. The Committee desired to know as to whether the Ministry considered the availability of enough suitable faculty candidates before the setting up of new IITs. In response, the Ministry in their written replies submitted as under:

"Initially these 8 IITs were proposed to start with student strength of 120, for student strength of 120, faculty strength of 30 was proposed that may increase in proportion to the student strength of these IITs. Directors of mentor IITs were confident of recruiting faculty for new IITs as about 1000 students were going to complete PhD in Older IITs, a sizeable portion of which can be attracted to work as faculty in these New IITs. Efforts were also made to attract bright Indian students studying abroad to work as a faculty in IITs."

178. The Committee also desired to know as to how the ministry/IITs is going to address the issue of huge vacancies in faculty positions in

order to ensure the delivery of quality education. In response, the Ministry submitted as under:

"IITs have been directed to fill up the vacant posts in mission mode.

179. The Committee further desired to know the present position of filling the vacancies in faculty positions. In response, the Ministry submitted as under.

"With a view to not affect the academic work of the IITs, services of adjunct and visiting faculties are utilized as a stop gap arrangement. The status of vacancies in these 8 IITs are as follows:

S. No.	Institute	Sanctioned Strength	Posts filled	Vacancy Positions (vacant posts have been calculated including visiting and adjunct faculties)
1	IT Bhubaneswar	240	128	112
2	IIT Gandhinagar	160	148	12
3	IIT Hyderabad	388	275	113
4	IIT Indore	250	179	71
5	IIT Jodhpur	332	226	106
6	IIT Mandi	201	145	56
7	IIT Patna	223	126	97
8	IIT Ropar	230	165	65
	Total	2024	1392	632

IITs have been directed to fill the vacancies in their Institutes in mission mode within a period of 1 year."

(e) Faculty workload and appraisal system

Latest position regarding faculty sanction strength, posts filled and posts vacant as on 31.12.2023 is as under:

	31.03.2023	31.12.2023
Sanctioned Strength	230	230
Posts filled (only regular)	167	181
Vacant positions (including visiting and adjunct faculty)	61	48

180. Kakodkar Committee suggested (April 2011) that as a part of appraisal system, faculty could decide what percentage of his/her time and focus in the next year, would be spent on each of the following five parameters namely (i) Teaching (and project guidance), (ii) Research/MS/Ph.D guidance/Research-oriented projects, (iii) Technology development & Industry interaction, (iv) Development of policy/standards and (v) Service. Besides, the goals could also be specified qualitatively in each of these areas, depending upon what the faculty wishes to do. Kakodkar Committee also gave a broad outline for self-appraisal, departmental review and periodical external review of these appraisals. Also viewed against the criteria given by the Kakodkar Committee, the IITs have not fully implemented the Committee's recommendation with regard to faculty workload and appraisal system. MoE may consider developing broad outlines for self-appraisal and departmental review which may then be taken up by all IITs for optimal performance.

181. The Committee sought to know that the Ministry has considered developing broad outline for self-appraisal and department review of faculties which may then be taken by all IIT for assessment of optimal work load for the faculty. In response, the Ministry in their written replies submitted as under:

"No. As it is an internal administrative matter of IITs, and IITs enjoy full autonomy in this regard, Ministry is not interfering."

(f) **Inadequate representation of research result categories in student enrollment**

182. As per the Central Educational Institutions (Reservation in admission) Act, 2006, out of the annual permitted strength in each branch of study or faculty, 15 percent, seven and half per cent and 27 per cent seats shall be reserved for the Scheduled Castes (SC), the Scheduled Tribes (ST) and Other Backward Classes (OBC) respectively.

183. Audit observed that the representation of the reserved category was not as prescribed, particularly, in respect of PG and Ph.D admissions.

- (i) The percentage of shortfall in enrolment of SC students in post-graduate courses was significantly higher in IITGN (30 percent), IITH (25 percent) and IIT Mandi (23 per cent). The shortfall in ST students was high in all the eight IITs ranging between 7 per cent (IIT Ropar) and 69 per cent (IITGN)
- (ii) The percentage of shortfall in enrolment of Ph.D courses was very high in respect of ST category ranging from 73 per cent (IITH) to 100 per cent (IITJ). In respect of SC students also, the shortfall was significantly higher (more than 50 per cent) in all IITs except IITH and IITBBS where it was 25 per cent and 28 per cent respectively. Under the OBC category, the shortfall was high in IITGN (37 per cent), IIT Ropar (36 per cent) and IIT Mandi (32 per cent).

184. The Committee sought to know as to what steps have been taken by the ministry is to ensure this efficient representation of reserved categories in student enrollment especially in PG and PhD programs.

"The admissions in IIT programs are provided following the reservation norms of Government of India. It has been observed that in PG program that they received very few applications from SC and ST category students and hence those seats cannot be filled. With regard to shortfall of students in reserved category in IITs, it is submitted that this shortfall is only in respect of SC and ST category in PG and PhD programs due to inadequate poor response by the students belonging to these categories."

"To encourage students of reserved category to take admission in ITs, several steps have been taken such as:

- FEE waiver

Institute agrees with the reply of MoE.

- Relaxation in minimum qualifying cut off marks
- Allowances
- Besides SC/ST students are also eligible for scholarship from the Central Sector Scheme administered by Ministry of Social Justice and Empowerment and Ministry of Tribal Affairs."

(g) Peer Group Assisted Learning (PAL)

185. IIT council approved (October 2015) Peer-Group Assisted Learning (PAL) strategy wherein educationally and socially backward students were to be tagged to bright student volunteers from senior classes. It was intended to be a fully funded initiative of MoE and was to be operationalised by the IITs to enable fresh students to cope with the academic pressures of IITs.

186. Audit observed that the initiative was not operationalized in IITBBS, ITJ, IITP and IIT Mandi thereby, denying the intended benefits of the PAL strategy as envisaged by IIT Council.

187. The Committee sought to know as to why the ministry not issue specific instructions guidelines in this regard. In response, the Ministry in their written replies submitted as under

"Ministry has not issued any specific instructions in this regard. However, IIT have made arrangements for mentoring the newly admitted IIT students by the faculty and senior students."

(h) Sponsored Research Projects

188. The DPR envisaged that the new IITs would have a strong sponsored research activity. IITs receive funds from both government and non-government/industry sources for Sponsored Research Projects and faculty members of the IITs are actively engaged in these. Research projects are sponsored by different funding agencies like Department of Science and Technology (DST), CSIR, DRDO etc. During 2014-19, the eight IITs had executed 1,712 Research projects

with an outlay of ₹ 857.71 crore. Some of the areas of research included 5G Research and Building Next Gen Solutions, Mobile sensor network technologies, metal additive manufacturing, artificial intelligence, bio- Inspired engineering, catalysts, energy and health care.

189. Audit observed that all the eight IITs attracted sizeable funding from Government sources like DST etc. However, the number and cost of non-government sponsored projects in all IITs was low. It was noticed that IIT Mandi, IITP, IIT Ropar and IITH were able to attract between 3.5 to 14.31 per cent of total non-government funding among the eight IIT's while the others attracted very low levels of funding.

190. The Committee desired to know as to whether the IIT is prepared any action plan to attractive funding from my industry non-government sources. In response, the Ministry in their written replies submitted as under

"IITs invite experts and management personnel from the industry time to time to show case research facilities and strike consultation project deals. A lot of faculties are engaged with industry for consultancy and testing based projects. Development offices of IITs are engaged with industry to attract the CSR funding from the industries for research directly applicable to social needs. IITs are also making its R&D infrastructure accessible to Industries and Non-Government sources on a payment basis to attract the funding."

(i) **Patents filed and obtained**

191. As per the Patents Act, 1970, patent is granted for an "invention" which means a new product or process involving an inventive step and capable of industrial application As per Para 7.1 of Kakodkar Committee Report, one of the key roles of IITs should be of driving innovation and entrepreneurship, which result in patents and publications- the traditional measures of performance of faculty and research institutions.

192. Audit observed that IITH filed 94 patents, followed by IITI, IIT Mandi, IITP and IIT Ropar, However, there was a large variance

IIT Ropar agrees with the comments of ministry

IIT Ropar has IPR cell which gives support to faculty and students to come forward for filing patents. Generally, a patent takes 4 to 5 years' time for granting. Institute has its own IPR policy and acts accordingly. Institute also gives wide publicity and organizes various workshops and quiz related to IPR.

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between the patents filed and obtained by the eight IITs which needs to be reviewed at highest level. In five IITs viz. IITBBS, IITGN, IITI, IIT Mandi and IITP, no patents were obtained during the five-year period. Indicating that the research activities could not bring out fruitful results.

