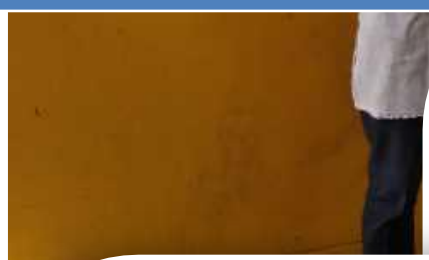
2018

ASSET REVIEW UNDER VTIP



FINAL REPORT

No. DGT - 35(4) /Asset Review – VTIP / 2018 - NPIU

Ministry Of Skill Development & Entrepreneurship

Externally Aided Project for Reforms & Improvement in Vocational Training Services Rendered by the Central & State Governments
(Vocational Training Improvement Project)

FINAL REPORT

"Conducting Asset Review under Vocational Training Improvement Project (VTIP)

Submitted by:

IRCLASS Systems & Solutions Pvt. Ltd.

Contents

Chapter 1

Background of the Study

The Director General of Training (DGT), Ministry of Skill Development & Entrepreneurship, Govt. of India has implemented the World Bank-funded Vocational Training Improvement Project (VTIP) effective since December 17, 2007. The objective of the project was to improve the employment outcomes of graduates from the vocational training system, by making the design and delivery of training more demand responsive. Under the project, 400 existing Industrial Training Institutes (ITIs) in 34 states and Union Territories are being financed to upgrade their facilities and improve training quality. Fourteen centrally- funded institutions (CFIs) are also being supported to play their role in the vocational training sector effectively.

The project has been implemented by National Project Implementation Unit (NPIU), Directorate General of Training (DGT), Ministry of Skill Development & Entrepreneurship, Govt. of India. Each state also has to establish a State Project Implementation Unit (SPIU), which has overseen the implementation of the project at the state level and in Industrial Training Institutes (ITIs). At the ITI level, an Institution Management Committee (IMC) was formed which has representatives from State Department dealing with ITIs, industry and the ITI.

Another project activity involves provision of infrastructure facilities, which includes construction of new Centre of Excellence (blocks/workshops/classrooms) within the ITI campus and/or restoration/ repair of existing buildings and equipping labs and workshops with machinery and equipment prescribed by NCVT. It may be noted that civil works have been completed in majority of project ITIs. Environmental issues and assess impacts; and (ii) Preparation of an Environment Management Framework (EMF) to address/mitigate the identified issues. The EMF provides a direction for preventing, minimizing and/or managing various environmental, health and safety issues during design, construction and operation of ITIs.

This component has also covered setting up administrative block & workshops include purchase of equipment. Environmental issues primarily pertaining to:

(i) poor site planning and design
(ii) lack of proper maintenance of buildings and associated services
(iii) Improper resource consumption; and
(iv) lack of environmental augmentative measures. Some concerns associated with activities of civil works such as creation/expansion/repair of buildings should not pose environment risks. Also, as part of project preparation, the environmental obligations related to planning, development and management of the Industrial Training Institutes were analysed through an Environmental Assessment (EA) process. The process comprised of: (i) Environment Assessment, which was carried out to identify key environmental issues and assess impacts; and (ii) Preparation of an Environment Management Framework (EMF) to address/mitigate the identified issues. The EMF provides a direction for preventing, minimizing and/or managing

various environmental, health and safety issues during design, construction and operation of ITIs.

A third party review was conducted under the project as part of the mid-term review, in 2012. The review covered status and quality of civil works and environment management in the project and also conducted an equipment verification review during financial year 2011-12.

Assessment work Assigned to IRCLASS

IRCLASS Systems and Solutions Pvt Ltd. (Referenced as IRCLASS) participated in REQUEST FOR PROPOSAL for Selection of Consultants under Quality and Cost Based Selection process and awarded work for Conducting Asset Review under Vocational Training Improvement Project (VTIP) assisted by World Bank

Details of RFP are as follows:

No. DGT - 35(4) /Asset Review – VTIP / 2018 – NPIU

(IDA Credit no. 4319 –IN)

Scope of Work

Part A: Desk Review

(i) Prepared a comprehensive list of :
   a. civil works undertaken
   b. Assets procured under the project (Tools and Equipment) whose value at the time of purchase was equal to or more than Rs. 25,000.

Part B: Review of Quality of Civil Works

(i) For the completed/on-going civil works, IRCLASS has verified that:
   c. The works carried out are as per the procurement plan of the institution and are supported by relevant documents/ required approvals from authorized agencies.

(ii) For the completed and on-going works, IRCLASS has reviewed the following:
   d. Quality of construction, as per relevant standard.
   e. Effective use of new building/workshop/classrooms and/or any other infrastructure created under the project.

(iii) For the completed/on-going civil works, IRCLASS has reviewed the following:
   f. Remedial actions taken to remove the defects, if any, pointed out by the internal supervision team.
   g. Institutional arrangements for supervision to check the quality of work.
   h. Quality of construction completion reports and handing-over documents and to check whether the payment to Contractor was/is timely and after due verification of quality.

(iv) In case of on-going and proposed works, IRCLASS has assessed whether the works can be completed as per schedule and reasons for the delays/likely delays, if any.

(v) For the existing buildings, IRCLASS has checked for any structural safety issues that may require institute's/government's attention.

(vi) In addition, IRCLASS has reviewed whether the SPIU is providing sufficient and timely budget for the maintenance of the ITI building.

i. Documented the key issues and hurdles faced in timely completion of Civil Works.

Part C: Review of Environment Management

(i) Reviewed and understood the various environment, health and safety provisions as required under the EMF requirements for the project.

(ii) Carried out a detailed assessment of environment, health and safety conditions in the ITIs (selected sample) through site visits, covering new/recently completed, proposed (not constructed) and existing buildings. This review and assessment included, and not limited, to the following aspects:

- Building Maintenance Aspects, including
  - Water Supply Arrangements
  - Sanitation Arrangements (Toilets/Urinals),
  - Waste Water Disposal Arrangements
  - Storm Water Drainage Arrangement/s
  - Solid Waste Disposal Arrangements
  - Power Supply Arrangements
  - Over-all cleanliness/housekeeping of the campus, including landscaping.
  - Over-all Organization/Storage of Materials (in Workshops/Office/Stores)
- Fire Safety Arrangements.
- Electrical Safety Practices.
- Provision of barrier free access for Physically Challenged
- Storage, handling/use and disposal of various toxic and hazardous materials (including spill management).
- Safety in workshops, including aspects related to mechanical and Personal Protective Equipment (PPE).
- Provision of first aid arrangements and emergency response arrangements.
- Construction management aspects, particularly aspects pertaining to worksite safety management, compliance with labour related norms and disposal of construction waste.
- Introduction of environment augmentative measures, including

solar energy, rain water harvesting and plantation

(iii) Reviewed existing systems being followed/adopted in VTIP for EMF implementation including planning, execution and reporting.

Part D: Physical Verification of Assets

This review has also attempted to physically verify the following aspects for assets (Tools and Equipment) whose cost at the time of purchase was greater than or equal to Rs. 25,000.

(i) Determined the current functional status of the equipment procured and the standards of quality of the supplied equipment.

(ii) Determined whether the equipment procured is as per the standard list of tools and equipment prescribed under the syllabi of the respective sector/ trade or as per the list of approved schemes of DGT. If there are deviations, are the deviations justified and approved by the IMC?

(iii) Assessed whether the equipment pertains to only those sectors / trades which are duly approved and agreed under the project. The equipment list should be duly endorsed by respective IMCs.

(iv) Obtained data on the current utilization and efficiency of the services delivered by the equipment through interviews of instructors and trainees.

(v) Assessed whether the equipment's training was provided by the vendor for the required number of days. If the training was adequate and of good quality?

(vi) Assessed the effectiveness of the arrangements in place for ensuring adequate preventive maintenance (Annual Maintenance contract) and that equipment breakdown and necessary major repairs are dealt with effectively and expeditiously.

(vii) Assessed whether the assets have been assigned any codes or any bar-coding has been done or not and properly registered in the stock register.

(viii) The quality of the Goods / stores purchased are certified by the competent person and are as per the purchase order in terms of quality, quantity specification and price and store register number is recorded on the bill / invoice.

(ix) Are the equipments purchased under the project insured?

(x) Documented good practices of use and maintenance of equipment, if any.

Chapter 2

Approach and Assessment Methodology

IRCLASS being an ISO 17020 and ISO 17021 accredited conformity assessment body deploys an impartial and independent mechanism for third party assessments. For the specified assignment, IRCLASS deployed a team of competent key personnel, project managers, Field assessors and data analytics. Methodology of the assessment is mapped in "**Annexure B".**

Pre Assessment Activities

IRCLASS carried out the following activities before commencement of on-site assessments

- Collection of Data specific to VTIP projects including Financial Status, Infrastructure improvements and purchase of equipment details.
- Sampling mechanism.
- Preparation of draft Questionnaire.
- Pilot Study at Sir CV Raman Institute of Technical Training
- Finalisation of questionnaire
- Inception Report
- Logistics planning as per the time-lines
- Composition of Teams
- Training of QC Coordinators
- Training of Assessment Teams

Collection of Data specific to VTIP projects including Financial Status, Infrastructure improvements and purchase of equipment details.

1.1. With the consultation and guidance of NPIU following data was collected from the SPIU and state directorates for all the ITIs covered under VTIP.

1.1.1.Financial Status

1.1.2.Details of civil works undertaken

1.1.3.Details of Asset Procured

1.2. Review of Project Related Information:

1.2.1. Project Appraisal Document (PAD)

1.2.2. Project Implementation Plan (PIP)

1.2.3. Aide Memoires, presentation by states at JRM

1.2.4. Procurement Plans

1.2.5. Guidelines/Circulars issued by NPIU/SPIUs

1.2.6. State websites.

1.3. Data collected by discussions with key respondents:

1.3.1. NPIU

1.3.2. SPIUs

1.3.3. ITIs, CFIs

Sampling mechanism.

A hybrid sampling mechanism based on Quota Sampling was considered for preparation of final sample shortlisted for main study. This involved sampling on basis of geographies, Category parameters, Trades and COEs.

- Sampling of Geographical Region.

Sr. No.	Geographical Area	State
1	North	Haryana
2	South	Tamilnadu, Andhra Pradesh
3	East	Assam
4	Central	Madhya Pradesh
5	West	Maharashtra, Gujrat
6	Hilly Areas/ Difficult to reach areas	Uttarakhand
7	Tribal Areas	Jharkhand, Orissa

- In order to capture the true distribution of ITIs in sampling, following components were considered as per the weightage across categories.

Sr. No.	State	TOTAL No. OF ITIS						Sampled ITIs				Sampled
		No.	Urban	Rural	MCD	Women	SCVT	Urban	Rural	MCD	Women	
1	Andhra Pradesh	17	2	15	0	2	0	1	1	0	1	3
2	Assam	7	3	1	2	0	1	1	0	0	0	1
3	Gujarat	29	14	15	0	0	0	2	3	0	0	5
4	Haryana	16	11	2	1	2	0	1	1	1	1	4
5	Jharkhand	3	0	1	2	0	0	0	1	1	0	2
6	Madhya Pradesh	28	7	17	1	1	2	0	3	1	1	5
7	Maharashtra	87	15	56	13	3	0	1	7	2	2	12
8	Orissa	9	7	1	0	1	0	1	1	0	1	3
9	Tamil Nadu	17	3	12	0	2	0	0	2	0	1	3
10	Uttarakhand	10	4	3	1	2	0	0	0	1	1	2
		223	66	123	20	13	3	8	18	6	8	40

- Further, no. of improvement project in terms of upgradation of trades, addition of COE/CTS courses was also considered during shortlisting of ITIs.

Trade Name	No. of Sampled ITIs	Trade Name	No. of Sampled ITIs
Automobile	5	**Industrial Automation**	1
Electrical	6	**Electronics**	1
Production & Manufacturing	8	**Apparel**	1
Chemical	1	**Construction & Wood working**	1
Fabrication(Fitting & Welding)	2	**Ref & Air Conditioning**	1
information Technology	3	**Upgradation of Trades**	10

Sampling Criteria for COEs

Sampling Criteria COEs	
Total No. of ITIs in VTIP Project	**Sampled ITIs**
18	3

Shortlisting of CFIs and ITOT: Based on the geographical locations and assessments patterns, following CFIs and ITOTs have been shortlisted.

Sampled CFIs and ITOTs			
Central Funded Institutes	2 Nos	CFI, Mumbai	CFI, NOIDA
ITOT	1 No.	ITOT, Rohtak	

List of Sampled ITIs is enclosed in the report in **"Annexure A"**.

Preparation of draft Questionnaire

In-line with the requirements mentioned in the Terms of Reference and consultation with NPIU and World Bank, A draft questionnaire was prepared covering following components of Assessments.

- **Quality of Civil Construction questionnaire covering**
  - ❖ The works carried out are as per the procurement plan of the institution and are supported by relevant documents/ required approvals from authorized agencies.
  - ❖ Quality of construction, as per relevant standard.
  - ❖ Effective use of newbuilding/workshop/classrooms and/or any other infrastructure created under the project.
  - ❖ Remedial actions taken to remove the defects, if any, pointed out by the internal supervision team.
  - ❖ Institutional arrangements for supervision to check the quality of work.
  - ❖ Quality of construction completion reports and handing-over documents and to check whether the payment to Contractor was/is timely and after due verification of quality.
  - ❖ In case of on-going and proposed works, IRCLASS has assessed whether the works can be completed as per schedule and reasons for the delays/likely delays, if any.
  - ❖ For the existing buildings, IRCLASS has checked for any structural safety issues that may require institute's/ government's attention.
  - ❖ Documented the key issues and hurdles faced in timely completion of Civil Works.
- **Environment Management Framework Review**
  - ❖ Building Maintenance Aspects, including
    - Water Supply Arrangements
    - Sanitation Arrangements (Toilets/Urinals),
    - Waste Water Disposal Arrangements

- Storm Water Drainage Arrangement/s
- Solid Waste Disposal Arrangements
- Power Supply Arrangements

- Over-all cleanliness/housekeeping of the campus, including landscaping.
- Over-all Organization/Storage of Materials (in Workshops/Office/Stores)

❖ Fire Safety Arrangements.
❖ Electrical Safety Practices.
❖ Provision of barrier free access for Physically Challenged
❖ Storage, handling/use and disposal of various toxic and hazardous materials (including spill management).
❖ Safety in workshops, including aspects related to mechanical and Personal Protective Equipment (PPE).
❖ Provision of first aid arrangements and emergency response arrangements.
❖ Construction management aspects, particularly aspects pertaining to worksite safety management, compliance with labour related norms and disposal of construction waste.
❖ Introduction of environment augmentative measures, including solar energy, rain water harvesting and plantation
❖ Review existing systems being followed/adopted in VTIP for EMF implementation including planning, execution and reporting.

- **Physical Verification of Assets**

❖ Determined the current functional status of the equipment procured and the standards of quality of the supplied equipment.

❖ Determined whether the equipment procured is as per the standard list of tools and equipment prescribed under the syllabi of the respective sector/ trade or as per the list of approved schemes of DGT. If there are deviations, are the deviations justified and approved by the IMC?

❖ Assessed that the equipment pertains to only those sectors / trades which are duly approved and agreed under the project. The equipment list should be duly endorsed by respective IMCs.

❖ Obtained data on the current utilization and efficiency of the services delivered by the equipment through interviews of instructors and trainees.

❖ Assessed whether the equipment's training was provided by the vendor for the required number of days. If the training was adequate and of good quality?

❖ Assessed the effectiveness of the arrangements in place for ensuring adequate preventive maintenance (Annual Maintenance contract) and that equipment breakdown and necessary major repairs are dealt with effectively and

expeditiously.

- ❖ Assessed whether the assets have been assigned any codes or any bar-coding has been done or not and properly registered in the stock register.
- ❖ The quality of the Goods / stores purchased are certified by the competent person and are as per the purchase order in terms of quality, quantity, specification and price and store register number is recorded on the bill / invoice.
- ❖ Are the equipment purchased under the project insured?
- ❖ Documented good practices of use and maintenance of equipment.

Pilot Study

In order to assess the effectiveness of survey mechanism and improve it based on the findings, a pilot study was carried at Sir CV Raman Institute of Technical Training at Dheerpur, New Delhi. Although no civil works were carried in the ITI Dheerpur under VTIP but physical verification of assets and review of environment Management framework were important in determining the assessment flow, inclusion of certain parameters and inputs required for collecting objective evidence during the final assessment stage.

The report of pilot study is included in the Inception report.

Finalisation of Draft Questionnaire

Final assessment questionnaire was approved by NPIU after inclusion of suggestions and recommendations of Pilot Study, World Bank and Key personnel of NPIU.

Final Questionnaire is attached in Annexure C, D and E.

Training of Surveyors

A team of competent and experienced resources were shortlisted and trained for the field assessments based on following criteria. Team Composition

Sr. No.	Team Role	Competence	Survey Component
01	Team Leader	Civil Engineer with at-least eight years of experience in quality of construction and Environment	1. Quality of Civil Works 2. Environment Management Framework
02	Assessor- Physical Verification of Assets	Electrical Engineer with at-least eight year experiences in inspection of equipment.	Physical verification of assets
03	Assessor- Physical Verification of Assets	Mechanical Engineer with at-least eight year experiences in inspection of equipment.	Physical verification of assets

Chapter 3

Key Findings

Quality of Civil Construction already completed/ongoing:

The Assessment was carried out for three types of work carried out. They are:

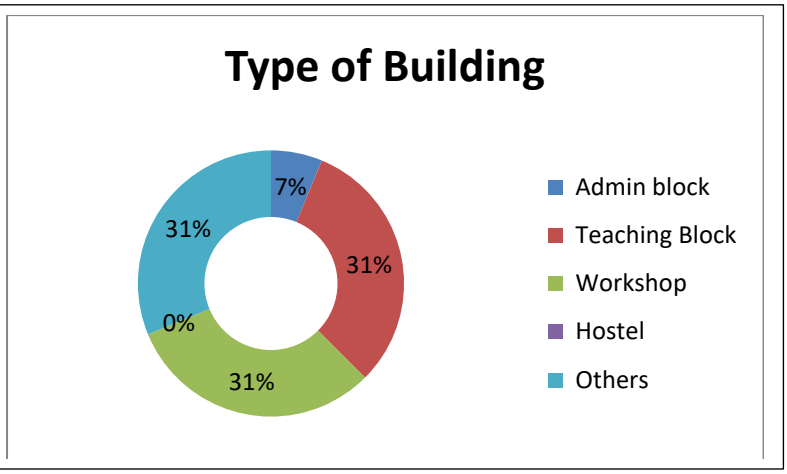
1. New Construction,
2. Major Repairs and
3. Minor Repairs.

Details were collected on following aspects. They are:

A. Building Details,
B. Building Design as per Procurement Plan
    I. Completion Date,
    II. Structural safety as per relevant Code for Disaster Management followed,
    III. Availability of Handing Over Certificate.
C. Maintenance of Construction:
    I. Verification of sufficient budget provided to ITI for maintenance of Building,
    II. Balance Sheet verification,
    III. Wall Plaster, Repair of Flooring, Painting Quality,
    IV. Minor/Major Repairs.
D. Effective Use of New Building,
E. Current Structural safety Issues and causes of delay if any,
F. Key Issues and hurdles faced in timely completion,
G. Regulatory and Statutory requirements with respect to NOC from Fire Dept. and
H. On-going Quality Monitoring mechanism for civil structures.

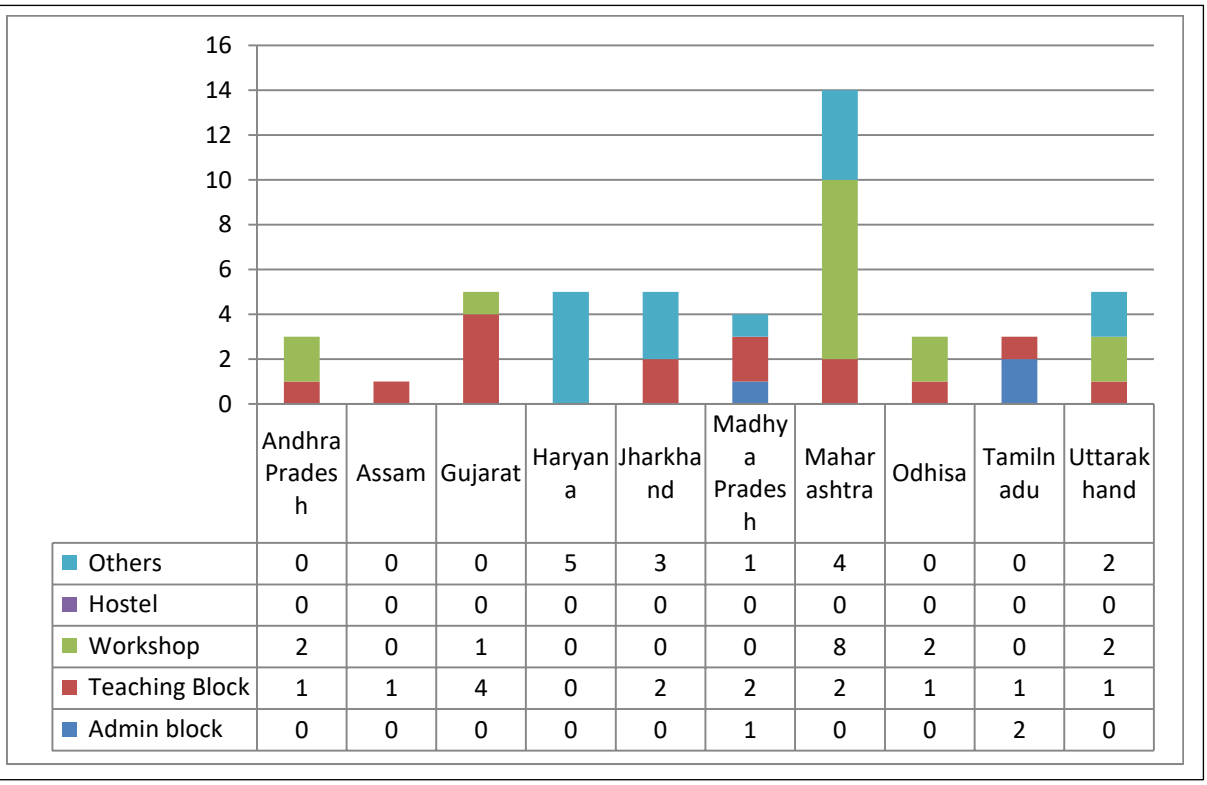
Quality of Civil Works: Overall

1. Types of Civil Construction



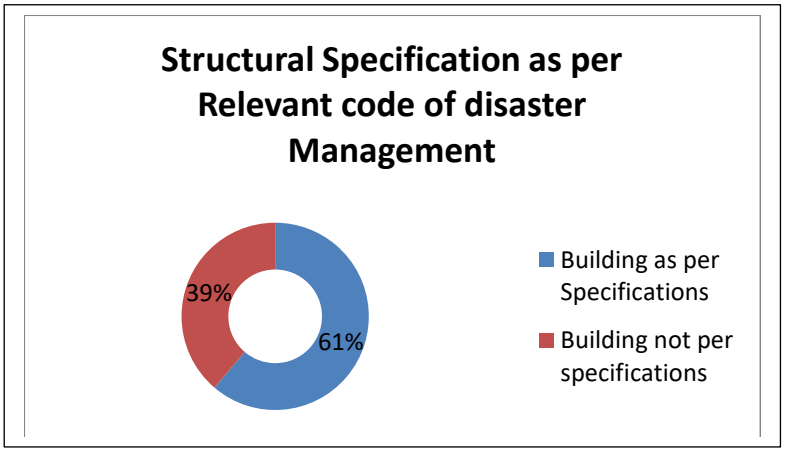
Maximum funds have been allocated to construction of teaching blocks and workshops which was in-line with the objectives of VTIP project. Some other infrastructure such as approach roads as well as extension/repairing of infrastructure have also taken place.

A major part of funding have been utilised in construction of teaching blocks and workshops. This particular trend is similar in selected geographies except Haryana where entire infra funding have been utilised in construction of other utilities due to already available infrastructure. No workshop has been constructed in Assam, Haryana, Jharkhand, MP and Tamilnadu from the selected distribution.



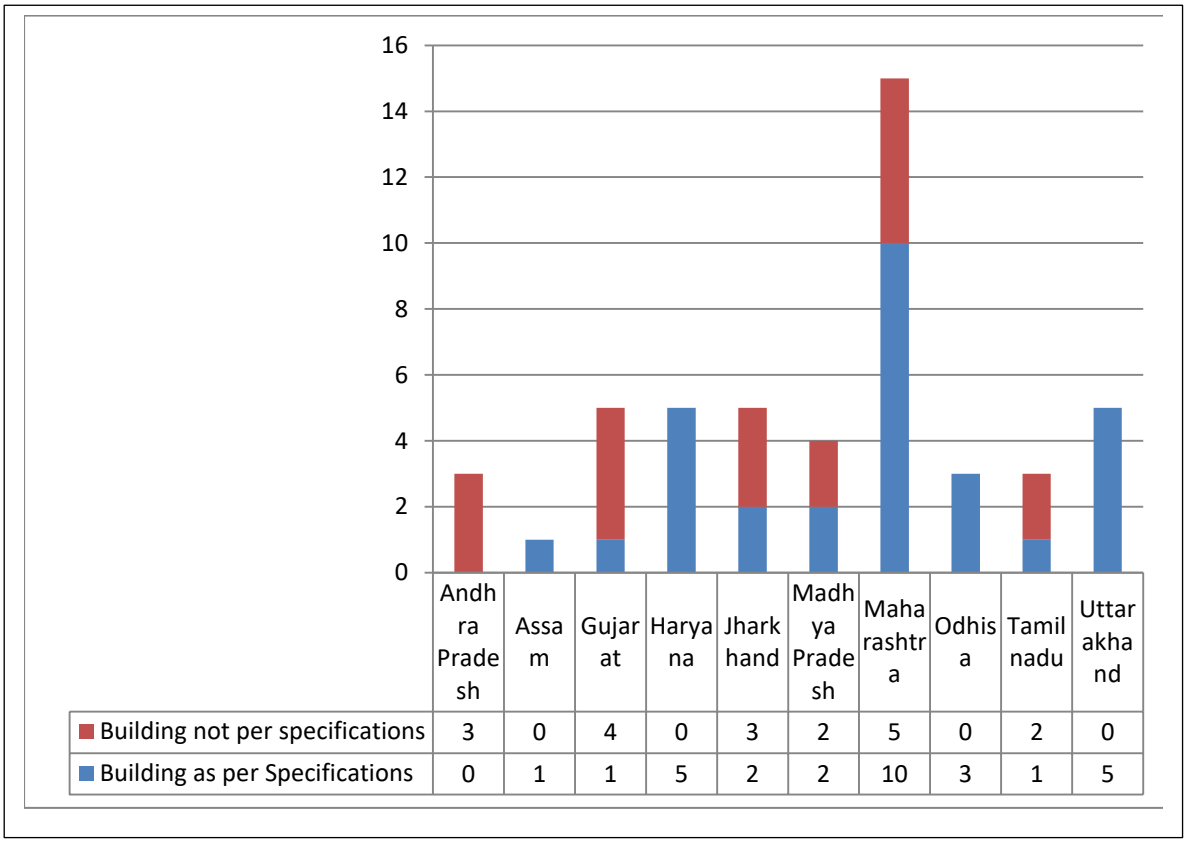
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Others	0	0	0	5	3	1	4	0	0	2
Hostel	0	0	0	0	0	0	0	0	0	0
Workshop	2	0	1	0	0	0	8	2	0	2
Teaching Block	1	1	4	0	2	2	2	1	1	1
Admin block	0	0	0	0	0	1	0	0	2	0

2. **Design as per structural Requirements**



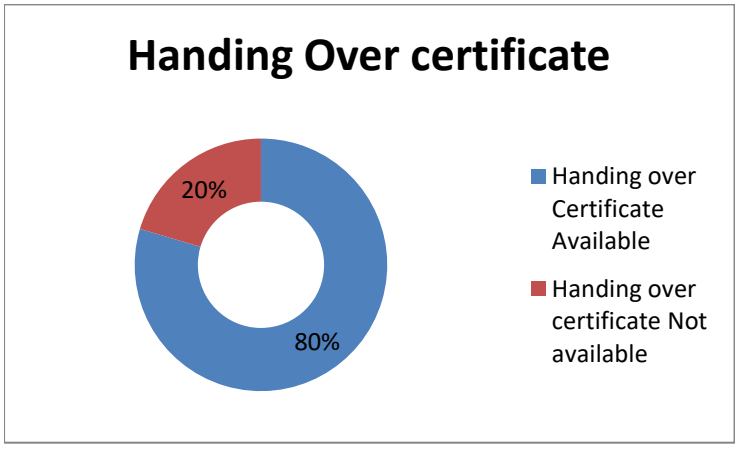
61% of the newly constructed facilities complies with the structural requirements for relevant code of disaster management.

The geographical trend is not as conclusive as the newer buildings constructed by the state works agency are complied with the statuary and regulatory requirements for disaster management, however in such cases, where upgradation/extension work has been carried out on the older facilities, compliance to the requirements is not evident.



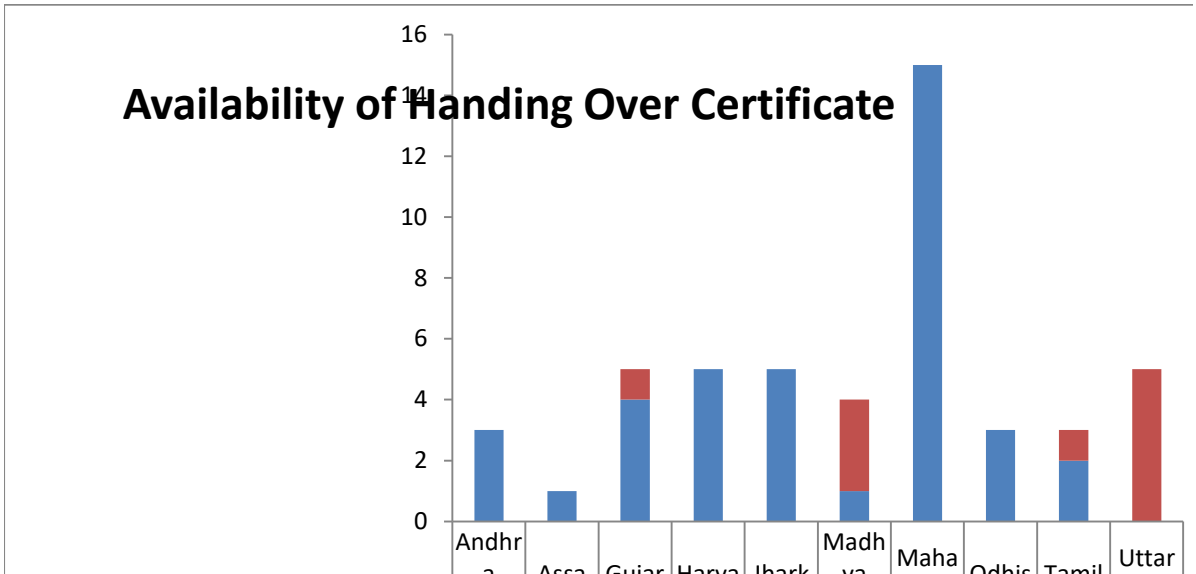
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Building not per specifications	3	0	4	0	3	2	5	0	2	0
Building as per Specifications	0	1	1	5	2	2	10	3	1	5

3. Availability of Handing Over certificate



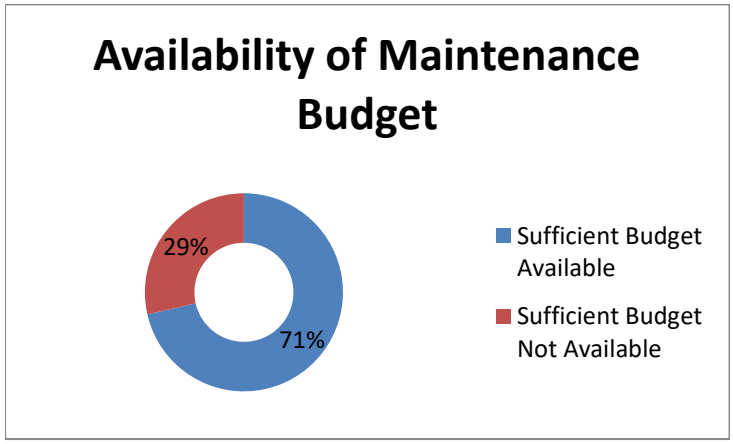
In 80% of the ITIs selected under the sampled distribution, assessors were able to find and record the handing-over certificates issued by the state public works departments.

Throughout the distribution, handing over certificate by the state public works department is available except Uttarakhand, where all three ITIs have not been given the handing over certificate by the state public works department.



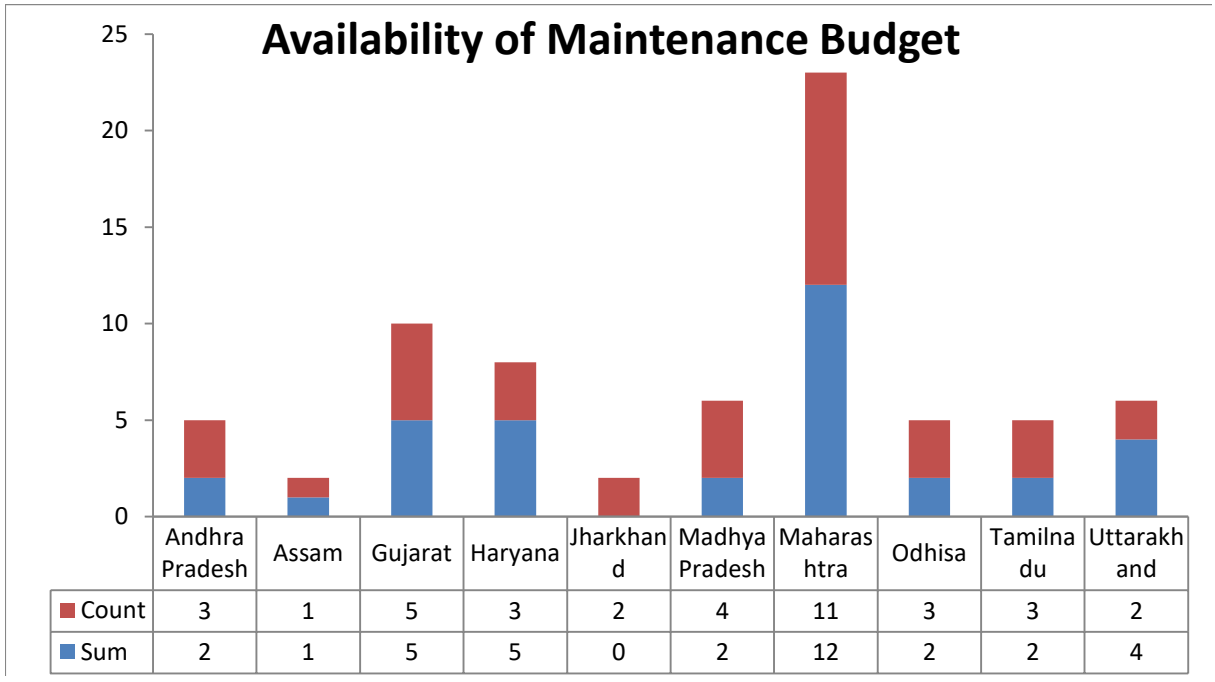
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Handing over certificate Not available	0	0	1	0	0	3	0	0	1	5
Handing over Certificate Available	3	1	4	5	5	1	15	3	2	0

4. Availability of Maintenance Funds



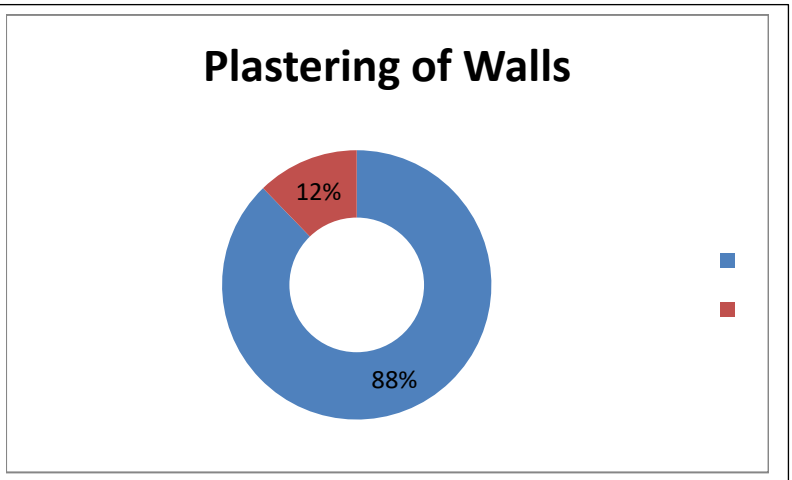
71% of the sampled ITIs reported to have sufficient budget allocation by the state funds for maintenance of the newly constructed blocks.

All the geographical areas have reported to have sufficient availability of budget for maintenance of building except, Jharkhand where 5 of the construction surveyed didn't have sufficient funds.



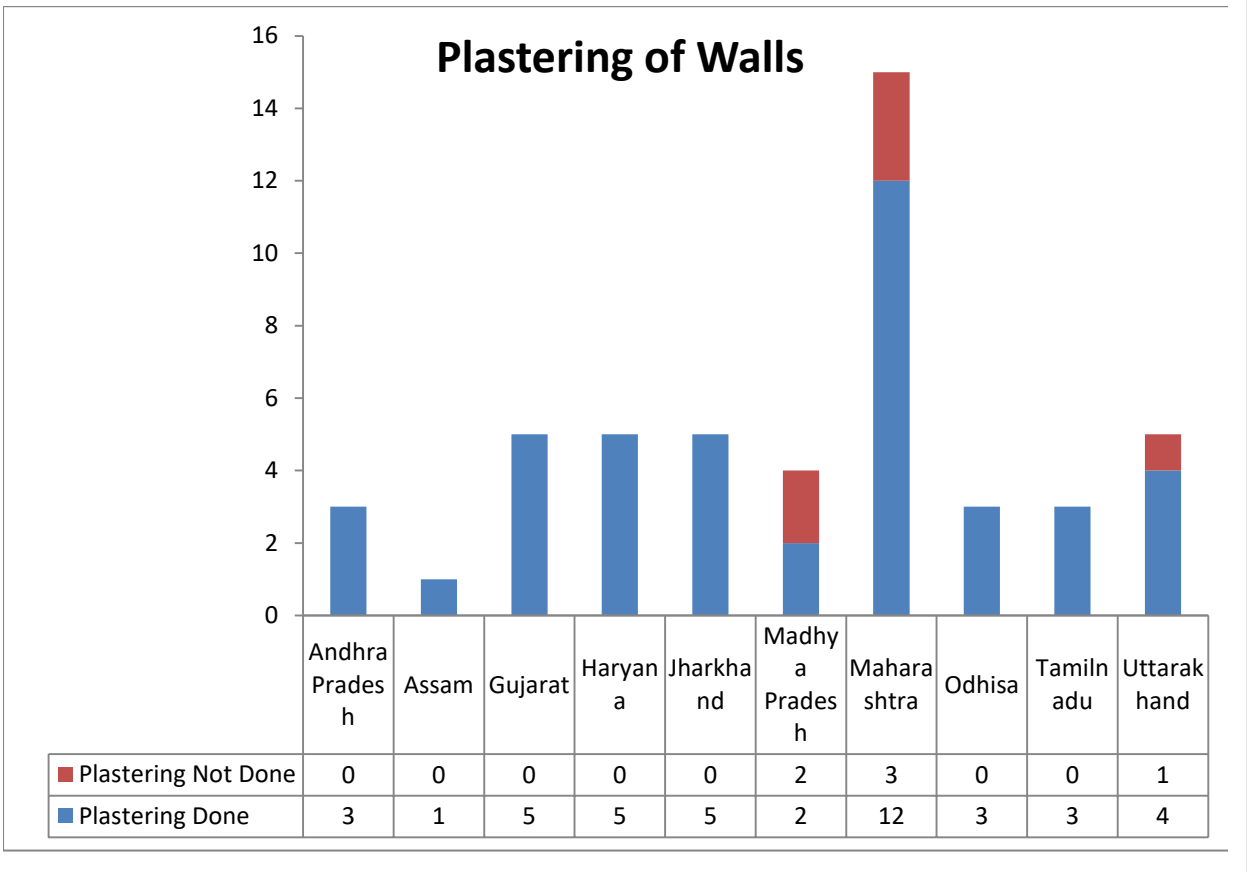
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Count	3	1	5	3	2	4	11	3	3	2
Sum	2	1	5	5	0	2	12	2	2	4

5. Plastering on Walls



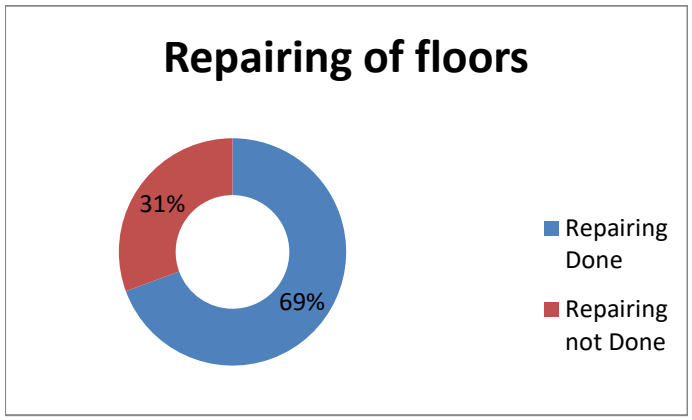
88% of the ITIs have been found to have the plastering done on newly constructed blocks/constructions.

A total of 6 civil constructions were not plastered in the entire distribution of the survey.i.e. Gas Rahat ITI Bhopal and Mandideep in MP, Paithan in Maharashtra and Kashipur in Uttarakhand.



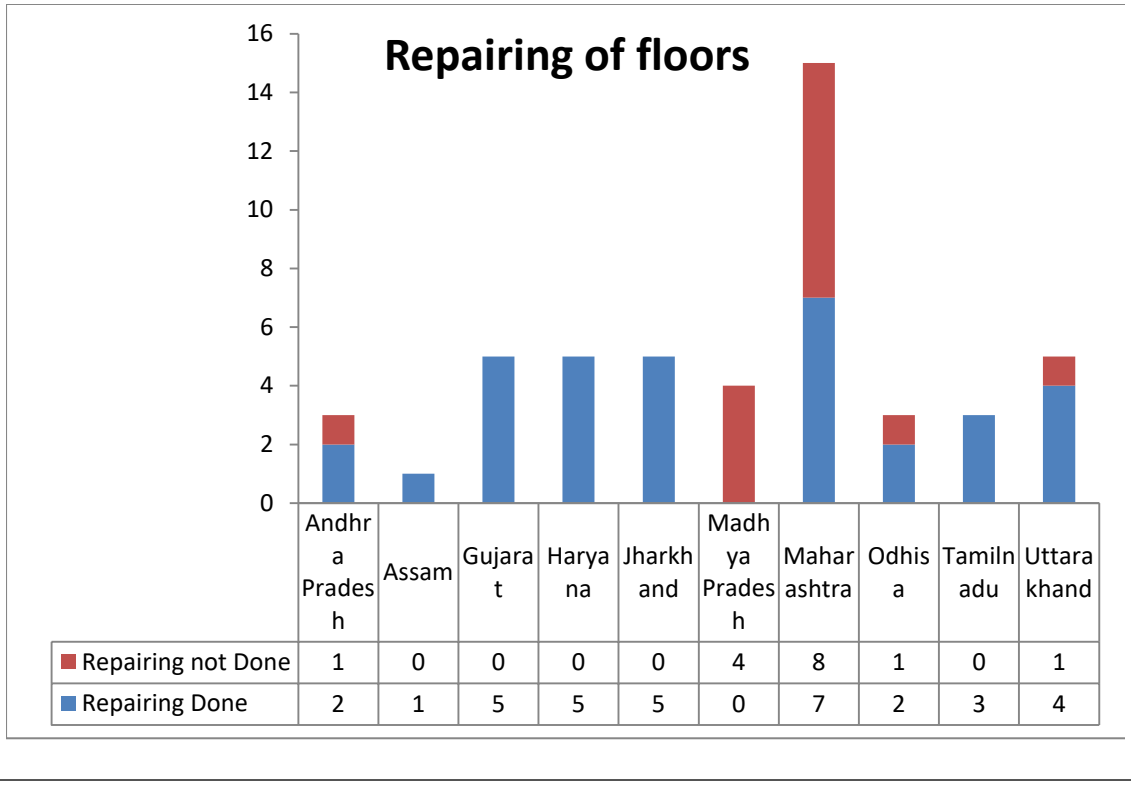
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Plastering Not Done	0	0	0	0	0	2	3	0	0	1
Plastering Done	3	1	5	5	5	2	12	3	3	4

7. Repair of Flooring



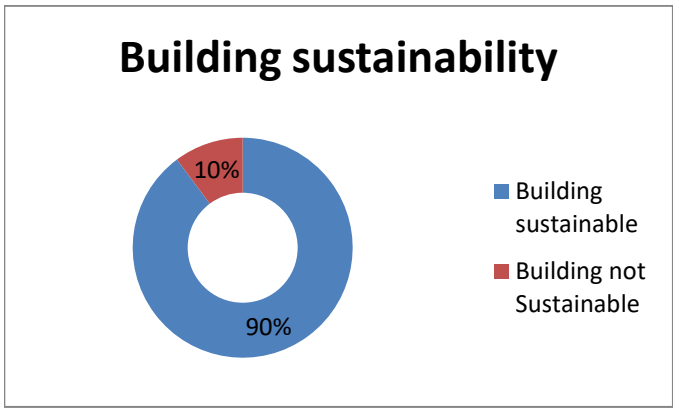
69% ITIs have been reported to have good mechanism of maintenance and repairing of floors.