193. The Committee sought to know as to whether IITs have developed any action plan for improving their performance in obtaining patents in response, the Ministry in their written replies submitted as under:

“Most of the IITs have their own IPR policy or are in the process of formulating one in order to expedite the process of patent filing.”

194. Regarding the number of Publications brought about since 2020 by IITs, the Ministry of Education during the evidence held on 11.10.2022 furnished the following.

Number of Publications (Web of Science)

S. No.	Name of IIT	2020	2021	2022	Percentage Growth
1.	IIT Hyderabad	1732	2080	2501	44.40%
2.	IIT Patna	994	1276	1593	60.26%
3.	IIT Gandhinagar	921	1069	1282	39.20%
4.	IIT Mandi	962	1080	1327	37.94%
5.	IIT Indore	1630	2027	2329	42.88%
7.	IIT Bhubaneswar	1135	1366	1548	36.39%
8.	IIT Ropar	809	1013	1208	49.32%
9.	IIT Jodhpur	376	472	639	69.95%

Number of Publications (Scopus)

S. No.	Name of IIT	2020	2021	2022	Percentage Growth
1.	IIT Hyderabad	1834	2302	2720	48.31%
2.	IIT Patna	1101	1437	1761	59.95%
3.	IIT Gandhinagar	996	1167	1408	41.37%
4.	IIT Mandi	999	1162	1434	43.54%

Institute agrees with the reply of MoE

5.	IIT Indore	1684	2087	2386	41.69%
7.	IIT Bhubaneswar	1208	1392	1562	29.30%
8.	IIT Ropar	861	1102	1366	58.65%
9.	IIT Jodhpur	451	574	799	77.16%

195. Regarding the number of Patents granted and published during the period 2016-21) by IITs, the Ministry of Education during the evidence held on 11.10.2022 furnished the following.

Patents Granted / Published

S. No.	Name of IIT	No. of Patents Granted (2016-21)	No. of Patents Published (2016-21)
1.	IIT Hyderabad	16	58
2.	IIT Patna	3	24
3.	IIT Gandhinagar	1	13
4.	IIT Mandi	8	30
5.	IIT Indore	0	29
7.	IIT Bhubaneswar	0	12
8.	IIT Ropar	3	23
9.	IIT Jodhpur	5	23

(j) Ph.D students graduating per faculty

196. In order to produce more number of Ph.D students graduating from the IIT's every year, Kakodkar Committee recommended that the IITs quickly get 0.6 Ph.D student to graduate for each faculty member every year and then strive to get to one Ph.D student to graduate per faculty each year in the years to come.

197. Audit, observed that most of the IITs have not achieved the desired average of 0.6 Ph.D graduates per faculty despite being established over a decade. Only IITI was able to achieve the prescribed 0.6 Ph.D graduations per faculty during Academic year 2018-19. IIT Ropar (0.15) and IITJ (0.04) remained far behind the desired ratio.

From April 2021 to March 2023 the position of patents granted and patents published in respect of IIT Ropar is as under:

Patents granted: 11

Patents filed: 35

Published: 52

IIT Ropar has improved on this front also. Presently around 100 Ph.D students will be graduating during the Academic Year 2023-24. Faculty strength as on 31.12.2023 is 181 Now the average ratio comes to around 0.6

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198. The Committee sought to know that any corrective measures have been initiated by the IIT's to achieve the desired average if so whether any specific timelines was set to achieve the targets. In response, the Ministry in their written replies submitted as under

"Ministry in consultation with the Ministry of Finance has approved the ideal student faculty ration of 10:1. However, no specific student faculty ratio has been defined for course/stream wise in the IITs."

199. Regarding the number of PhDs awarded during the period 2016-2021 by IITs, the Ministry of Education during the evidence held on 11.10.2022 furnished the following.

S. No	Name of IIT	2016-17	2017-18	2018-19	2019-20	2020-21	Percentage Growth
1.	IIT Hyderabad	24	27	56	63	86	258.33%
2.	IIT Patna	24	13	38	49	38	58.33%
3.	IIT Gandhinagar	13	23	26	54	85	553.85%
4.	IIT Mandi	24	28	30	49	52	116.67%
5.	IIT Indore	32	51	80	77	71	121.88%
7.	IIT Bhubaneswar	14	10	32	35	35	150.00%
8.	IIT Ropar	18	20	24	28	32	77.78%
9.	IIT Jodhpur	5	16	26	29	25	400.00%

199. Regarding the Students and Faculty Strength in IITs, the Ministry of Education during the evidence held on 11.10.2022 furnished following.

Students and Faculty Strength

The present position regarding PhDs awarded is as under:
 2021-22 = 52,
 2022-23 = 64,
 Growth = 255.56%

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S. No.	Name of IIT	Students Strength	Faculty Strength
1.	IIT Ropar	2471	165
2.	IIT Patna	2206	126
3.	IIT Hyderabad	3759	275
4.	IIT Jodhpur	3329	226
5.	IIT Gandhinagar	1792	148
6.	IIT Bhubaneswar	2701	123
7.	IIT Indore	2242	179
8.	IIT Mandi	2014	145

(k) Non establishment and functioning of research and technology development council

201. MoE's DPR envisaged establishment of a Research and Technology. Development Council in the governing structure of each IIT, to provide policy guidance for research and development activities. Audit observed that no such Council was established by the IITBBS, IITH, IITI and IITP during the period 2014-19. As a result, the policy guidance from a specialised body for research and development activities was lacking.

202. The Committee desired to know that the setting up of research councils by the IIT was monitored by the ministry and the present status of research and technology development councils in the IITs. In response, the Ministry in their written replies submitted as under:

"IITs have established advisory committees at their Institute level to oversee research activities; and IITs have established Research Advisory committee (RAC) or Research & Development Committee for advising on R&D matters Including IPR and Technology transfer etc."

(l) Adherence to timelines in progress of research projects

203. Audit test-checked 208 sampled cases of research projects in eight IITs for assessing the cost and time overruns. Out of 180 projects for which information was provided to Audit, 96 projects were scheduled to be completed by March 2018. Out of these, Audit

Faculty position and Student strength as on 11.01.2024 is as under: Students = 2990
Faculty = 181

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Institute has established dedicated R&D section for the time bound completion of Sponsored and Consultancy projects please.

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observed delays in 17 research projects (18 per cent) in six IT (IITBBS, IITH, IITJ, IIT Mandi, IITP and IIT Ropar) with delay ranging from 22 days to 644 days as of March 2019.

204. The Committee sought to know that any effective monitoring mechanism was put in place by it to ensure the completion of research projects in timely manner and if so please state, In response, the Ministry in their written replies submitted as under:

"The research projects are directly being monitored by the concerned ITs and the Ministry does not interfere in the routine work of the IIT."

205. Detailing the research outputs came out during COVID-18 period by IITs, the Ministry of Education during the evidence held on 11.10 2022 furnished the following:

"Major Research Outputs during COVID-19 period

1. IIT Gandhinagar

- Developed an interactive COVID-19 Dashboard called "MIR AHD Covid19 Dashboard" to provide real-time information at various levels.
- Artificial Intelligence-based deep learning tool for detection of COVID-19 from Chest X-ray images.
- DNA programmed microfluidic devices as cost effective, high throughput point of care diagnostic platforms for Covid 19 detection.

2. IIT Bhubaneswar

- Development of a Patient Responsive Active Assist control (PRAAN) Ventilator.
- Development of a UVC Disinfection Cabinet.
- Development of effective disinfectants and washing

materials. Hand Sanitizer prepared by researchers as per WHO parameters.

3. IIT Hyderabad

- Supermodel for the prediction of Covid-19 progress in India.
- Aerobiosys, a startup of CfHE at IITH, developed a low-cost portable ventilator, Jeevan Lite.
- Dept. of Design developed a UV air sterilizer "Swatchh Air" supported by IITH via a BUILD (Bold Unique Ideas Leading to Development) project.
- Developed and deployed an App for tracking the distribution of rice and money to more than 3,00,000 migrant workers.

4. IIT Jodhpur

- Low-Cost Reusable Marble Dust Appended Composite Ceramic Porous Mask for Air Purification and Water Issues During & After COVID-19 Pandemic.
- SMART HEALTH solutions for Rapid Mass Diagnosis for COVID-19 which includes AI driven diagnostics using X-ray and CT images of lungs.

5. IIT Patna

BigOHealth App, incubated at IIT Patna, started a social initiative where any covid symptomatic patient can consult the doctor 24/7 through their platform.

Telemedicine Platform, Bikedoc, an Online consultation company Incubated at IIT Patna, built a telemedicine platform in two versions-one Kiosk model and one Bike model which can be used for monitoring of patients and remote consultation.

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Sanitization Devices: The Kingshahi Pvt. Ltd, incubated at IIT Patna, found a WHO guideline complied, lower cost, highly effective full body sanitization. solution for limiting contamination in sterile areas.

6. IIT Indore

Development of UV disinfection Box and Arms:

Development of sterilization chamber using 254 nm ultra-violet (UV) rays to sterilize personal objects Le. mobile phone, wallet, etc. of duty-bound police, doctors etc

Development of Virucidal Cationic Polymeric Nanoparticles for Face Masks and PPEs.

7. IIT Ropar

Sampark-o-Meter: A mobile-based app which can indicate areas on maps with maximum corona virus infection possibility:

Low-Cost Ventilator: IIT Ropar team comes up with low cost ambu bag-based ventilator for shorter duration like during ambulance transport.

Negative Pressure Room (NPR): NPR has been designed to prevent transmission of COVID-19 through air at isolation wards and testing labs, thus protecting the medical staff from infection

8. IIT Mandi

Reusable MoS2: Modified Antibacterial Fabrics with Photothermal Disinfection Properties for Repurposing of Personal Protective Masks.

Nanofiber membrane decorated face mask with an efficacy of 94-99% at a pressure drop much lower than N95 has been

developed.

Low cost auto tuned mechanical ventilator:

A low-cost ultraviolet light triggered viral disinfection panel, which has the direct application on courier box, PPE gear, travel bags, currency, wallet etc.

206. Regarding the number of programmes offered and placements made in the new IITs, the Ministry of Education during the evidence held on 11.10.2022 furnished the following.

Programmes offered by IITs

S. No.	Name of IIT	B.Tech	M.Tech/M.Sc/Dual degree/M.Tech	PhD
1	IIT Mandi	7	21	7
2	IIT Ropar	7	10	11
3	IIT Jodhpur	10	20	34
4	IIT Gandhinagar	6	17	21
5	IIT Indore	5	25	16
6	IIT Bhubneshwar	6	20	7
7	IIT Patna	10	11	4
8	IIT Hyderabad	15	43	15

Placements

S. No.	Name of IIT	2019-20	2020-21	2021-22
1	IIT Ropar	85.96%	81.77%	88.49%
2	IIT Patna	80.85%	86.63%	94.52%

Latest position of IIT Ropar regarding number of programs offered and Placements made during the academic year 2022-23 is as under:

Name of IIT	B.Tech	M.Tech, M.Sc. and Dual Degree	PHD
IIT Ropar	8	11	11

3	IIT Jodhpur	91.00%	83.00%	97.70%
4	IIT Bhubneshwar	88.00%	93.00%	95.00%
5	IIT Gandhinagar	71.32%	73.28%	91.85%
7	IIT Indore	80.85%	86.63%	94.52%
8	IIT Hyderabad	80.00%	69.55%	86.52%
9	IIT Mandi	94.40%	90.47%	97.50%

207. During the evidence held on 11.10.2022, the Ministry of Education also furnished the details of NIRF Rankings and QRS Rankings of 2G IITs as under:

NIRF Ranking of 2G IITs

S. No.	Name of IIT	2020	2021	2022
1	IIT Ropar	25	19	22
2	IIT Patna	26	21	33
3	IIT Hyderabad	8	8	9
4	IIT Jodhpur	53	43	30
5	IIT Gandhinagar	24	22	23
7	IIT Bhubneshwar	22	28	36
8	IIT Indore	10	13	16
9	IIT Mandi	31	41	20

NIRF(Engineering Category) Ranking of IIT Ropar in 2023 is : 22

QRS Ranking

S. No.	Name of IIT	2020	2021	2022
1	IIT Ropar	-	-	-
2	IIT Patna	-	-	-
3	IIT Hyderabad	601-650	591-600	581-590

4	IIT Jodhpur	-	-	-
5	IIT Gandhinagar	-	-	-
7	IIT Bhubneshwar	-	701-750	801-1000
8	IIT Indore	-	-	396
9	IIT Mandi	-	-	-

208. When queried what QS ranking is, the Secretary, Ministry of Education during the deposition before the Committee stated as under

"Internationally, it is a very well recognized ranking system.

209. When asked whether the national rankings and the international rankings are comparable, the representative of the Ministry stated as under

"Sir, actually the criteria for both the national rankings and the international rankings are separate. So, it is not a comparable thing."

210. On being further enquired about the specific reason thereof, the representative of the Ministry explained as under:

"The critical difference is that 50 percent weightage in international rankings is based on perception, that is on academic perception and employer's perception. Academic perception is for 40 percent and for the employer's perception it is 10 percent. This 50 percent of perception points in Indian national rankings is only 10 per cent. So, that is the biggest diversion between the two."

211. In this regard, the representative of the Ministry further added as under.

"As it also requires a kind of background and as it is optional for the IITs to participate in these international rankings. Typically, it takes about 10 to 20 years in terms of establishing the international image with the voting, because 40 per cent is from

the international participants who give their perception.

E. Functioning of Oversight Mechanism

212. Oversight mechanism is a system or process used by organizations to monitor and ensure that their work is effective, of envisioned quality and that all applicable rules and regulations are followed. A well-structured oversight mechanism with governing bodies at appropriate levels institutionalizes smooth functioning of the organization and ensures that the intended outcomes are achieved economically, efficiently and effectively

(a) Shortfall in meetings of Government Bodies

213. The Act and Statutes stipulate for a minimum number of meetings to be held every year by each governing body. Conducting the meetings as prescribed facilitates regular monitoring of the activities and taking timely remedial measures.

214. Audit noticed that there were shortfalls in number of meetings held by the BoG, Senate, Finance Committee and BWC in all IIT's during the five-year period 2014-19.

215. The Committee sought to know that the IITs are adhering to the minimum number of meetings as prescribed by the act/statutes and any specific instructions issued by Ministry to ensure the same along with the action taken by governing bodies of each IIT with regard to delay in execution of infrastructure works in all 8 IITs lead to cost escalation. In response, the Ministry in their written replies submitted as under.

"Governing bodies of the Institute have been meeting normally with more frequency than mandated in Act/Statutes and this has facilitated extra and effective supervision of the activities of the Institute. Action taken on the approved projects by the BoG are also reviewed and discussed in detail through Building and Works committee (BWC). Reviewing construction on fortnightly basis with PMC were undertaken wherein PMC submits working programme, activity-wise, indicating material and manpower

IIT Ropar agrees with the comments of Ministry

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required to complete the construction activities within stipulated time

IIT BHUBANESHWAR

216. As per Statute 7(2) of ITBBS, the Finance Committee is responsible for providing its views and making recommendations to the Board on any financial matter relating to the IIT IITBBS entered (October 2014) into a tripartite agreement for supply of 5 MLD water to its campus. The agreement was executed by the Director without approval of BoG/FC which was against the said stipulation of their Statutes. Further, the requirement of water was not properly estimated as on November 2018 the actual requirement was only for 0.5 MLD against the 5 MLD agreed. As per records furnished to audit, the agreed volume of water (5 MLD) would be required in the year 2030 e.. after complete development of the campus The water supply project was functional since June 2018 and the agency claimed water supply charges of ₹ 3.32 crore (March 2019) though no water was drawn by the IIT till date through this project.

217. Audit observed that improper/unplanned assessment of water requirement at initial stage and signing of agreement, without prior approval of governing bodies and Incorporating bulk supply condition instead of actual consumption resulted in Involvement of financial liability of 3.32 crore on the IIT without any commensurate outcome.

218. The Committee desired to know that any responsibility has been fixed by IIT Bhubaneswar for entering the agreement without the approval of statutory bodies. In response, the Ministry in their written replies submitted as under:

"MoE called for an explanation from the charged officer and suitable reply was given where he admitted his action. IIT Bhubaneswar is examining the issue further."

219. The Committee also desired to know the present status of the payment of water supply charges of rupees 3.32 crore and any specific assurance was received from the state government public health engineering organization Bhubaneswar in this regard. In response, the Ministry in their written replies submitted as under:

"No amount of water charges as claimed by the agency (MEIL) has been paid so far, as water has not been drawn by IIT Bhubaneswar. The matter is now sub- judice under Arbitration Tribunal."

IIT HYDERABAD

220. As per the Statute 8(2) of ITH, the BWC is, inter alia, responsible, under the direction of the Board, for construction of all major capital works after securing from the Board the necessary administrative approval and expenditure sanction. BWC is also responsible to give the necessary administrative approval and expenditure sanction for minor works including maintenance and repairs.