All the ITIs in Madhya Pradesh have found to have damaged floors.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Repairing not Done	1	0	0	0	0	4	8	1	0	1
Repairing Done	2	1	5	5	5	0	7	2	3	4

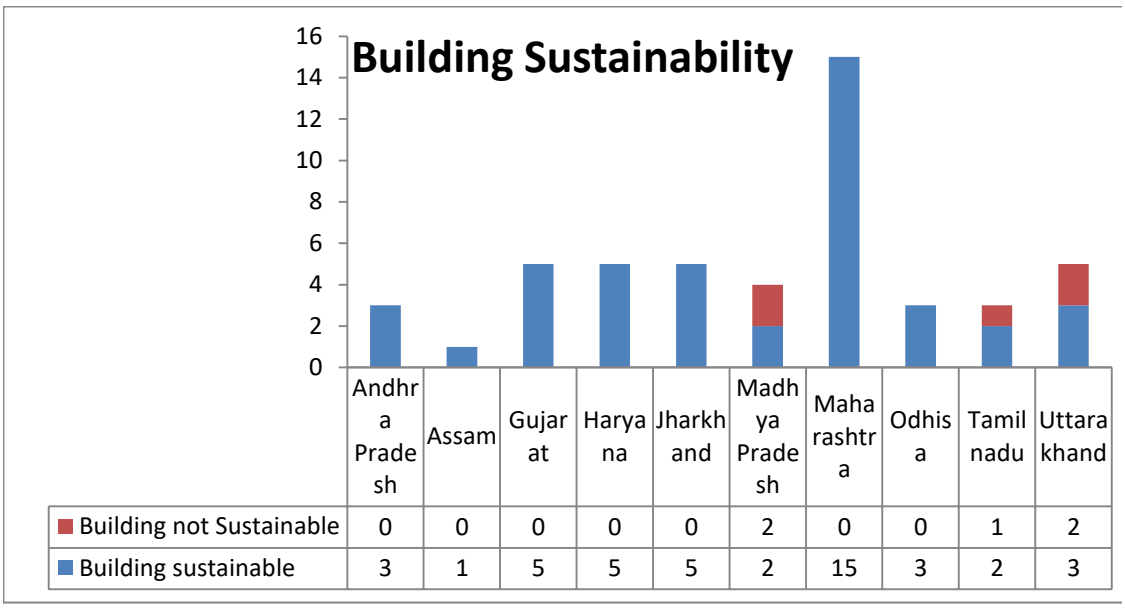
8. Building Sustainability




90% of the civil constructions have been reported to be sustainable for the continuous and future use.

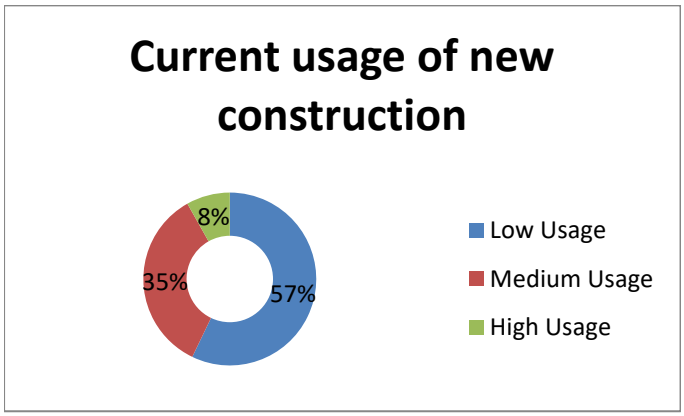
Following ITIs have been reported to have civil constructions which are not sustainable.

Uttarakhand	Kashipur(W)
Uttarakhand	Haridwar
Madhya Pradesh	Gas ITI
Madhya Pradesh	Mandideep
Tamilnadu	Madurai



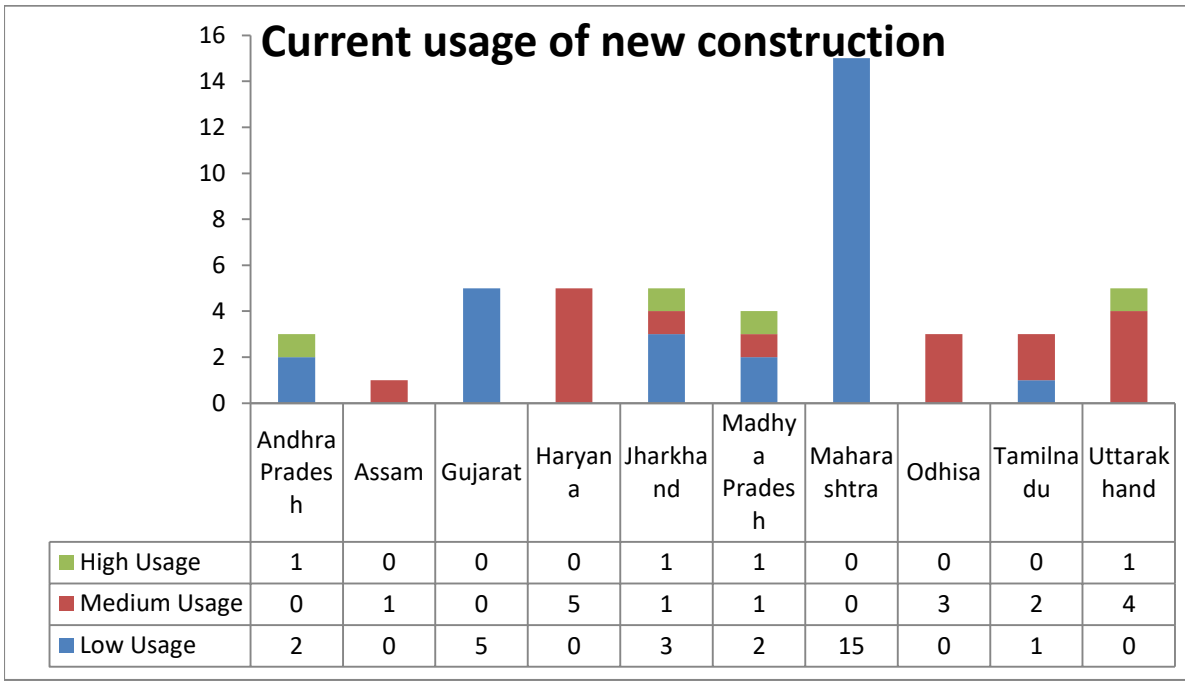
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Building not Sustainable	0	0	0	0	0	2	0	0	1	2
Building sustainable	3	1	5	5	5	2	15	3	2	3

11. Current Usage level of Building



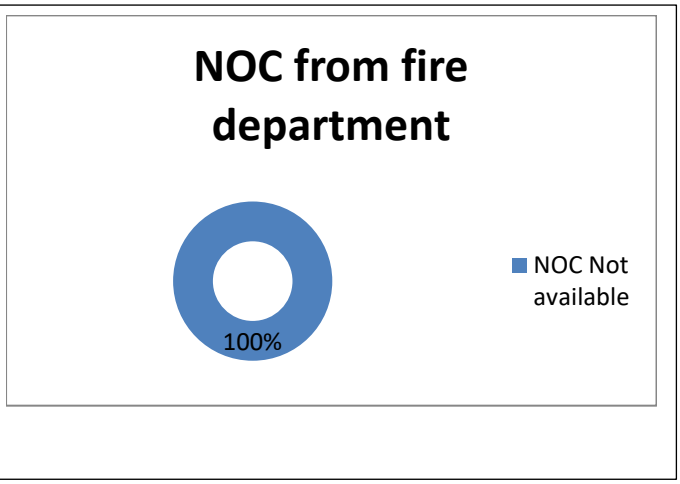
Depending on the type of building constructed, a mix of usage values have been reported in the survey findings.

Civil construction in state of Maharashtra are reported to have low usage. Whereas, Haryana have reported to have medium usage of all the civil constructions.

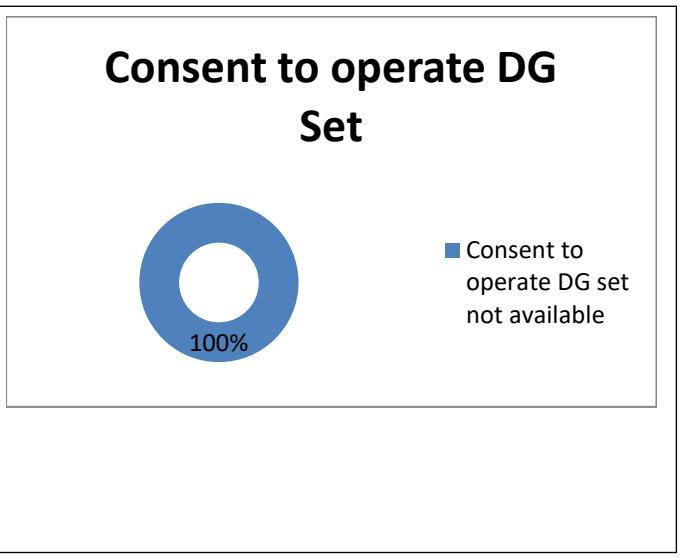


	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
High Usage	1	0	0	0	1	1	0	0	0	1
Medium Usage	0	1	0	5	1	1	0	3	2	4
Low Usage	2	0	5	0	3	2	15	0	1	0

12. Statutory and Regulatory requirements



ITIs haven't received NOC from Fire department. Have a major concern on the safety of building and human lives.



ITIs doesn't have the consent to operate the DG set from state pollution control board. Have a major impact on the environment and health of the students in the premises.

Highlights: Quality of Civil Works

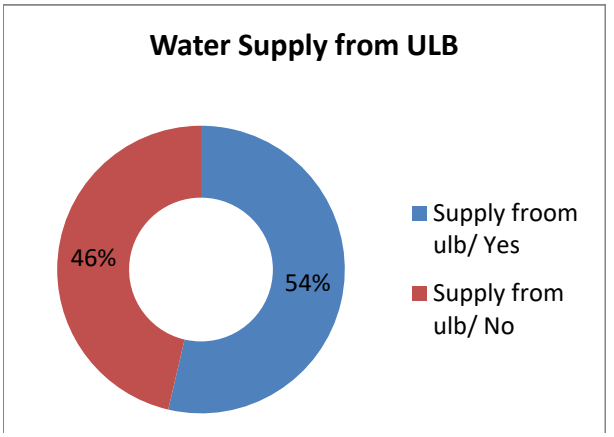
1. A major portion of funding for civil works have been utilised for construction of teaching blocks and workshops in-line with the objectives of VTIP.
2. 61% of the newly constructed blocks comply with the relevant structural specifications for disaster Management.
3. 80% of the ITIs have received handing-over certificate for completions and handing over of building by state public works departments.
4. 71% of the sampled ITIs have reported to have sufficient budget allocation by state.
5. 88% of the newly constructed buildings in ITIs have been found to be well plastered.
6. 69% of the ITIs have been reported to have good mechanism for maintenance and repairing of Floors.
7. 90% of newly constructed civil infrastructures are found to be suitable for intended use in current and future use.
8. Depending upon the type of civil constructions, newly built civil constructions have been rated as low in 57% of the ITIs. 8% of buildings have been reported as high usage buildings.
9. None of the sampled ITIs have received NOC from authorities related with fire safety.
10. None of the ITIs have attained consent to operate DG sets from sate pollution control boards.

Key Features for EMF Review consisted of the following aspects:

A. Building Maintenance and Key Facilities parameters such as:
    1. Availability of Clean Drinking Water,
    2. Sanitation Arrangements,
    3. Rain Water Drainage,
    4. Collection of Solid Waste and it's disposal,
    5. Source of Power Supply,
    6. Storage facility,
    7. Availability of Boundary/Fencing,
    8. Adequacy of Toilets for Boys/Girls,
    9. Ventilation facility.
B. Fire Safety Arrangements,
C. Electrical Safety parameters such as:
    1. Grounding of Equipments,
    2. Availability of three phase termination and Transmission Boxes,
    3. Transformer Maintenance,
    4. Availability of Lightening Arrestor.
D. Barriers Free Access for Physically Challenged(Divyang),
E. Handling of Hazardous Materials,
F. Workshop Safety,
G. Availability of First Aid and Emergency Response,
H. Environmental Augmented Measures such as:
    1. Use of Solar Energy/Rain Water,
    2. Optimization of Electrical Energy,
    3. Segregation of Waste.
I. Other Important Considerations such as:
    1. Availability of Nodal Person,
    2. Review/Reporting Schedule,
    3. Availability of Sustainability Plan etc.

Environment Management Framework

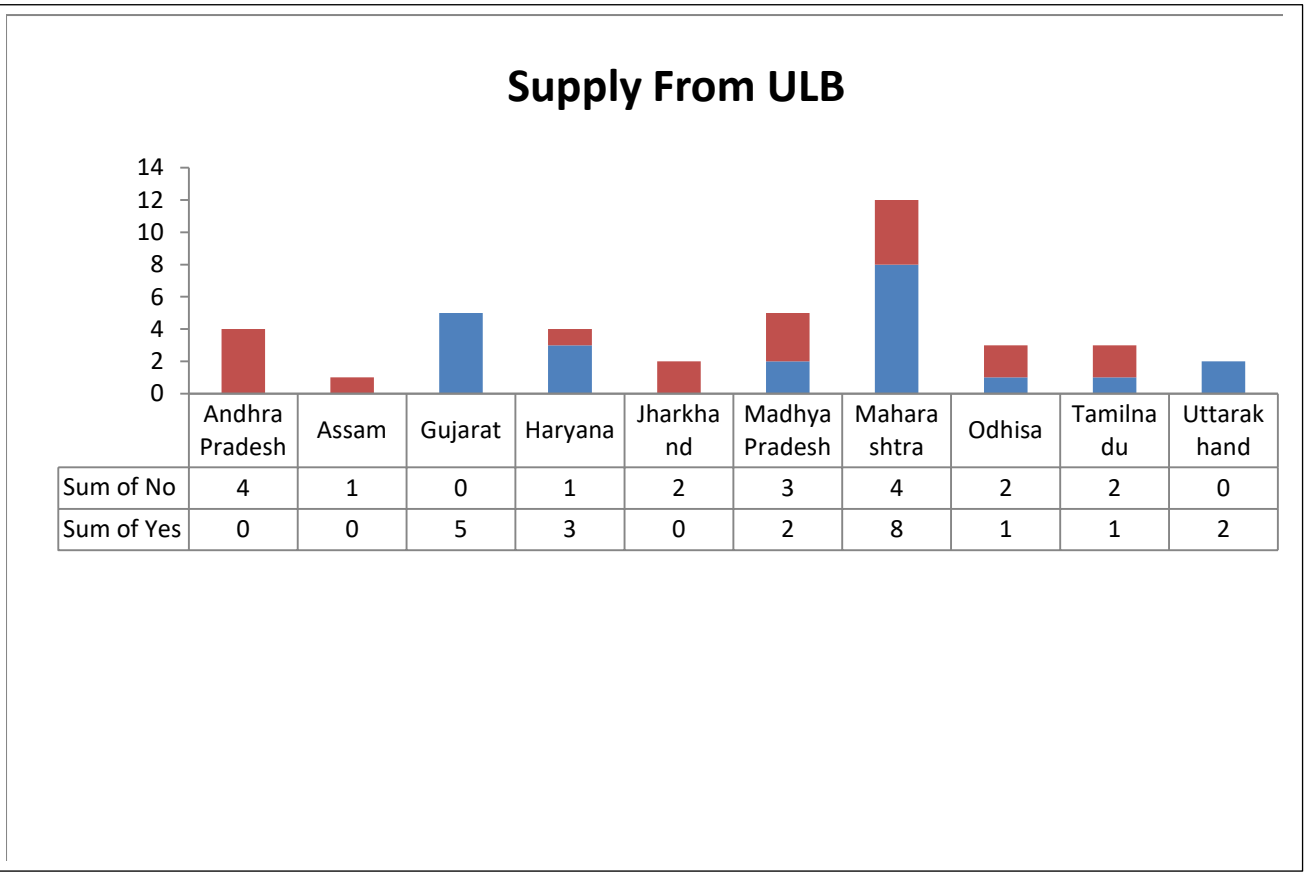
1) Water Supply From ULB (Urban Local Body/Municipality)



Only 54% of the ITIs have access to potable water supply from Urban/Local Bodies.

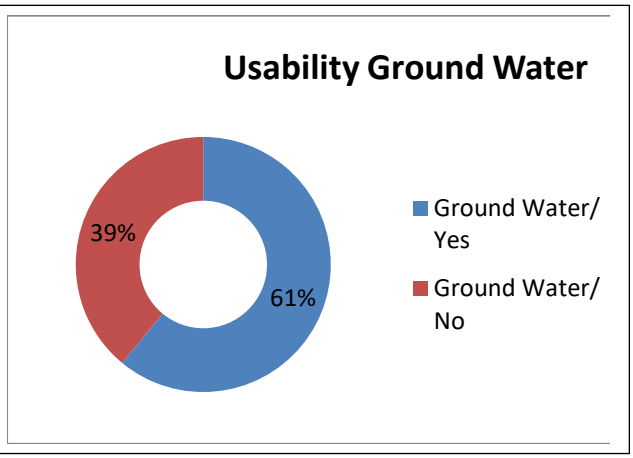
A regular supply of potable water has a great impact on overall cleanliness, maintenance of the entire building including toilets, drinking water and waste disposal.

Sampled ITIs in the state of Andhra Pradesh and Assam doesn't have access to regular water supply from ULBs. Gujarat and Uttarakhand ITIs are completely relying on regular water supply from ULbs.



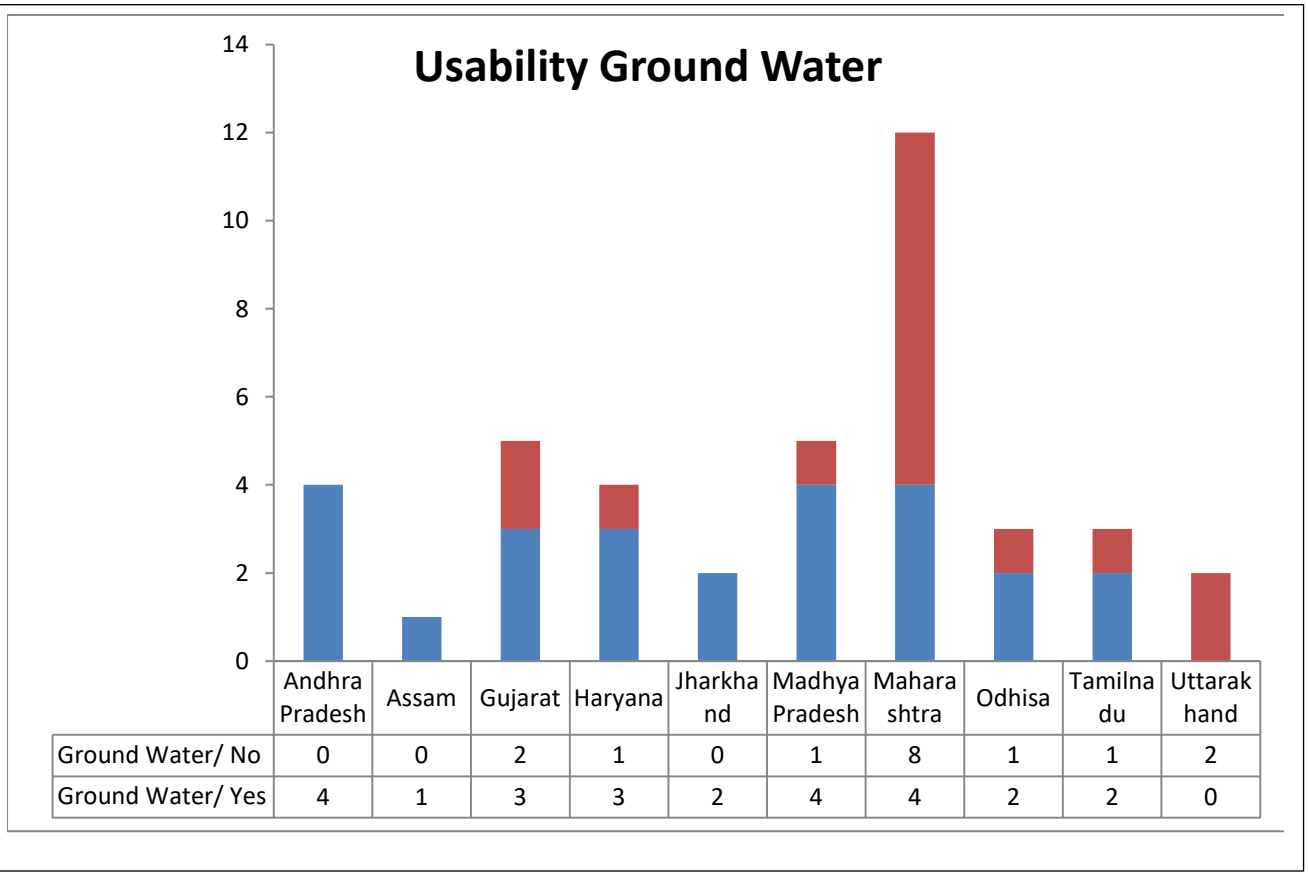
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Sum of No	4	1	0	1	2	3	4	2	2	0
Sum of Yes	0	0	5	3	0	2	8	1	1	2

2. Usability of Ground Water



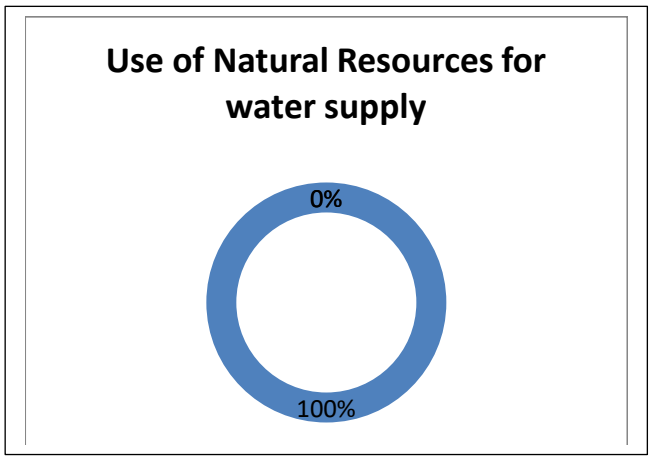
61% of the sampled ITIs have access to ground water.

ITIs in the state of Maharashtra have access to the ground water. Survey findings have recorded maximum utilisation of ground water in rural areas due to non-availability of potable water supply from ULBs.



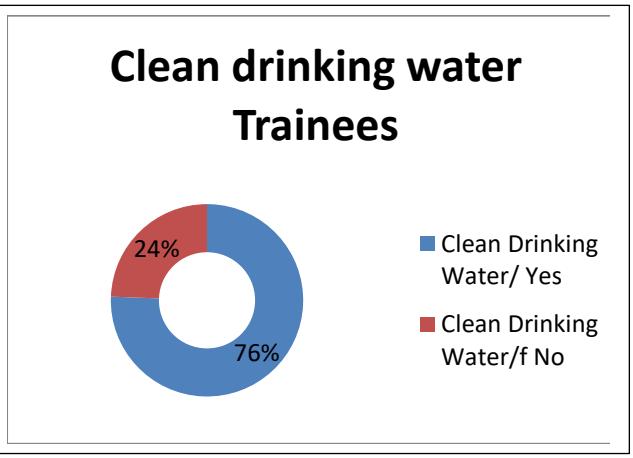
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Ground Water/ No	0	0	2	1	0	1	8	1	1	2
Ground Water/ Yes	4	1	3	3	2	4	4	2	2	0

3. Water arrangements from Natural resources



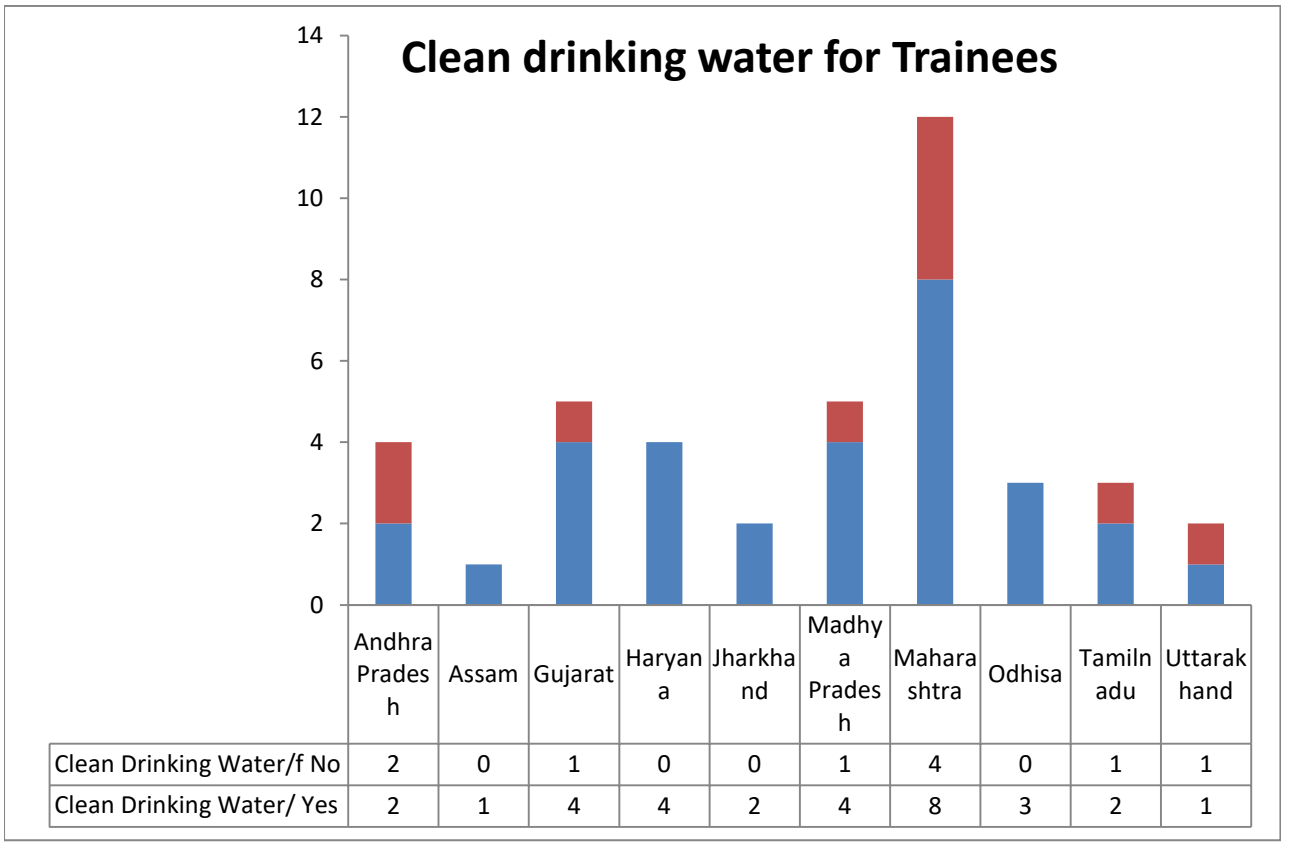
All the ITIs are either relying on water supply from municipality or from ground water. No ITI have reported to have access to natural water resource like stream, canals or lake.

4. Clean drinking water for trainees



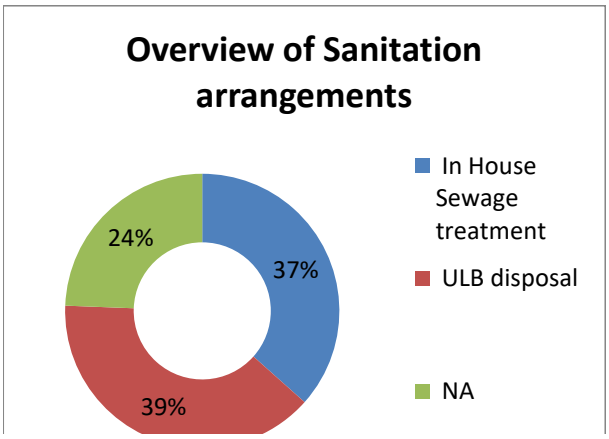
Overall 76% of the ITIs in sampled distribution have been found to adopt clean drinking water supply for trainees and other users. However, a large percentage (24%) of ITIs have not installed water purification arrangements in the premises, which has direct implication on the health of trainees due to water borne diseases in most parts of the country

Only Assam, Haryana, Jharkhand and Odisha ITIs have been reported to fully install water purification methods with-in the premises of ITI. Maharashtra has a large number (4 out of 8 facilities surveyed) which doesn't have clean drinking facility for trainees.



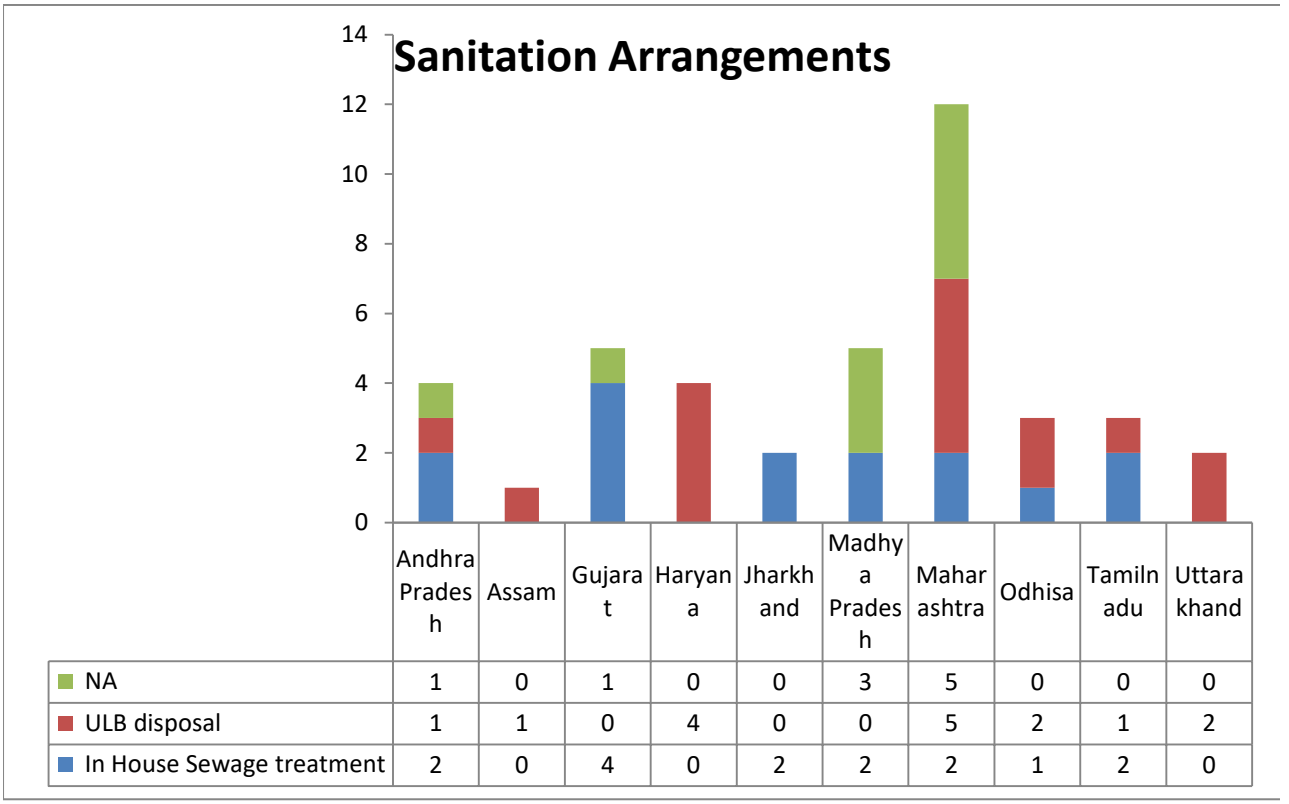
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Clean Drinking Water/f No	2	0	1	0	0	1	4	0	1	1
Clean Drinking Water/ Yes	2	1	4	4	2	4	8	3	2	1

5. Sanitation arrangements



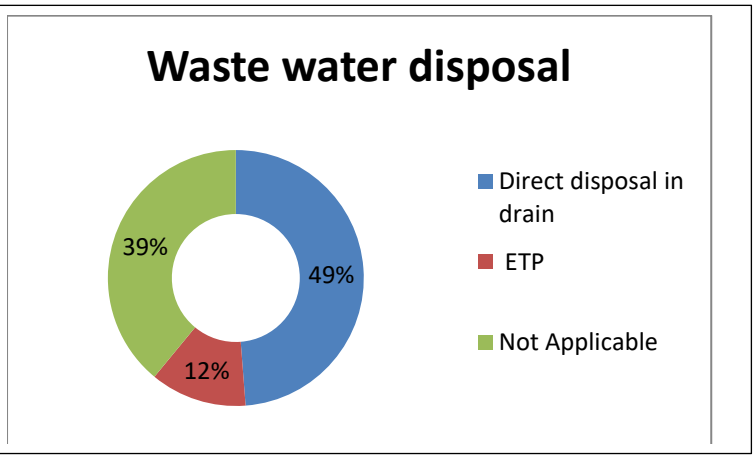
A total of 76% of sampled ITIs have organised method of sanitation and disposal. While 24% percent of the ITIs, where new building blocks are created doesn't have sanitation facilities.

ITIs in the states of Assam, Haryana and Uttarakhand have direct disposal to ULB. Gujrat, Andhra Pradesh, MP, Jharkhand have reported to have fully functional in-house sewage treatment plant with-in the premises.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
NA	1	0	1	0	0	3	5	0	0	0
ULB disposal	1	1	0	4	0	0	5	2	1	2
In House Sewage treatment	2	0	4	0	2	2	2	1	2	0

6. Waste Water Disposal

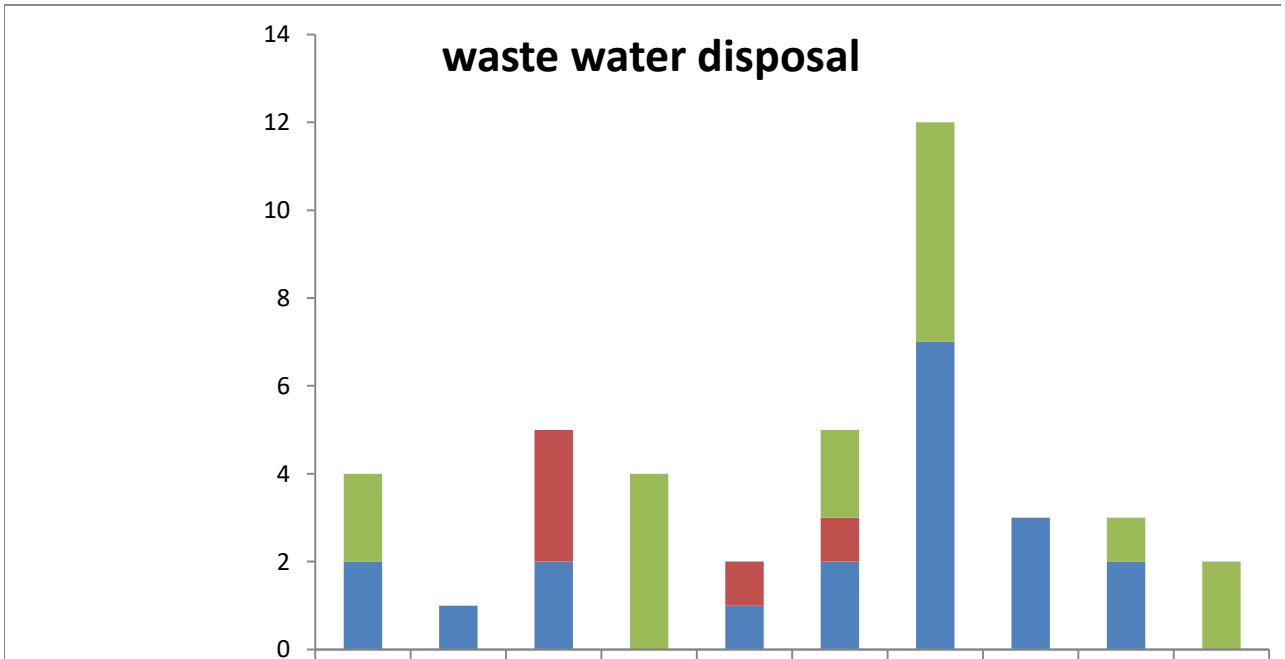


Only 12% of the ITIs have effluent treatment plant installed with-in the premises. Whereas 49% of the ITIs dispose directly in the drain.

High Severity

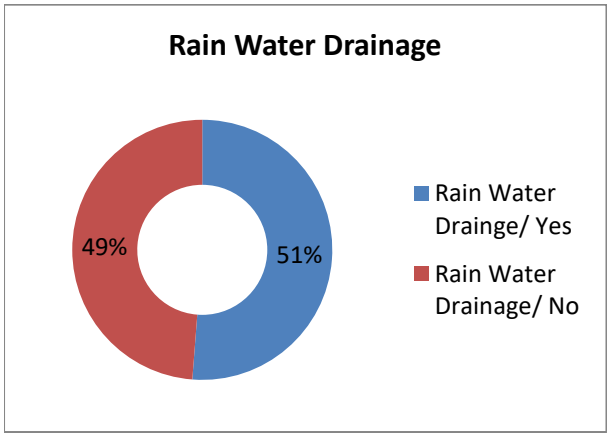
Gujarat has maximum number of (3) ITIs using ETP for treatment of waste water before disposal in the drain.

ETP facility is available at ITI s only in 03 States i.e. Gujarat, Jharkhand and Madhya Pradesh.



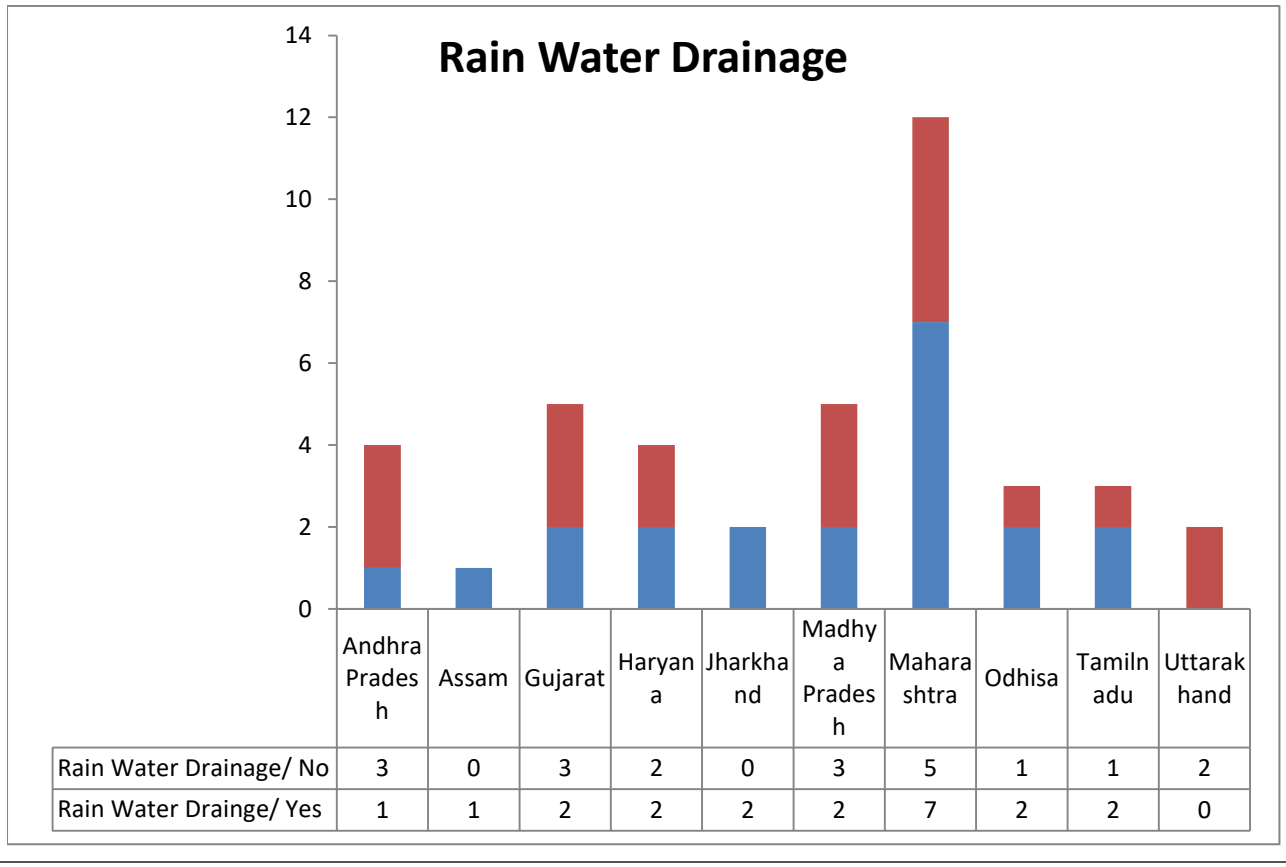
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Not applicable	2	0	0	4	0	2	5	0	1	2
ETP	0	0	3	0	1	1	0	0	0	0
Direct disposal in drain	2	1	2	0	1	2	7	3	2	0

7. Rain Water drainage



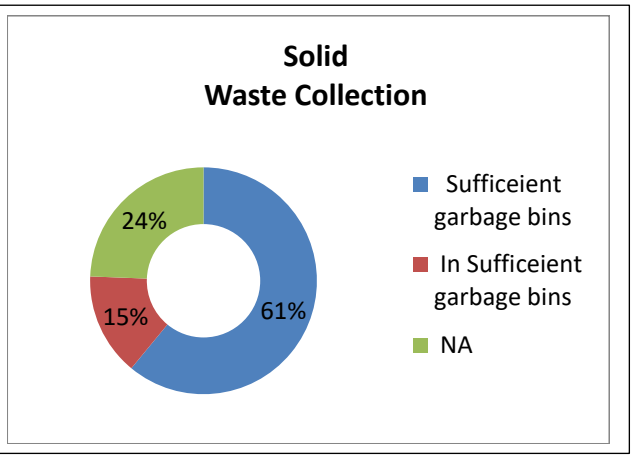
About 49% of the ITI s do not have Rain Water Drainage System.

Rain Water Drainage System is not available at Assam and Jharkhand ITI s.



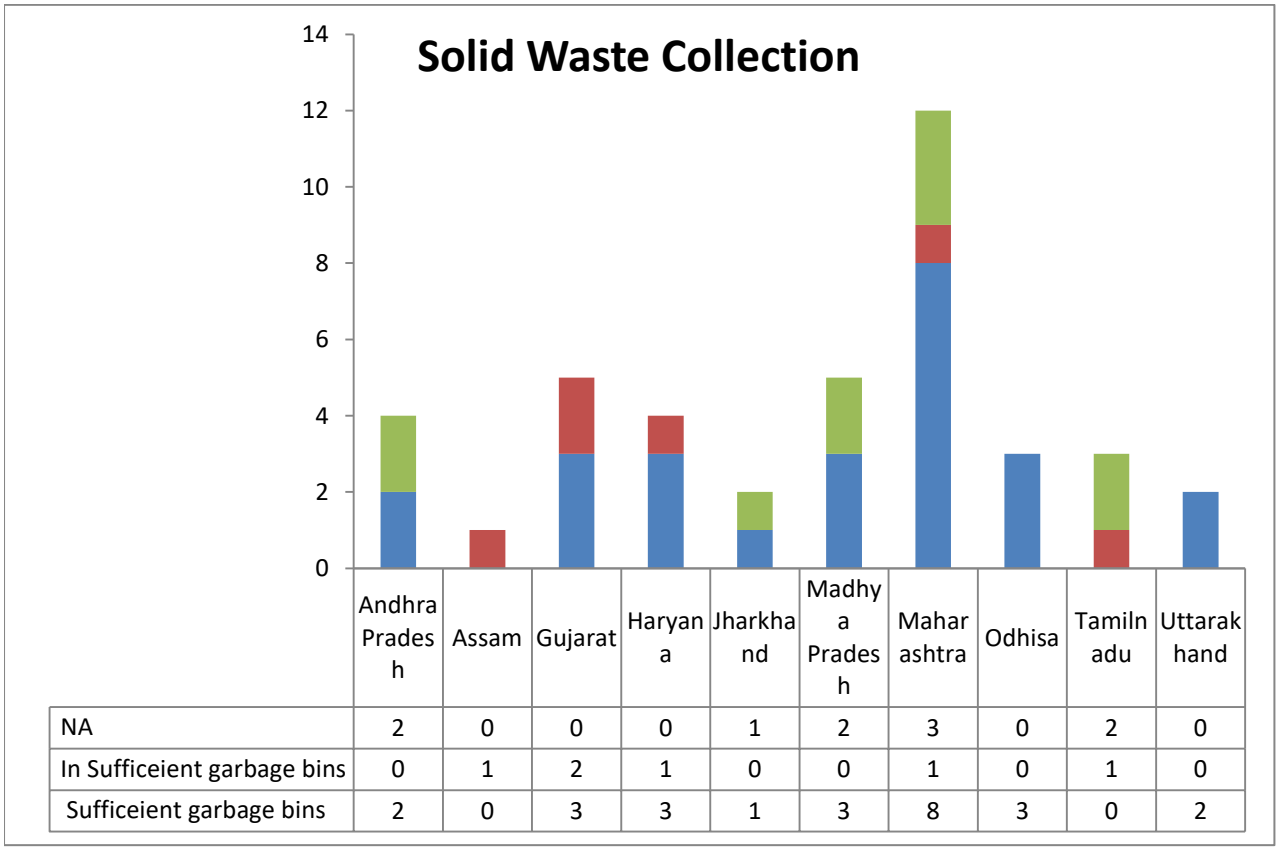
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Rain Water Drainage/ No	3	0	3	2	0	3	5	1	1	2
Rain Water Drainge/ Yes	1	1	2	2	2	2	7	2	2	0

8. Solid Waste Collection



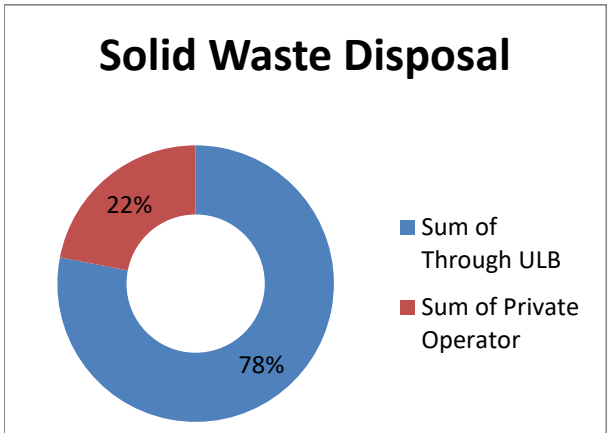
61% of the ITI s have sufficient garbage Bins available for collection of Solid Waste.

Odisha and Uttarakhand ITI s are the only States which have sufficient Garbage Bins available for collection of Solid Waste.



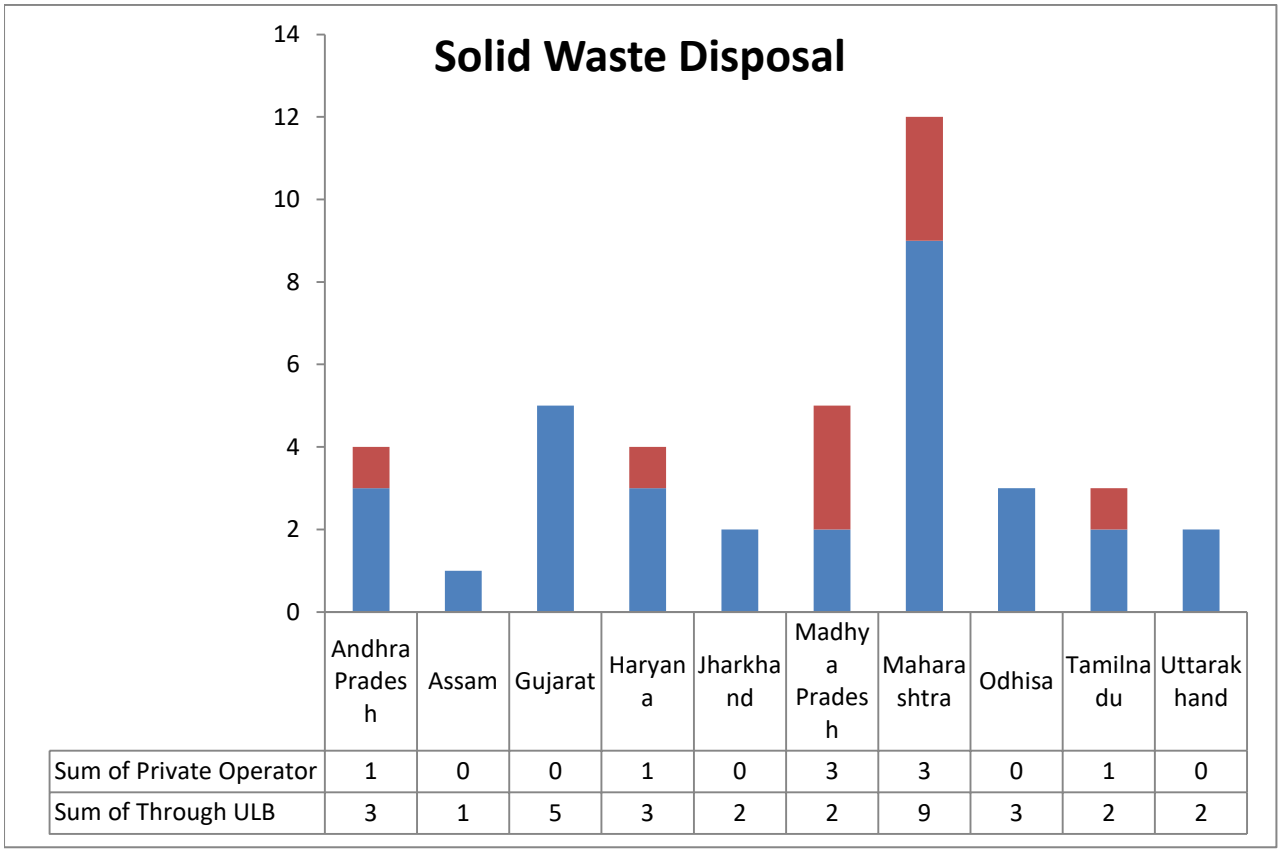
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
NA	2	0	0	0	1	2	3	0	2	0
In Sufficeient garbage bins	0	1	2	1	0	0	1	0	1	0
Sufficeient garbage bins	2	0	3	3	1	3	8	3	0	2

9) Solid Waste Disposal



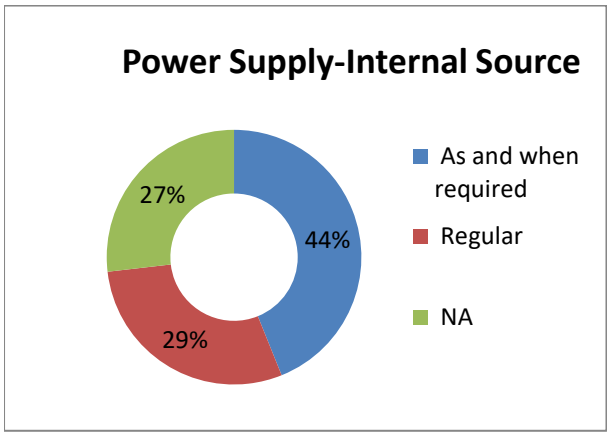
About 78% of the ITI s dispose Solid waste through ULBs.

All ITI s of Assam, Gujarat, Jharkhand, Odisha and Uttarakhand States dispose their Solid Waste through ULB s only.



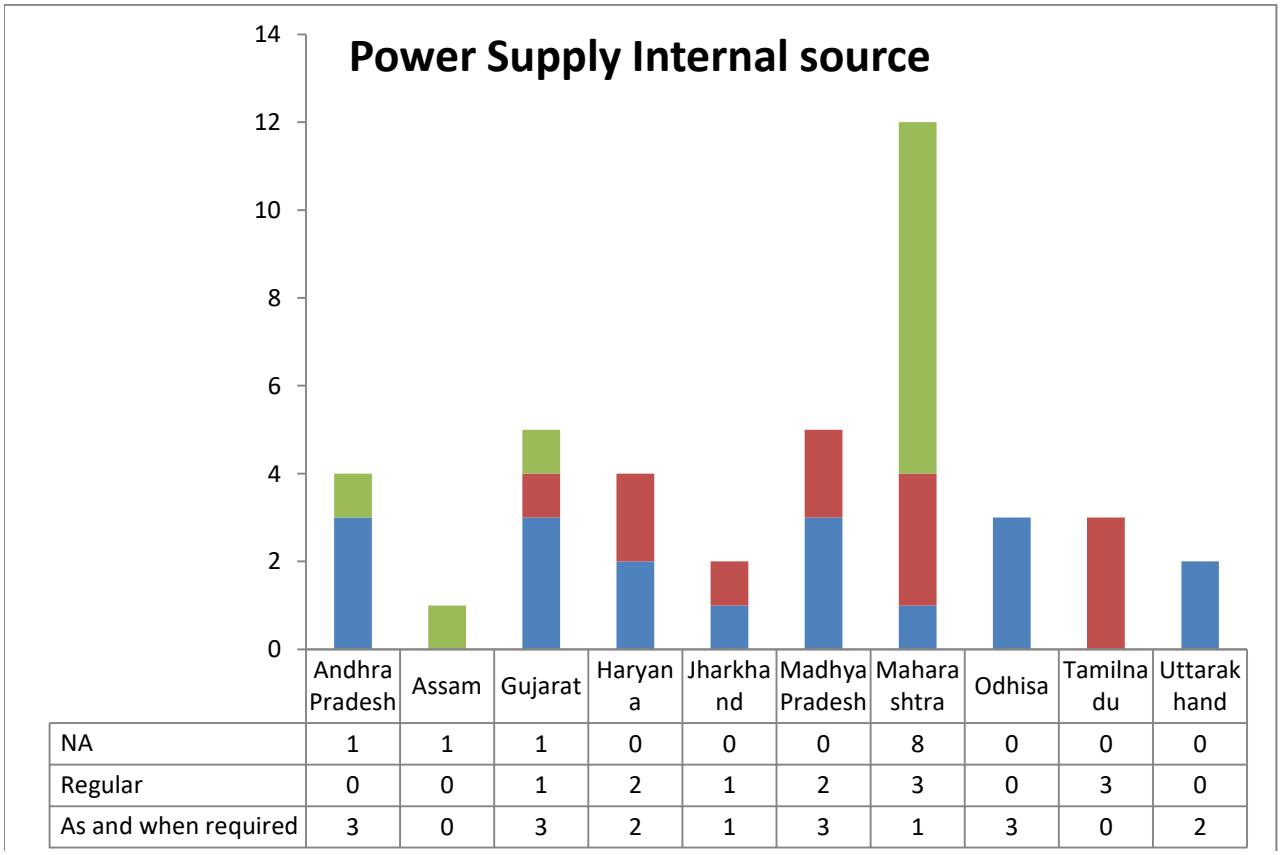
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Sum of Private Operator	1	0	0	1	0	3	3	0	1	0
Sum of Through ULB	3	1	5	3	2	2	9	3	2	2

10. Power Supply-Internal source



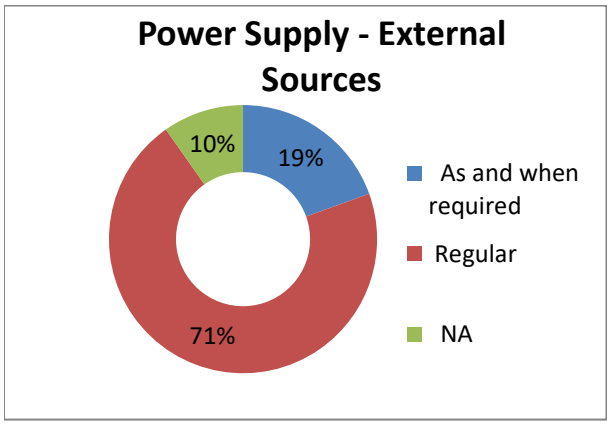
About 44% of the ITI s use Electrical Energy from Internal Source.

Odisha and Uttarakhand ITI s are completely dependent on Internal Resource for Electrical Energy.



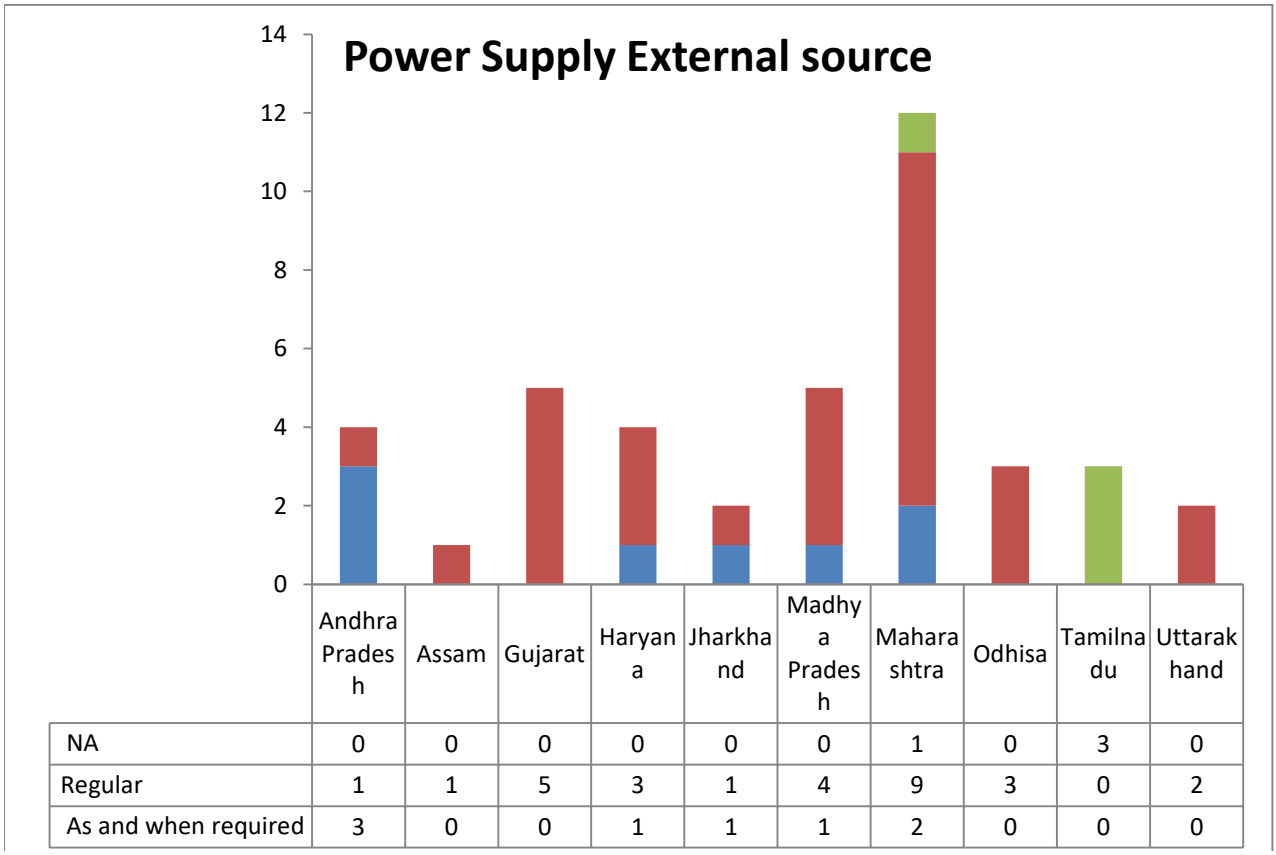
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
NA	1	1	1	0	0	0	8	0	0	0
Regular	0	0	1	2	1	2	3	0	3	0
As and when required	3	0	3	2	1	3	1	3	0	2

11. Power supply-External Source



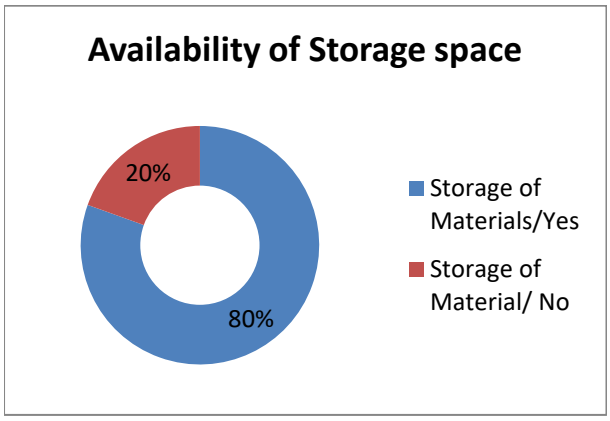
About 71% of the ITI s depend on External Source for Electrical Energy.

ITI situated at Assam, Gujarat, Odisha and Jharkhand are completely dependent on External Source for Power Supply.



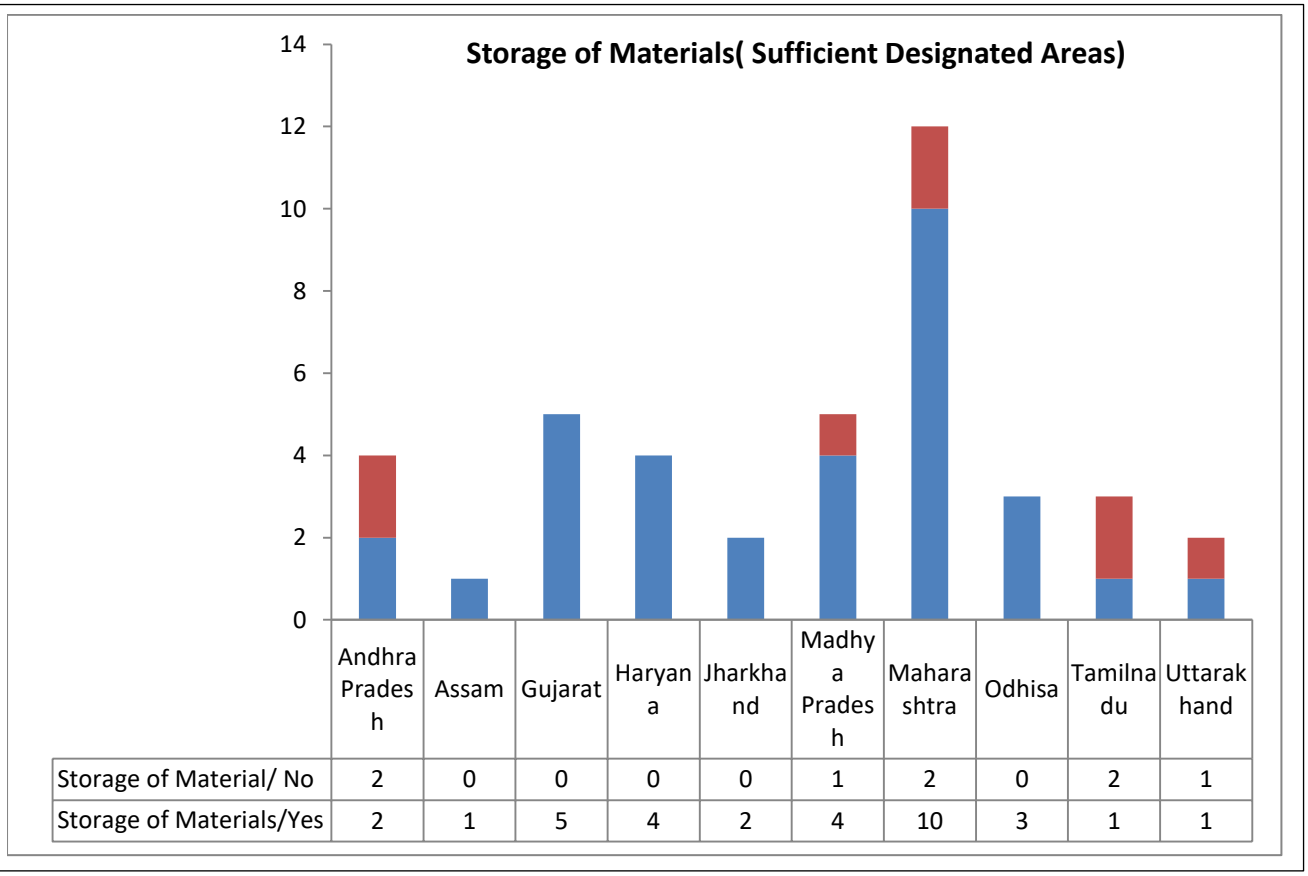
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
NA	0	0	0	0	0	0	1	0	3	0
Regular	1	1	5	3	1	4	9	3	0	2
As and when required	3	0	0	1	1	1	2	0	0	0

12. Storage of Material



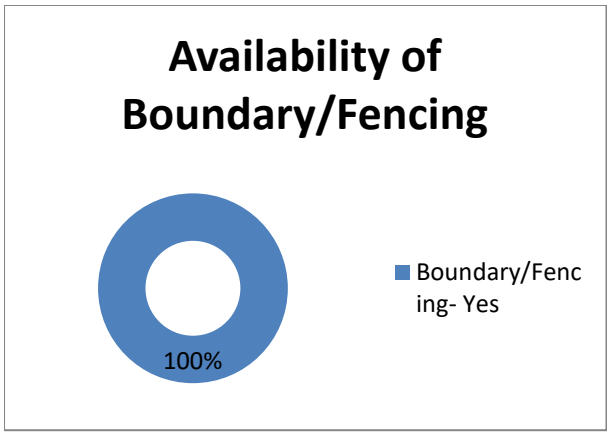
About 80% of the ITI s have sufficient storage space available with them.

ITIs situated at Assam, Gujarat, Haryana, Jharkhand and Odisha do not have sufficient storage space available.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Storage of Material/ No	2	0	0	0	0	1	2	0	2	1
Storage of Materials/Yes	2	1	5	4	2	4	10	3	1	1

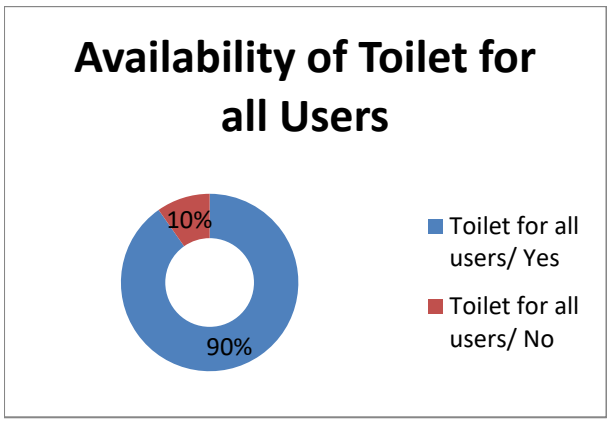
13. Boundary Fencing of ITI



All the ITI s have suitable Boundary/Fencing all over the campus area.

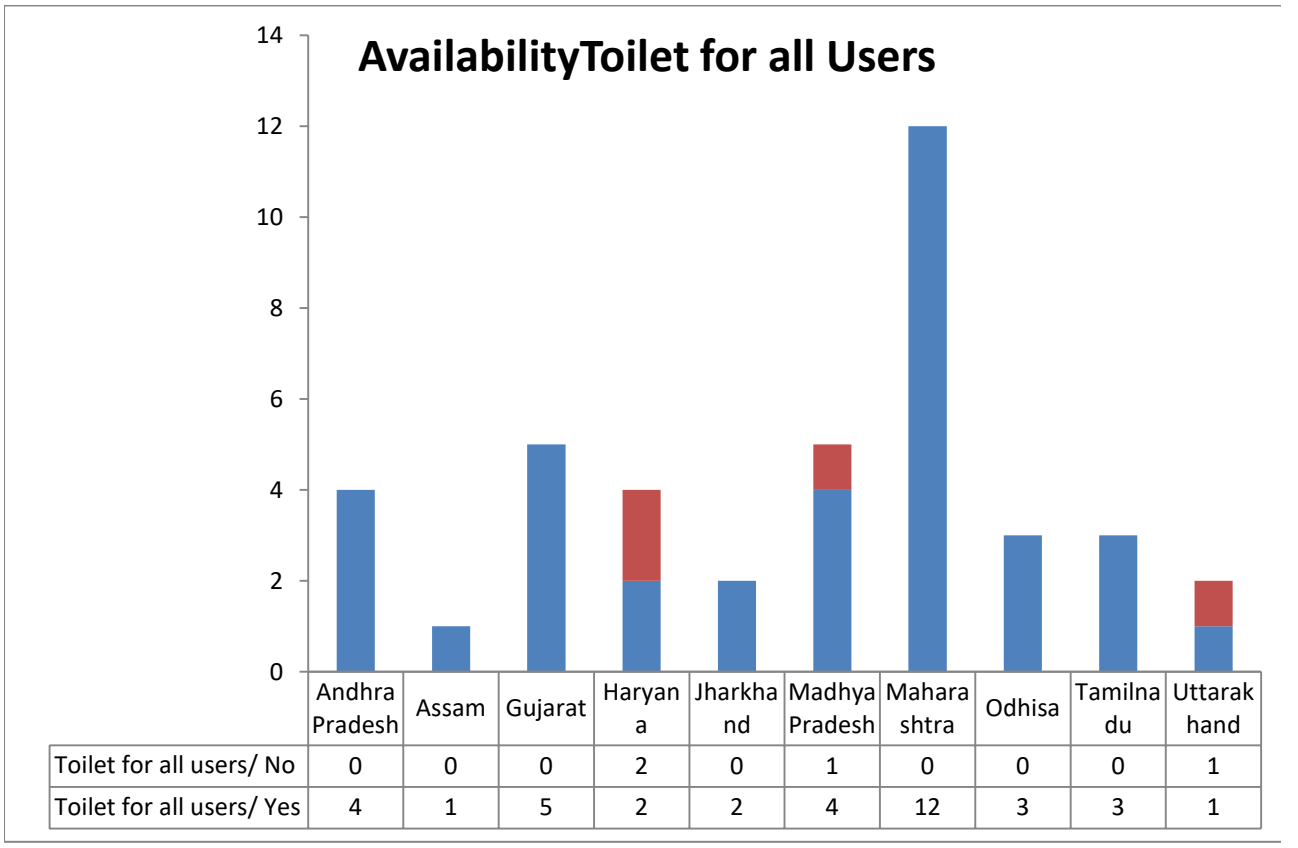
All the ITI s have suitable Boundary/Fencing all over the campus area.

14. Toilet for All Users:



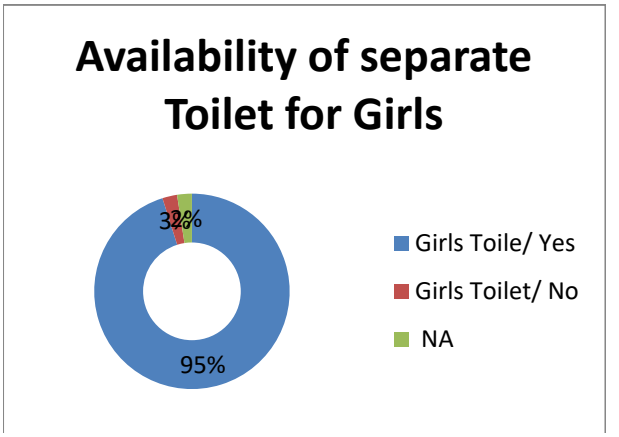
About 10% of the ITI s do not have sufficient Toilet for all the Users.

Excepting some of the ITI s at Haryana, Madhya Pradesh and Uttarakhand, all other ITI s in rest of the States have sufficient Toilet Facilities for all users.



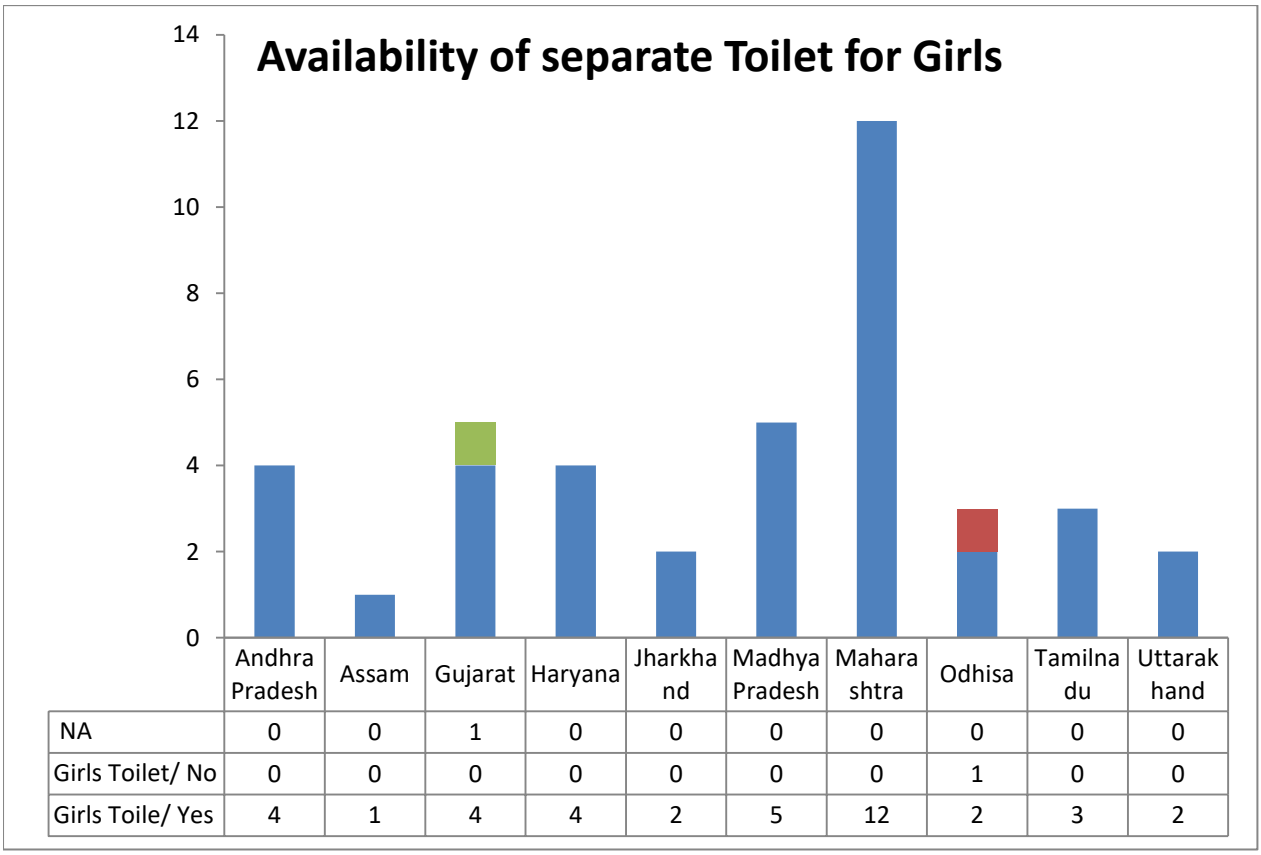
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Toilet for all users/ No	0	0	0	2	0	1	0	0	0	1
Toilet for all users/ Yes	4	1	5	2	2	4	12	3	3	1

15. Separate Toilet For Girls



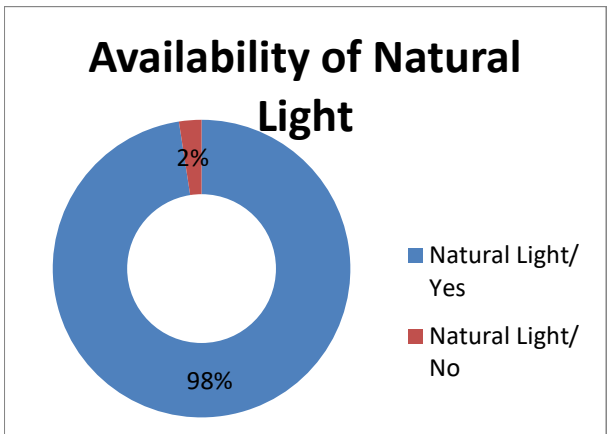
About 95% of the ITI s have separate Toilet facility for Girls.

Only Odisha ITI s do not have separate facility of Toilet for Girls.



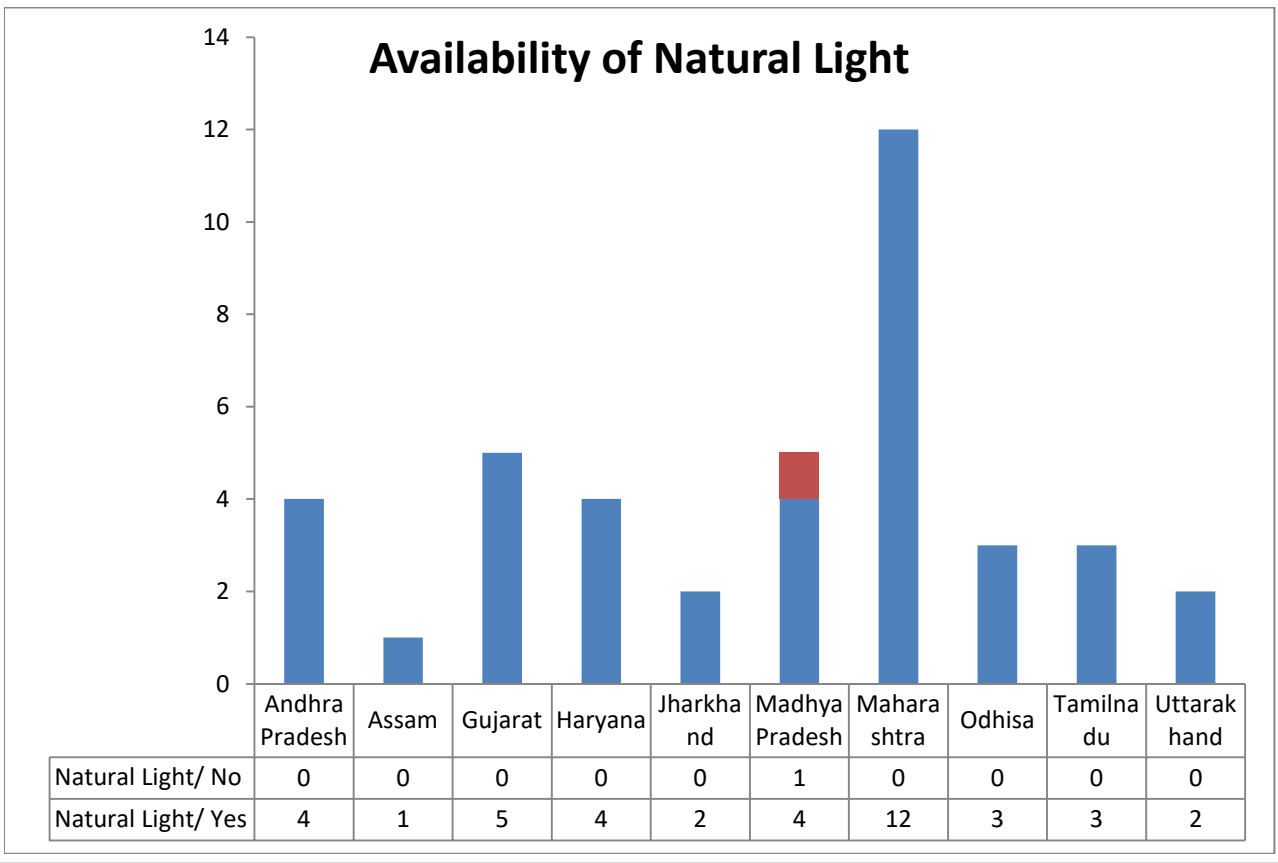
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
NA	0	0	1	0	0	0	0	0	0	0
Girls Toilet/ No	0	0	0	0	0	0	0	1	0	0
Girls Toile/ Yes	4	1	4	4	2	5	12	2	3	2

16. Availability Natural Lights



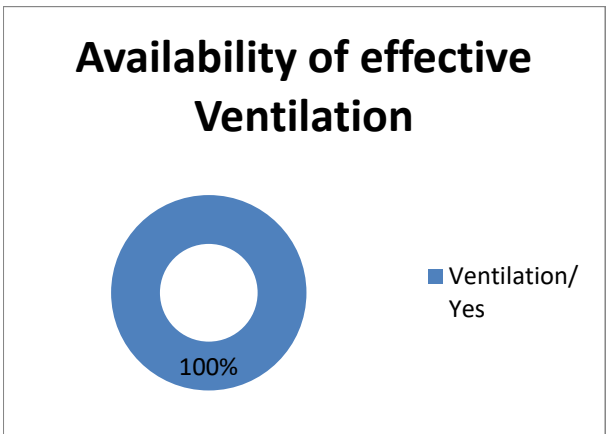
Only 2% of the ITI s do not access to Natural Light in the Building Premises.

Only Madhya Pradesh ITI s do not access to natural Light in the Building Premises.



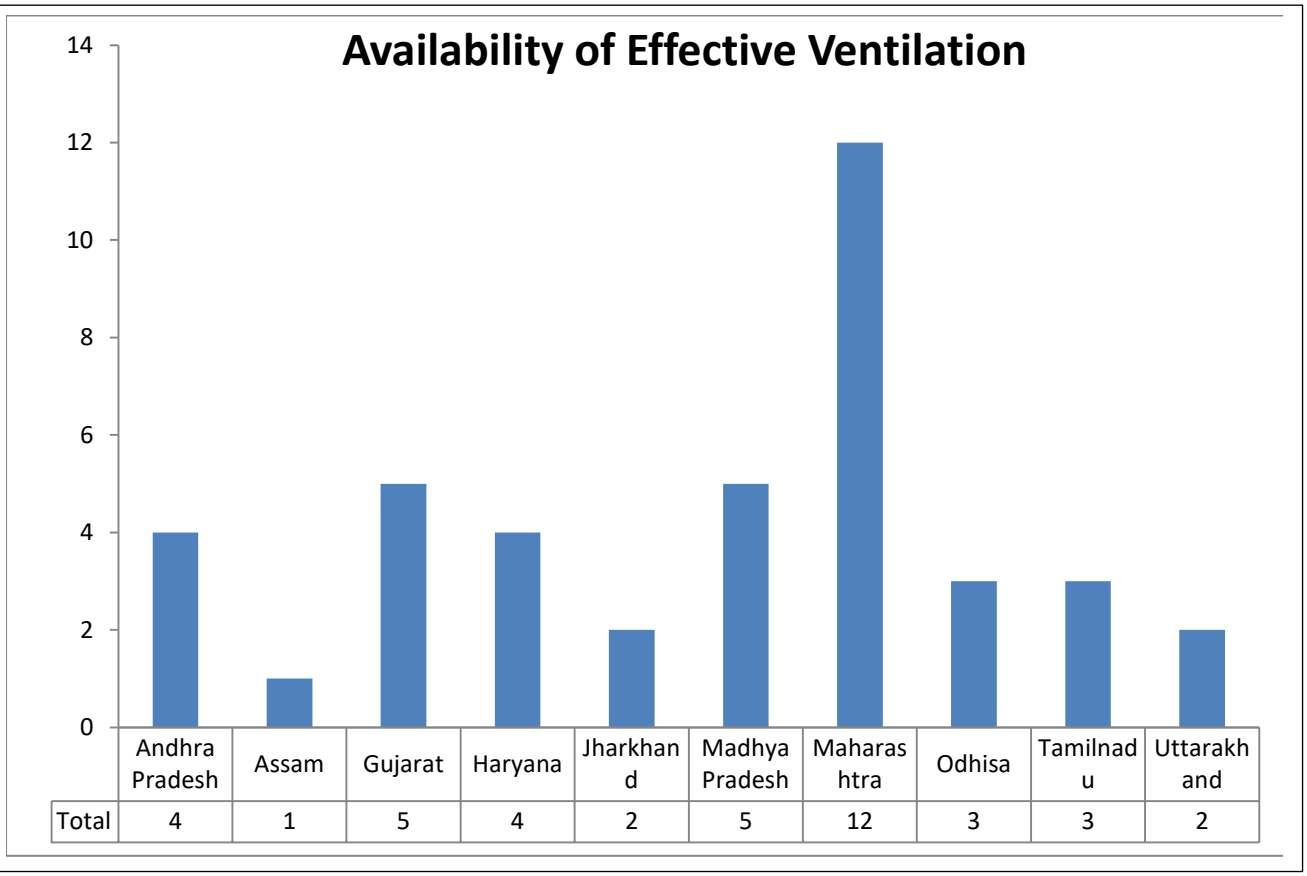
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Natural Light/ No	0	0	0	0	0	1	0	0	0	0
Natural Light/ Yes	4	1	5	4	2	4	12	3	3	2

17. Effective ventilation

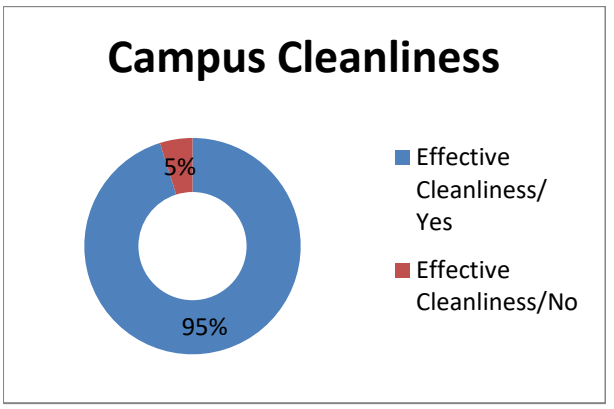


All the ITI s have sufficient Ventilation facilities.

All the ITI s have sufficient Ventilation facilities.