221. Audit observed that as against two meetings in a year, BWC met only once during 2014-15, 2016-17 and 2017-18 and no meetings were conducted in 2015-16 and 2018-19. It was also observed that the BWC in its ninth meeting (September 2014) ratified, in one sitting, 175 construction works taken up between 2012-15 (175 works costing 9.33 crore).

222. The Committee sought to know as to whether BWC meetings are being held regularly by IIT Hyderabad in order to avoid such a certification of works. In response, the Ministry in their written replies submitted as under

"IITH is conducting two BWC meetings in a year in accordance with the Statutes."

IIT INDORE

223. As per the delegation of powers of IITI, the Director was delegated financial powers to award the works upto 50 lakh and the works beyond 50 lakh should be referred to BWC.

224. Audit observed that the Chief Engineer and Project-in-Charge of CPWD awarded (December 2015) a work to a contractor for construction of RCC road amounting to 92.97 lakh without calling for tender and without the prior approval of BWC

225. The Committee desired to know as to whether any action to fix responsibility was initiated by the IIT Indore authorities. In response, the Ministry in their written replies submitted as under:

"The observation is noted as the work was entrusted due to pressing need of the Institute in view of upcoming Convocation 2015 and access to the Workshop building, for which road was necessary. However, it has been ensured that no reoccurrence

of similar decisions happened at the Institute level."

226. Outlining a brief overview of the action being or proposed to be taken by the Ministry, the Committee were informed as under

- All 8 IITs, as of now, have land in the range of 400-900
- These IITs faced several technical, logistical and administrative issues during the process of establishment causing delays.
- For completion of work, all IITs are taking active steps such as discussion with PMC and regular follow up.
- Today, IIT Jodhpur is 100% complete and other IITs are also at advanced stages of completion
- All IITs have been asked to fill up vacancies in a mission mode.
- On academic front, all these IITs feature in top 50 engineering colleges as per NIRF rankings.
- 3 of them already figure in international ranking.
- There have been substantial increase in the PhD degrees awarded over the last 5 years.
- There has been substantial increase in the research publications in indexed journals.
- Senates of IITs have been actively introducing new courses and programmes from time to time.

OBSERVATIONS/RECOMMENDATIONS OF THE COMMITTEE

Introduction

Five IITs were established during the year 1950 to 1961. IIT Guwahati was established in 1994. IIT Roorkee became the seventh IIT in 2001. Eight new IITs were announced by the then Prime Minister in his Independence Day speech on 15th August 2007. These eight IITs, known as 2GIITs, were set up at Ropar, Patna, Hyderabad, Jodhpur, Gandhinagar, Bhubaneswar, Indore and Mandi. All the eight new IITs commenced their academic activities initially from temporary

campus and subsequently initiated construction of permanent campuses in the land allotted to them by the respective State Governments. IITs, Indore and Mandi started their operations in 2009, while the other IITs started their operations from 2008. As of now, all the IITs are operating from their permanent campuses.

Detailed Project Report (DPR) of MoE (erstwhile MHRD) provided that the new IITs would be residential institutes of an area about 500 to 600 acres each. The campus of each of these IITs would house the academic area and residential area for students, faculty and staff. The campus of the IITs would also contain facilities like guest house, health care (at the level of primary health clinic), small shopping centre along with banks, sports facilities, postal facilities, elementary and secondary schools for the children of faculty, staff and married students. The IITs were also to be fully equipped with laboratory equipment and computing equipment for the students to facilitate the learning process in line with the courses offered. Accordingly, the Government of India (GoI) requested (in 2006) the respective State Governments to identify and allot 500-600 acres of land (preferably land in possession of the Government) free of cost, to each of the eight IITs, with necessary social and physical infrastructure like electricity, water, rail and road connectivity.

Creation of Infrastructure

1. The Committee note that in IIT Hyderabad, IIT Indore, IIT Jodhpur and IIT Patna, sufficient land as envisaged (500-600 acres) by the Ministry of Education (MoE) was available while in IIT Bhubaneswar, IIT Gandhinagar, IIT Mandi and IIT Ropar, issues in allotment and transfer of land persisted even after a decade of their establishment. The Committee, while wondering how MoE went for large scale expansion of the IIT System without ensuring availability of requisite suitable land from the State Governments, observed that for construction of permanent campuses and providing planned facilities to the students, transfer of suitable land by the States was the primary requirement. In this regard, the Ministry submitted that when an IIT is to be established in a State, MoE requests the State Governments to allocate 500-600 acres of land free of all encumbrances which then identify two or three sites as per availability for placing before a Site Selection Committee comprising of senior officials from the Ministry,

representative from the concerned IIT/ Mentor IIT and CPWD that visit and inspect the sites and submits their recommendations for final selection. Ministry added that taking into account the issues in allotment and transfer of land in some of the IITs, in future, efforts would be made to impress upon the State Governments for identification of suitable land for transfer for setting up of the IIT. In view of unsuitable land offered by some of the State Governments subsequently for creation of infrastructure of IITs, the Committee are constrained to observe that proper due diligence was not conducted by the Site Selection Committee. The Committee trust that while embarking upon expansion project for the third generation IITs, the MoE would take appropriate measures to obviate recurrence of lapses noticed during implementation of the second generation IITs.

2. The Committee note that though the infrastructure work like construction of academic buildings, hostels, laboratories etc., were undertaken in a phased manner in all IITs from 2012, the pace of their creation was not commensurate with the pace of envisaged increase of student/faculty. The delays were significantly high in respect of five IITs (IITH up to 56 months, IIT Mandi up to 41 months, IIT Ropar up to 39 months, IIT Gandhinagar and IITI up to 37 months). The Committee also note that in case of IIT Gandhinagar and IIT Mandi, the land availability is far less than the envisaged 500-600 in DPR. Further, in IITGN, although 399 acres of land had been allotted to the Institute, 150 acres of land was in unsuitable condition. Hence, 165 acres of land compensating the unusable land was sought from the State Government. In this regard, the Ministry submitted that IIT Gandhinagar is currently in possession of 399 acres of land, which is sufficient to support a student intake of 10,000, as per the decision of the Committee for determination of land requirement of Central higher education institutions. The matter relating to requirement of additional land was taken up with the State Government at the level of Secretary, D/o Higher Education on 28.10.2020. Further, IIT Mandi is already in possession of 501 acres of land. The Central Government also vigorously follows up with the concerned State Governments for remaining land. The Committee, taking note of the slow pace of student intake since commencement of operations in IITs, recommend that while undertaking initiatives for conversion of forests and riverine land for residential/institutional purposes, Ministry should also review the requirement of land for IITs. The Committee also recommend that

alternate plan to create infrastructure to meet the targeted intake of student strength in view of non-availability of suitable land should also be explored. Observing that State Governments offered disputed land as against the requirements of encumbrances-free land for setting up IITs, the Committee further recommend that Ministry/IITs should not accept unsuitable land in future.

3. The Committee note that each IIT developed their own Master Plan for undertaking construction work in a phased manner for various academic and non-academic purposes. Audit observed that while construction activities under Phase-I were initiated in all the IITs during 2012, buildings under Phase-I were complete only in two IITs (IITBBS and IITJ), out of eight IITs as of March 2019. Further, Phase-II work was initiated during the period 2014-19 in five IITs (IITBBS, IITH, IITI, IITJ and IITP). Audit also noticed delays in execution of Phase-II building work in two IITs, namely IITBBS and IITI. Phase-II work was yet to be initiated in rest of the three IITs (IITGN, IIT Mandi and IIT Ropar) during above period. Some of the facilities that were delayed in these IITs were academic buildings including research facilities, hostels, health centres and sports facilities. As such, envisaged campus development remained incomplete in IITs, despite a lapse of seven years since initiation of construction activities. The Committee note that as on 31.10.2022, IIT Jodhpur, IIT Hyderabad and IIT Mandi are 100% complete out of the 8 IITs. Further, while construction work of IIT Gandhinagar and IIT Indore (being 94% and 98% respectively) was estimated to be complete by 31.12.2022, construction work of IIT Bhubaneswar (87.00%) and IIT Ropar (90.5%) and IIT Patna (96.5%) are estimated to be completed by 31.03.2023. The Ministry stated that most of the reasons attributed to delay are those for which clearances need to be obtained at the Institute level. These clearances are required as per norms of the State Government. The Committee desire that IITs need to do regular follow up with the State Government to obviate any delay in future. Further the liquidated damages should be imposed on delinquent contractors and encashment and forfeiture of Performance guarantees should also be explored along with blacklisting of the firm, too. Observing delays in creation of even facilities like academic buildings including research facilities, hostels, health centres and sports facilities in some IITs, the Committee further desire that IITs should take up the infrastructure work for academic purposes on priority basis and in tune with the envisaged increase in

Phase-1 work has already been completed on 30.06.2023.