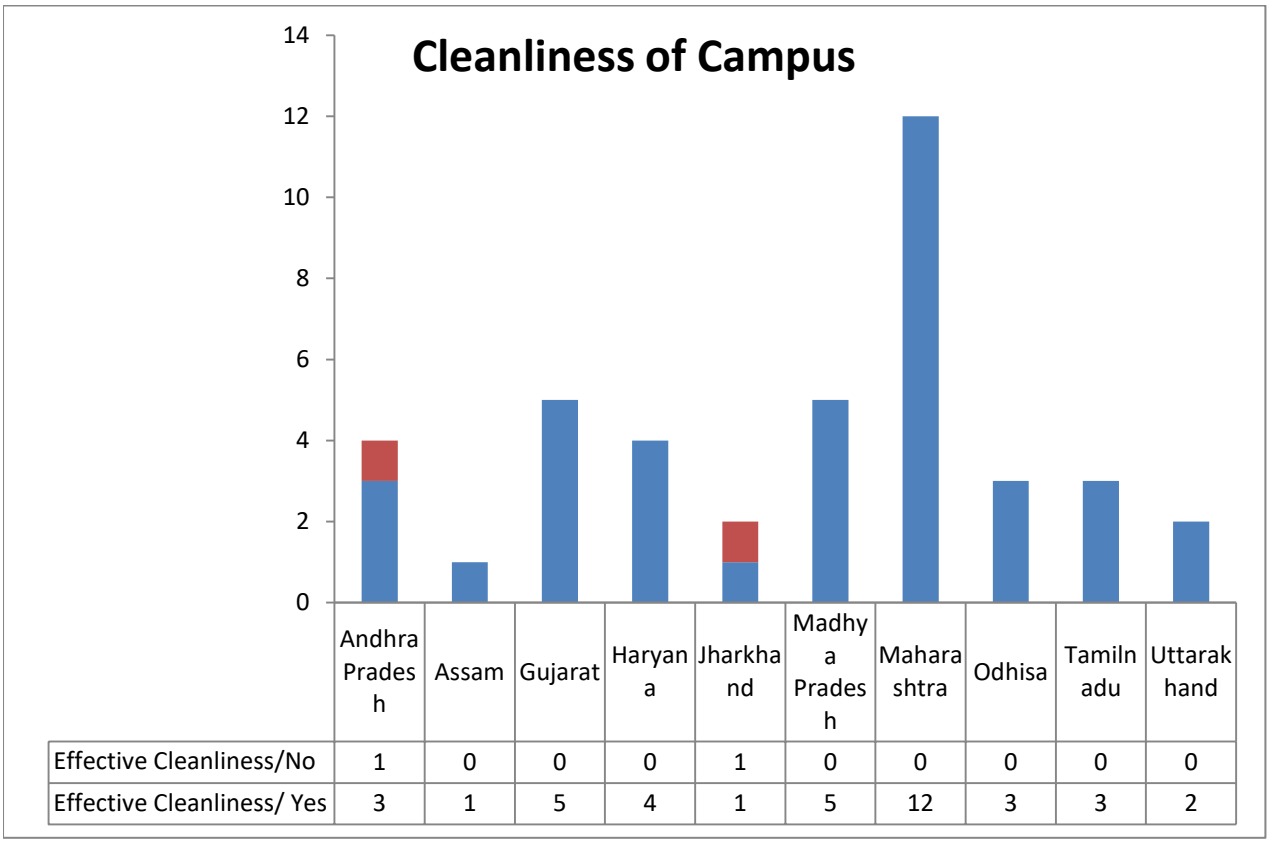


18. Cleanliness of Campus



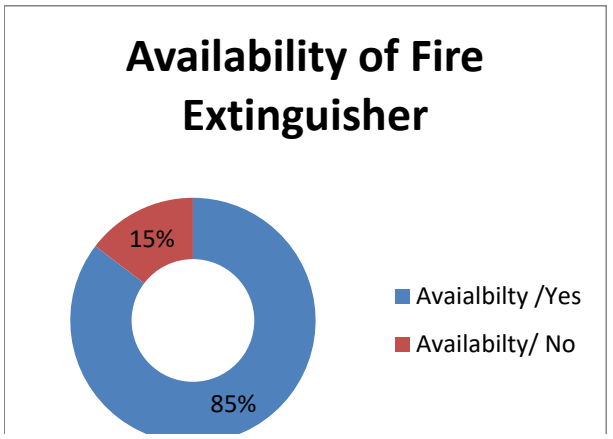
Only 5% of the ITI s campus were found to be lacking in Cleanliness.

Only some of the ITI s situated at Andhra Pradesh and Jharkhand were found to be lacking in Cleanliness.



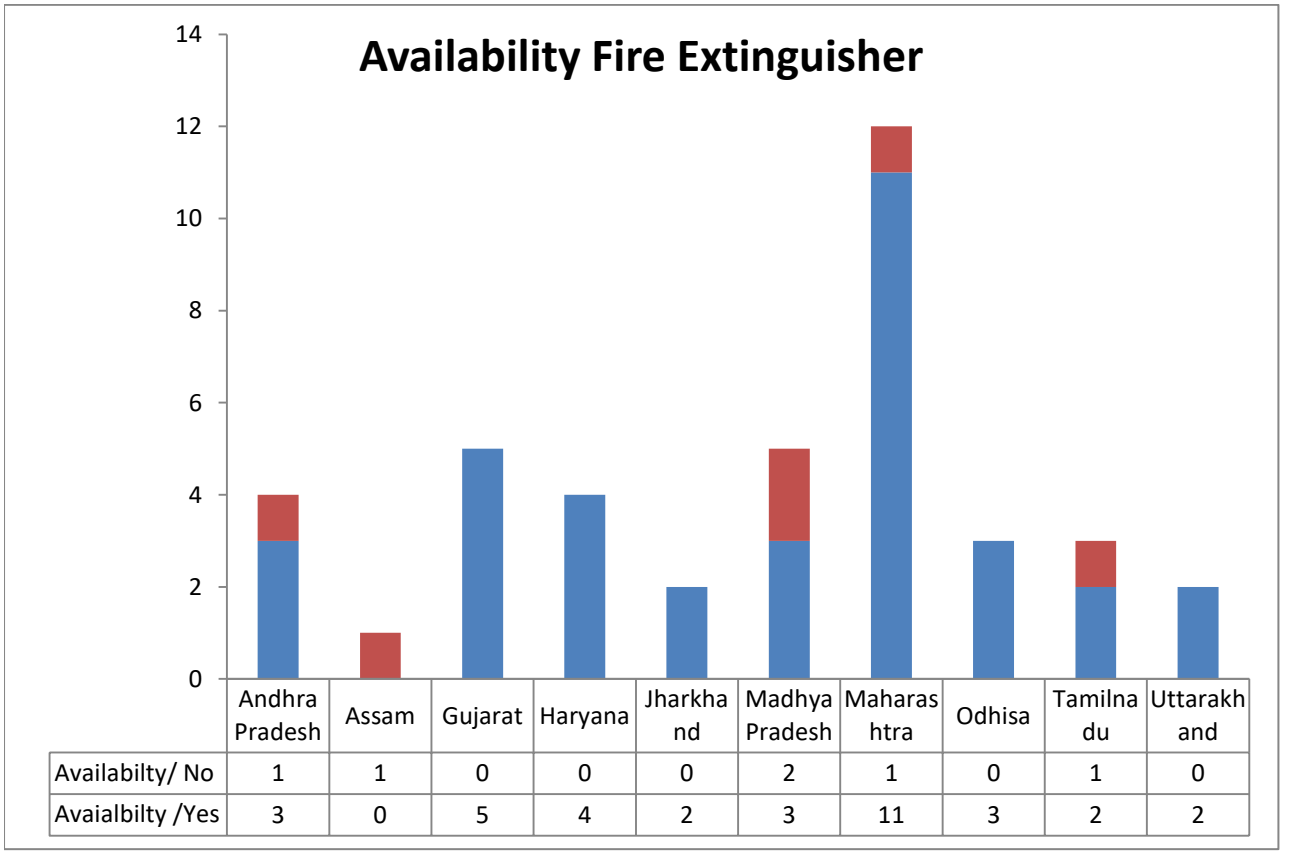
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Effective Cleanliness/No	1	0	0	0	1	0	0	0	0	0
Effective Cleanliness/ Yes	3	1	5	4	1	5	12	3	3	2

19. Availability of Fire Extinguisher



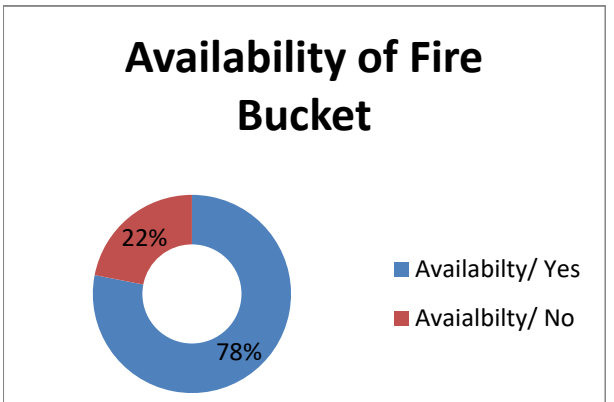
About 15% of the ITI s did not have sufficient Fire Extinguishers available with them.

02 of the ITI s at Madhya Pradesh and 01 each in Tamil Nadu, Andhra Pradesh, Assam and Maharashtra did not have Fire Extinguishers available with them.



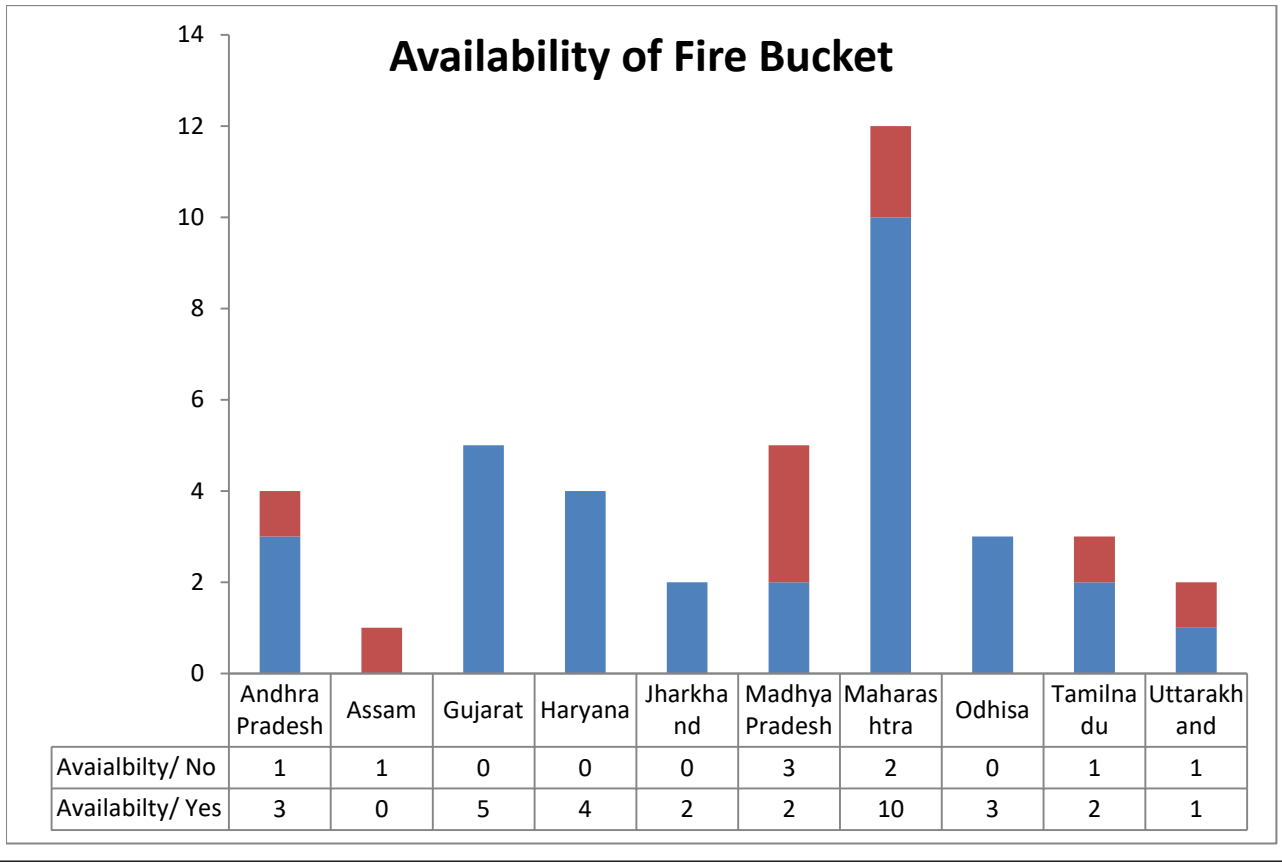
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Availabilty/ No	1	1	0	0	0	2	1	0	1	0
Avaialbilty /Yes	3	0	5	4	2	3	11	3	2	2

20. Availability of Fire Bucket



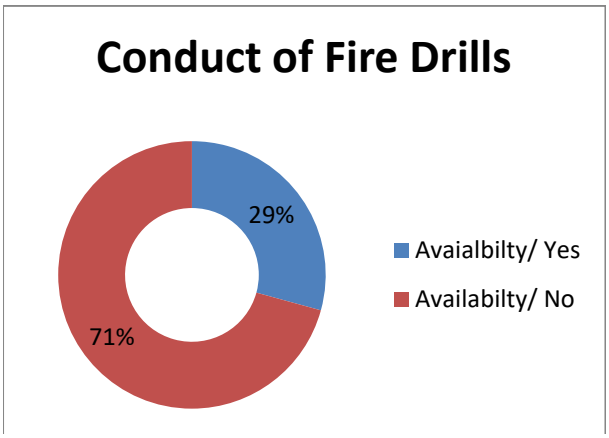
About 22% of the ITI s did not have Fire Buckets available with them.

03 ITI s at Madhya Pradesh, 02 at Maharashtra and 01 each at AP, TN, Assam and Uttarakhand ITI s did not have Fire Buckets available with them.



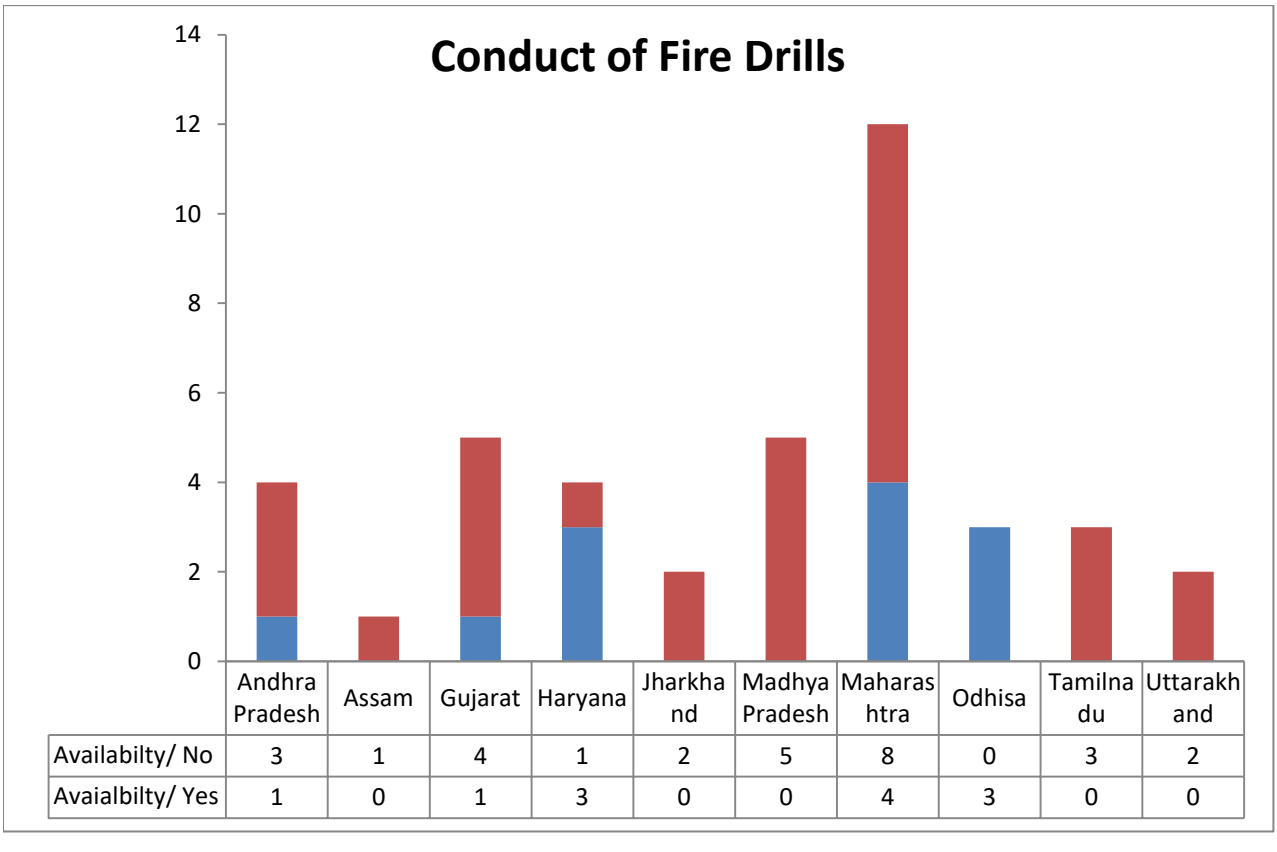
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Avaialbilty/ No	1	1	0	0	0	3	2	0	1	1
Availabilty/ Yes	3	0	5	4	2	2	10	3	2	1

21. Fire Drills



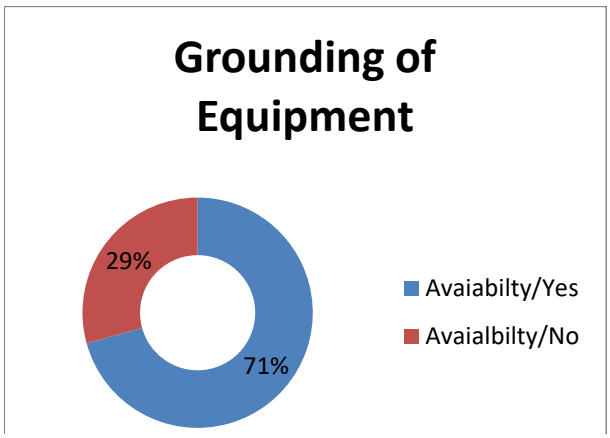
About 29% of the ITI s did not conduct Fire Drills.

Odisha is the only State which has conducted Fire Drills in all the ITI s.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Availabilty/ No	3	1	4	1	2	5	8	0	3	2
Avaialbilty/ Yes	1	0	1	3	0	0	4	3	0	0

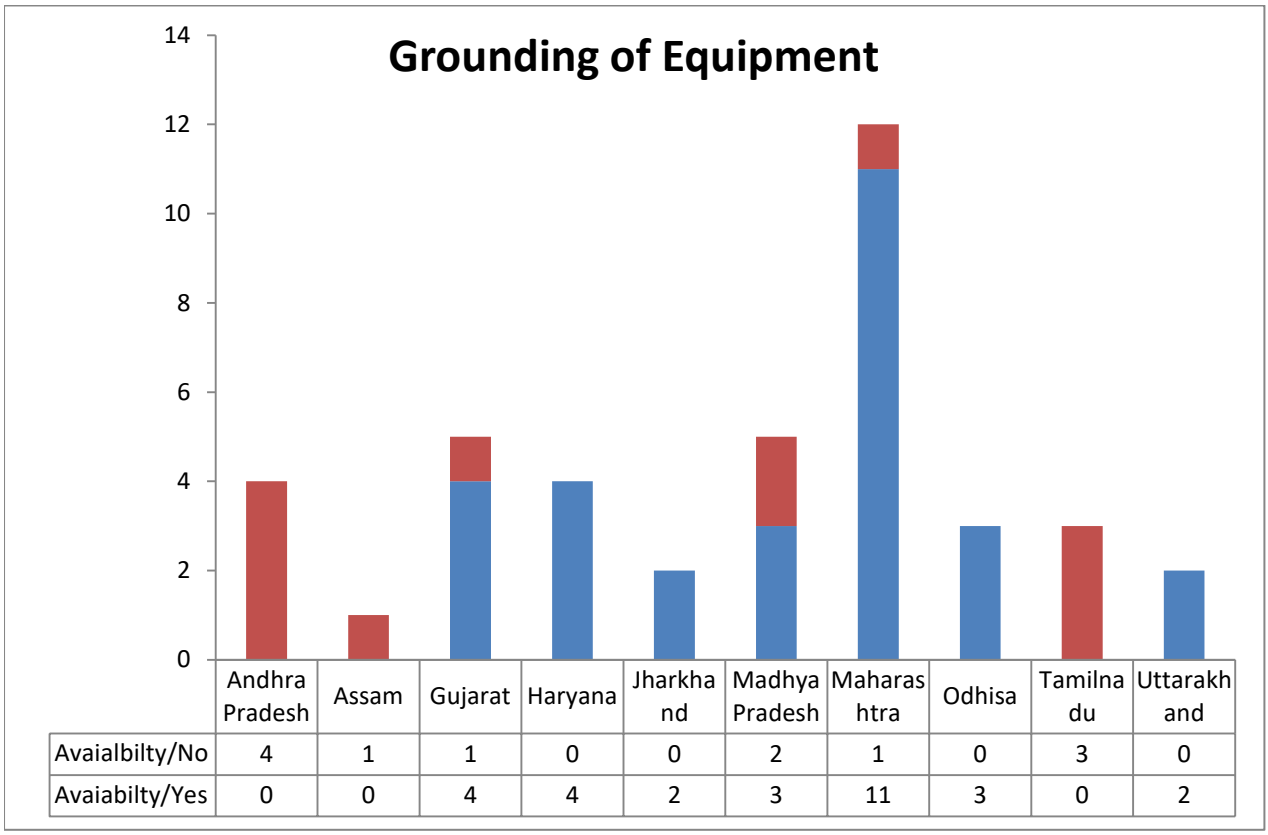
22. Grounding of Equipment



About 29% of the Equipments were not ground for Electrical safety.

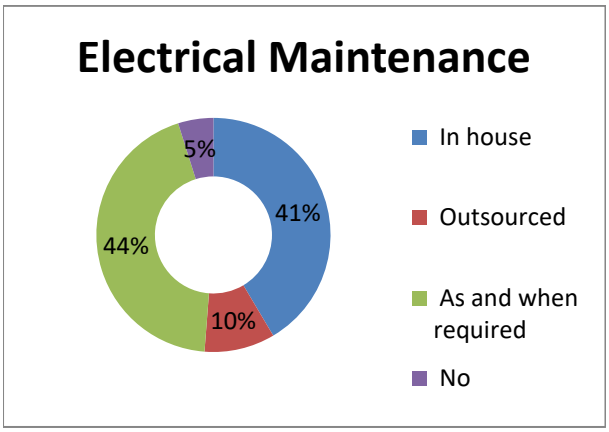
All the Equipments of ITI s located at Haryana, Jharkhand, Odisha and Uttarakhand were grounded for Electrical safety.

None of the Equipments of ITI s at AP, TN and Assam were grounded.

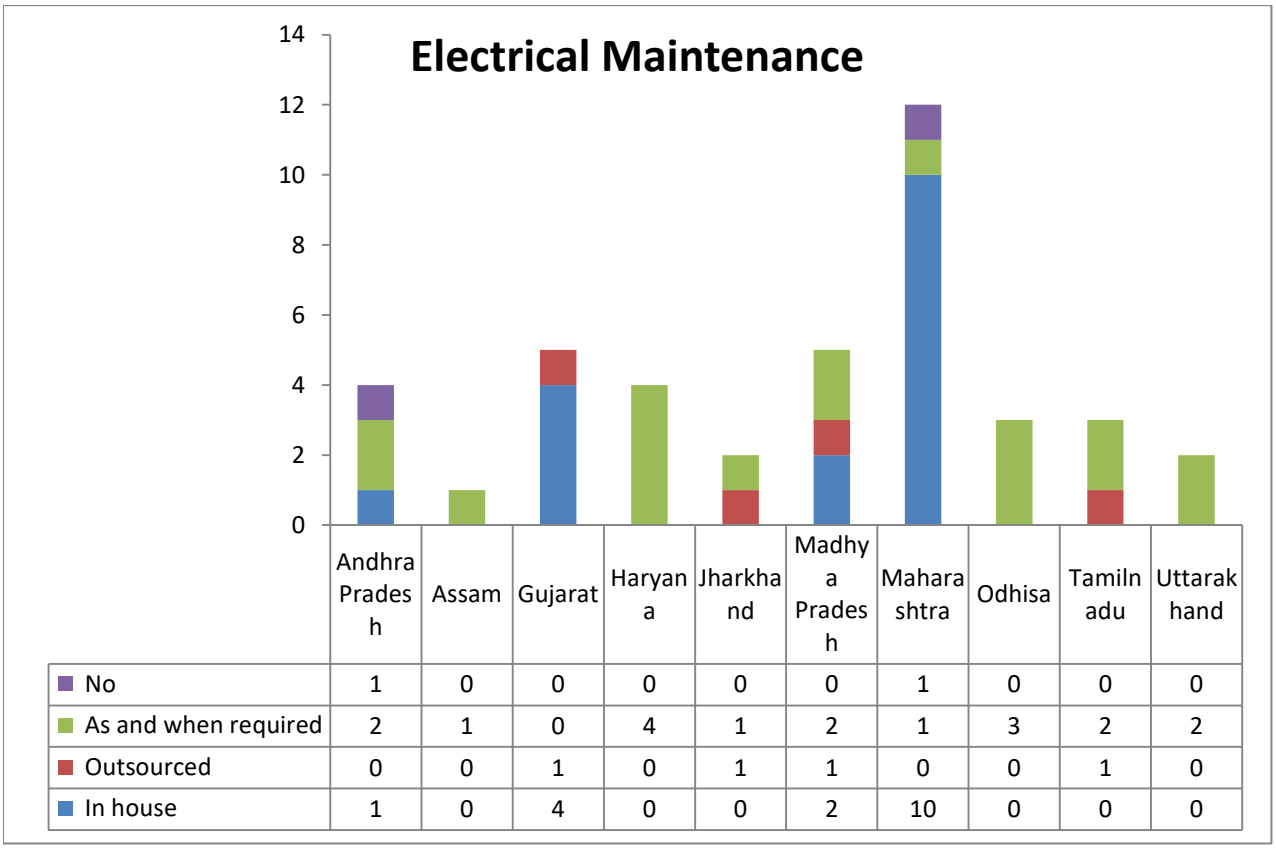


	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Avaialbilty/No	4	1	1	0	0	2	1	0	3	0
Avaiabilty/Yes	0	0	4	4	2	3	11	3	0	2

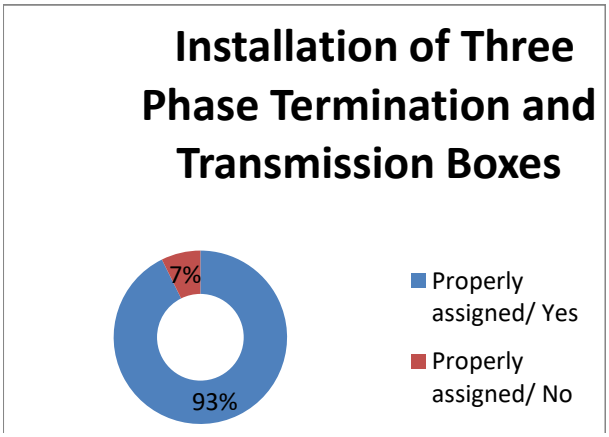
23. Electrical Maintenance



About 5% of the Equipments do not have suitable mechanism for Electrical Maintenance.

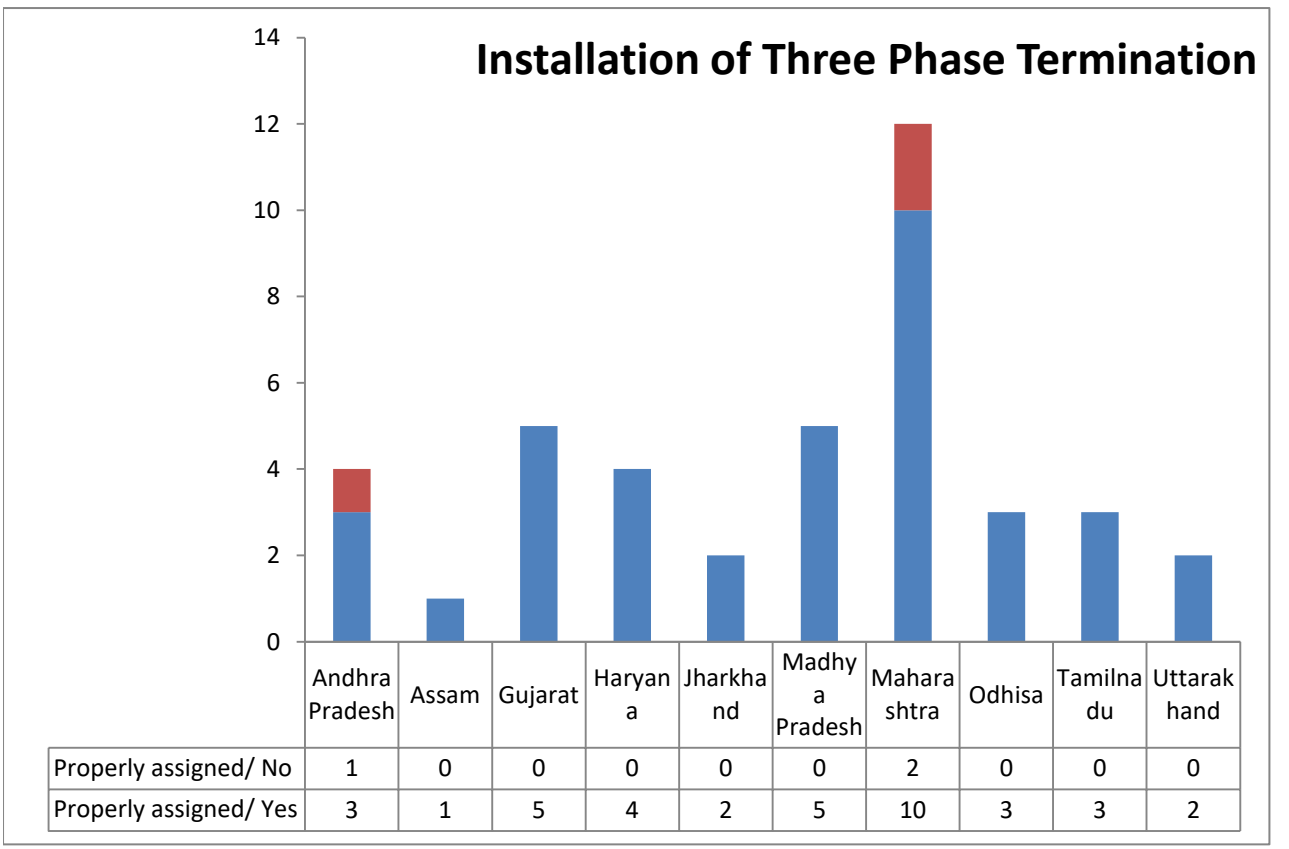


24. Three Phase termination



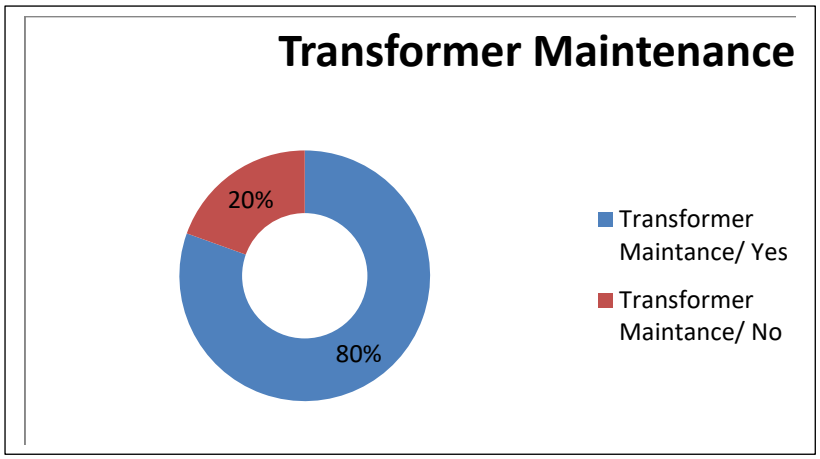
About 7% of the ITI s do not have Proper Alignment of Three Phase Termination and Transmission Boxes.

02 ITI s at Maharashtra and 01 at AP were found to be lacking in Proper Alignment of Three Phase Termination and Transmission Boxes.



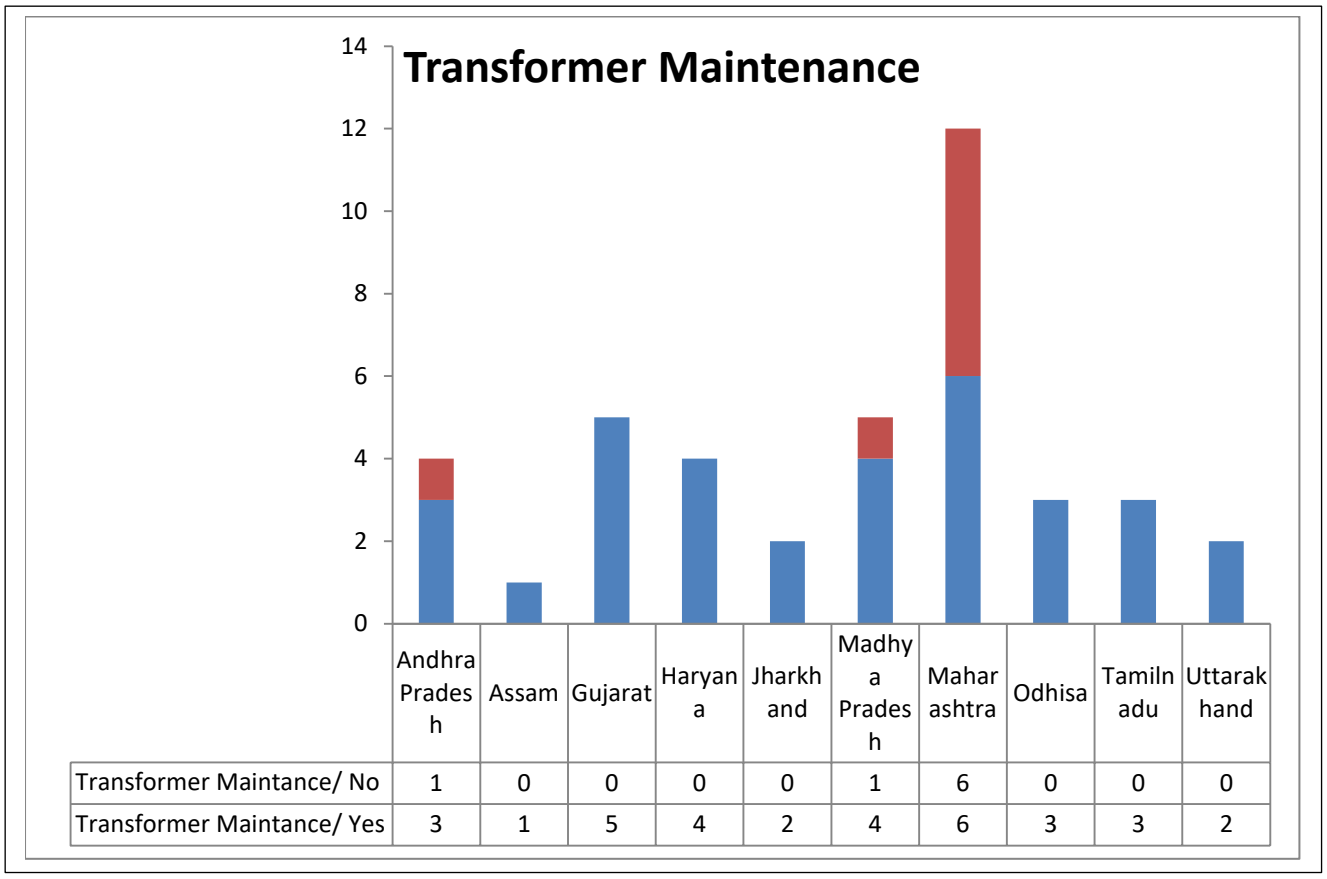
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Properly assigned/ No	1	0	0	0	0	0	2	0	0	0
Properly assigned/ Yes	3	1	5	4	2	5	10	3	3	2

25. Transformer Maintenance



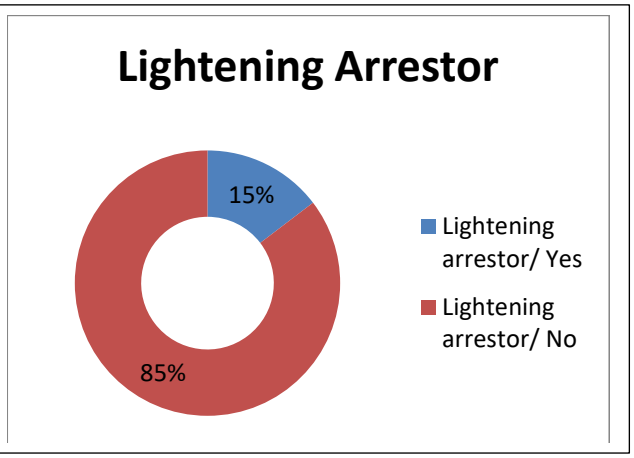
About 20% of the ITI s did not have suitable mechanism for Transformer Maintenance.

06 ITI s at Maharashtra and 01 each at AP and MP did not have suitable mechanism for Transformer Maintenance.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Transformer Maintance/ No	1	0	0	0	0	1	6	0	0	0
Transformer Maintance/ Yes	3	1	5	4	2	4	6	3	3	2

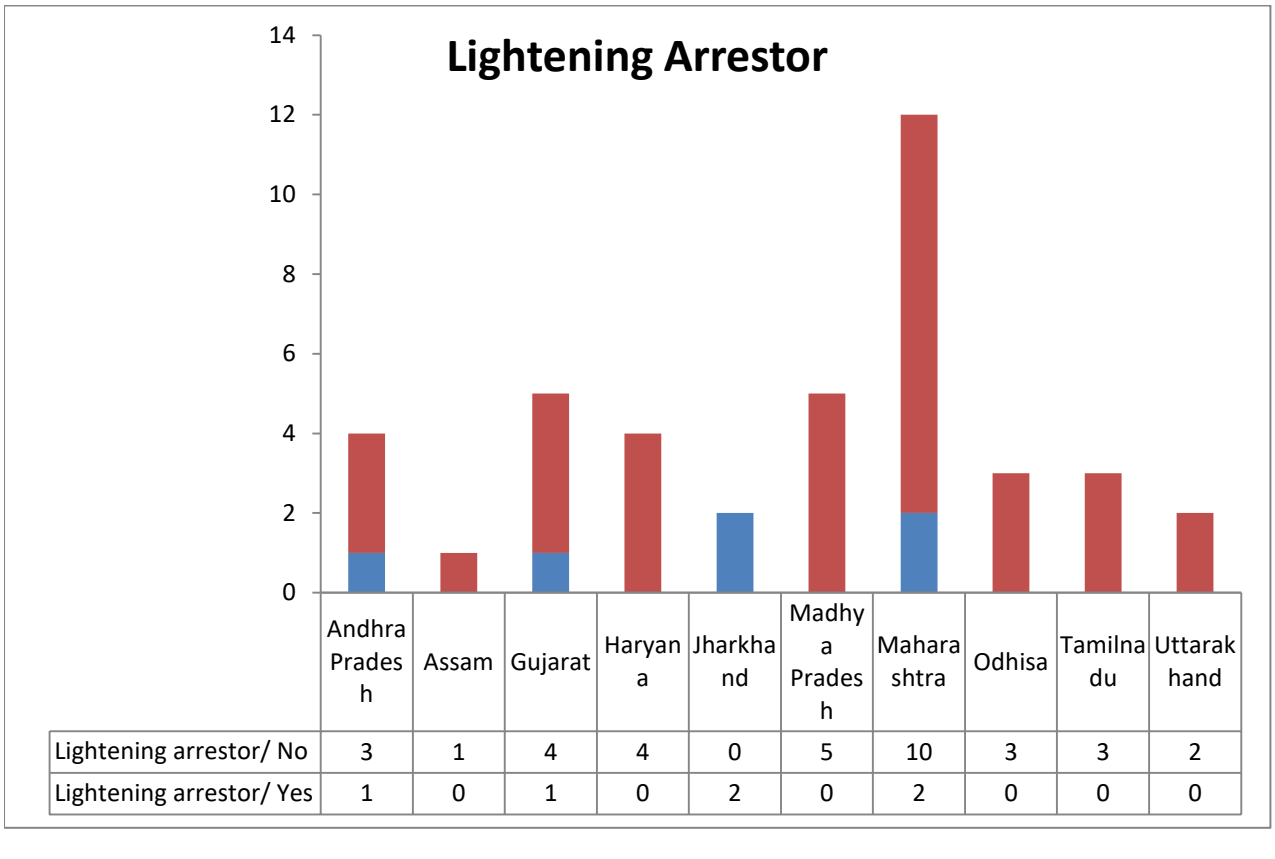
26. Lightening Arrestor



About 15% of the ITI s did not have Lighting Arrestor installed at the Building.

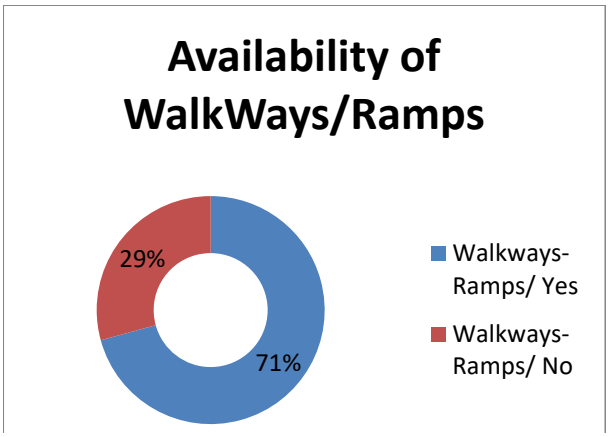
Except Jharkhand all the other States were found to be lacking in availability of Lightening Arrestor for the Building.

All the ITI s located at Haryana, MP, TN, Odisha and Uttarakhand were found to be lacking for Lightening Arrestor for the Buildings.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Lightening arrestor/ No	3	1	4	4	0	5	10	3	3	2
Lightening arrestor/ Yes	1	0	1	0	2	0	2	0	0	0

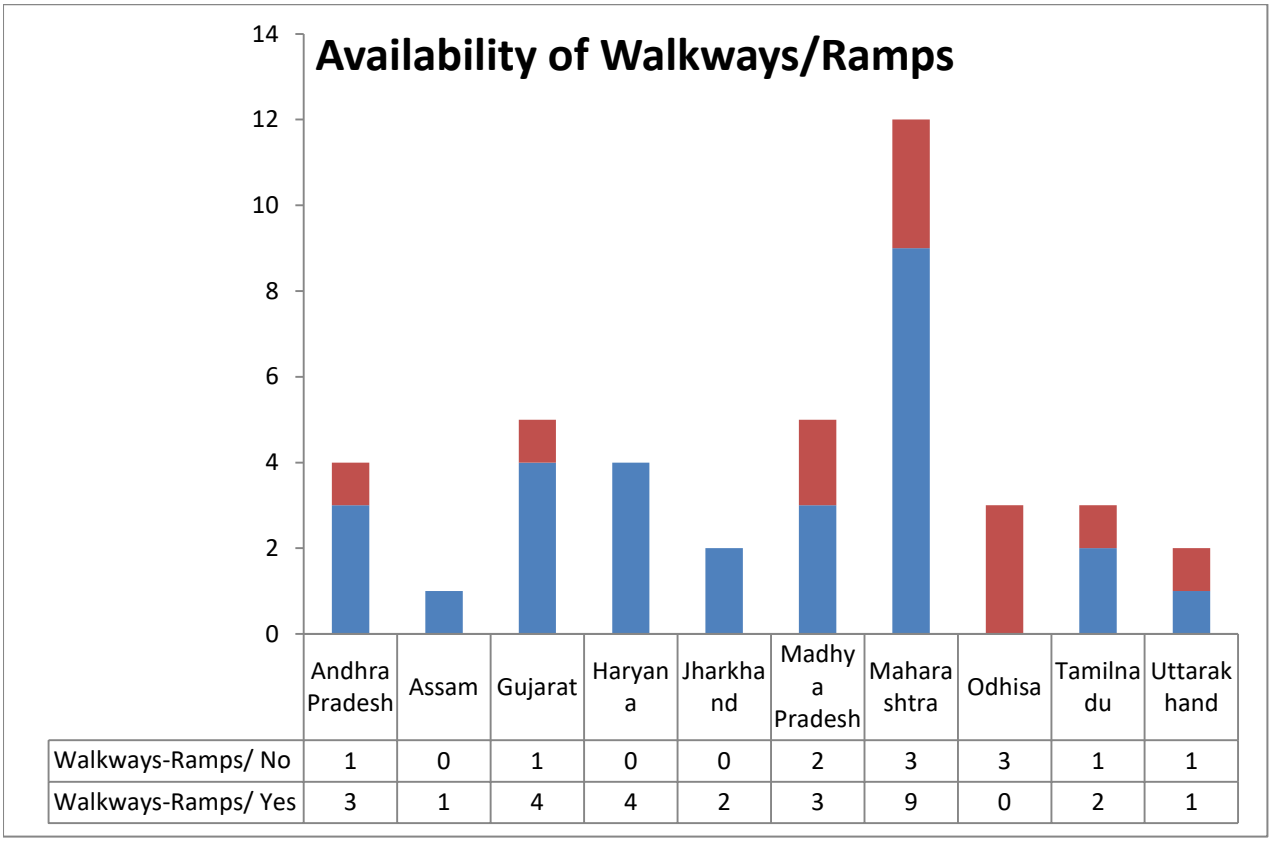
27. Walkways Ramps of Differently abled users



About 29% of the ITI s did not have suitable Walkways/Ramps for differently abled Students/Faculty.

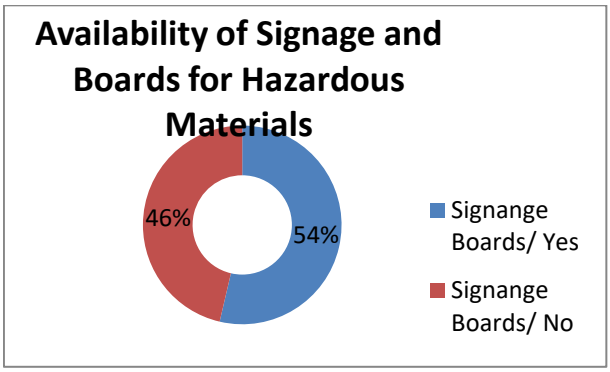
Odisha is the only State which do not have Walkways/Ramps in any of the ITI s.

ITI located at Assam, Haryana and Jharkhand were the only states which had Walkways/Ramps available in all their ITI s.



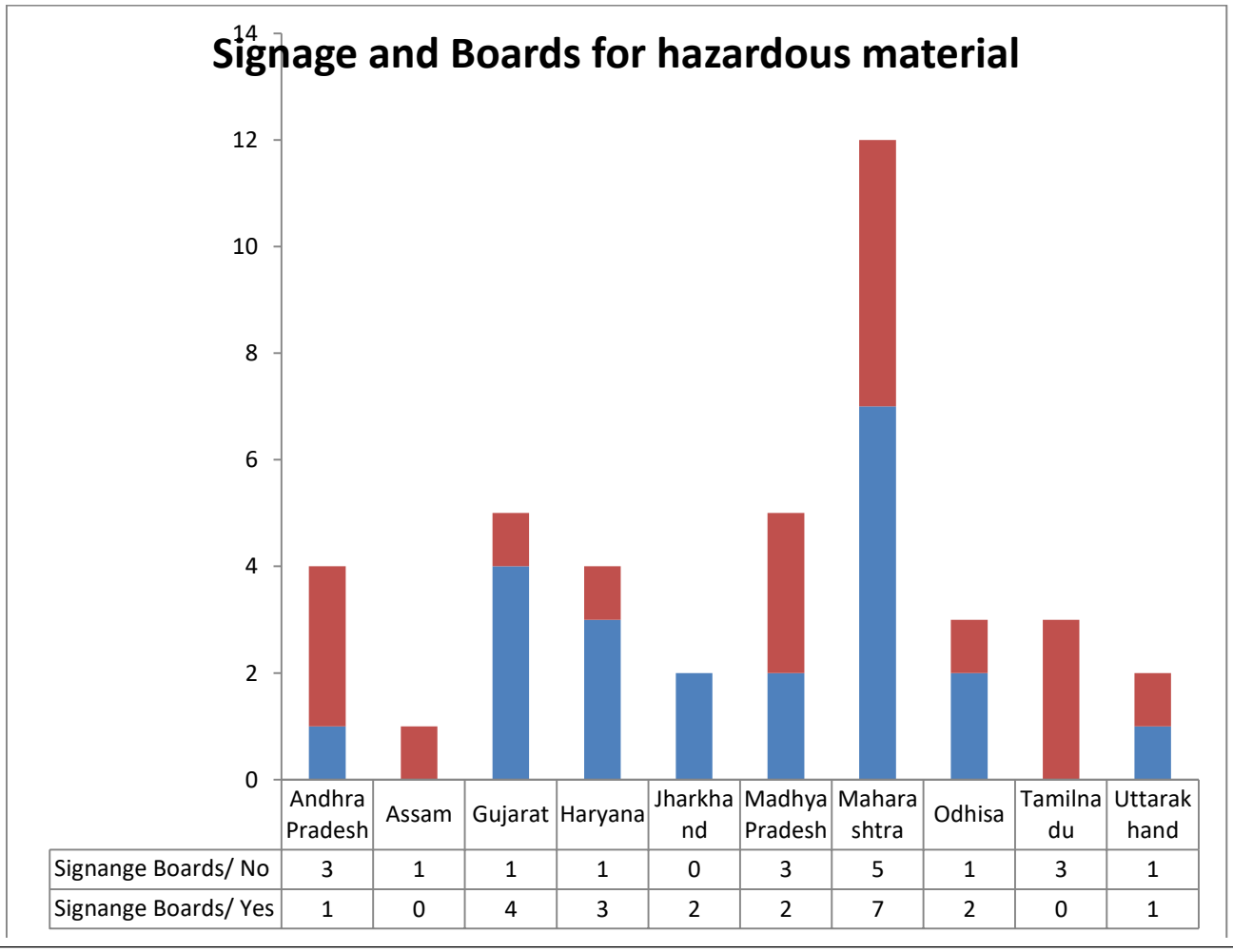
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odisa	Tamilnadu	Uttarakhand
Walkways-Ramps/ No	1	0	1	0	0	2	3	3	1	1
Walkways-Ramps/ Yes	3	1	4	4	2	3	9	0	2	1

28. Signage & Boards for hazardous material



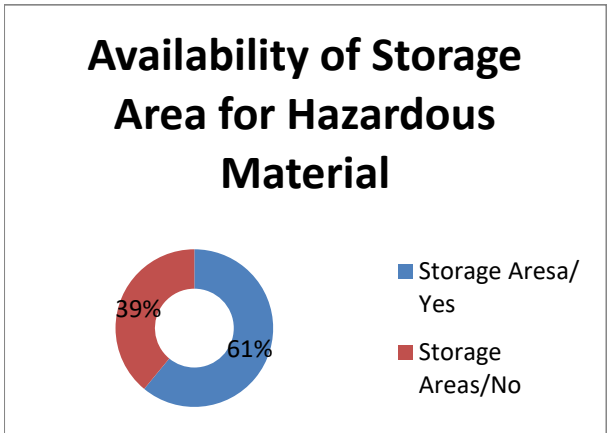
About 46% of the ITI s did not have Signage and Boards for Hazardous Materials.

Jharkhand is the only state which had Signage and Boards in all ITI s for Hazardous Materials and Assam had none.



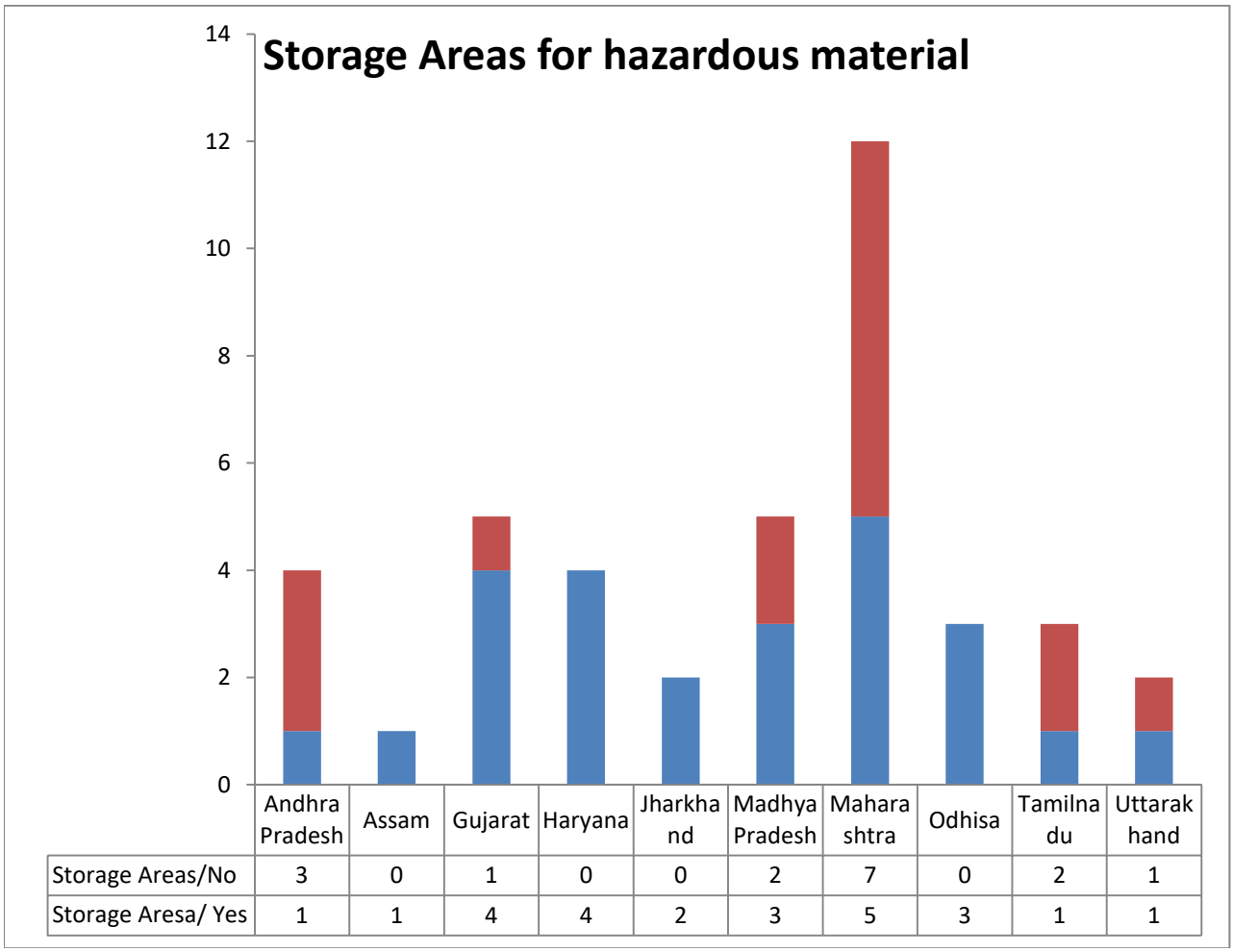
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Signange Boards/ No	3	1	1	1	0	3	5	1	3	1
Signange Boards/ Yes	1	0	4	3	2	2	7	2	0	1

29. Storage Area for Hazardous Material.



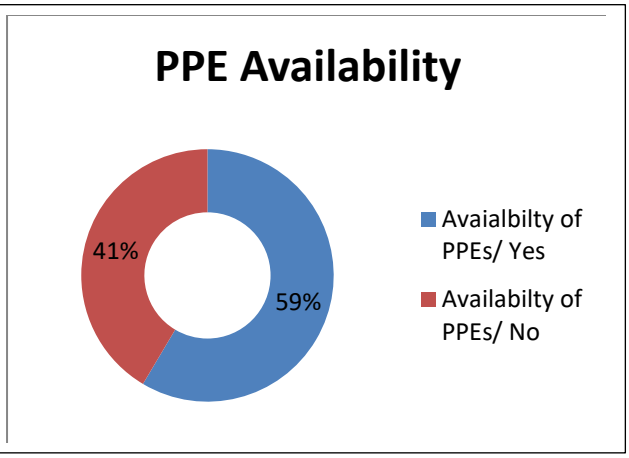
Only 61% of the ITI s have suitable Storage Area for Hazardous Materials.

All the ITI s located at Assam, Haryana, Jharkhand and Odisha had storage Area for Hazardous Materials.



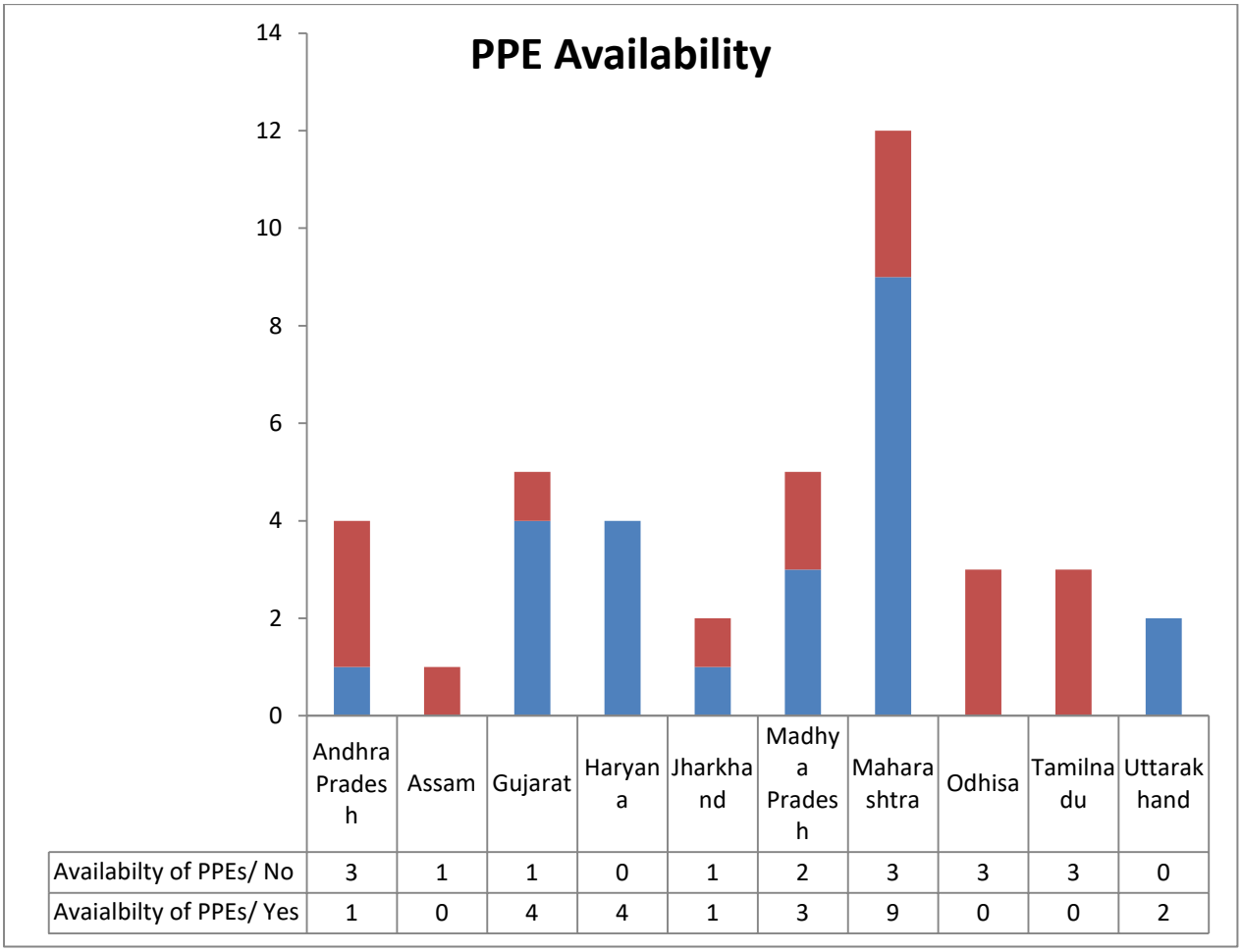
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Storage Areas/No	3	0	1	0	0	2	7	0	2	1
Storage Aresa/ Yes	1	1	4	4	2	3	5	3	1	1

30. Availability of PPEs for hazardous material



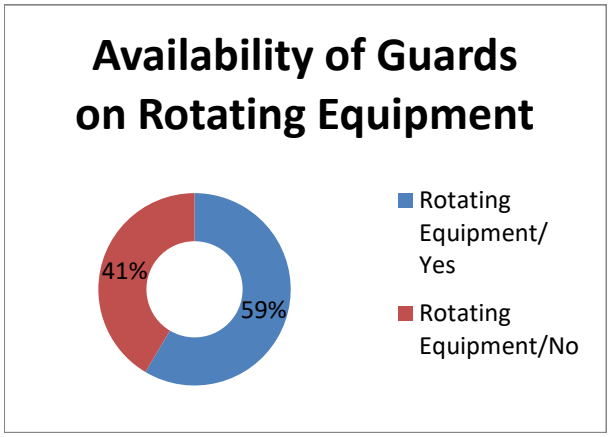
Only 59% of the ITI s have suitable PPEs available.

Only Haryana and Uttarakhand were the only States which had suitable PPEs available in all their ITI s.



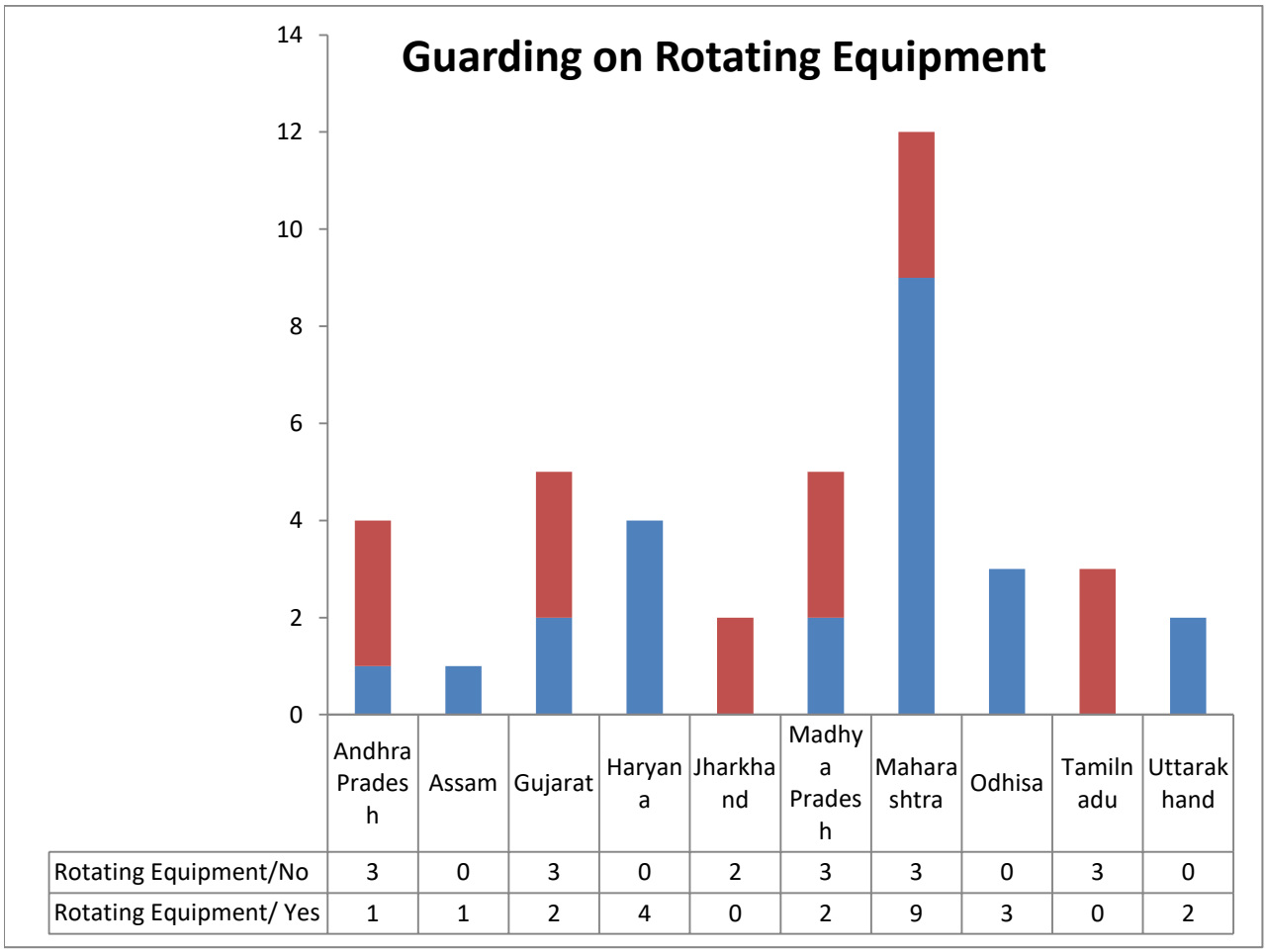
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Availabilty of PPEs/ No	3	1	1	0	1	2	3	3	3	0
Avaialbilty of PPEs/ Yes	1	0	4	4	1	3	9	0	0	2

31. Rotating Equipment



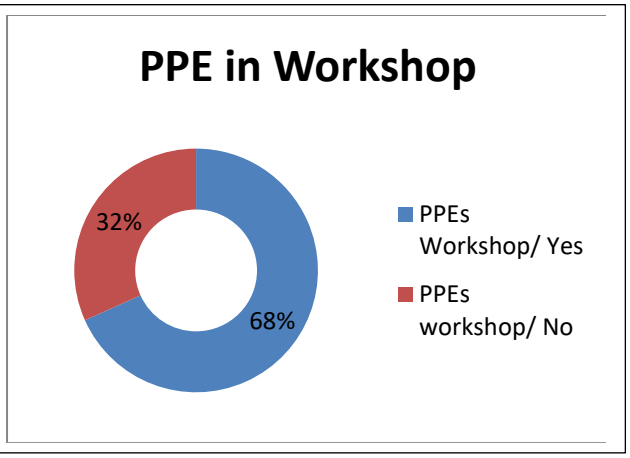
Only 59% of the ITI s had suitable Guards on Rotating Equipments.

Only Jharkhand and TN were the only States which had Guards available on Rotating Equipments in all their ITI s.



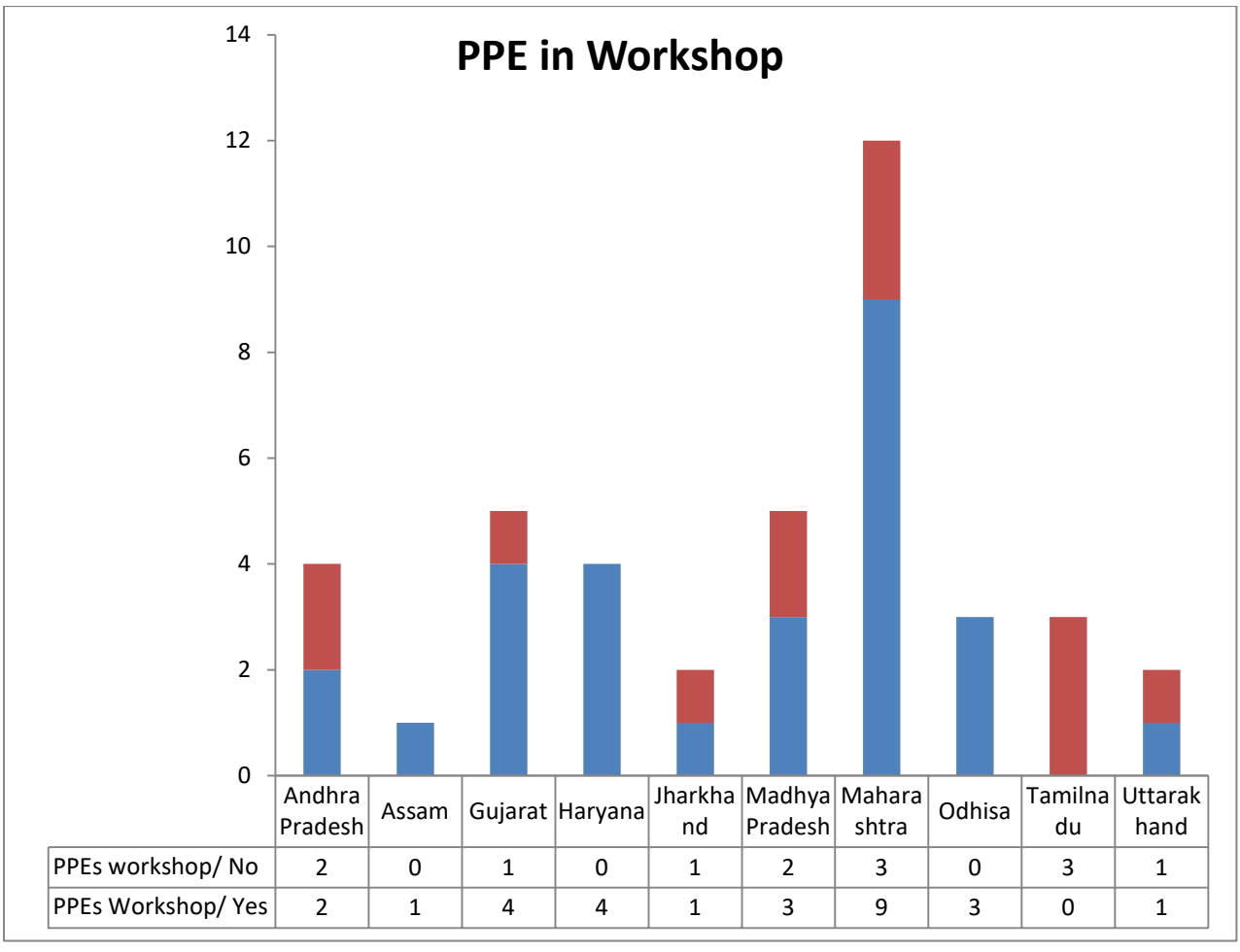
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Rotating Equipment/No	3	0	3	0	2	3	3	0	3	0
Rotating Equipment/ Yes	1	1	2	4	0	2	9	3	0	2

32. PPE in Workshops



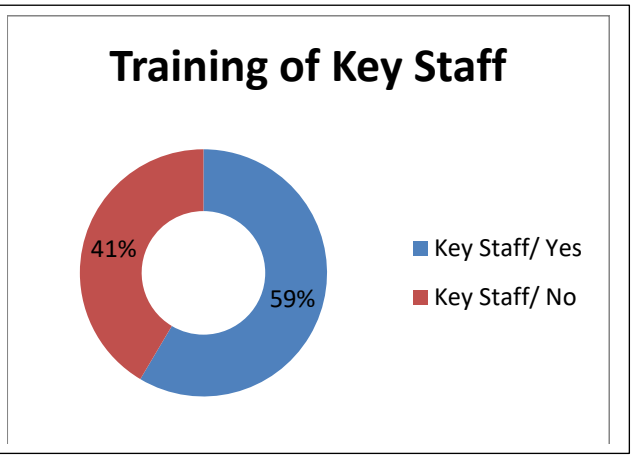
Only 68% of the ITI s use the PPEs in Workshop.

Only Assam, Haryana and Assam are the only States which use suitable PPEs in their Workshops available in all their ITI s.



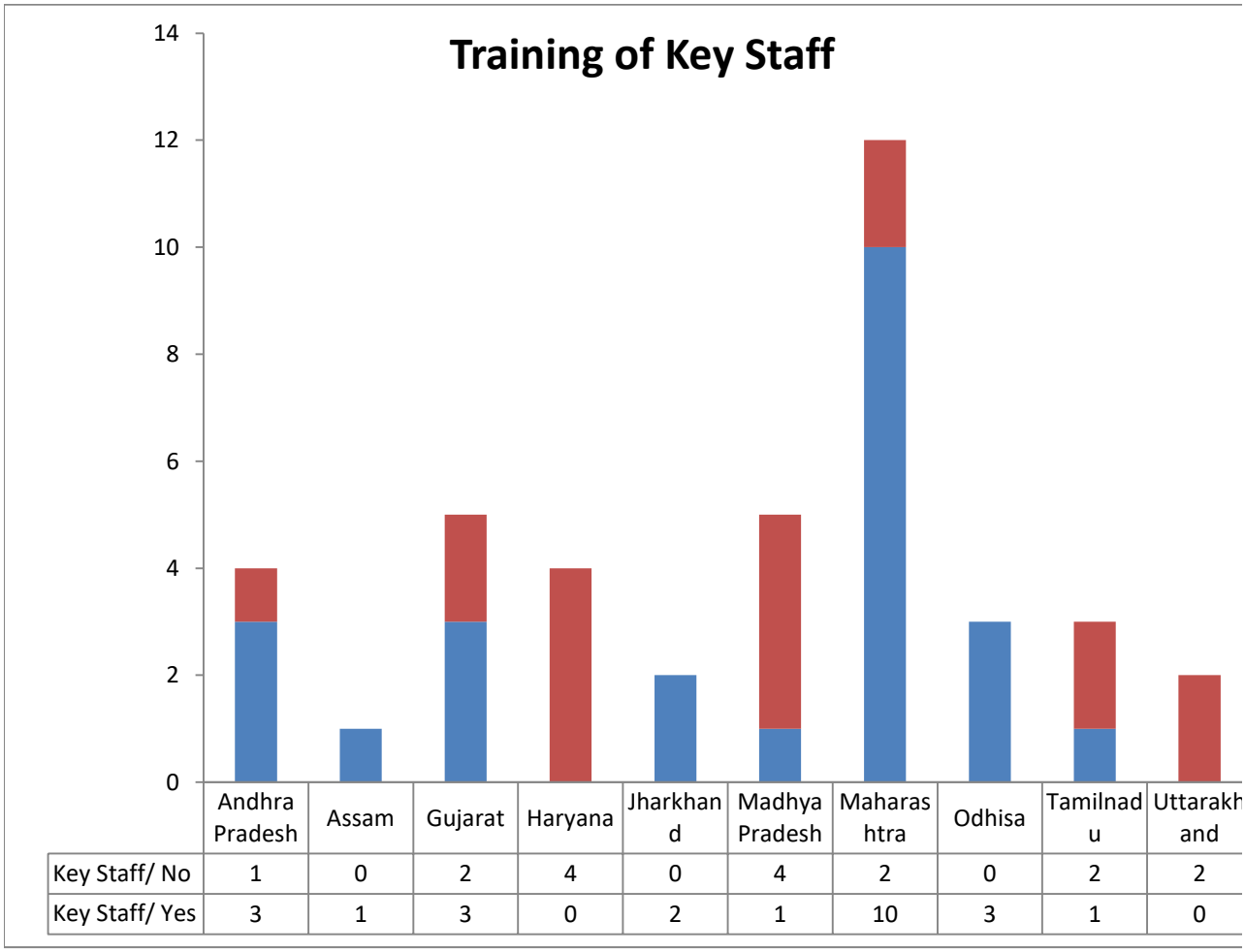
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
PPEs workshop/ No	2	0	1	0	1	2	3	0	3	1
PPEs Workshop/ Yes	2	1	4	4	1	3	9	3	0	1

33. Training of Key Staff on First Aid



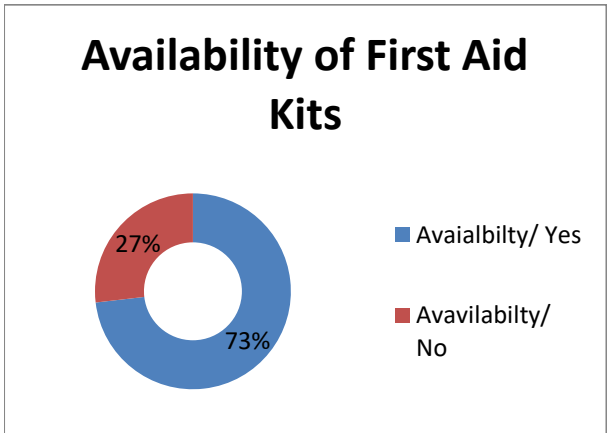
About 41% of the Key Staff were not trained on First Aid.

Only Assam, Jharkhand and Odisha were the only States which had trained Key Staff on First Aid available in all their ITI s.



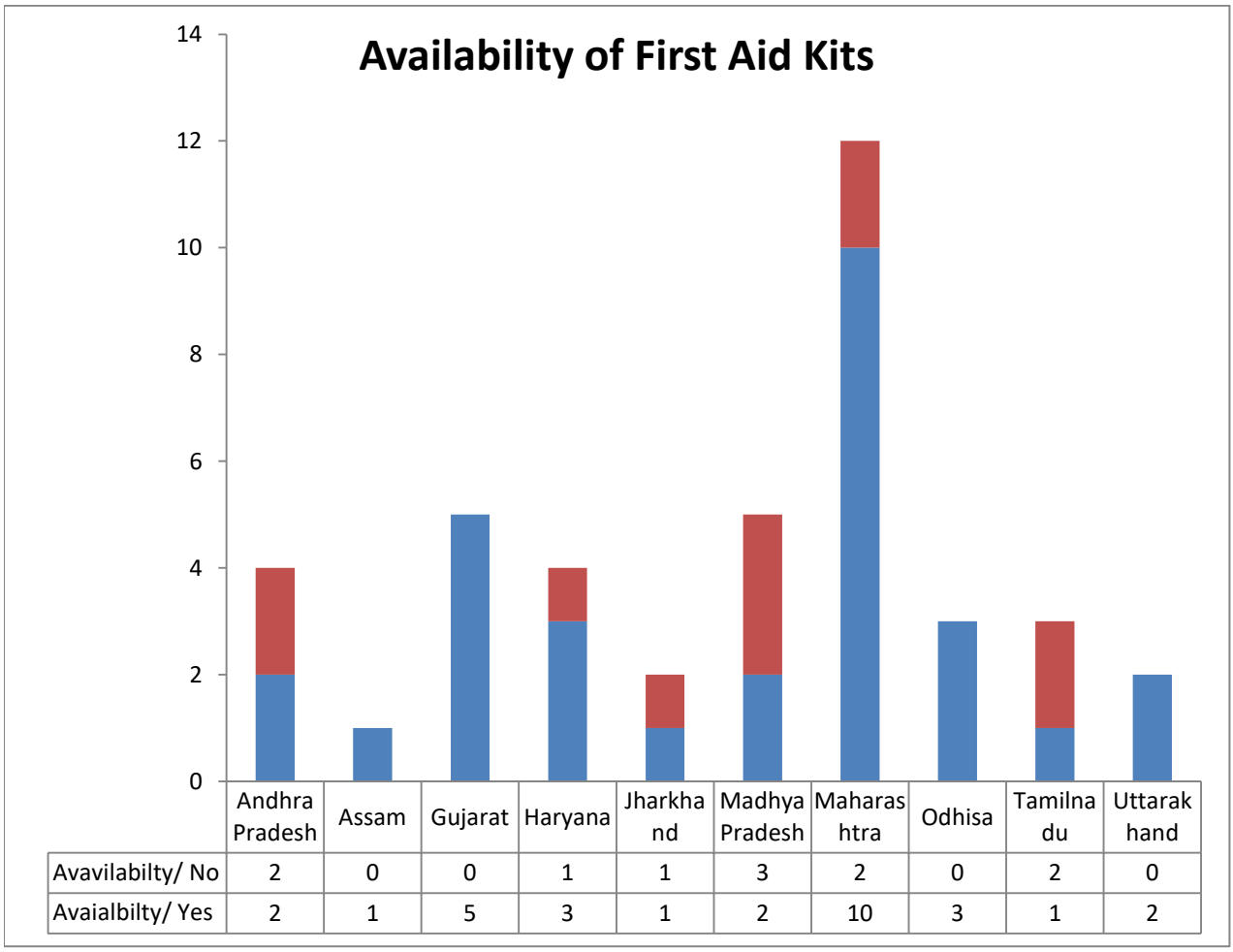
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Key Staff/ No	1	0	2	4	0	4	2	0	2	2
Key Staff/ Yes	3	1	3	0	2	1	10	3	1	0

34. Availability of First Aid Kit



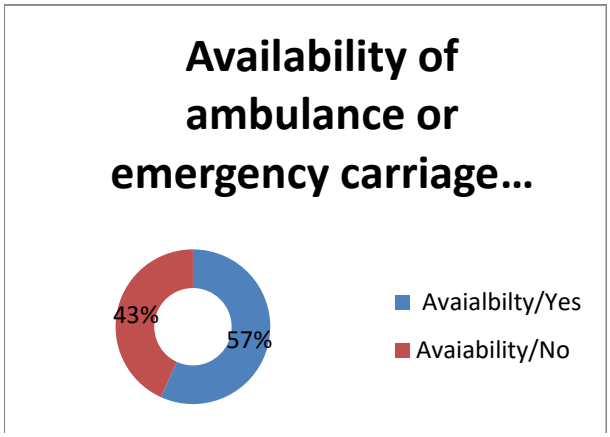
About 27% of the ITI s do not First Aid Kits available with them.

All the ITI s at Assam, Gujarat, Odisha and Uttarakhand have First Aid Boxes available, rest of the States are lacking in some of the ITI s.



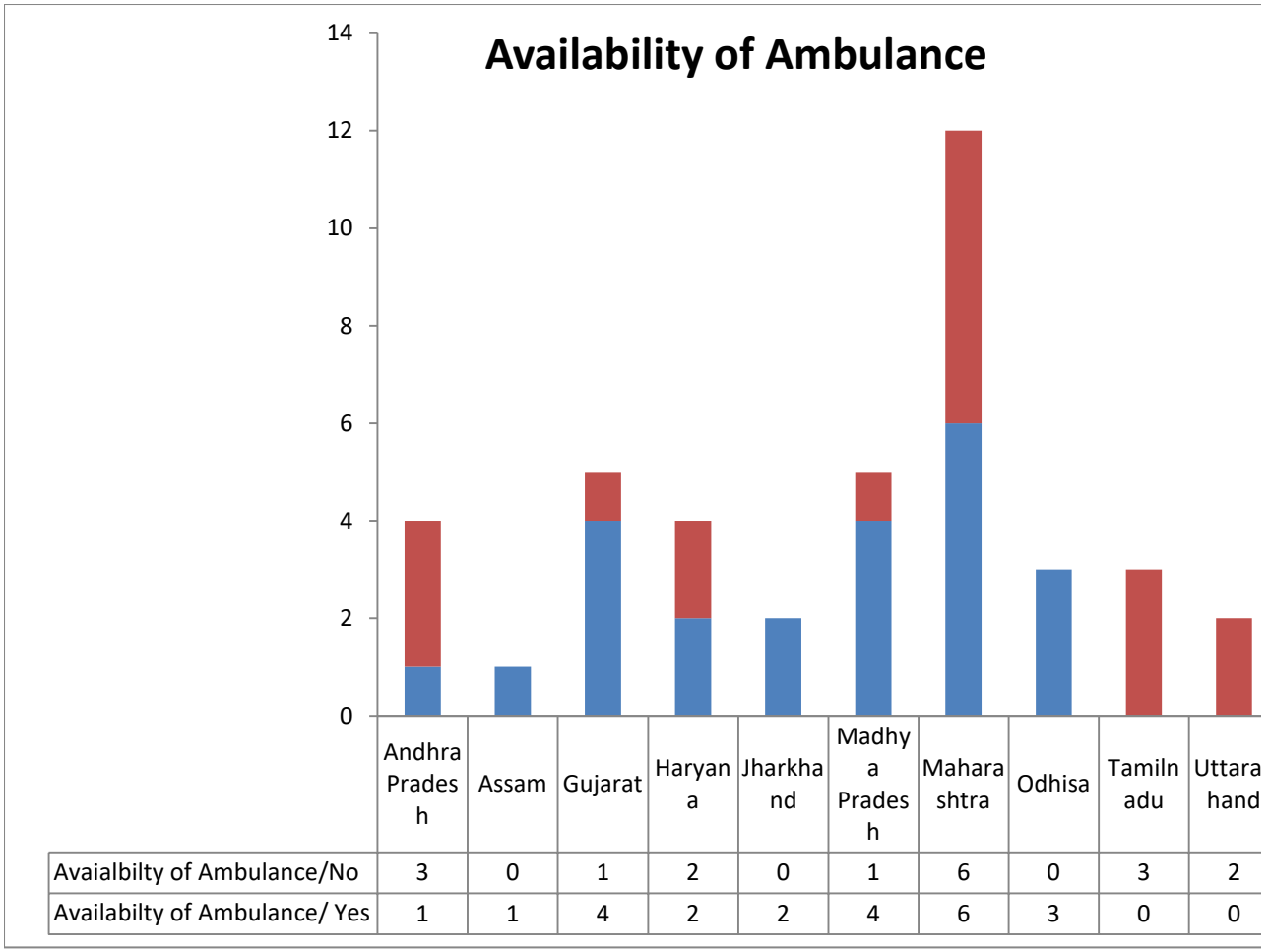
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Avavilabilty/ No	2	0	0	1	1	3	2	0	2	0
Avaialbilty/ Yes	2	1	5	3	1	2	10	3	1	2

35. Availability of Ambulance or Emergency carriage



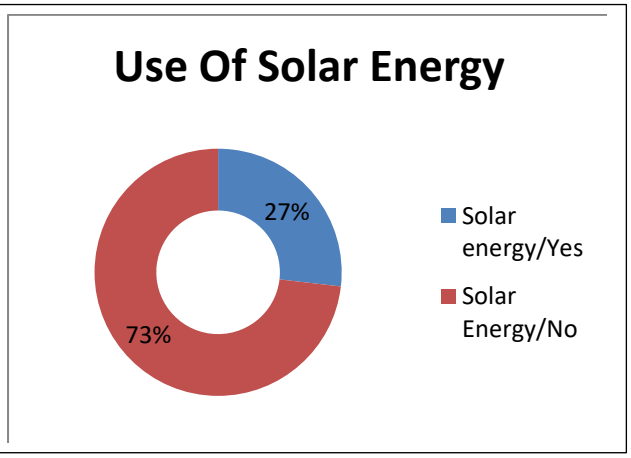
About 43% of the ITI s do not have Ambulance or Emergency carriage Facility on call.

None of the ITI s at TN and Uttarakhand have Ambulance or Emergency Carriage on call Facility available with them.



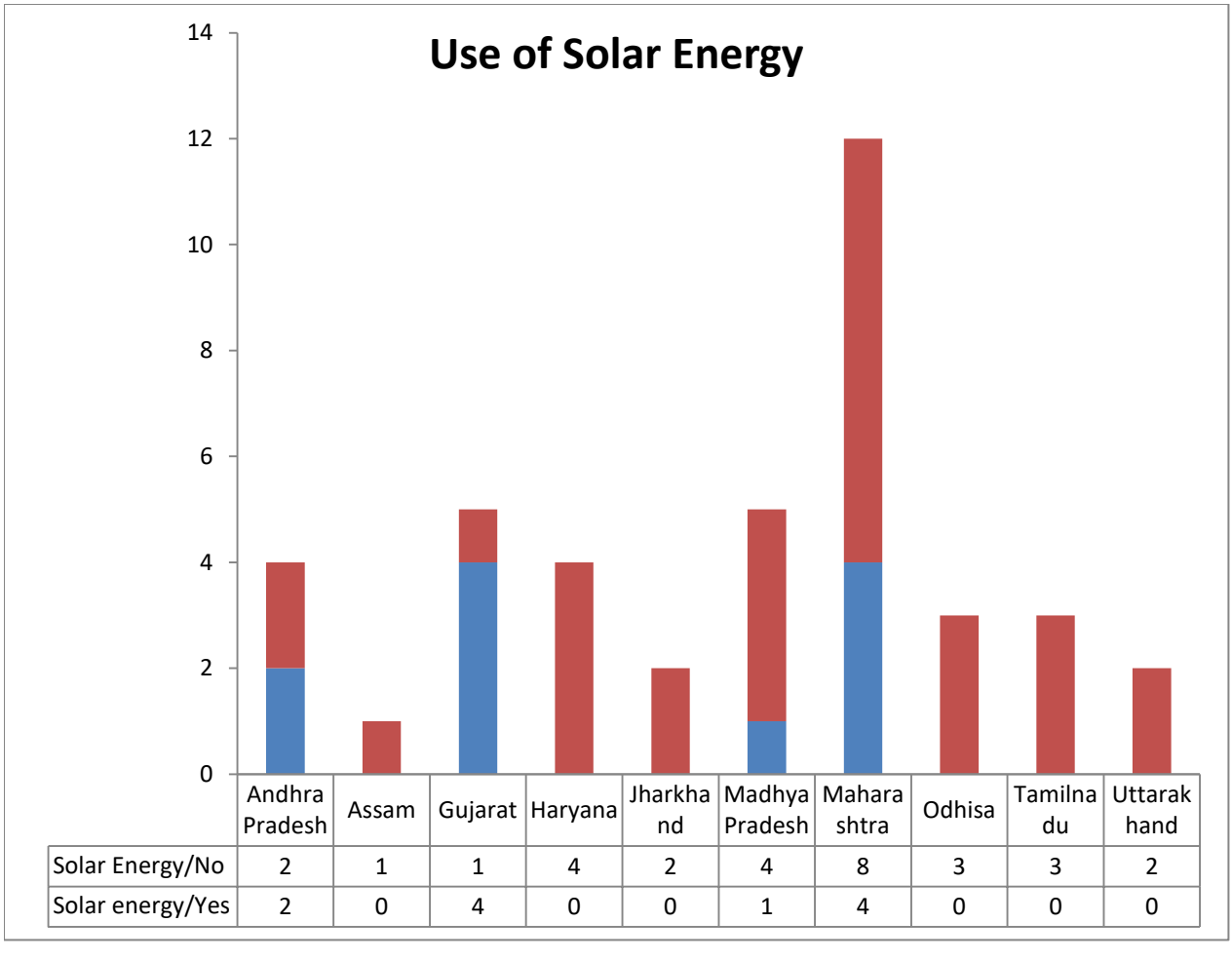
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarahand
Avaialbilty of Ambulance/No	3	0	1	2	0	1	6	0	3	2
Availabilty of Ambulance/ Yes	1	1	4	2	2	4	6	3	0	0

36. Use of Solar Energy



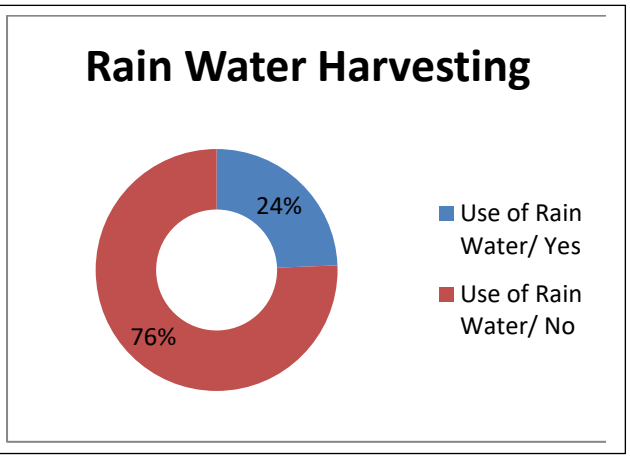
Only 27% of the ITI s are using Solar Energy for generation of Electrical Energy.