Noted for future compliance please.

student strength and faculty. They should also have provision of rain water harvesting and installation of Solar Panels for fulfilling in-house water & electricity needs.

4. The Committee note that IITs attributed the delay in the construction of the buildings to time taken for finalization of designs, obtaining regulatory clearances, statutory approval, shortage of labour, remoteness of area, etc. The Ministry explained that constraints in water and electricity supply coupled with execution of work based on conceptual design finalized by the architectural consultants further contributed to the delays as individual details were finalized in the construction process. From this, the Committee note that the Ministry failed to anticipate the above problems while creating infrastructure for premier institutions. The Committee feel that in order to expedite the construction process, it is incumbent upon the Ministry to address the issues in consultation with the State Government concerned. While noting that the Board of Governors of individual IITs were reviewing the progress of work of construction, the Committee feel that the Ministry should have also played a pro-active role in settling the contentious issues so that IITs would have obtained all necessary statutory clearances from concerned Ministries/ Departments like forest. Railways and National Highway authorities etc. in time which would have made available the sites for procurement and installation of scientific equipment as per schedule. The Committee, therefore, desire that henceforth the work should be Initiated after finalizing individual details of the project and not on conceptual planning and clearances must be obtained in time.

Faulty execution of fire safety works

5. The Committee note that National Building Code, 2005 (NBC) provides that while taking up construction of building projects, the design should include statutory fire-fighting strategies. For ITBBS, a consultant (Consulting Engineering Service (CES) India Pvt. Ltd.) was engaged (in May 2010) to provide Project Development and Project Management Services for various buildings like hostels, staff quarters, guest houses etc., under Phase-1. Audit observed that designs which were non-compliant with the fire safety norms of NBC 2005 were adopted for construction and buildings were built, thereby exposing the occupants to fire hazards. As a result, certain portions of six buildings, already constructed, had to be dismantled (in June 2015) at a cost of

₹32 lakh. Later, IITBBS estimated that an additional ₹2.18 crore would have to be incurred for installing firefighting systems to meet the requirements of NBC 2005. The Ministry submitted that out of an estimate of ₹ 2.18 cr, fire safety work valued at 99.25 lakh has been executed. The Committee notes that notwithstanding that the actual expenditure incurred was lesser for installing firefighting systems, the fact remains that a serious lapse has occurred in observing fire safety norms. This would have put the lives of the students and faculties etc. In jeopardy. The Committee while noting that stringent action should be taken on the consultant, CES India Pvt. Ltd. for dereliction of duty in not including statutory fire-fighting provision in the design, recommend that the Ministry should also sensitise the oversight committees to be more careful in future.

Tendering and awarding of works by IITGN

6. Audit scrutiny revealed that architectural consultancy services for five works which included the construction of academic buildings, sports complex etc., in Phase-I was awarded on nomination basis at a consultancy fee of ₹7.64 crore, without following the provisions of GFR for process of identification, shortlisting, selection of consultants and outsourcing of services. Audit further pointed out that the Owner's Architect and later a company owned by the Owner's Architect was appointed on a nomination basis too. Further, a civil engineer from the company owned by the Owner's Architect was also appointed on a nomination basis too. The Ministry submitted that the consultant in question i.e. M/s. Mitimitra was initially selected for comprehensive architectural services for non-residential buildings comprising of Academic Buildings under Phase-1A as per relevant provisions contained in GFR-2005 for procurement of Goods and Services. Having considered the performance(s) of all three architectural consultants engaged by IITGN namely (i) M/s. HCP Design, Planning & Management Pvt. Ltd. for Student Hostels (ii) M/s. VastuShilpa Consultants for Residential Buildings (iii) M/s. Mitimitra Consultants for Academic Buildings only M/s. Mitimitra Consultants was found suitable for other works as scope of the work in original RFP was already defined with a rider that further work under Phase-1 (i.e., Phase-1B) shall be awarded based on performance under Phase-1A. Accordingly, the work for Phase-1B was awarded to M/s. Mitimitra Consultants. Further, regarding owner's architect, the Ministry stated that the initial appointment of this consultant was on the basis of formal search for a

professional consultant willing to initiate the process of selection of various architectural consultants i.e. for Master Plan, detailed architectural planning of buildings and infrastructural development including bulk services. The Committee are not satisfied with the reasoning of the Ministry nor in agreement with the policy of selecting the consultants through nomination compromising quality and transparency. The Committee, therefore, desire the Ministry to strengthen their compliance mechanism and direct IITs to adhere to the provisions of GFR in procurement of Goods and Services for each phase of work.

Inordinate delay in taking up Phase-II work

7. The Committee note that Phase-II work among others, included construction of Laboratory complexes under Technology Incubation Park (TIP) and Technology Research Park (TRP) which were estimated to cost \$1,776.50 crore and out of this, Japan International Co-operation Agency (JICA) sanctioned a loan of ₹1,501.72 crore to Gol during January 2014. The remaining ₹274.77 crore was to be funded by Gol for which the release of fund started from 2013-14. The project period was four years from 2013-14 to 2016-17. Audit observed that the work pertaining to Phase-II was, however, awarded during March 2019, i.e., after five years from the date of loan agreement and was scheduled to be completed by March 2022 (36 months from March 2019). In this regard, the Ministry attributed delays in award of work to the appointment of the contractors and consultants which required approval of JICA in every stage such as approval of prequalification documents, evaluation, tender documents and its scrutiny etc. According to the Ministry, this process could only be accomplished by March 2019 for construction of buildings. The Ministry also submitted that in addition to the requirements of JICA, a Project Advisory Committee has been set up at IITH to monitor the progress of construction. Besides, monitoring by BWC and BoG is also ensured. The Committee do not find the reply of the Ministry tenable as more than five years of delay in awarding work has occurred for which the reasons cannot be attributed to only the stringent terms and conditions of the loan agreements signed with JICA. There has been inordinate delay on the part of IIT/Ministry, which is being covered in the name of JICA. The Committee note that the Ministry has been evasive in furnishing the reasons on their part. As a result thereof, the intended objective of advancement of academic and research activities in the Campus could not be achieved in time. The Committee,

Not applicable in respect of IIT Ropar.

therefore, while emphasizing a need for enquiring into the causes of the delay, desire that the Ministry must take policy initiatives for timely utilization of the loan fund raised from international funding agency. The Committee would also like to be apprised of financial implications of delay in release of funds in terms of interest payments penalty or otherwise.

Indefinite time frame in contract

8. The Committee note that a contract was entered (in March 2011) for providing consultancy services (design) for 'Architectural, Structural, Mechanical, Electrical and Plumbing (MEP) and Educational Technologies for the Computer Science and Engineering (CSE) Department. The consultancy fee was fixed at five per cent of the 'accepted bid value of the proposed building, irrespective of completion cost. Provision for stage-wise payments in ten instalments was made in the agreement, based on the progress of the work and the final payment was to be made when the consultant submitted the "As-Built drawings. A consultancy fee amounting to ₹42.02 lakh was paid (from March 2011 to December 2012) for the work done up to Stage 6. Audit observed that the actual construction work of the CSE department, was taken up only in July 2019 i.e., after a delay of eight years, at an awarded cost of ₹47.38 crore. IITH recalculated the six stage-wise payments previously made to the Consultant as the earlier payments were made based on the estimated cost and not the accepted bid value. Hence, the payment to the consultant was revised to ₹70.36 lakh (September 2019) based on the "accepted bid value of the work done till December 2012. Resultantly, an additional fee amounting to ₹28.34 lakh (₹70.36 lakh - ₹42.02 lakh) was paid in September 2019. As such, delay of eight years in awarding the contract for the construction imposed an additional liability on the IIT, due to escalation in costs over time. The Ministry submitted that the architects' agreement are based on the guidelines of the Council of Architecture which is a Statutory body established by an Act of the Parliament. The architects are retained on percentage basis. The services of the architect are required till the completion of the project. The award of contract and subsequent agreement with the PMC is entered into by the Institute at its own level and Ministry is not a party to the agreement. However, Ministry conveys the financial sanctions and the time limit within which the project is to be completed, as per the Cabinet approval. For extension of time and for cost overrun, the proposals are received from the institute which is examined in

consultation with the Finance Division of the Ministry, and on proper justification, is recommended for approval by the competent authority. In the opinion of the Committee, IITH had to pay an additional fee amounting to ₹28.34 lakh (₹70.36 lakh 42.02 lakh) due to the fact that the contract had no completion date and the consultant was to be paid as and when the milestones mentioned in the contract were completed. The Committee desire that henceforth before awarding the contract, terms and conditions including expected date of completion of the projects should be clearly mentioned and invariably reviewed from time to time by Ministry, too so that the progress of the project within the scheduled timeframe may be ensured without any extra financial liability.