Only some of the ITI s of AP, Gujarat, Maharashtra and MP are using Solar Energy for Power generation. Rest other states ITI s do not have such facility.

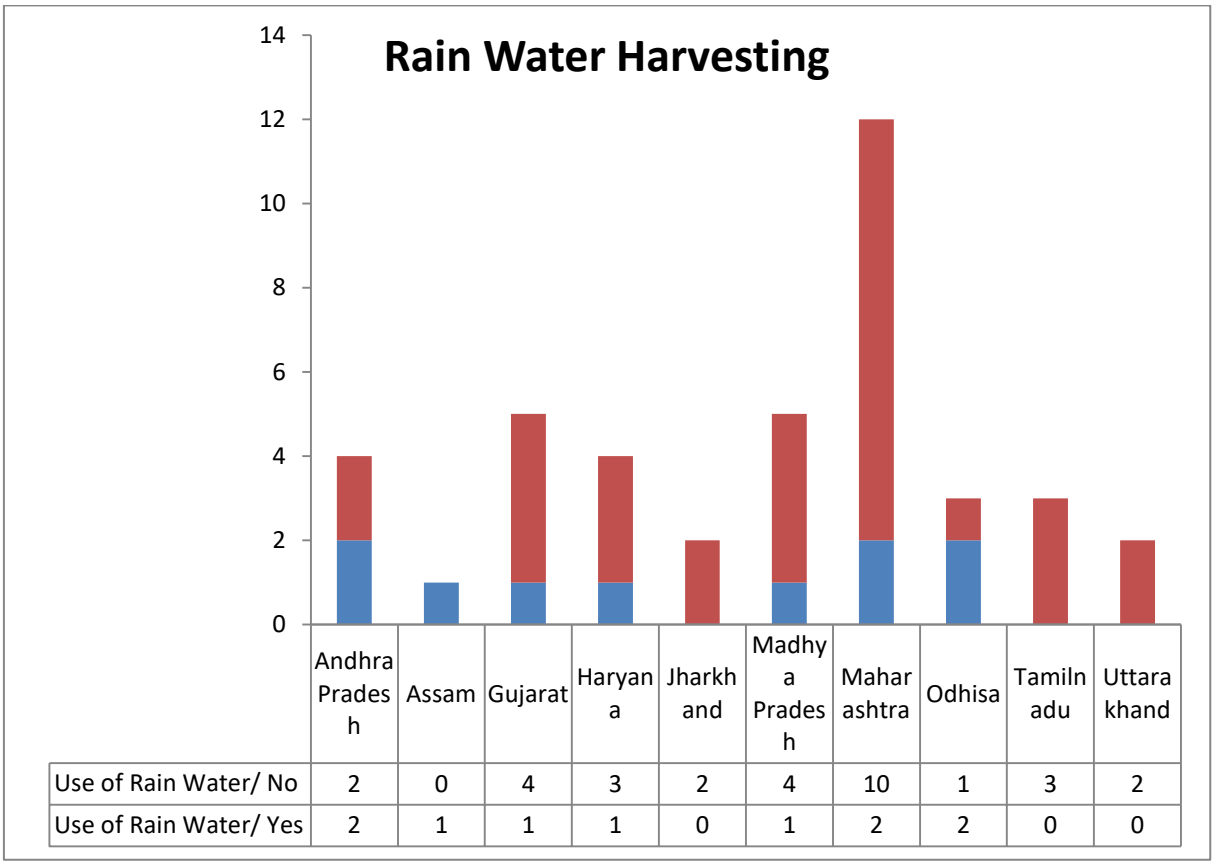


	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Solar Energy/No	2	1	1	4	2	4	8	3	3	2
Solar energy/Yes	2	0	4	0	0	1	4	0	0	0

37. Rain Water Harvesting

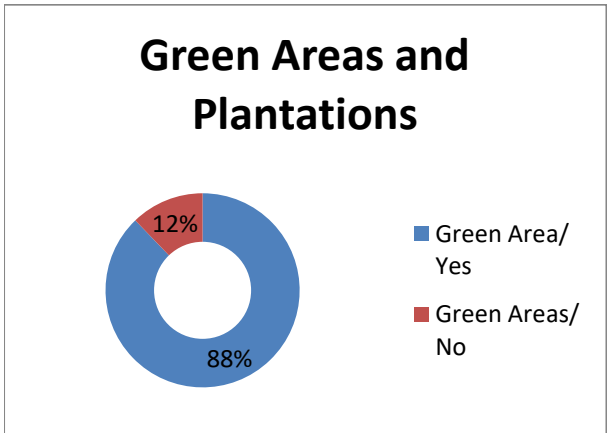


Only 24% of the ITI s are using Rain Water harvesting.



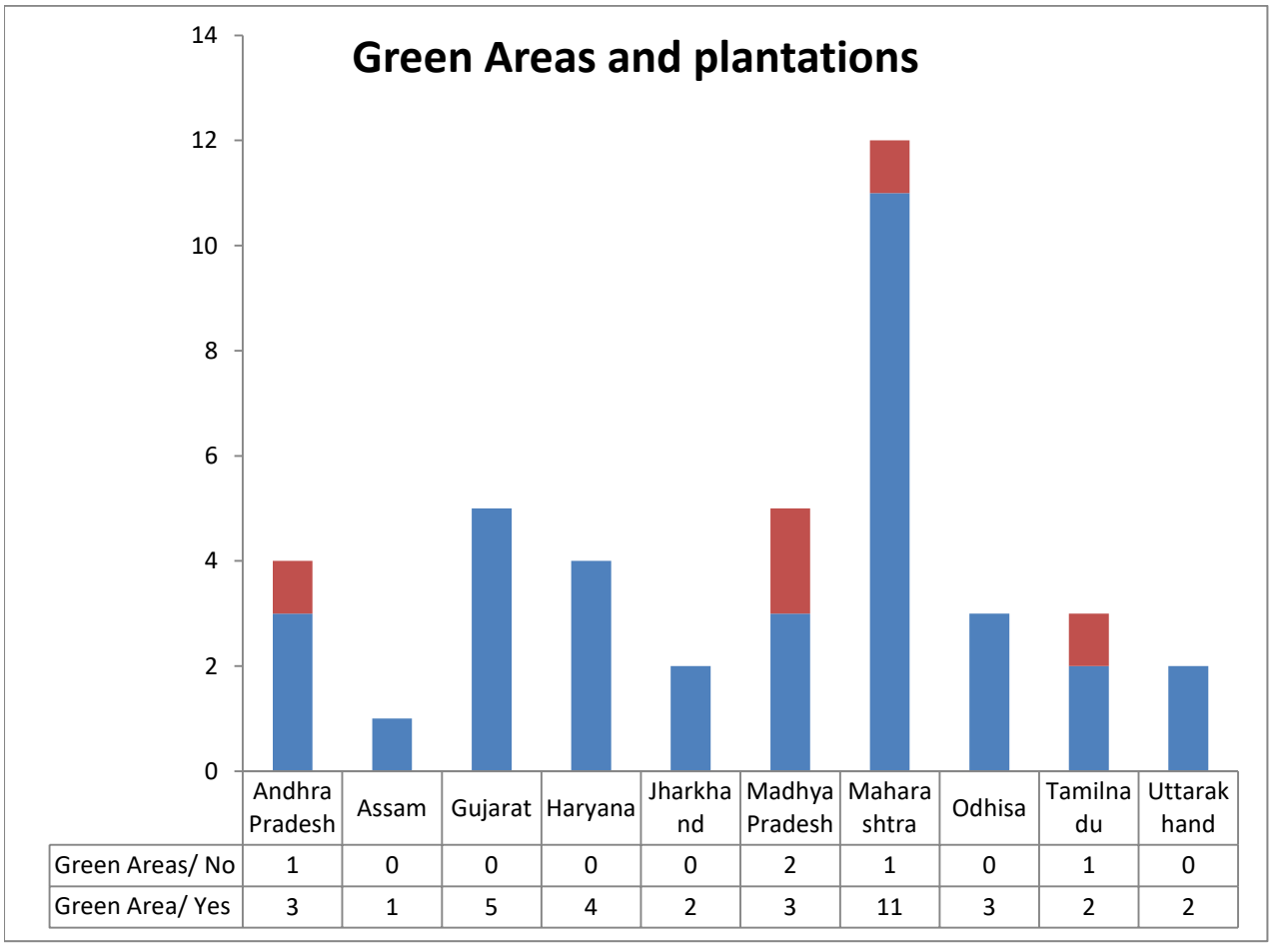
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Use of Rain Water/ No	2	0	4	3	2	4	10	1	3	2
Use of Rain Water/ Yes	2	1	1	1	0	1	2	2	0	0

38. **Green areas and Plantation**



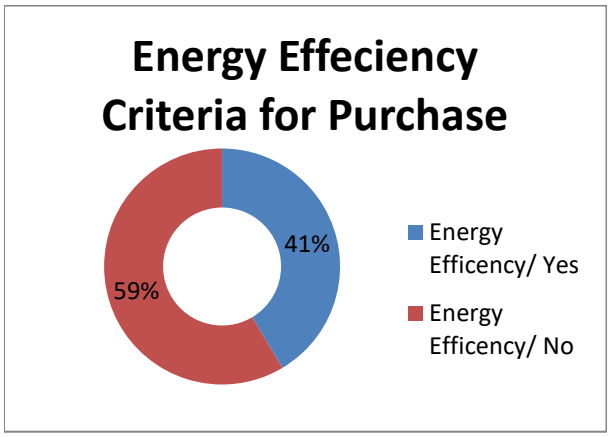
Only 12% of the ITI s do not have Green Areas and plantations within their Premises.

Only some of the ITI s at AP, MP, TN and Maharashtra States do not have Green Areas and Plantations within their premises, rest all States ITI s have.



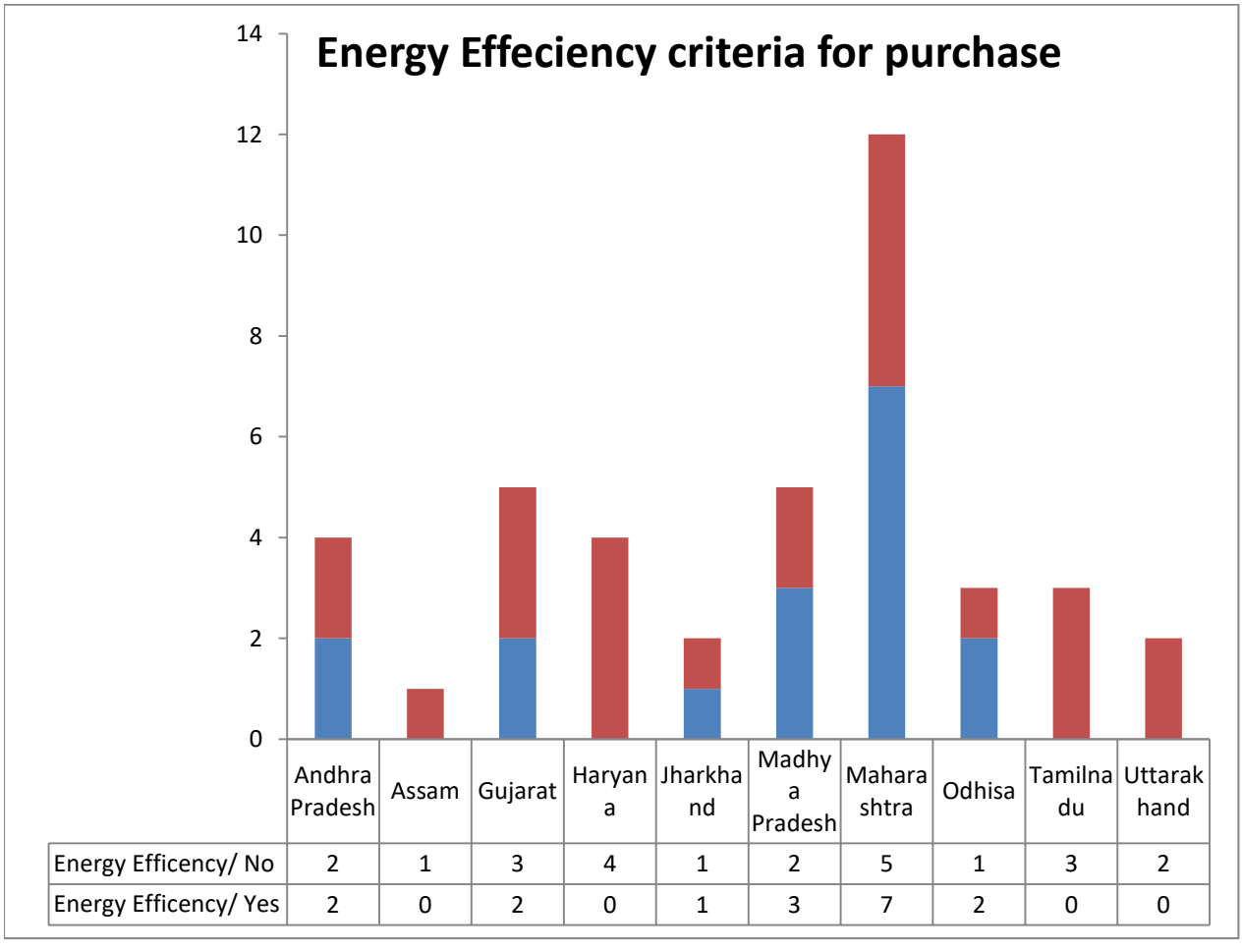
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Green Areas/ No	1	0	0	0	0	2	1	0	1	0
Green Area/ Yes	3	1	5	4	2	3	11	3	2	2

39. Energy Efficiency criteria for purchase of new assets



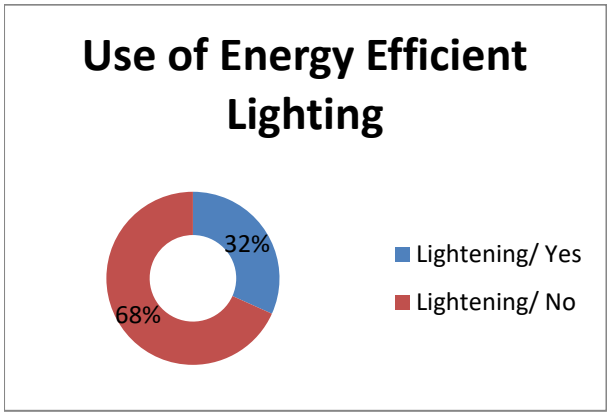
Only 41% of the ITI s use the Criteria of Energy Efficiency for purchase of Electrical Equipments.

None of the ITI s located at Assam, Haryana, TN and Uttarakhand use the Criteria of Energy Efficiency for purchase of Electrical Equipments.



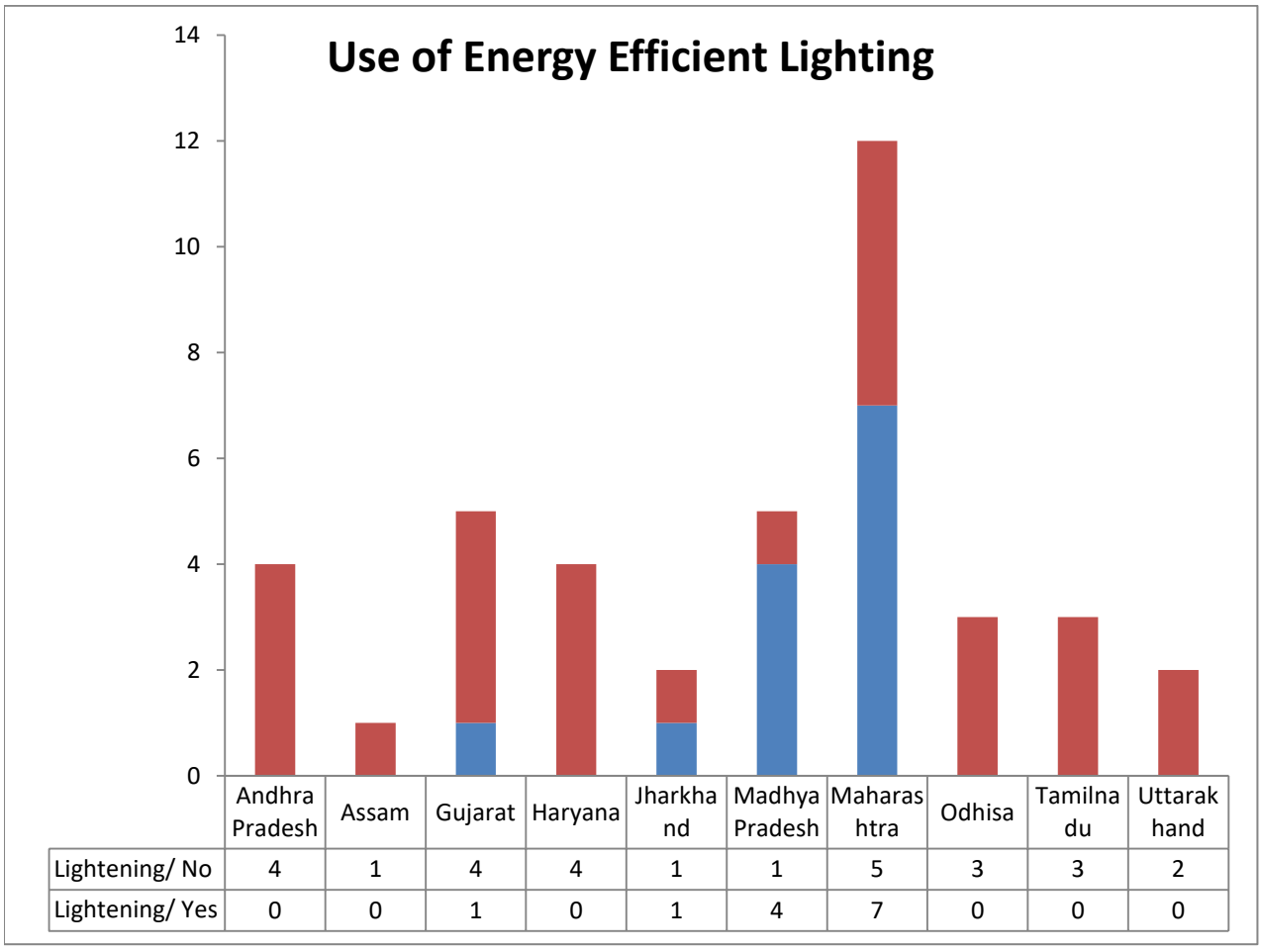
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Energy Efficency/ No	2	1	3	4	1	2	5	1	3	2
Energy Efficency/ Yes	2	0	2	0	1	3	7	2	0	0

40. Energy Efficient Lightening



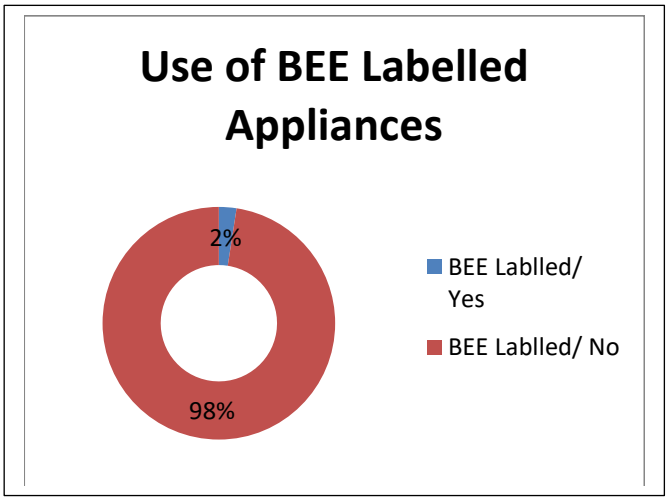
Only 32% of the ITI s are using Energy Efficient Lighting within their Premises.

Only some of the ITI s located at Gujarat, Jharkhand, MP and Maharashtra are using Energy Efficient Lighting.



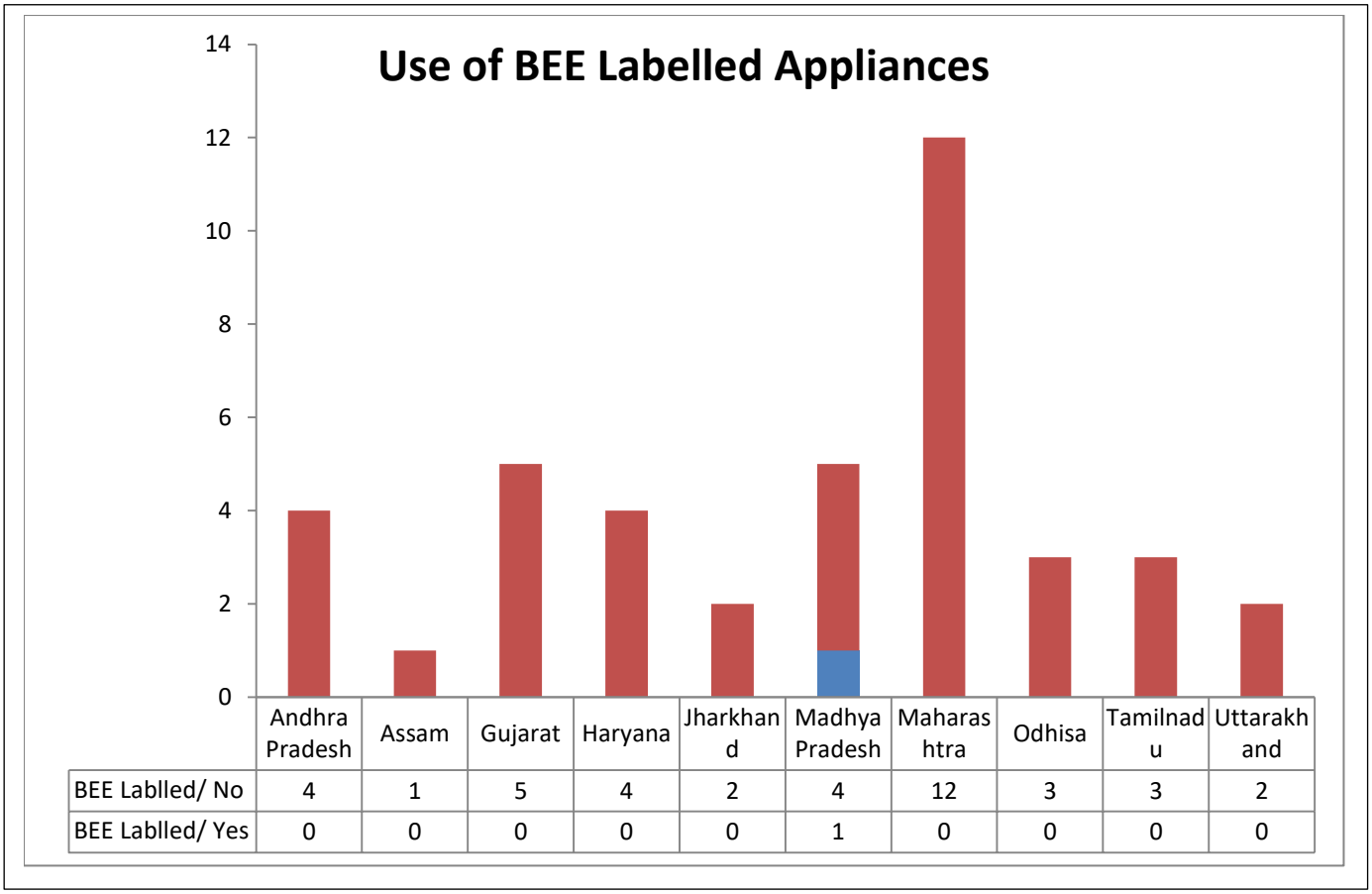
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Lightening/ No	4	1	4	4	1	1	5	3	3	2
Lightening/ Yes	0	0	1	0	1	4	7	0	0	0

41. BEE Labelled electrical equipments



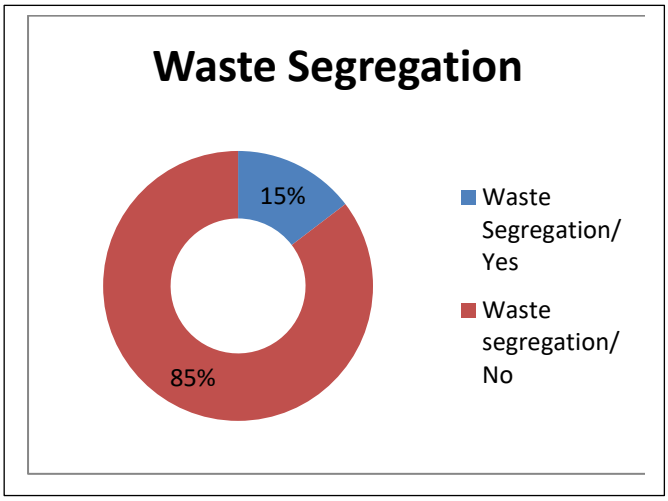
Only 2% of the ITI s are using BEE labelled Appliances in their premises.

Only 01 ITI of MP is using BEE Labelled Appliances, rest none.



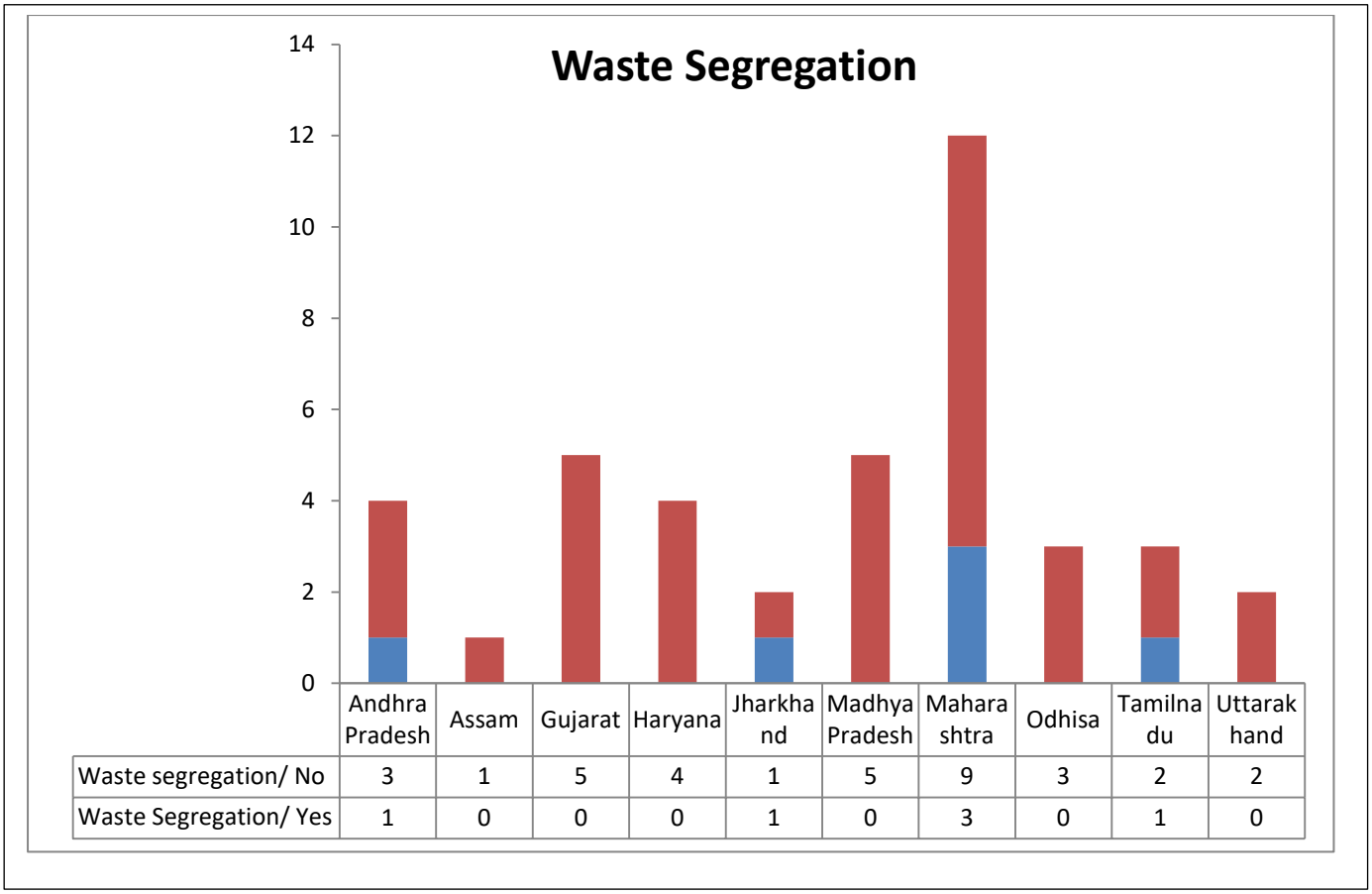
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
BEE Lablled/ No	4	1	5	4	2	4	12	3	3	2
BEE Lablled/ Yes	0	0	0	0	0	1	0	0	0	0

42. Waste Segregation



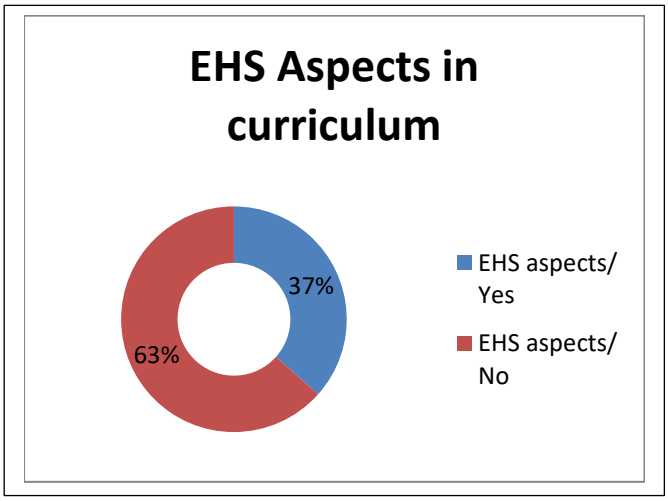
Only 15% of the ITI s are segregating Solid and Liquid Waste.

Only 03 ITI s at Maharashtra and 01 each at TN, AP and Jharkhand are segregating Solid and Liquid Waste, rest none.



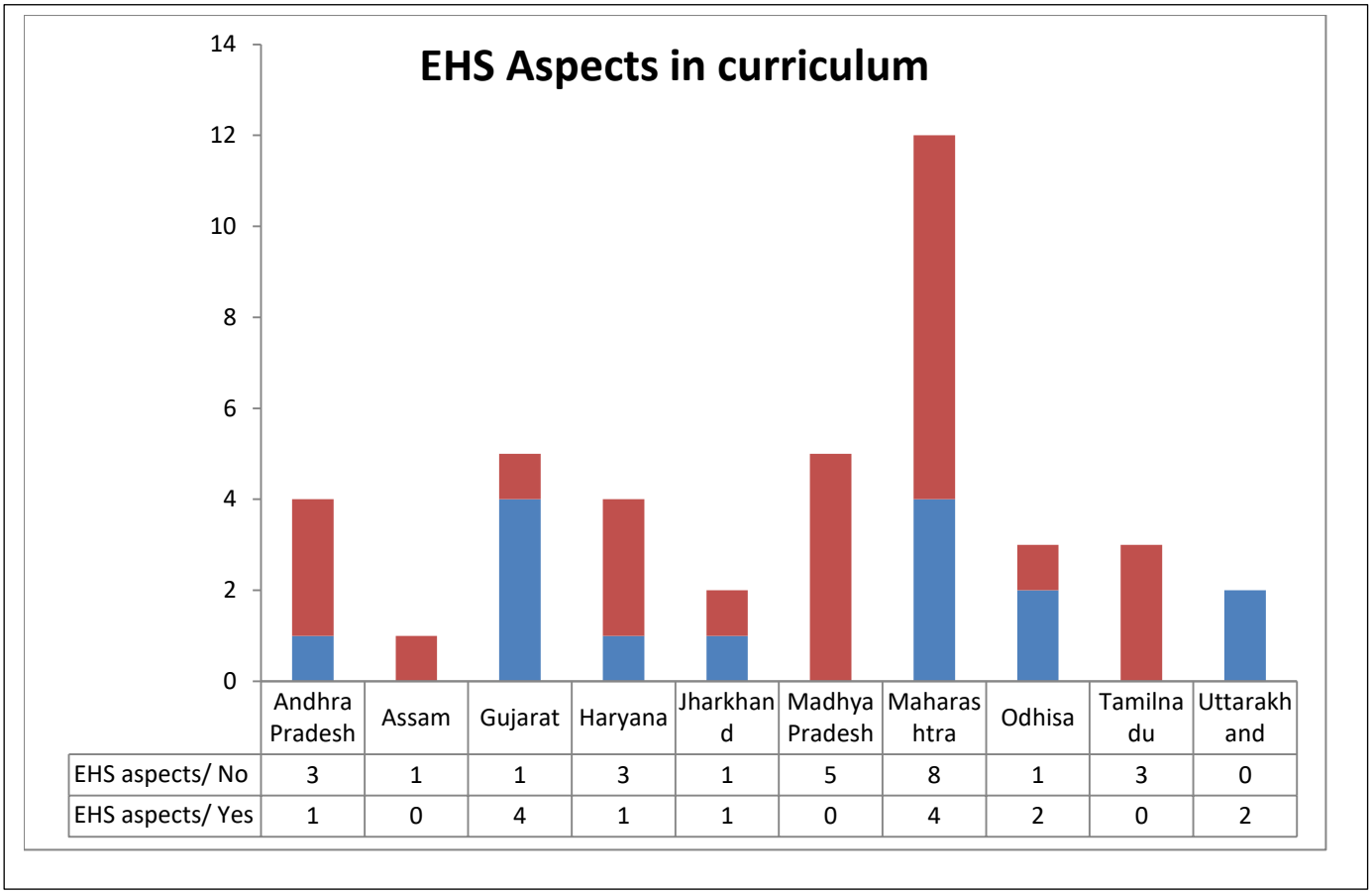
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Waste segregation/ No	3	1	5	4	1	5	9	3	2	2
Waste Segregation/ Yes	1	0	0	0	1	0	3	0	1	0

43. EHS aspects in curriculum



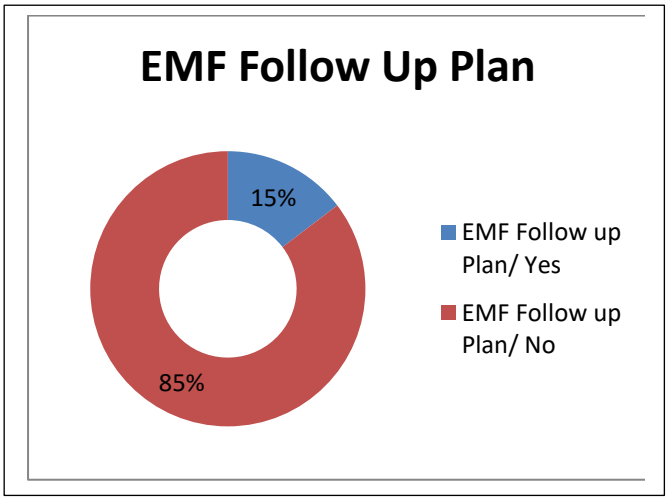
Only 37% of the ITI s have included EHS Aspects in their curriculum.

None of the ITI s located at Assam, MP and TN have included EHS Aspects in their curriculum.



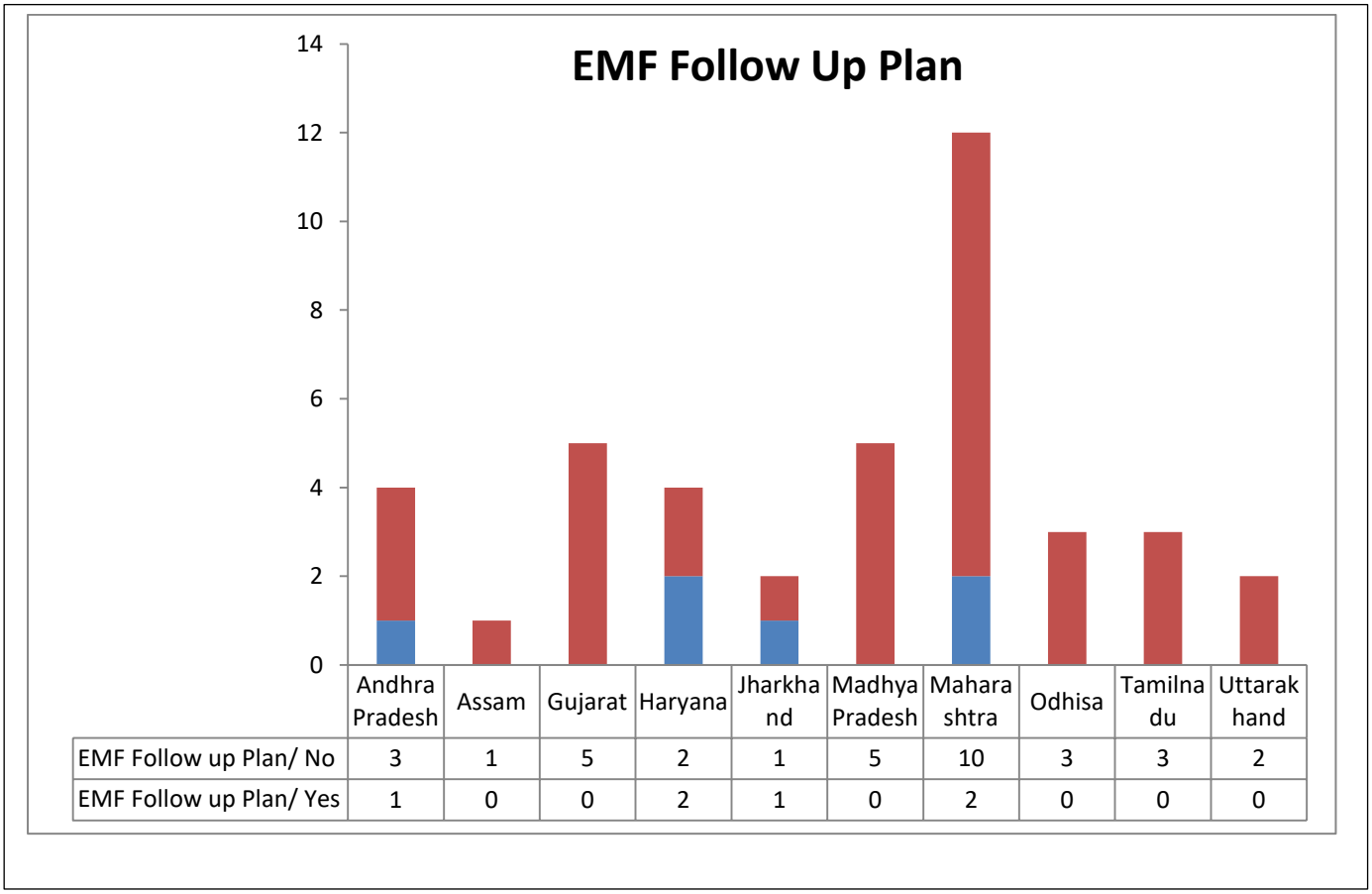
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
EHS aspects/ No	3	1	1	3	1	5	8	1	3	0
EHS aspects/ Yes	1	0	4	1	1	0	4	2	0	2

44. EMF Follow up Plan



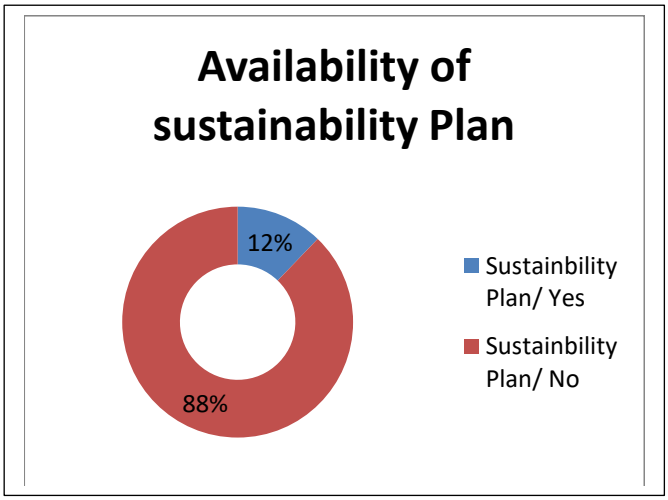
Only 15% of the ITI s had an EMF Follow-up plan during the Project execution stage.

Only 02 ITI s at Maharashtra and Haryana and 01 each at AP and Jharkhand had EMF Follow-up plan during the Project execution stage.



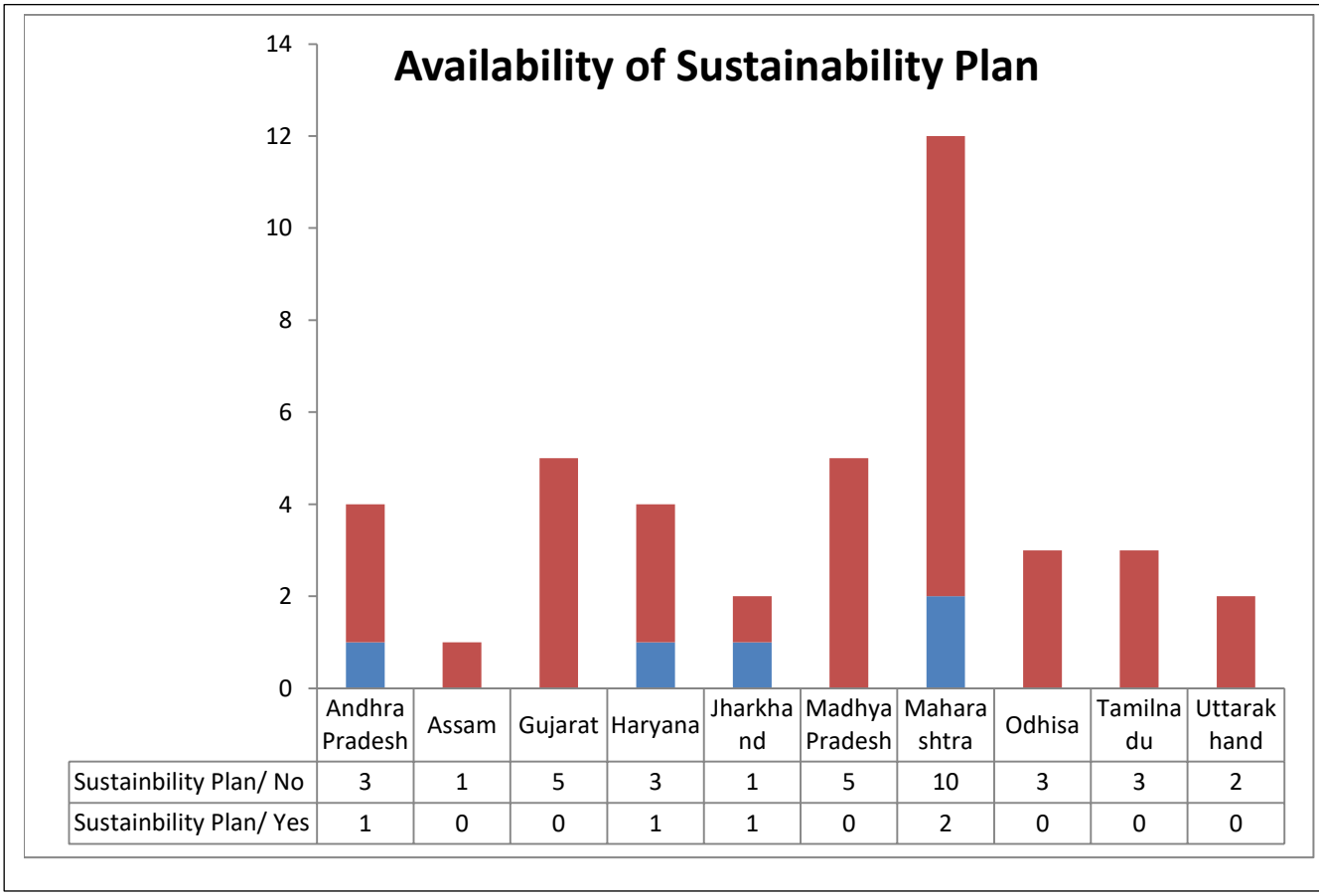
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
EMF Follow up Plan/ No	3	1	5	2	1	5	10	3	3	2
EMF Follow up Plan/ Yes	1	0	0	2	1	0	2	0	0	0

45. Availability of sustainability Plan



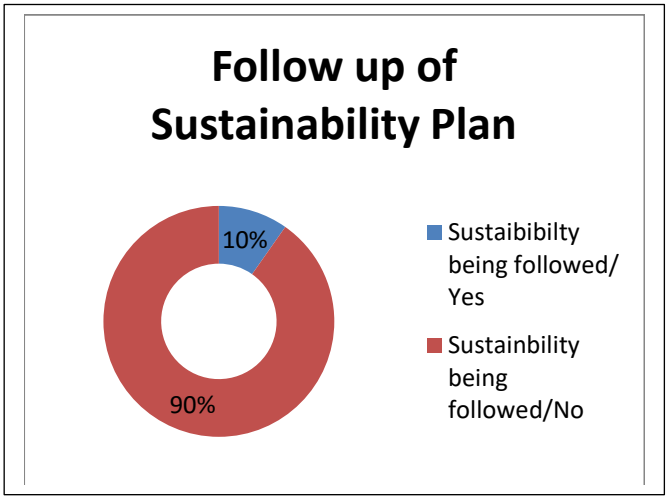
Only 12% of the ITI s have Sustainability plan available with them.

Only 02 ITI s at Maharashtra and 01 each at AP, Haryana and Jharkhand have Sustainability plan available, rest none.

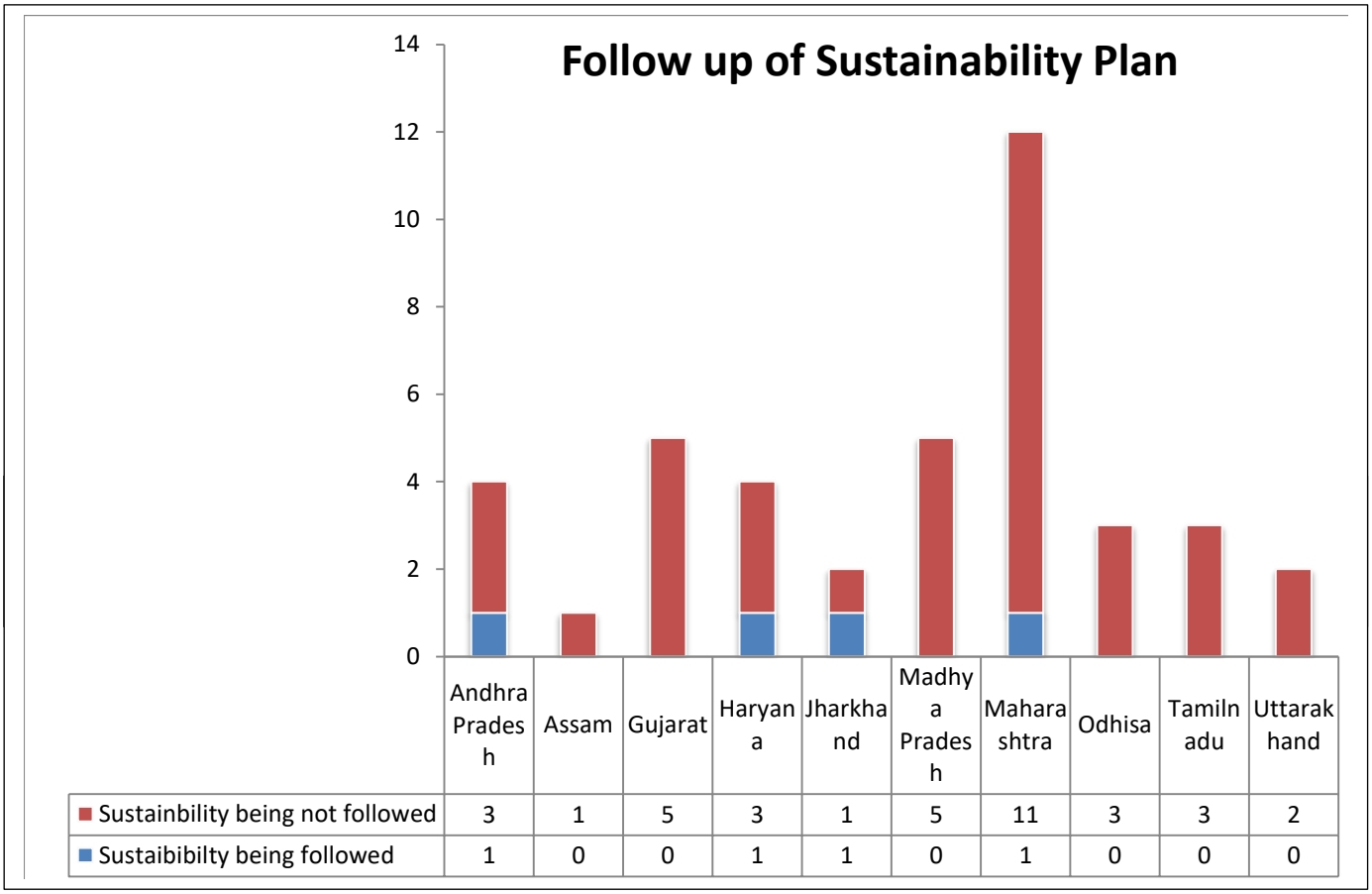


	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Sustainbility Plan/ No	3	1	5	3	1	5	10	3	3	2
Sustainbility Plan/ Yes	1	0	0	1	1	0	2	0	0	0

46. Follow-up of Sustainability Plan



Only 10% of the ITI s follow their Sustainability Plan.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
Sustainbility being not followed	3	1	5	3	1	5	11	3	3	2
Sustaibibilty being followed	1	0	0	1	1	0	1	0	0	0

Highlights: Environment Management framework Review

1. 54% of the ITIs have accessibility to water supply from urban local body or municipality. 61% of the sampled ITIs have also access to ground water for usage. None of the ITI have natural source to be used as primary or secondary means of water supply.
2. 76% of the sampled ITIs have facility to clean the drinking water for all the users including trainees.
3. 76% of the ITIs have an organised method of sanitation and disposal.
4. Only 12% of ITIs have dedicated effluent treatment plants built with-in the institute premises.
5. 49% of the ITIs doesn't have proper rain water drainage system constructed with-in the premises.
6. 15% of the ITIs don't have sufficient garbage bins to collect all the solid waste generated with-in the premises.
7. 78% of the ITIs use local body facilities for the disposal of solid waste whereas 22% of the ITIs have tied up with private operators for waste disposal.
8. 73% of the ITIs rely on internal source while external power supply is not available.
9. All the ITIs have reported to have external power supply from state electricity boards, however dependency on such arrangement varies across the geographies.
10. 95% of the sampled ITIS have separate toilets for girl students.
11. Newly constructed blocks are well lit naturally and have efficient natural ventilation. New buildings are also found to be neat and clean in 95% of the ITIs.

12. 85% of the Itis have sufficient number of fire extinguishers installed with-in the institute.
13. 78% of the ITIs have also made the provision for fire buckets at relevant locations.
14. Only 29% of the ITIs conduct fire drills for key personnel.
15. 71% of the electrical equipments are found to be earthed.
16. 44% of the electrical equipments are under breakdown maintenance only.
17. 7% of the ITIs under survey don't have proper and safe installation of three phase termination boxes.
18. 80% of the ITIs have been found to have good maintenance of in-house transformer.
19. About 25% of the ITIs don't have lightening arrestor installed on new buildings.
20. 29% of the sampled ITIS doesn't have walkways or ramps built for the ease of differently abed users.
21. 61% of the ITIs have sufficient storage facilities for hazardous material.
22. 41% of the ITIs don't have installed guards on rotating equipments and 32% of ITIs have been found to have in sufficient number of PPEs to handle the hazardous materials.
23. Only 51% of the ITIs have trained key personnel on first aid, and first aid kits are not available in 27% of the ITIs. Moreover, 43% of the ITIs don't have availability of emergency carriage.
24. Only 23% ITIs have installed solar energy systems. 24% of the ITIs use rain water harvesting. It is found the 59% of ITIs doesn't have any set criteria for purchase of energy efficient equipments.
25. Waste segregation is only done in 15% of the ITIs.
26. EHS aspects of the jobs are not included in 63% of the ITIs.
27. More than 85% of the ITIs doesn't have sustainability plan and doesn't adhere to EMF follow up plan

Physical Verification of Assets

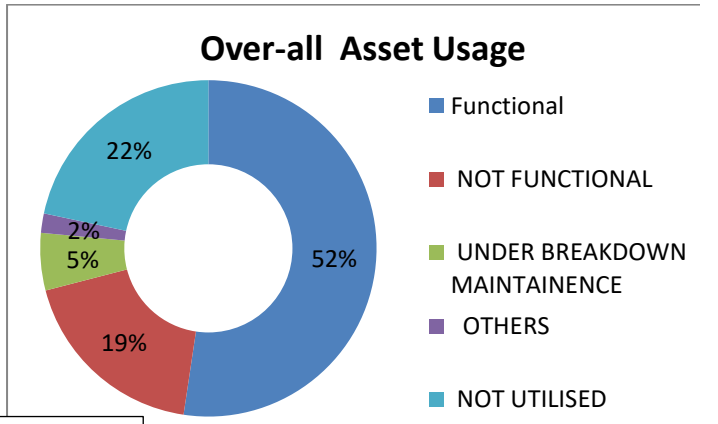
The Assessment was carried out for each of the items having cost price to be equal to or more than Rs. 25,000/-- against the following parameters:

A. Name of the Asset along with Quantity, Location and Unit Rate,
B. Current status of the Equipment(Un-utilized/Sealed/Packed),
C. Current use of the equipment with respect to:
    1. Name of COE/CTS Course,
    2. Trade Name/Office/Admin use,
D. Functional Status of the Equipment,
E. Quality/Effectiveness of Training provided by the Vendor,
F. Maintenance Records along with Breakdowns(if any) being maintained,
G. Availability of resources for smooth functioning of Equipment,
H. Equipments Safety concerns if any and
I. Whether Insured or not.

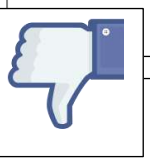
Physical Verification of Assets

1. **Equipment Functionality**

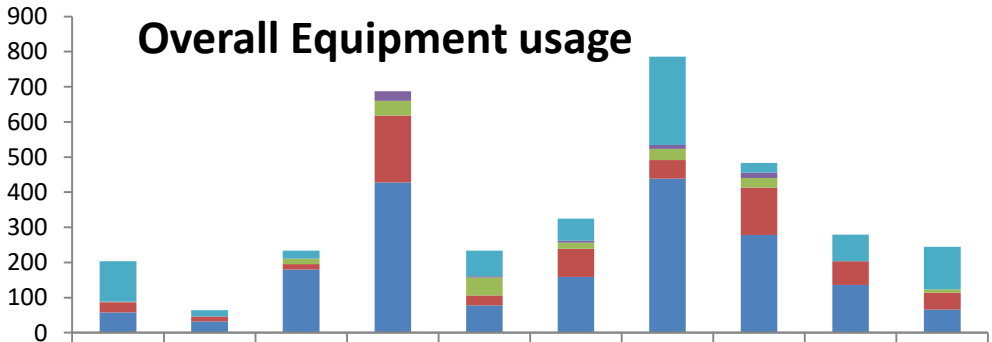
The overall functionality of equipments is mentioned below



Assets were verified during the survey for functionality. Key personnel/Instructors were asked to operate the equipment. Out of 3541 total assets under the survey, it was found that 52% assets are functional while 19% are recorded to be non-functional i.e. in non-working condition. A large percentage of 22% of the assets under review is found to be not utilised

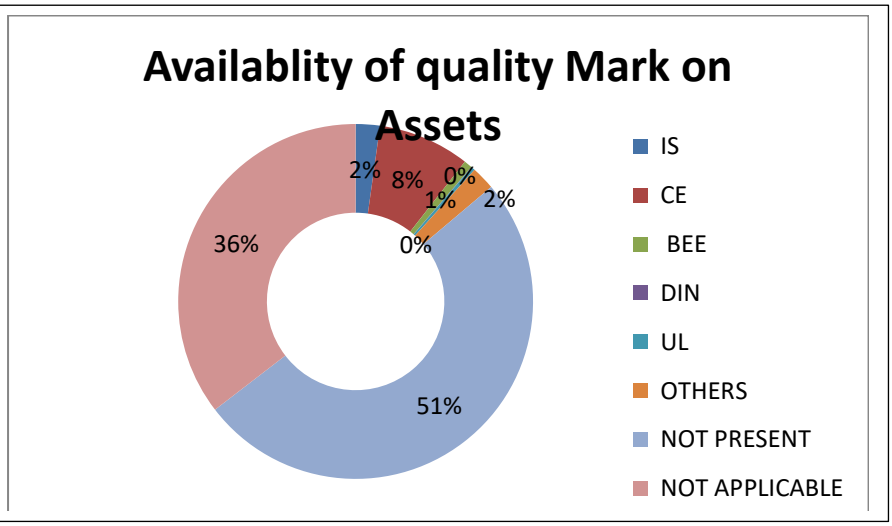


1. A large part of equipment in the states of Maharashtra, Andhra and Uttarakhand are found to be not utilised. Most of these assets are small in size thus not installed in the workshops/labs.
2. Out of 367, 106 assets in Govt ITI Hisser, Haryana are found to be not functional.
3. Out of 179, 98 assets are found to be non-functional in Govt ITI Bolangir, Odisha.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
NOT UTILISED	115	17	23	0	73	63	252	27	75	122
OTHERS	1	1	0	27	4	6	11	16	0	0
UNDER BREAKDOWN MAINTAINENCE	1	0	16	42	51	17	32	27	0	9
NOT FUNCTIONAL	29	14	15	190	28	80	52	135	68	48
Function	58	32	180	428	78	159	439	278	136	66

2. Quality Mark



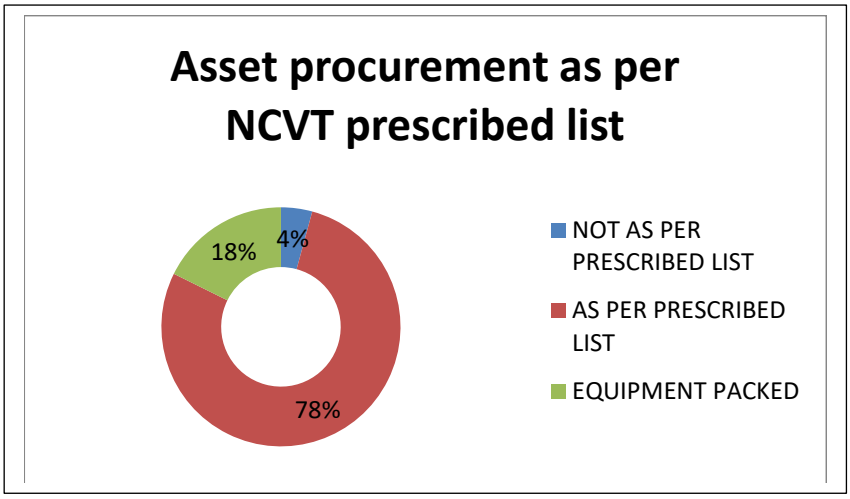
Recommendation:

Procurement strategy should include the relevant product quality mark wherever possible to insure adherence to quality standards, user safety and environmental norms.

Maximum number of equipment procured from the local fabricators doesn't comply to product quality standards including, transformers, trainer kits, welding m/c . However electronics equipment including computers, printers is certified equipment as per govt. norms.

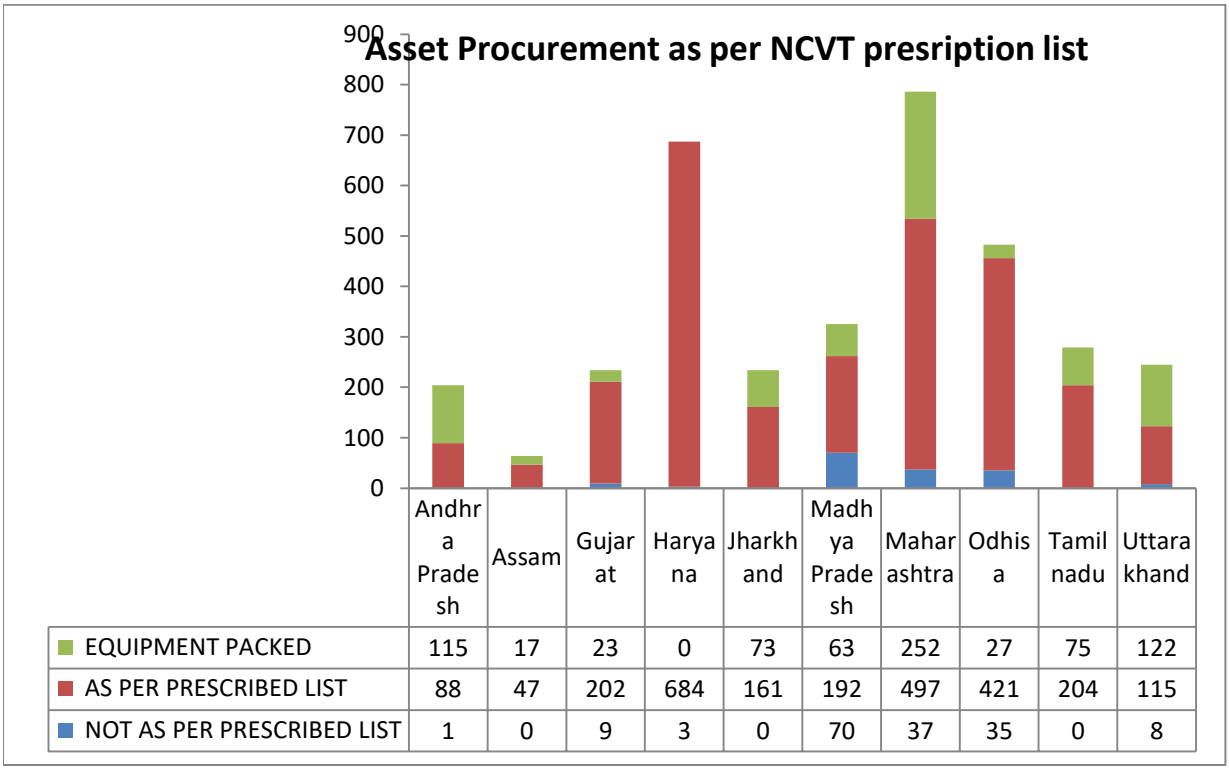
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Total	Uttarakhand
NOT APPLICABLE	117	17	78	285	73	69	320	49	75	1204	172
NOT PRESENT	78	31	85	379	79	217	403	254	198	1988	72
OTHERS	0	0	40	15	3	11	2	5	0	80	0
UL	0	0	0	0	0	1	0	11	0	12	0
DIN	0	0	0	0	0	0	0	1	0	1	0
BEE	0	0	0	2	9	0	0	16	0	27	0
CE	0	16	18	6	70	7	52	121	5	317	1
IS	9	0	13	0	0	20	9	26	1	0	0

3. Asset procurement as per NCVT prescribed list



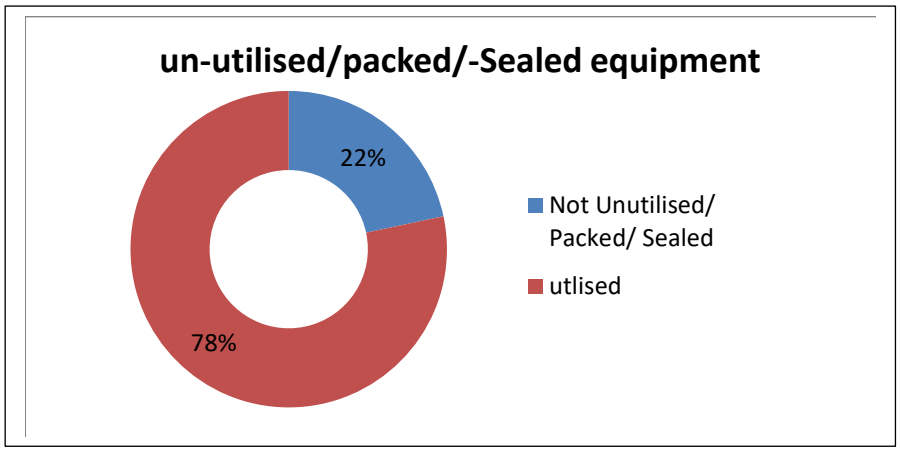
78% of the Equipment procured is as per the prescribed list by NCVT. In certain cases, surveyors couldn't ascertain the compliance to NCVT requirements due to sealed equipment

1. Haryana ITIs have demonstrated a strict compliance to NCVT requirements on assets and only 3 assets were found to be not in-line with NCVT requirements in Govt ITI Hisar.
2. In Govt ITI Baihar, MP, 70 assets are found to be non-compliant to NCVT requirements.
3. IN Govt ITI Bhubaneshwar 35 assets are found to be non-complying to NCVT requirements.



	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odisha	Tamil nadu	Uttarakhand
EQUIPMENT PACKED	115	17	23	0	73	63	252	27	75	122
AS PER PRESCRIBED LIST	88	47	202	684	161	192	497	421	204	115
NOT AS PER PRESCRIBED LIST	1	0	9	3	0	70	37	35	0	8

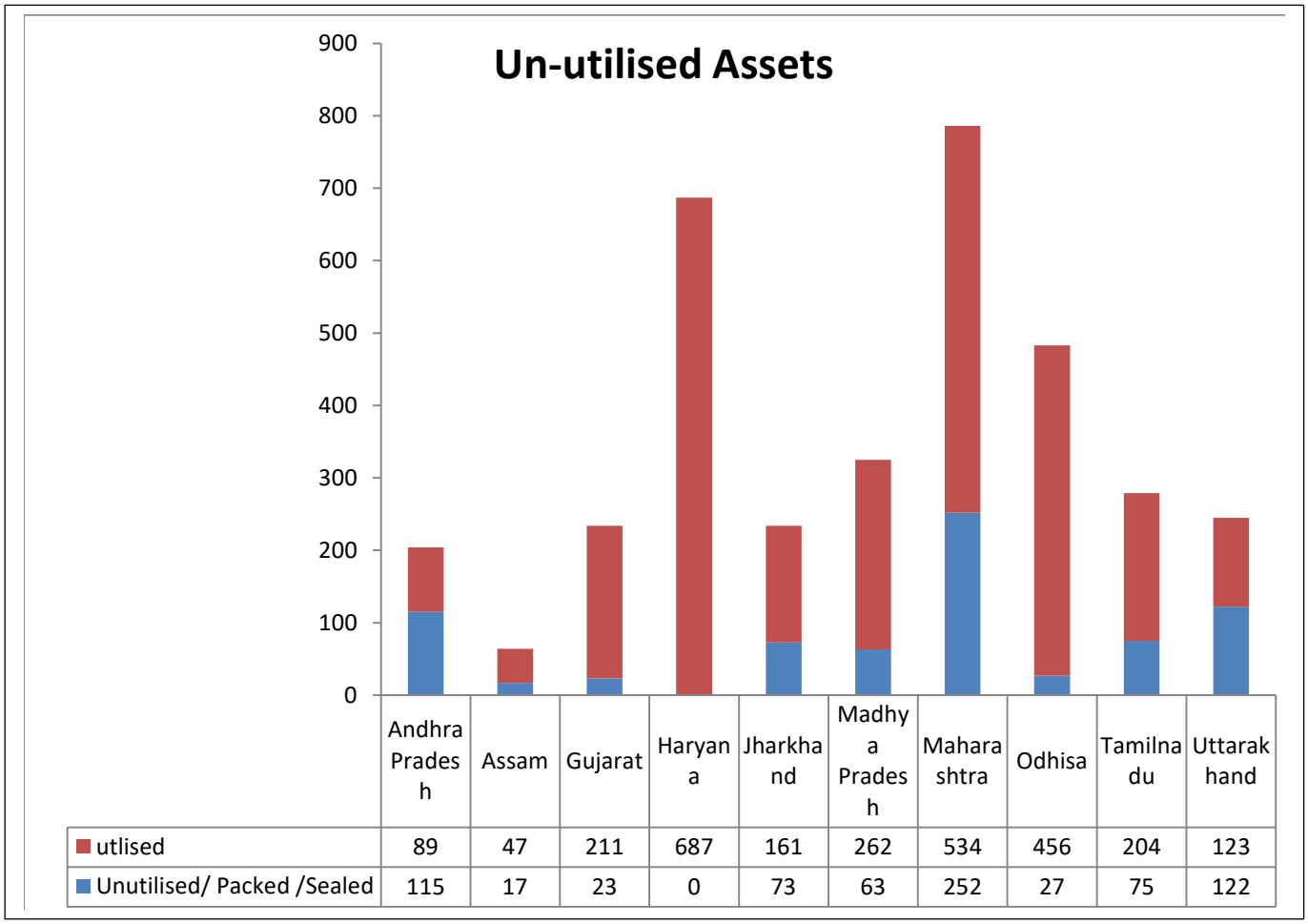
4. Equipment in Un-utilised, Packed/sealed condition



22% of equipment were found in unutilised/packed or sealed condition.

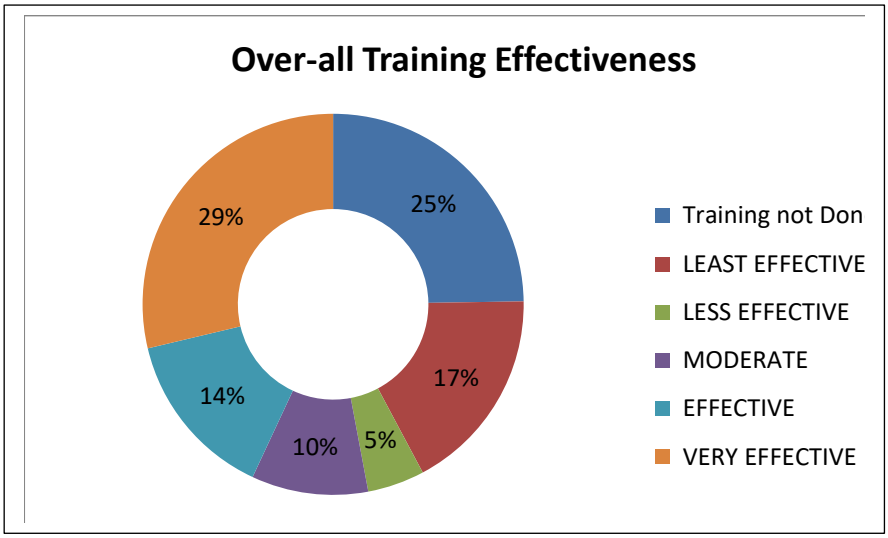
A high number of equipment were found in the states of Maharashtra, Andhra Pradesh and Uttarakhand.

- 80 number of equipment were found in sealed condition in Govt ITI Tirupati, Andhra Pradesh.
- 79 Number of equipment were found in sealed condition in Govt ITI, Haridwar.
- Govt ITI Kurla and Govt ITI Vangaon have 47 and 59 number of assets in sealed condition respectively



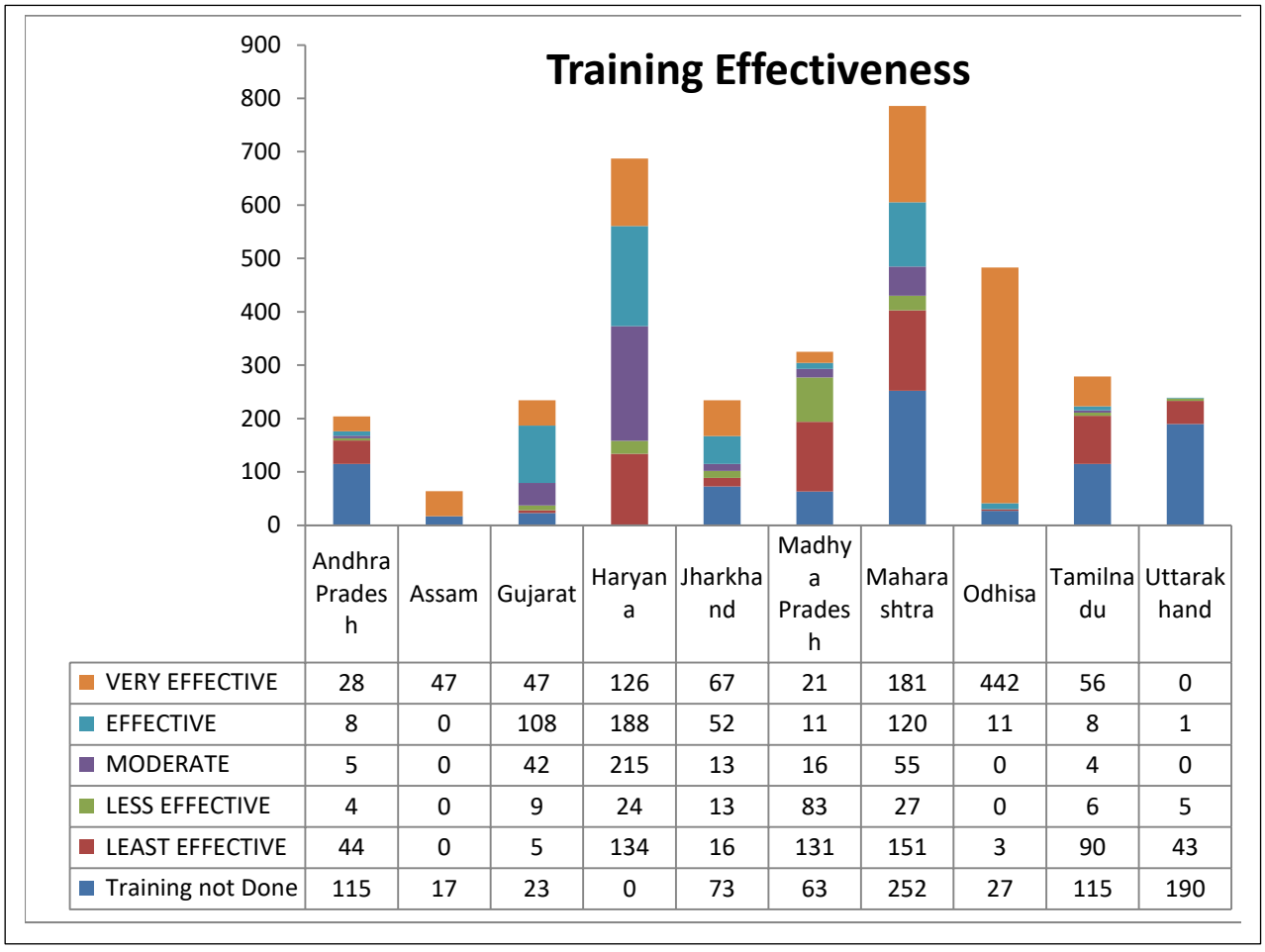
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
utlised	89	47	211	687	161	262	534	456	204	123
Unutilised/ Packed /Sealed	115	17	23	0	73	63	252	27	75	122

5. Training Effectiveness



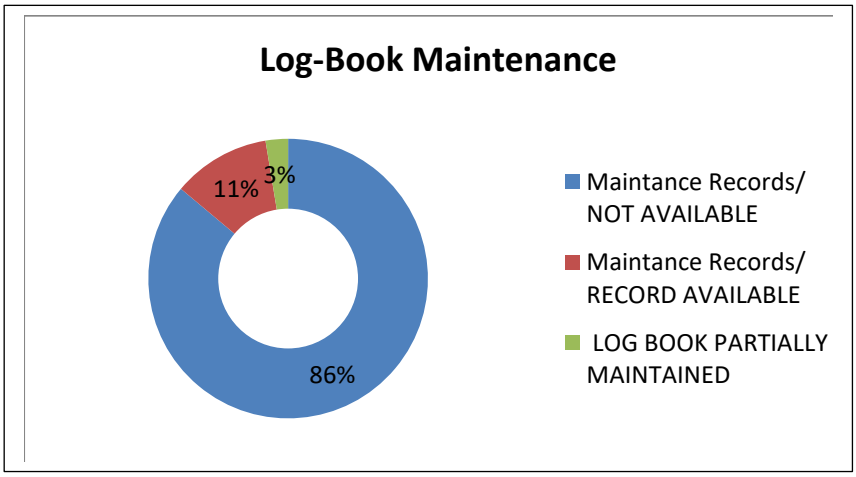
Only 29% of key personnel and instructors have rated the training imparted by the vendors as very effective while 32% of respondents have rated the effectiveness of training between least to moderate.

Respondents in the state of Odisha have rated the training imparted by the vendors as most effective while Uttarakhand ITIs have minimum number of trainings imparted by the vendor post procurement.



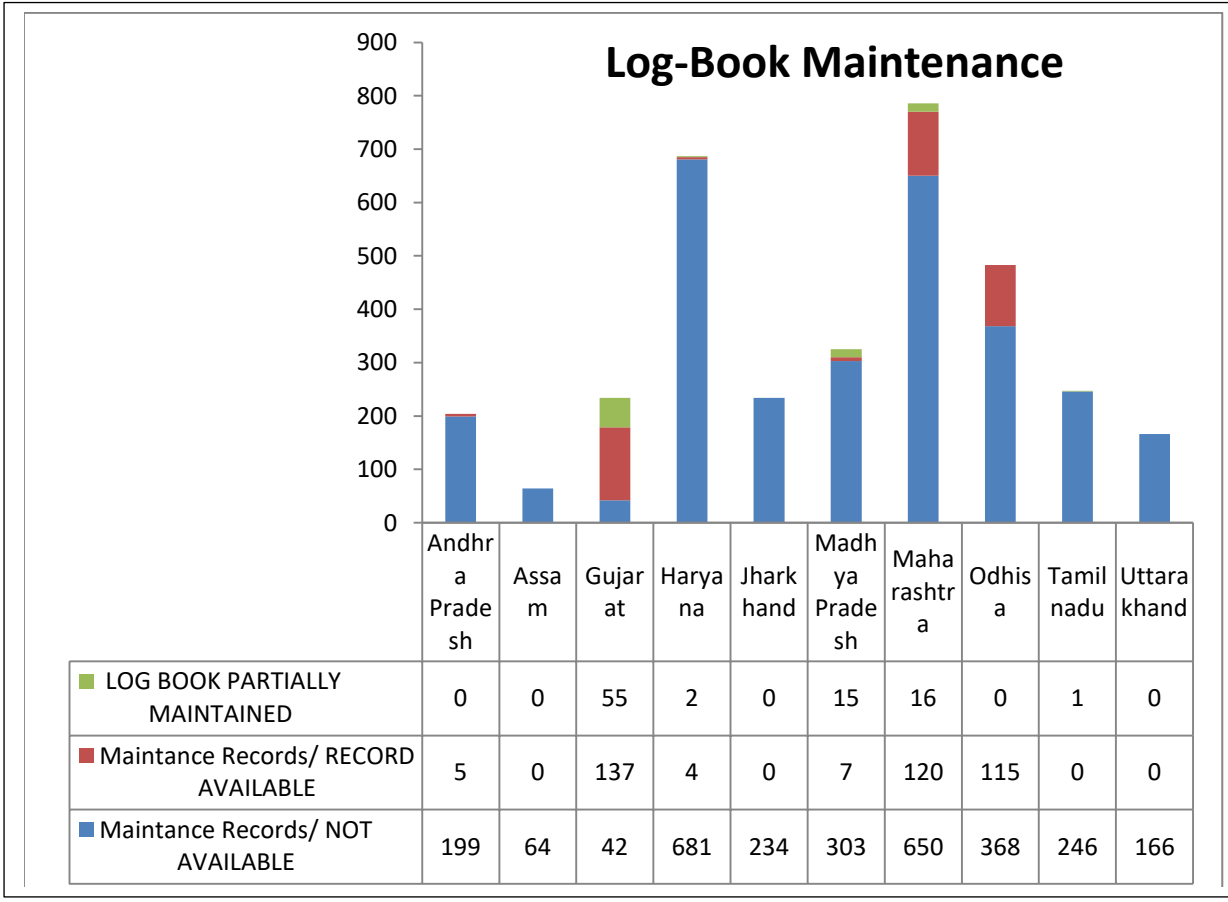
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
VERY EFFECTIVE	28	47	47	126	67	21	181	442	56	0
EFFECTIVE	8	0	108	188	52	11	120	11	8	1
MODERATE	5	0	42	215	13	16	55	0	4	0
LESS EFFECTIVE	4	0	9	24	13	83	27	0	6	5
LEAST EFFECTIVE	44	0	5	134	16	131	151	3	90	43
Training not Done	115	17	23	0	73	63	252	27	115	190

6. Log Book Maintenance



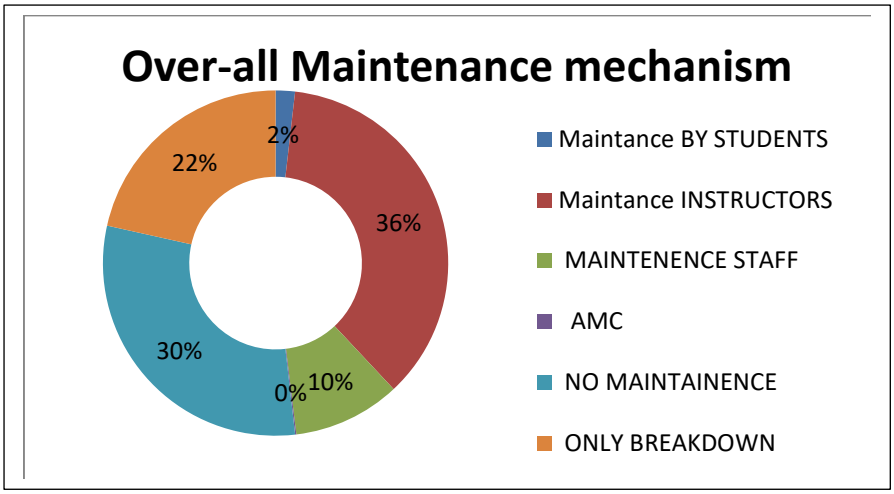
For only 11% of the assets log-book for machinery and equipments are maintained.

Record keeping and maintenance of log book for the procured assets have been recorded as poor throughout the geographical spread. Gujrat is the only territory where ITIs have maintained the maintenance registered and log books. Need to focus on record keeping for tractability and preventive maintenance schedules for the assets.



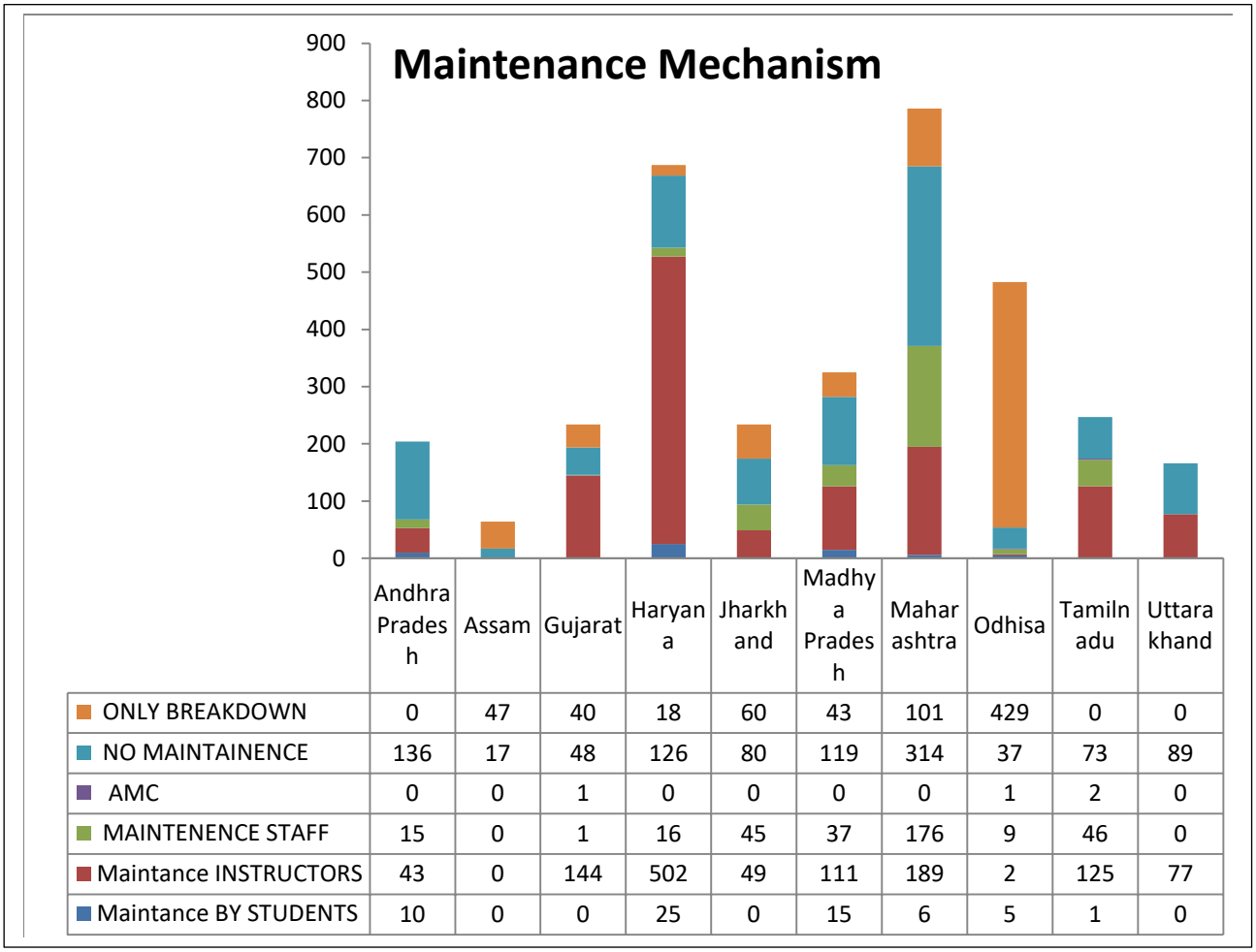
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
LOG BOOK PARTIALLY MAINTAINED	0	0	55	2	0	15	16	0	1	0
Maintance Records/ RECORD AVAILABLE	5	0	137	4	0	7	120	115	0	0
Maintance Records/ NOT AVAILABLE	199	64	42	681	234	303	650	368	246	166

7. Maintenance Mechanism



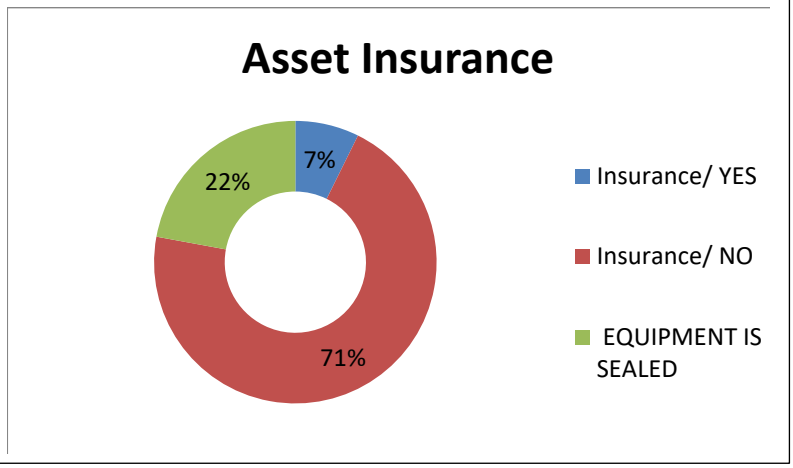
36% assets are reported to have instructors as primary maintenance means, while only 10% ITIs have dedicated maintenance staff. 30% of the assets are subjected to no maintenance at all. 2% of the assets are under AMC.