Construction of Foot-over-Bridge (FOB)

9. The Committee note that the permanent campus of IITH is located along National Highway 65 (NH65) connecting Andhra Pradesh, Telangana, Karnataka and Maharashtra. The main entry to the Institute abuts the NH65 carrying the traffic of Hyderabad, proceeding to other districts of Telangana and Maharashtra and vice versa. The Committee also observe that the BWC accorded (in September 2017) approval for construction of Foot-over-Bridge in a convenient location near the main entry of IITH to ensure safety of students, faculty, staff and other users of IIT campus. However, till October 2020, the FOB was not constructed, thus endangering the safety of IITH students, faculty and other stakeholders. The Ministry stated that the National Highway 65 is proposed to be expanded to 6 lanes from the existing 4 lanes. NHAI is preparing the DPR and assured to consider building a Vehicle/Pedestrian Underpass (VUP/PUP) in front of the main gate of the campus. IITH has also taken up the matter with them. In light of the fact that NHAI is already seized of the matter of building infrastructure such as FoB/Underpass to ensure safe crossing of National Highways by Students and other stakeholders, the Committee desire that IITH should take up the case more vigorously with the highest authority of NHAI. The Committee would also like to be apprised of the outcome of the action taken in this regard.

10. The Committee are concerned to note that the Phase-I works of IIT Indore which were scheduled to be completed between January 2015 and September 2016 were allotted to a new contractor in August 2021 with a timeline of six months to complete the work. In this regard,

the Ministry has informed that 2,21,000 Square Meter of construction area is completed and financial progress of 97.3% is achieved as on Oct. 2022. The balance work and rectification work worth 10 Crore are in progress. The Ministry also stated that delay in completion of the Work was due to difficulties in procuring matching parts for obsolete control panels, electrical devices and worldwide shortage of semiconductors for firefighting devices. Further, the balance work involving electrical installation, commissioning & testing of HVAC and finishing civil work spread over 21 structures is complex in nature. However, the balance and rectification work was expected to be completed by December 31, 2022. In view of the fact that the new contractor also failed to meet the timeline to complete the work, the Committee would like to know the action taken against these contractors. Further, there was a delay of about 5 years in all in awarding work to new contractors. The Committee would also like to know the reasons for this delay in awarding work and action taken against inefficient officials. Further, the Committee would like to be apprised of the current status of the project.

Non-completion of Indoor Sports Centre

11. The Committee note that a football ground was to be constructed (in July 2018) on the south side of the sports complex in IIT campus. The site of football ground was changed (in January 2019) to the north side of sports complex despite the fact that the north side of the campus was full of black cotton soil and located in a low-lying area. IIT ignored the possibility of water logging and work was awarded to contractors in July 2018 and May 2019. Further, the contract was closed in September 2018 and July 2019. An amount of ₹92.15 lakh was also paid to the contractors. Audit observed that after closure of the contracts, the football field was uneven and there were bushes all over the football ground. Thus, the football ground was not in a ready condition even after incurring an expenditure of ₹92.15 lakh. As regards reasons for closing the contracts within two months and paying 92.15 lakh, the Ministry submitted that the performance of the contractor was not satisfactory and hence the contract was closed. Audit further observed that balance of work of development of football ground has been awarded to CPWD in February 2021. Giving the status of construction of football ground in IIT Indore campus, the Ministry submitted that Earthwork of north side of Indoor sports

complex has been completed. However, as per the master plan of the institute, it was decided that complete sports arena including Synthetic athletic track, Football ground, Warm up area, seating arrangement, Hockey Ground, Lawn Tennis, Volleyball ground and related work is entrusted to CPWD. The Committee desire to be apprised of the rationale of changing the site of Indoor sports complex to the north side and initially awarding the work to the contractors while it was to be entrusted to CPWD, as per the master plan of the institute. The Committee also desire to be apprised of the resultant extra expenditure borne by the institute due to closure of the contract and awarding midway the balance work to CPWD along with the sequence of decisions taken at each level and reasons therefor.

Assets created not put to intended use

12. The Committee note that in IIT Jodhpur, a swimming pool (Jal Building) constructed up to plinth level under Phase-II was abandoned after incurring expenditure of ₹1.85 crore. Construction work taken up in October 2017 was stopped in September 2018 in compliance with the guidelines issued (in July 2018) by MoE stating that the grants were not to be used for development of certain infrastructure such as swimming pools. Regarding half completed work, the MoE informed the Committee that it was stated that Institute can mobilize funds from other sources for its completion. To a question over ratification of the expenditure of 1.85 crore already incurred on the work abandoned, the Ministry stated that the Building constructed till plinth level at safe stage. Further, Institute has been advised to undertake construction strictly as per approved DPR, and within the approved capital cost. While expressing displeasure over the manner in which public money was squandered by IIT, the Committee would like to know the action taken by Ministry for this expenditure of ₹ 1.85 Cr which was not as per DPR and desire that the Ministry ensures scrupulous compliance of DPR/Guidelines by IITs.

Execution of works

13. The Committee note that Major construction works under Phase-I were entrusted to CPWD and NBCC. Audit examined 14 construction works taken up by IIT Mandi during 2014-19 under Phase-1. Of these, 11 works was scheduled to be completed by March 2019. However, six out of these 11 works (like academic buildings, laboratory building, recreation centre etc.) which were scheduled to be completed between October 2012 and August 2017 were completed between October 2013 and February 2018 with a delay ranging

between two months to 26 months. Two major construction works, (i) 'construction of Phase-I North' viz., academic buildings, guest house, gymnasium, hospital and auditorium building and (II) 'different buildings' viz., 22 hostel blocks, 28 faculty housing building, dining and club house, were entrusted to NBCC/ CPWD. The construction of these buildings was scheduled to be completed by May 2018 and October 2016 respectively. However, the construction of these buildings was yet to be completed as of March 2019 and delay of 10 months and 41 months respectively were observed. Audit pointed out that in one specific case, it was observed that the construction of academic and residential complex (62 buildings) was entrusted to CPWD which in turn awarded the work to a contractor for a tender value of 179.48 crore with a stipulation to complete the work by October 2015.

Audit observed that the project was delayed by five years with nine out of 52 buildings remaining incomplete as of November 2020. Regarding policy intervention, the Ministry submitted that IITs are autonomous bodies and Ministry of Education does not interfere in the routine administrative / review process. However, it monitors the progress through Finance Committee (FC) and Board of Governors (BOG) when the status of construction is placed before the FC and BOG. IITs have Building & Works Committee, which regularly monitors the construction progress. IIT Mandi has been reviewing progress of work on monthly basis with PMC by conducting Construction Review Meetings. Due to delay in completion of work and non-performance of firms/ contractor, CPWD forfeited Performance Guarantee (PG) & Security Deposit (SD) amounting to 12,35,72,748/- and credited to work. Similarly, NBCC, too, due to delay in completion of work and non-performance of firm, forfeited PG amounting to 13,41,44,625/-, COVID-19 pandemic also contributed to delay in completion of work as most of the migrant laborers had left and it took considerable time to re- start the work. While expressing dismay over the delay, the Committee desire that the Ministry should have played a proactive role beyond FC and BOG ratification in case of delayed projects. The Committee would also like to be apprised of the current status of aforesaid construction work with the details of time overruns and cost overruns.

Supply of Equipment

14. The Committee note that each IIT has its own procurement policy/manual detailing therein the purchase procedures, guidelines and proper delegation of powers. During analysis of the data and

connected records pertaining to procurement of equipment (selected sample), Audit observed that in 106, out of the 340 sampled cases, there were delays in supply of equipment (including high value equipment) ranging between 31-536 days. Regarding delays in supply of the equipment, the Ministry submitted that all the procurements are being made as per GFR 2017, S&P norms of IITs and GoI stipulated procedures and cases where delay was unjustified, penalties were imposed. Further, IITs have Initiated action to streamline the delivery process as per order which inter alia cover inclusion of delivery schedule, timeline and scope of supply in IIT; detailed briefing to all prospective suppliers in pre-bid meeting and uploading of detailed pre-bid report on website, GeM/CPMP; seeking approval of drawing/layout before placement of order, follow-up by user department and MMS towards timely delivery of the equipment etc. The Committee are of the view that ensuring timely procurement of equipment would enable its utilization by the faculty and students in time. The Committee, therefore, recommend that besides measures taken by IITs, the Ministry should review the procedure for procurement of equipment and issue directions, if any, required for timely delivery. Further, IITs must ensure Installation of equipment within 30 days of delivery.

Financial Management

Revision in the Capital Outlay

15. Audit observed that MoE approved (in July 2008) project cost of ₹ 6,080 crore (760 crore per IIT) for establishment of eight new IITs over a period of six years (2008-14). However, due to delay in handing over of sites by State Governments and procedures involved in getting statutory approvals, there was cost enhancement in equipment, salaries, taxes etc. Therefore, site-specific infrastructure development like underpass, foot over bridge etc. could not be completed within project period resulting in spill-over of the infrastructure development beyond six years, necessitating the revision of the capital outlay from 6,080 crore to 14,332 crore for a period of 13 years. The Ministry submitted that out of the 8 IITs, 3 IITs completed its campus establishment project by 31.07.2021 and for ensuring timely completion of projects of remaining IITs, Ministry from time to time reviews the projects with the IITs to keep track of the progress being made and resolve issues hindering the projects. Further, the slow progress of the work is taken up with the concerned PMC/ CPWD at appropriate level and punitive measures are also taken, wherever necessary. Taking the pace of completion of eight IITs, the Committee

desire that the reasons for inordinate delay in completion of six IITs may be analyzed with corrective course of action in terms of SOP and be informed. Further the learning out of this exercise should be utilized to ensure completion and operationalisation of future ITs in time with no cost escalation with required facilities.

Generation of Internal Receipts

16. Audit observed that the proportion of the internal receipts against the recurring expenditure was very low in IITs ranging between 12 per cent (in IITBBS) and 61 per cent (in IITJ) even after having been established over a decade. Audit also observed that no target has been set for the generation of Internal receipts by the MoE for any of the eight IITs. In this context, the Ministry stated that efforts are being made to raise Internal Revenue Generation (IRG) by introduction of new Self sponsored Certificate Courses / short-term courses; raising endowment funds from Alumni and Philanthropists, industry; Increasing the number of Sponsored Research Projects and Consultancy Projects etc. While appreciating the initiatives taken by IITs for internal resources generation, the Committee desire they should fix a target for internal resource generation. The Ministry should also ensure laying down targets by IITs to improve the mechanism of generating revenues with a view to reduce the dependency on government grants and strengthen the financial position of all IITs.

Faculty Positions

17. The Committee note that MoE sanctioned (in August 2008/February 2009) 30 posts each year for initial three years at the time of setting up of IITs. Further, the Ministry permitted the increase in sanction of the faculty positions linked with the increase in intake of students i.e., sanction of faculty posts to be increased by one for every increase in intake of students by 10 (1:10 ratio). Subsequently, the Kakodkar Committee also recommended inter alia the faculty student ratio (FSR) as 1:10. IIT Council while accepting (in November 2011) the recommendations of Kakodkar Committee considered the increase in faculty strength across all IITs in the country from around 4000 in 2011 to 16000 by 2020, enabling creation of a large pool of high-quality faculty and researchers. Audit observed that the IITs have been recruiting faculty consistently. However, the pace of recruitment of faculty did not correspond to the student intake/enrolment, resulting in vacancies in faculty positions. This shortage was observed even to the end of March 2019 in all IITs except in IIT Ropar. Faculty to student ratio was ranging between 1 to 16 in IIT Bhubaneswar and 1 to 11 in

Noted for future compliance please.

IITs, Jodhpur and Mandi indicating the shortfall in the faculty positions in IITs except in IIT, Ropar. The Committee note that faculty vacancies were ranging between five per cent to 36 per cent. Regarding consideration of the availability of enough suitable faculty candidates before the setting up of new IITs, the Ministry submitted that initially these 8 IITs were proposed to start with student strength of 120, for which faculty strength of 30 was proposed that may increase in proportion to the student strength of these IITs. Directors of mentor IITs were confident of recruiting faculty for new IITs as about 1000 students were going to complete PhD in Older IITs, a sizeable portion of which could be attracted to work as faculty in these New IITs along with attracting bright indian students studying abroad to work as a faculty in IITs. The Ministry submitted that services of adjunct and visiting faculties are utilized as a stop gap arrangement with a view to not affect the academic work of the IITs. Considering the above the Committee recommend for taking initiatives for filling up the vacant faculty positions in a time bound manner to maintain adequate FSR.

Faculty workload and appraisal system

18. The Committee note that Kakodkar Committee suggested (in April 2011) that as a part of appraisal system, faculty could decide what percentage of his/her time and focus in the next year, would be spent on each of the following five parameters namely (i) Teaching (and project guidance), (ii) Research/MS/Ph.D guidance/Research-oriented projects, (iii) Technology development & Industry interaction, (iv) Development of policy/standards and (v) Service. Besides, the goals could also be specified qualitatively in each of these areas, depending upon what the faculty wishes to do. Kakodkar Committee also gave a broad outline for self-appraisal, departmental review and periodical external review of these appraisals. The Committee would like to be apprised of the current status of implementation of Kakodkar Committee recommendations by IITs for evolving a better appraisal system by analyzing the faculty workload and other services.

Peer Group Assisted Learning (PAL)

19. The Committee note that IIT council approved (in October 2015) Peer-Group Assisted Learning (PAL) strategy wherein educationally and socially backward students were to be tagged to bright student volunteers from senior classes. It was intended to be a fully funded initiative of MoE and was to be operationalised by the IITs to enable fresh students to cope with the academic pressures of IITs. Audit

As already submitted, efforts are on to work/implement the five parameters as suggested by IIT Council. IIT Ropar has also established a mechanism for entrustment of teaching assignments, research activities in interdisciplinary areas. Besides, vigorous evaluation of faculty was done at each stage of their career growth

observed that the initiative was not operationalised in IITBBS, IITJ, IITP and IIT Mandi thereby, denying the intended benefits of PAL strategy as envisaged by IIT Council. The Committee note that the Ministry did not issue any specific instruction in this regard to these IITs. However, IITs have made arrangements for mentoring the newly admitted IIT students by the faculty and senior students. The Committee appreciate the initiative of the IIT council and desire that PAL must be implemented by all IITs in letter and spirit. The Ministry of Education should issue suitable instructions for this purpose.

Sponsored Research Projects

20. The Committee note that the DPR envisaged that the new IITs would have a strong sponsored research activity. IITs receive funds from both government and non-government/industry sources for Sponsored Research Projects and faculty members of the IITs are actively engaged in these research projects which are mainly sponsored by different funding agencies like DST, CSIR, DRDO etc. During 2014-19, the eight IITs had executed 1,712 Research projects with an outlay of 1657.71 crore. Some of the areas of research included 5G Research and Building Next Gen Solutions, Mobile sensor network technologies, metal additive manufacturing, artificial intelligence, bio-inspired engineering, catalysts, energy and health care. Audit observed that all the eight IITs attracted sizeable funding from Government sources like DST, CSIR, DRDO etc. However, the number and cost of non-government sponsored projects in all IITs were low. It was noticed that IIT Mandi, IITP, IIT Ropar and IITH were able to attract between 3.5 to 14.31 per cent of total non-government funding among the eight IITs while the others attracted very low levels of funding. As regards preparation of any action plan by IITs to attract funding from industry and non-government sources, the Ministry submitted that IITs invite experts and management personnel from the Industry from time to time to show case research facilities and strike consultation project deals. A lot of faculties are engaged with industry for consultancy and testing based projects. Development offices of IITs are engaged with industry to attract the CSR funding from the industries for research directly applicable to social needs. IITs are also making its R&D infrastructure accessible to Industries and Non-Government sources on a payment basis to attract the funding. While appreciating the initiatives by IITs for attracting non-government funding, the Committee desire an enhanced share of funding from the non-government agencies too, particularly by all IITs that are attracting

Over the last five years, from FY 2018-19 to 2022-23, funding from both government and non-government sources has reached a new high. Industry has contributed Rs. 23.42 Cr. in the form of consultancy projects and funds to the tune of Rs. 111.46 Cr. have been received from the government funding agencies for the projects.

very low levels of funding. The Committee would further like to be apprised of the extent of funding attracted by the IITs during the last five years.

Patents filed and obtained

21. The Committee note that as per the Patents Act, 1970, patent is granted for an "invention" which means a new product or process involving an inventive step and capable of industrial application. As per Para 7.1 of Kakodkar Committee Report, one of the key roles of IITs should be of driving innovation and entrepreneurship, which result in patents and publications the traditional measures of performance of faculty and research institutions. Audit observed that IITH filed 94 patents, followed by IIT I, IIT Mandi, IITP and IIT Ropar. However, there was a large variance between the patents filed and obtained by the eight IITs which need to be reviewed at highest level. In five IITs viz. in IITBBS, IITGN, IITI, IIT Mandi and IITP, no patent was obtained during the five-year period. Regarding devising of action plan by IITs for Improving their performance in obtaining patents, the Ministry submitted that most of the IITs have their own IPR policy or are in the process of formulating one in order to expedite the process of patent filing. The Committee are concerned to note that despite patents filing policy in all IITs, the percentage of obtaining patents is very low. The Committee, therefore, desire that IPR policy in IITs should be relooked into and made in tune with the requirements of the industry and future needs which may increase the number of research projects resulting in obtaining more patents.

Adherence to timelines in progress of research projects

22. The Committee note that Audit test-checked 208 sampled cases of research projects in eight IITs for assessing the cost and time overruns. Out of 189 projects for which information was provided to Audit, 96 projects were scheduled to be completed by March 2019. Out of these, Audit observed delays in 17 research projects (18 per cent) in six IITs (IITBBS, IITH, IITJ, IIT Mandi, IITP and IIT Ropar) with delay ranging from 22 days to 644 days as of March 2019. The Ministry submitted that the research projects are directly being monitored by the concerned IITs and the Ministry does not interfere in the routine work of IITs. In this regard, the Committee desire devising of an effective mechanism to ensure the completion of research projects in timely manner by IITs to obviate any cost overrun and time overruns and providing all facilities for the purpose.

Functioning of Oversight Mechanism

Institute has established dedicated R&D section for the time bound completion of Sponsored and consultancy projects please.

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Monitoring mechanism

23. The Committee note that the Act and Statutes stipulate for a minimum number of meetings to be held every year by each Governing Body. Audit noticed that there were shortfalls in number of meetings held by the BoG, Senate, Finance Committee and BWC in all the IITs during the five-year period (2014-19). In this regard, the Ministry submitted that Governing Bodies of the Institute have been meeting normally with more frequency than mandated in Act/Statutes and this has facilitated extra and effective supervision activities by the institute. Action taken on the approved projects by the Bog are also reviewed and discussed in detail through Building and Works committee (BWC). Reviewing construction on fortnightly basis with PMC was also undertaken wherein PMC submits working programme (activity-wise) indicating material and manpower requirement to complete the construction activities within stipulated time. However, the Committee note that governing bodies of each IITs failed in timely execution of infrastructure work in all 8 IITs which also resulted in cost escalation which indicate that the monitoring mechanism of the Ministry and IITs is poor. The Committee, therefore, desire that appropriate action should be taken to strengthen the oversight mechanism with a view to avoid cost overruns and time overruns and maintaining the standard.

IIT HYDERABAD

24. The Committee note that as per the Statute 8(2) of IITH, the BWC is, inter alia, responsible, under the direction of the Board, for construction of all major capital works after securing the necessary administrative approval and expenditure sanction from the Board. BWC is also responsible to give the necessary administrative approval and expenditure sanction for minor work including maintenance and repairs. Audit observed that as against two meetings in a year, BWC met only once during 2014-15, 2016-17 and 2017-18 and no meetings were conducted in 2015-16 and 2018-19. It was also observed that the BWC in its ninth meeting (September 2014) ratified, in one sitting, 175 construction works taken up between 2012-15 (175 works costing ₹ 9.33 crore).

As regards periodicity of BWC meetings by IIT Hyderabad in order to avoid such certification of works, the Ministry submitted that IITH is conducting two BWC meetings in a year in accordance with the Statutes. The Committee would like to know the reasons of non-ratification of these 175 works in earlier meetings and compelling

circumstances deferring their ratification/certification. Further, the Committee desire that Standard Operating Procedure (SOP) may be framed for timely ratification/certification of work by BWC.

IIT INDORE

25. The Committee note that as per the delegation of powers of IIT, the Director was delegated financial powers to award the works upto ₹ 50 lakh and the works costing in excess of ₹ 50 lakh was to be referred to BWC. Audit observed that the Chief Engineer and Project-in-Charge of CPWD awarded (in December 2015) a work to the contractor for construction of RCC road amounting to ₹ 92.97 lakh without calling tender and without the prior approval of BWC. The Ministry submitted that the work was entrusted due to pressing need of the Institute in view of upcoming Convocation in 2015 and access to the Workshop building, for which road was necessary. The Ministry further added that, however, it has been ensured that there is no recurrence at the Institute level. The Committee feel that the matter would have been referred to BWC with a request for urgent sanction and find that mere admission of lapse on the part of Chief Engineer and Project-in-Charge of CPWD is not tenable and, therefore, desire that action be taken against the erring officials responsible for awarding the work without calling for tender and without prior approval of BWC.

26. The Committee note that the envisaged student intake during the initial six years period from 2008 to 2014 was 2360 per IIT. Thus, total intake expected was 18880 in the initial six years. However, it reached up to only 6224 students. Only IIT Hyderabad could reach to this figure of 2360 after a delay of five years, in 2019. The Committee also note that there was a shortfall of 25 per cent across all IITs in enrolment of PG programmes. In the case of PhD programmes, five IITs did not fix up their targets and three IITs fixed the targets, however, fell short of achieving the same. The Committee, therefore, recommend that IIT's fix targets for enrolment in UG, PG and PhD programmes and make efforts to ensure that these targets are met. The Committee also recommend that MoE must take steps to galvanize the Council of IITs as well as Senate of each IIT so that new teaching methodologies, introduction of topical courses setting high academic standards are attained for meeting the emerging manpower needs of the country.

27. The Committee note that Performance Audit Report No. 20 of C&AG was tabled in December, 2021. However, Ministry in their reply stated that reply to the Report was furnished on May, 2022,

September, 2022 and October, 2022. The Committee find that reply! clarification to the queries raised during the course of examination by the Audit before tabling the Audit Report was forwarded by the Ministry quite late. The Committee, therefore, desire that replies to the observations of the C&AG Audit Team must be furnished promptly. For this, necessary directions may be issued from the highest level in Ministry.

28. The Committee note that in terms of performance, research work, IIT Hyderabad amongst other IITs is making strides. The Committee have been informed that IIT Hyderabad has about 100 start-ups which have come out of its incubation in the last five years and generated 1000 jobs besides revenue of 800 crore. As regards achievements of other IITs, the Committee note that a number of start-ups / companies are running in their respective incubation centers and are working on development of products. The Committee while appreciating the performance of the IIT Hyderabad desire that other IITS should emulate the performance.

29. The Committee note from the status report of National Institutional Ranking Framework (NIRF) rankings held by 2G IITs that some of the IITs have improved their ranking from 2020 while others have failed to maintain the same. According to NIRF ranking report, IIT Ropar, IIT Jodhpur, IIT Gandhinagar and IIT Mandi have notched up their rankings respectively to 22, 30, 23 and 20 in 2022 as compared to 25, 53, 24 and 31 in 2020. The rankings of IIT Patna, IIT Hyderabad, IIT Bhubaneswar and IIT Indore have respectively declined from 26, 8, 22 and 10 in 2020 to 33, 9, 36 and 16 in 2022. The Committee further note that some of the IITs have also opted for internationally recognized World University Ranking System namely Quacquarelli Symonds (QS). For IIT Hyderabad, it has been observed that QS ranking has raised from 601-650 in 2021 to 581-590 in 2023, however, in respect of IIT Bhubaneswar, it is pegged at 801-1000 in 2023 compared to 701-750 in 2022. Further, it has been observed that QS ranking of IIT Indore stood at 306 in 2023. In this regard, the Ministry stated that 50 per cent weightage in international rankings is based on perception, that is on academic perception and employer's perception, Academic perception is for 40 per cent and for the employer's perception it is 10 per cent. This 50 per cent of perception points in Indian national rankings to only 10 per cent. Further, it is optional for the IITs to participate in these international rankings. The Committee observe that second generation IITs are not catching up with the

international standard. Big variance is also observed in respect of NIRF ranking. In light of the variance in perception points as highlighted by the Ministry above, the Committee note that despite showing Improvement in their ranking from 2020 as per Indian national rankings system Le. NIRF Report, some of the IITs have been put much below the ladder in terms of World University Ranking System namely Quacquarelli Symonds (QS) In view of these factors, the Committee desire that Indian national ranking system. NIRF should be made more broad based and internationally acceptable. For this the parameters taken into account for appraisal of the performance of the IITs in the country should be reviewed and made comprehensive as per the International practices.

NEW DELHI:
14 December, 2023
23 Agrahayana 1945 (Saka)

ADHIR RANJAN CHOWDHURY
Chairperson
Public Accounts Committee


Registrar