1. State of Odisha ITIs have no mechanism for preventive maintenance and rely on breakdown maintenance only.
2. Haryana state has clearly stated instructor as the primary maintenance staff.
3. No maintenance mechanism is reported in Assam ITI.



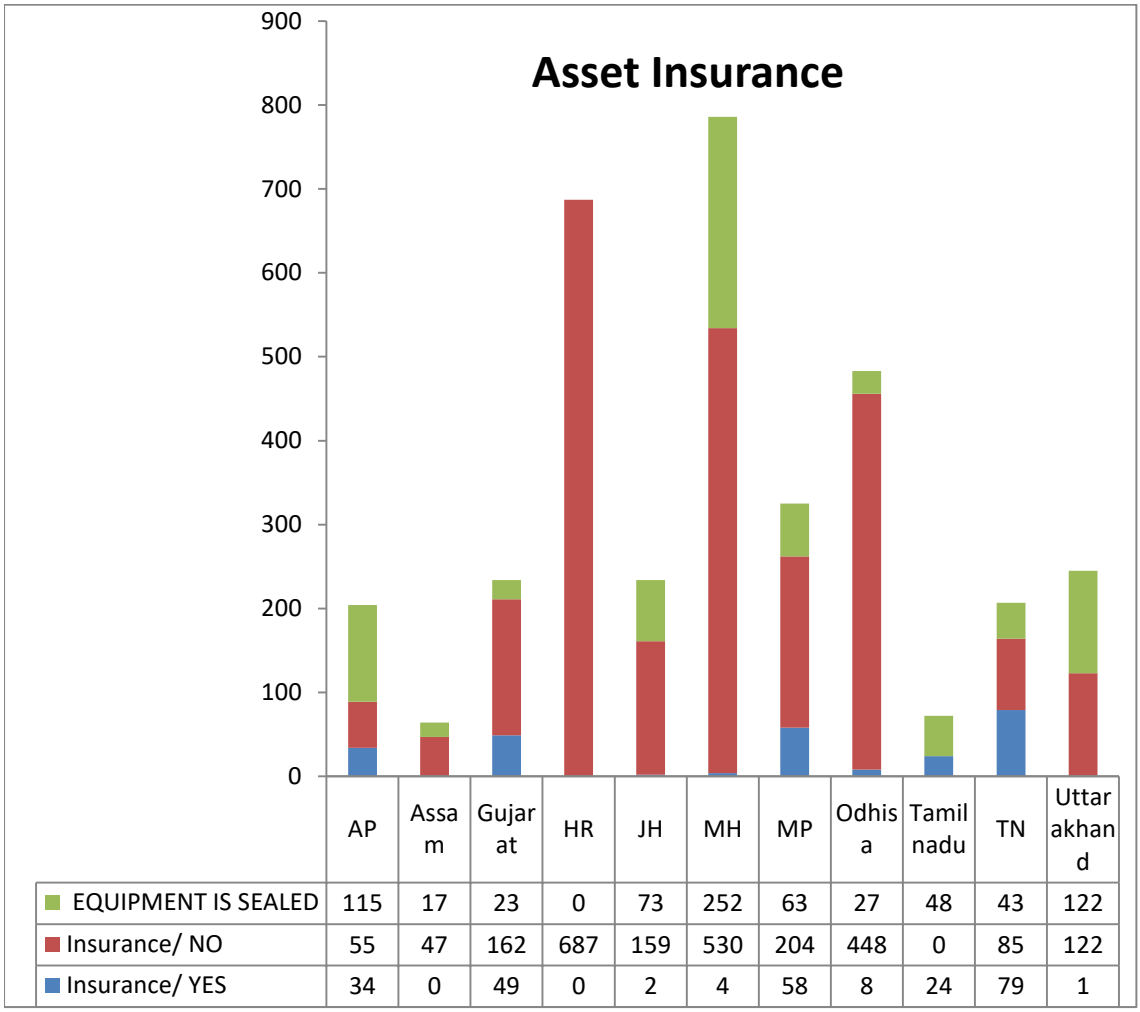
	Andhra Pradesh	Assam	Gujarat	Haryana	Jharkhand	Madhya Pradesh	Maharashtra	Odhisa	Tamilnadu	Uttarakhand
ONLY BREAKDOWN	0	47	40	18	60	43	101	429	0	0
NO MAINTAINENCE	136	17	48	126	80	119	314	37	73	89
AMC	0	0	1	0	0	0	0	1	2	0
MAINTENENCE STAFF	15	0	1	16	45	37	176	9	46	0
Maintance INSTRUCTORS	43	0	144	502	49	111	189	2	125	77
Maintance BY STUDENTS	10	0	0	25	0	15	6	5	1	0

8. Insurance of Assets



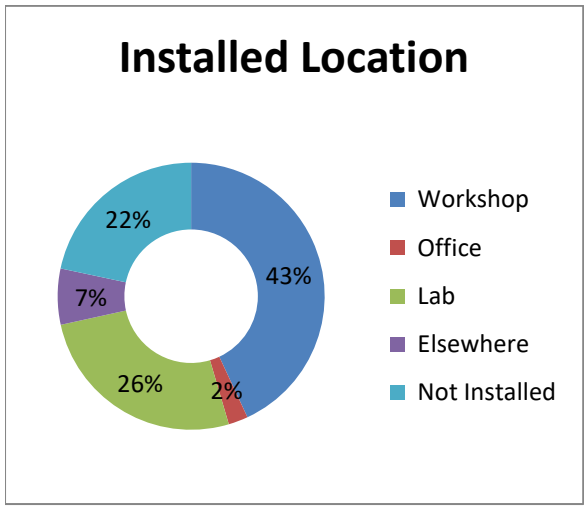
Only 7% of assets are insured.

For sustainability and longevity of asset operations, it's recommended to have extended warranty/AMC for all the functional equipment.



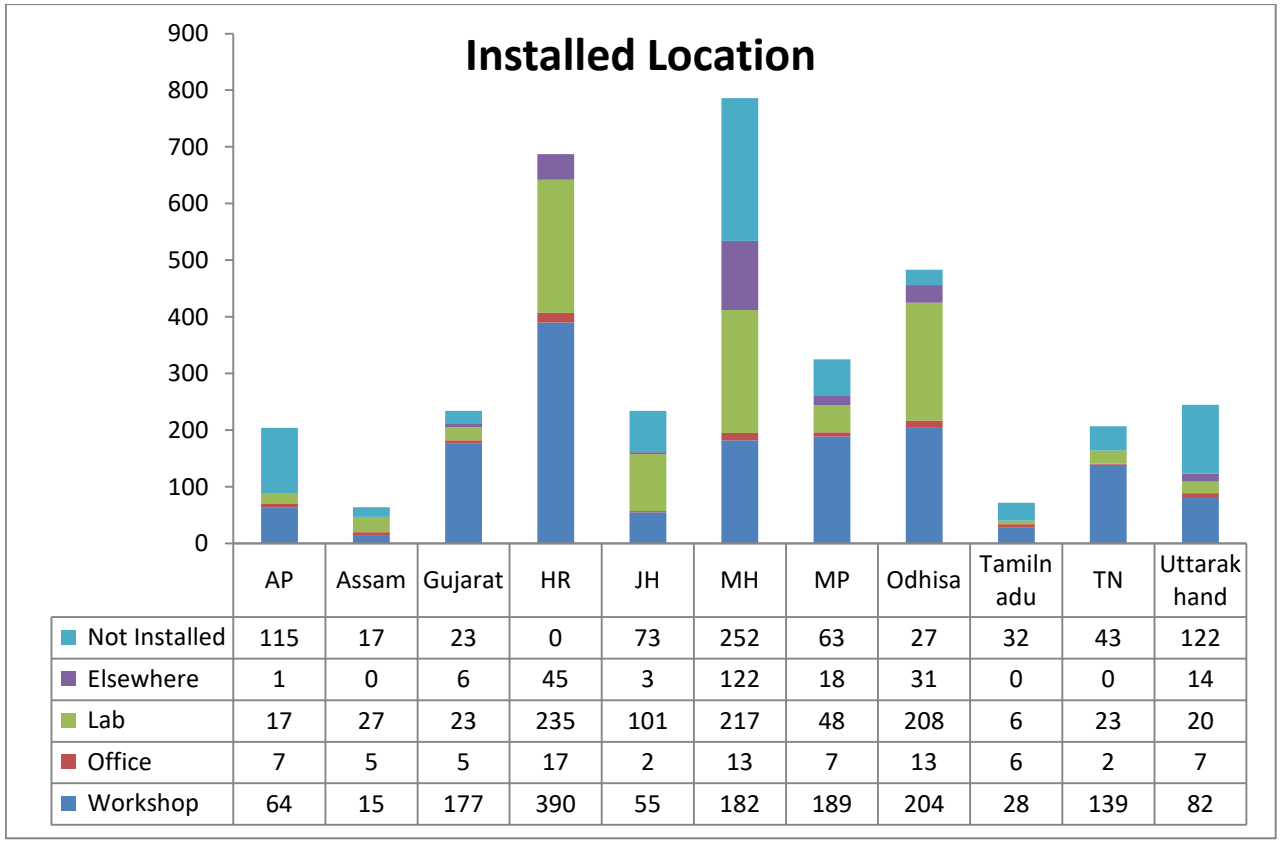
	AP	Assam	Gujarat	HR	JH	MH	MP	Odhisa	Tamilnadu	TN	Uttarakhand
EQUIPMENT IS SEALED	115	17	23	0	73	252	63	27	48	43	122
Insurance/ NO	55	47	162	687	159	530	204	448	0	85	122
Insurance/ YES	34	0	49	0	2	4	58	8	24	79	1

9. Installed Location



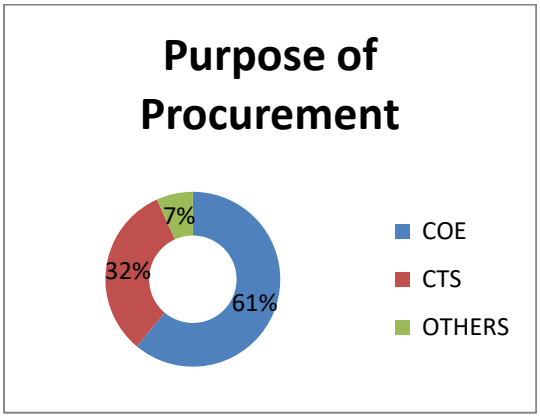
As per survey, maximum assets have been installed in workshops and labs in-line with objectives of VTIP.

State ITIs in Maharashtra, Andhra Pradesh, MP, Uttarakhand have a large sum of assets which is not installed



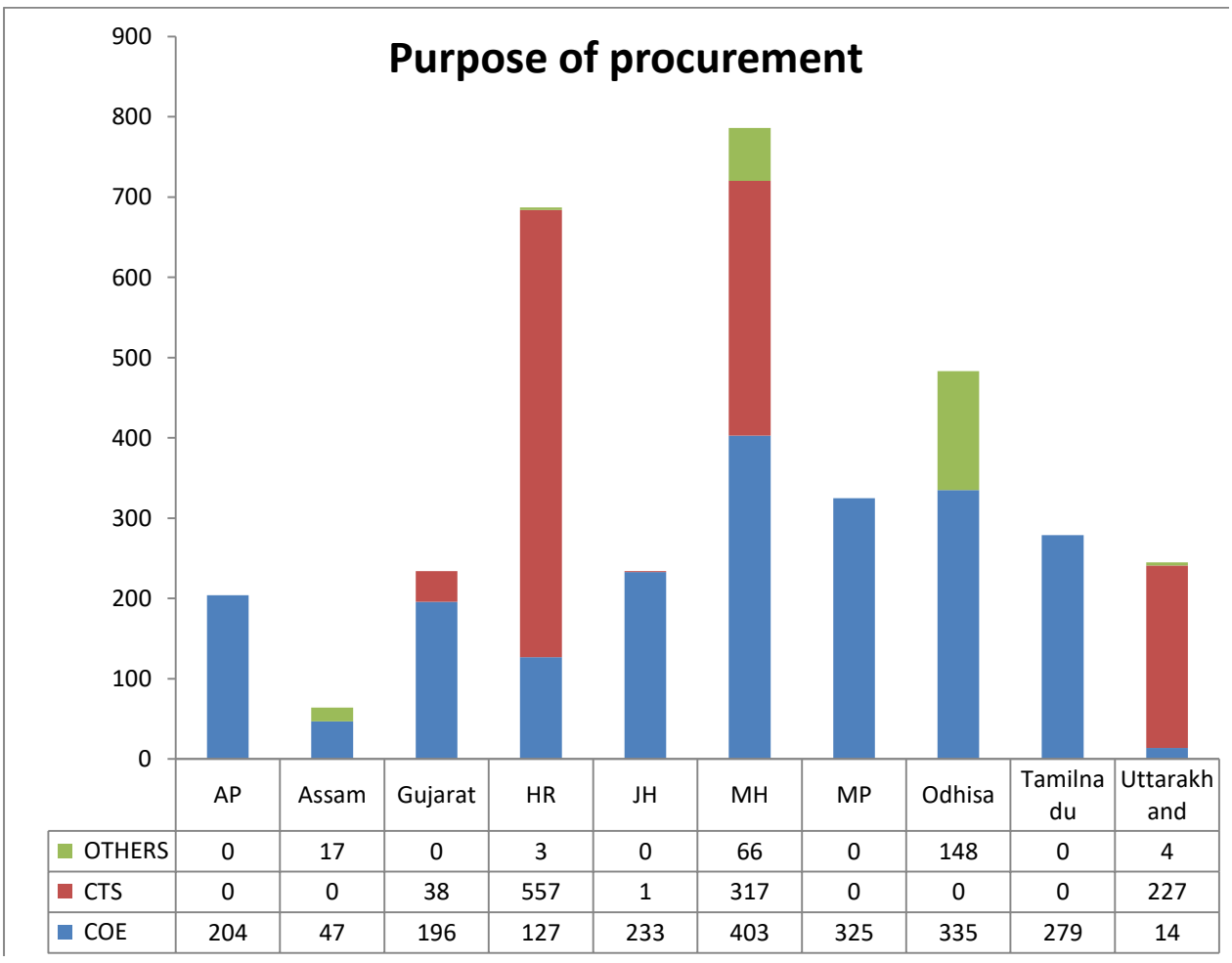
	AP	Assam	Gujarat	HR	JH	MH	MP	Odhisa	Tamiln adu	TN	Uttarak hand
Not Installed	115	17	23	0	73	252	63	27	32	43	122
Elsewhere	1	0	6	45	3	122	18	31	0	0	14
Lab	17	27	23	235	101	217	48	208	6	23	20
Office	7	5	5	17	2	13	7	13	6	2	7
Workshop	64	15	177	390	55	182	189	204	28	139	82

10. Purpose of procurement



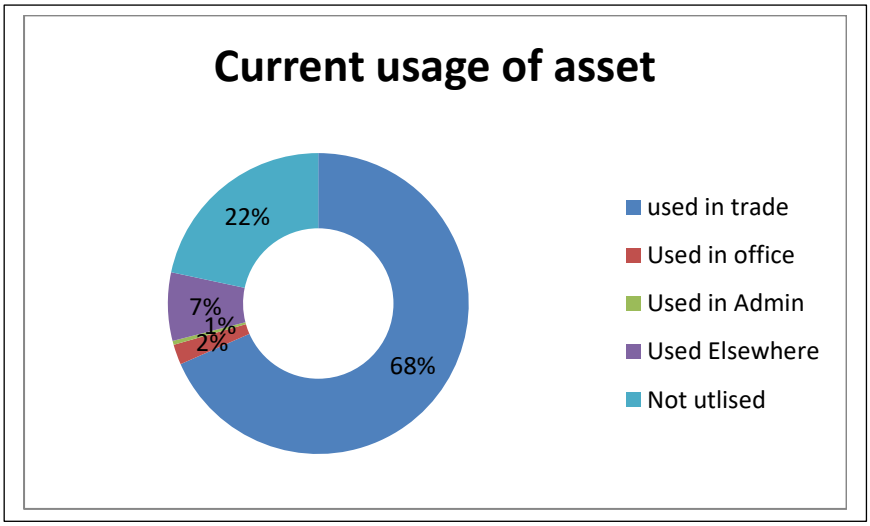
Maximum assets were procured under COE section i.e. 61%. 32% of the assets were procured for CTS section and only 7% for support and other purposes.

Maximum funds were utilised in COE section throughout the distribution at early stages of VTIP project. After 2014 onwards, a change in trend has been observed where maximum procurements are done in CTS section. From the sampled distribution Andhra Pradesh, Assam, Jharkhand, MP, Odisha, Tamilnadu. On the other hand maximum procurements have been made in CTS section in states of Uttarakhand and Haryana.



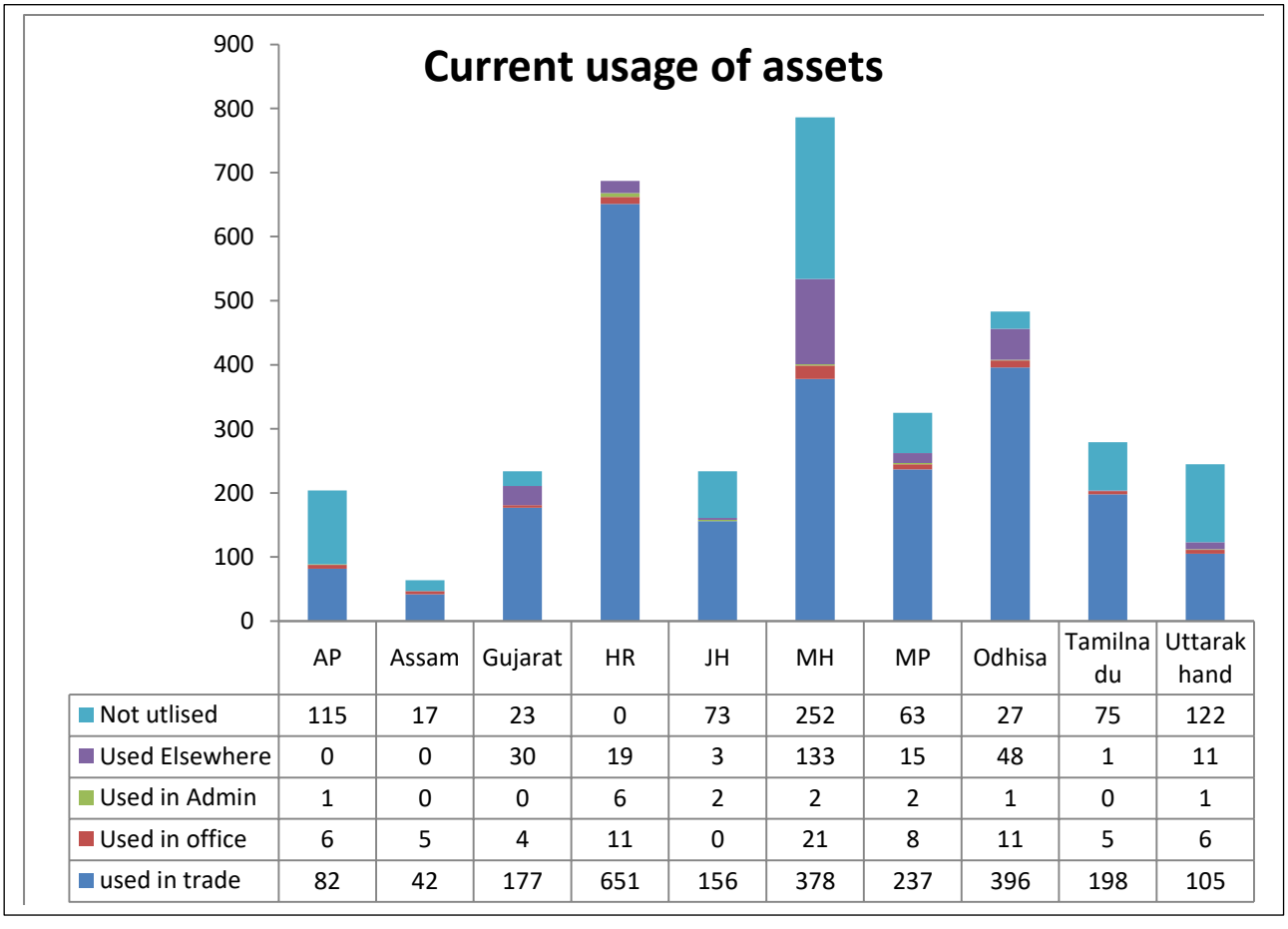
	AP	Assam	Gujarat	HR	JH	MH	MP	Odhisa	Tamilnadu	Uttarakhand
OTHERS	0	17	0	3	0	66	0	148	0	4
CTS	0	0	38	557	1	317	0	0	0	227
COE	204	47	196	127	233	403	325	335	279	14

11. Current Use of Asset



68% of the assets are currently used in the trades while 22% of the equipment are not utilised elsewhere.

There has been a variance observed in purpose of procurement and current usage. This may be due to transformation of COE courses in CTS courses. A good percentage of the asset used in trade has been observed in states for Haryana, Odisha,



	AP	Assam	Gujarat	HR	JH	MH	MP	Odhisa	Tamilnadu	Uttarakhand
Not utlised	115	17	23	0	73	252	63	27	75	122
Used Elsewhere	0	0	30	19	3	133	15	48	1	11
Used in Admin	1	0	0	6	2	2	2	1	0	1
Used in office	6	5	4	11	0	21	8	11	5	6
used in trade	82	42	177	651	156	378	237	396	198	105

Highlights of Physical Verification of Assets:

1. During the assessment of sampled ITIs it was found that only 52% of assets procured were in functional condition whereas 22% of the assets are not being utilised.
2. 19% of the procured assets are non-functional due to lack of maintenance and continuous use of the asset.
3. 51% of the procured assets are not complying with national or international relevant quality and safety standard.
4. 78% of the assets under physical review were found to be complying with NCVT requirements. However, compliance could not be determined for 18% of the assets being in packed/sealed condition.
5. The trainings done by equipment supplier are rated to be very effective by 29% of equipment instructors and 32% instructors have rated the trainings to be least to moderate effective.
6. Maintenance log books are maintained for only 11% of the procured assets whereas no records re found for rest of the assets.
7. 36% of the assets are repaired and maintained by instructors for primary maintenance. For 10% assets, dedicated maintenance staff is available. 30% of the assets are subjected to no maintenance at all.
8. Only 7% of the assets are insured.
9. As per the field assessment in sampled ITIs 43% of the assets are installed in workshops and 26% assets are installed in trade specific labs.
10. Maximum assets i.e. 61% were procured for COE section while 32% of the assets were procured for CTS courses. Only 7% of the assets were procured for support and other purposes.
11. Out of total purchased assets 68% of the assets are still being desiccated to the trades.

KEY FINDINGS

Govt. Institute for Training of Trainers, Rohtak (ITOT)

STATS

Physical Progress:-							
State:		HARYANA					
Name & Location of ITOT:		GOVT ITOT SECTOR 5, ROHTAK					
S No	Trades	Units	Affiliation status	Date of affiliation			
1	Turner	2	Affiliated	30/07/2015			
2	Fitter	2	Affiliated	30/07/2015			
3	Mechanic Motor Vehicle	2	Affiliated	30/07/2015			
	Total	**6**					

	Year wise no. of trainees trained						
Year	Session	Admission	Passed	Admission	Passed	Admission	Passed
		Trade 1		Trade 2		Trade 3	
2015	Feb-15	0	0	0	0	0	0
	Aug-15	37	36	38	37	20	20
2016	Feb-16	19	19	38	38	23	21
	Aug-16	25	23	38	33	23	22
2017	Feb-17	0	0	0	0	0	0
	Aug-17	22	16	35	29	38	36

VTIP Funding Status

Total expenditure	Civil Works	Equipment	Books & Learning Resources	Furniture
907.65	481.85	310.87	34.98	79.95

CIVIL WORKS UNDERTAKEN

S No	Name of the Work	Status on completion	Amount Paid
1	Construction of GITOT Hostel Building	Ground floor has been completed	481.85

Key Findings of the Survey

Quality of Civil Works

1. One hostel building was constructed with VTIP fund which was found complying with the structural requirements required for the building.
2. Building was properly handed over by the State PWD department as evident from the Handing over certificate issued.
3. ITI has sufficient funds to maintain the building, which is also evident from the plastering of walls and major/Minor repairs done recently.
4. Building is sustainable for use in future and has sufficient residential facilities for future expansion also.
5. Institute has received NOC from fire department and consent to operate the DG Set from state pollution control board.

Environment Management Framework

1. Institute has regular water supply from municipality and have provision of clean drinking water for all the trainees.
2. All the waste water is disposed in ULB disposal and institute doesn't require any waste water disposal mechanism.
3. Newly constructed building has rain water drainage as well has sufficient number of garbage bins to collect the solid waste which is further disposed through ULB collection.
4. Institute relies on Power supply from the state electricity board and has DG set in-line with the power requirements. Both the sources are well maintained and used regularly.
5. Institute has safe and sufficient storage area for storage of materials. Equipments and consumables, area is marked and kept neat and clean.
6. Institute has sufficient number of toilets for all the users along with separate toilets for female students.
7. The newly constructed building has sufficient natural light and ventilation, and found to be neat and clean.
8. Institute has sufficient numbers of Fire extinguishers but no fire buckets were evident during the survey. Fire drills for key personnel are conducted regularly.
9. General Electrical maintenance is outsourced and Institute manages the three phase termination of electrical supply in a good condition. Distribution transformer found to be properly maintained as well. However, grounding of electrical equipment is a concern including unavailability of the lightening arrestor on the new constructed building.
10. Institute has constructed ramps and walkways for differently abled persons in the premises; however effectiveness of these measures can't be verified due to unavailability of differently abled users.
11. Institute doesn't possess or store hazardous material and no measures such as storage, signage, PPEs were available.
12. No guards were found on the rotating equipment. Unavailability of PPEs during the operation of such equipment is a concern. Key personnel are trained on first aid and sufficient first aid kits are available at easy to reach location during emergency. Institute has availability of emergency carriage in all such situations.
13. Institute has sufficient green areas and focusses on using energy efficient lightening in the premises and use an energy efficient criteria while procurement of new equipment. Institute doesn't have rain water harvesting, solar energy usage or other environmental augmented measures including waste segregation and use of BEE labelled equipment. EHS parameters are also not included in the curriculum.
14. Institute doesn't have a sustainability plan nor does it have any mechanism of EMF follow-up.

Analysis of physical verification of assets

1. Total No. of 193 assets were procured from VTIP fund and all the equipment were utilized in the courses.
2. Distribution of Assets is as follows:

		Installed Location				Total
		Workshop	Office	Lab	Elsewhere	
ITOT ROHTAK		140	5	39	9	193

3. Currently 132 equipments were found fully functional while 6 equipments were found to be under maintenance. 2 equipments were transferred to some other institute, while 2 of them were condemned and were marked in scrap. Survey team were not able to locate 2 of the equipments as mentioned in the information provided earlier.
4. All the equipments were as purchased as per NCVT requirements.
5. Out of 193 equipments, vendor provided the training on 66 equipment and majority of instructors/respondents have found the training as effective.
6. Institute didn't maintained any log-sheet for the equipment, however Institute deploys a robust maintenance mechanism which is evident from the number of equipment which are maintained to be in functional state. As per the survey, Institute deployed following maintenance mechanism across the equipment assessed.

Maintenance Mechanism				Total
INSTRUCTORS	MAINTENENCE STAFF	ONLY BREAKDOWN	NO MAINTAINENCE	
152	33	2	6	193

7. No equipment is found to be insured.
8. During the survey, only 5 equipment out of 193 were found where adequate power supply was not available.

National Skill Training Institute, NOIDA

Key Findings of the Survey

Environment Management Framework

1. Institute has regular water supply from municipality and have provision of clean drinking water for all the trainees.
2. All the waste water is disposed in ULB disposal and institute doesn't require any waste water disposal mechanism.
3. Newly constructed building has rain water drainage as well has sufficient number of garbage bins to collect the solid waste which is further disposed through ULB collection.
4. Institute relies on Power supply from the state electricity board and has DG set in-line with the power requirements. Both the sources are well maintained and used regularly.
5. Institute has safe and sufficient storage area for storage of materials. Equipments and consumables, area is marked and kept neat and clean.
6. Institute has sufficient number of toilets for all the users along with separate toilets for female students.
7. The newly constructed building has sufficient natural light and ventilation, and found to be neat and clean.
8. Institute has sufficient numbers of Fire extinguishers but no fire buckets and fire drills were evident during the survey.
9. General Electrical maintenance is outsourced and Institute manages the three phase termination of electrical supply in a good condition. Distribution transformer found to be properly maintained as well.
10. Institute has constructed ramps and walkways for differently abled persons in the premises; however effectiveness of these measures can't be verified due to unavailability of differently abled users.
11. Institute doesn't possess or store hazardous material and no measures such as storage, signage, PPEs were available.
12. Guards were found on the rotating equipment. Availability of PPEs during the operation of equipment. Key personnel are trained on first aid and sufficient first aid kits are available at easy to reach location during emergency but unavailability of emergency carriage in all such situations.
13. Institute have rain water harvesting but no solar energy usage or other environmental augmented measures including waste segregation and use of BEE labelled equipment. EHS parameters are also not included in the curriculum.
14. Institute doesn't have a sustainability plan nor does it have any mechanism of EMF follow-up.

Analysis of physical verification of assets

1. Total No. of 149 assets were procured from VTIP fund and all the equipment were utilized in the courses.
2. Distribution of Assets is as follows:

		Installed Location				Total
		Workshop	Office	Lab	Elsewhere	
NVTI NOIDA		49	1	57	42	149

3. Out of 149 equipments fully functional were 109 equipments and 17 not functional equipments, under maintenance 3 equipment, 20 equipments transferred to some other institute.
4. All the equipments were as purchased as per NCVT requirements.
5. Out of 149 equipments, vendor provided the training on 97 equipment and majority of instructors/respondents have found the training as effective.
6. Out of 149 equipment log-sheet records available for 37 equipments and 112 equipments log sheet not available., however Institute deploys a robust maintenance mechanism which is evident from the number of equipment which are maintained to be in functional state. As per the survey, Institute deployed following maintenance mechanism across the equipment assessed.

Maintenance Mechanism					Total
INSTRUCTORS	MAINTENENCE STAFF	ONLY BREAKDOWN	NO MAINTAINENCE	AMC	
41	6	0	10	92	149

7. No equipment is found to be insured.
8. Out of 149 equipments 105 equipments purchased for COE and 1 equipment for CTS and 43 equipments for others.

National Skill training institute, MUMBAI

Key Findings of the Survey

Quality of Civil Works

1. Total number of buildings is 69 out of them 39 is admin block and 10 is workshop and 12 blocks are for hostel and rest 1 is for others.
2. Structural as per the relevant code for disaster management is 67 out of 69.
3. Building was properly handed over by the State PWD department as evident from the Handing over certificate issued.
4. ITI has sufficient funds to maintain the building, which is also evident from the plastering of walls and major/Minor repairs done recently.
5. Building is sustainable for use in future and has sufficient residential facilities for future expansion also.
6. Institute did not receive NOC from fire department and consent to operate the DG Set from state pollution control board.

Environment Management Framework

1. Institute has regular water supply from municipality and have provision of clean drinking water for all the trainees.
2. All the waste water is disposed in ULB disposal and institute doesn't require any waste water disposal mechanism.
3. Newly constructed building has rain water drainage as well has sufficient number of garbage bins to collect the solid waste which is further disposed through ULB collection.
4. Institute relies on In house power supply and has DG set in-line with the power requirements. Sources are well maintained and used regularly.
5. Institute has safe and sufficient storage area for storage of materials. Equipments and consumables, area is marked and kept neat and clean.
6. Institute has sufficient number of toilets for all the users along with separate toilets for female students.
7. The newly constructed building has sufficient natural light and ventilation, and found to be neat and clean.
8. Institute has sufficient numbers of Fire extinguishers but no fire buckets were evident during the survey and no fire drills.
9. General Electrical maintenance is outsourced and Institute manages the three phase termination of electrical supply in a good condition. Distribution transformer found to be properly maintained as well. However, grounding of electrical equipment is available of the lightening arrestor as well.
10. Institute doesn't have constructed ramps and walkways for differently abled persons in the premises; however effectiveness of these measures can't be verified due to unavailability of differently abled users.
11. Institute doesn't possess or store hazardous material and no measures such as storage, signage, PPEs were available.
12. No guards were found on the rotating equipment. Availability of PPEs during the operation of equipment. Key personnel are trained on first aid and sufficient first aid kits are available at easy to reach location during emergency. Institute has availability of emergency carriage in all such situations.

13. Institute has sufficient green areas doesn't focuses on using energy efficient lightening in the premises and doesn't use an energy efficient criteria while procurement of new equipment. Institute doesn't have rain water harvesting, solar energy usage or other environmental augmented measures including waste segregation and use of BEE labelled equipment. EHS parameters are also included in the curriculum.
14. Institute doesn't have a sustainability plan nor does it have any mechanism of EMF follow-up.

Analysis of physical verification of assets

1. Total No. of 208 assets were procured from VTIP fund and all the equipment were utilized in the courses.
2. Distribution of Assets is as follows:

	Installed Location					Total
	Workshop	Office	Lab	Elsewhere	Not Installed	
	77	4	121	5	1	208

3. Currently 194 equipments were found fully functional while 3 equipments were found to be under maintenance and 10 equipments found to be non-functional while 1 equipments found to be not utilized.
4. All the equipment was as purchased as per NCVT requirements.
5. Out of 208 equipments, vendor provided the training on 139 equipments and 21 equipments doesn't require training. Majority of instructors/respondents have found the training as effective.
6. Out of 208 equipments 101 equipment records are available and 106 equipment records are not available.
7. Maintenance mechanism which is evident from the number of equipment which are maintained to be in functional state. As per the survey, Institute deployed following maintenance mechanism across the equipment assessed.

	Maintenance Mechanism				Total
INSTRUCTORS	MAINTENENCE STAFF	ONLY BREAKDOWN	AMC	NO MAINTAINENCE	
49	0	75	65	19	208

8. Out of 208 only 2 equipment found to be insured.
9. 123 equipment's were purchased for COE and 85 for others.
10. Out of total 208 equipment's 56 were used in trade courses while 135 of the equipments were used in some other purposes.

Key Findings: Centre of Excellence

A. Quality of Civil Works

I. Type of construction

COE Name	Type of construction
Govt ITI Guwahati	Teaching Block
Govt ITI Berhampur	Workshop
Government ITI Chengalpattu	Admin Block

II. The Building in GOVT ITI Berhampur and Govt ITI Guwahati are found to be complied with structural requirements pertaining to disaster Management, whereas Admin Block constructed in Govt ITI Chengalpattu doesn't comply with these requirements.

III. The state public works department have issued the handing over certificate after completion of the civil works to the ITIs.

IV. Chengalpattu ITI has reported to have insufficient budget for the maintenance of new constructed block.

V. All the civil constructions have been found to have well plastered walls and repairing of floors have been done. Building is reported to be sustainable for current and future use as per intended purpose.

VI. The newly constructed blocks have been found to be used moderately by the ITI. However the newly constructed blocks in the COEs don't comply with Fire as well as state pollution control requirements.

B. Review of environment Management Framework

I. All the COEs under the physical assessment have direct supply from Urban Local Bodies along with access to ground water except Govt ITI Chengalpattu which doesn't have access to Ground water supply.

II. Govt ITI Chengalpattu doesn't have clean drinking water facility for trainees.

III. ITI Guwahati as well as ITI Berhampur is using municipal facility for discharge, whereas ITI Berhampur has In-house sewage treatment plant. Waste water is being directly discharged in the drain without any treatment by the COEs. Rain water drainage system is not present in ITI Chengalpattu.

IV. Govt ITI Berhampur has sufficient number of Garbage bins. However garbage collection was found ineffective in other to COEs. Solid waste is disposed of using the means of ULB facilities in all the COEs.

V. All the COEs have regular power supply from the state electricity distribution company as well have sufficient backup DG set in case of power failure.

VI. During the survey storage facilities for Raw materials and consumables were found suitable and adequate, whereas no designated storage areas were found in ITI Chengalpattu.

VII. ITIs have access restriction and barrier in terms of boundary walls. All the COEs have sufficient number of Toilets for all users including separate toilets for girl's students.

VIII. The newly constructed blocks under VTIP have well ventilated with sufficient availability of Natural lights. The ITIs are found to be neat and clean.

IX. Govt ITI Guwahati doesn't have sufficient number of Fire extinguishers/ Fire buckets installed at the designated locations. However, ITI Chengalpattu and ITI Berhampur were found complying with these safety requirements.

X. Only ITI Berhampur was reported to have conducted fire drill for key personnel in the past. Electrical equipment was also found to be not earthed in other two COEs.

XI. Maintenance of Major electrical equipment is outsourced in all the COEs. It was found that three phase termination as well as Distribution transformers are well maintained at all the COEs. However, none of the COEs have found to have installed lightening arrestor on the newly constructed blocks.

XII. Walkways and Ramps were evident in ITI Guwahati whereas other two COEs doesn't have any facility for differently abled users in the ITI Premises. Due to unavailability, no feedback was taken from differently abled users

XIII. Sufficient storage area was found for hazardous material including fuel and Gas cylinders in all the COEs under review. However, no PPEs are being used to handle the hazardous materials.

XIV. Guards on the rotating equipment as well as PPEs in workshops including motors were present in ITI Berhampur and ITI Guwahati. The key staff was also trained on first aid. ITI Chengalpattu has been reported to have lack of these safety interventions including lack of first aid kits and unavailability of any emergency carrier vehicle under medical emergencies.

XV. All the COEs were found to use environmental augmented measures including use of solar energy, Rain water harvesting and green plantations. However use of energy efficient lightening, BEE labelled equipment as well as waste segregation was not evident.

XVI. ITI Berhampur has included the EHS aspects in curriculum as well.

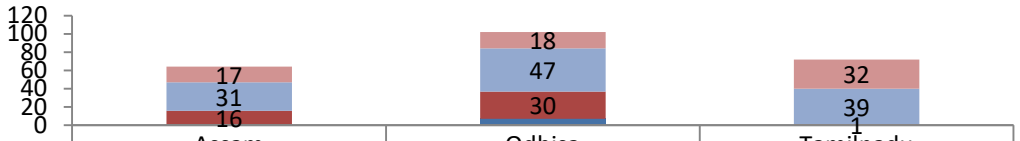
XVII. None of the ITIs have EMF follow up plan, Sustainability plan and no follow up on sustainability was evident during the survey of shortlisted COEs.

C. Physical Review of Asset

I. Asset Functionality

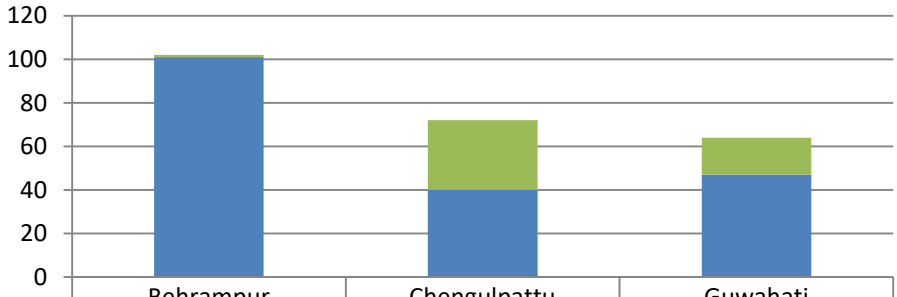
	Behrampur	Chengulpattu	Guwahati
NOT UTILISED	1	32	17
OTHERS	1	0	1
UNDER BREAKDOWN MAINTAINENCE	10	0	0
NOT FUNCTIONAL	15	14	14
FUNCTIONAL	75	26	32

II. Availability of Quality Mark



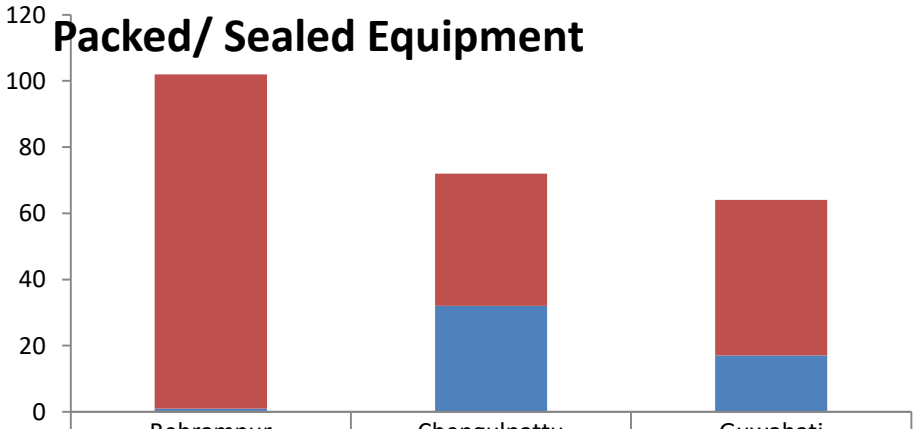
	Assam	Odhisa	Tamilnadu
NOT APPLICABLE	17	18	32
NOT PRESENT	31	47	39
OTHERS	0	0	0
UL	0	0	0
DIN	0	0	0
BEE	0	0	0
CE	16	30	1
IS	0	7	0

III. Assets as per NCVT Prescription



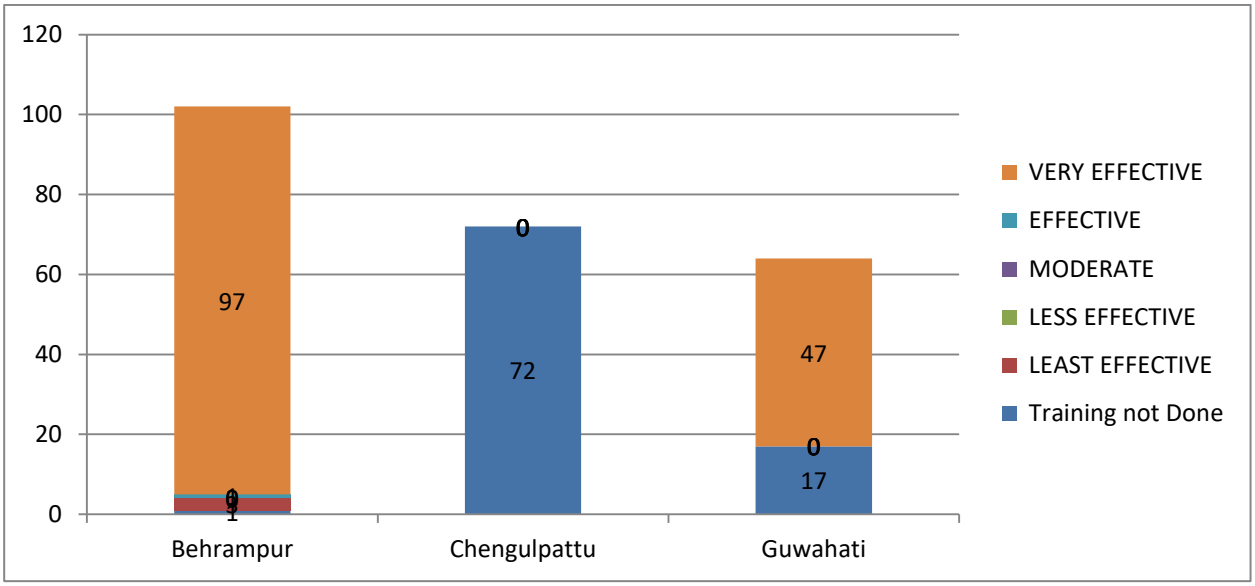
	Behrampur	Chengulpattu	Guwahati
EQUIPMENT PACKED	1	32	17
NOT AS PER PRESCRIBED LIST	0	0	0
AS PER PRESCRIBED LIST	101	40	47

IV. Equipment Sealed Packed

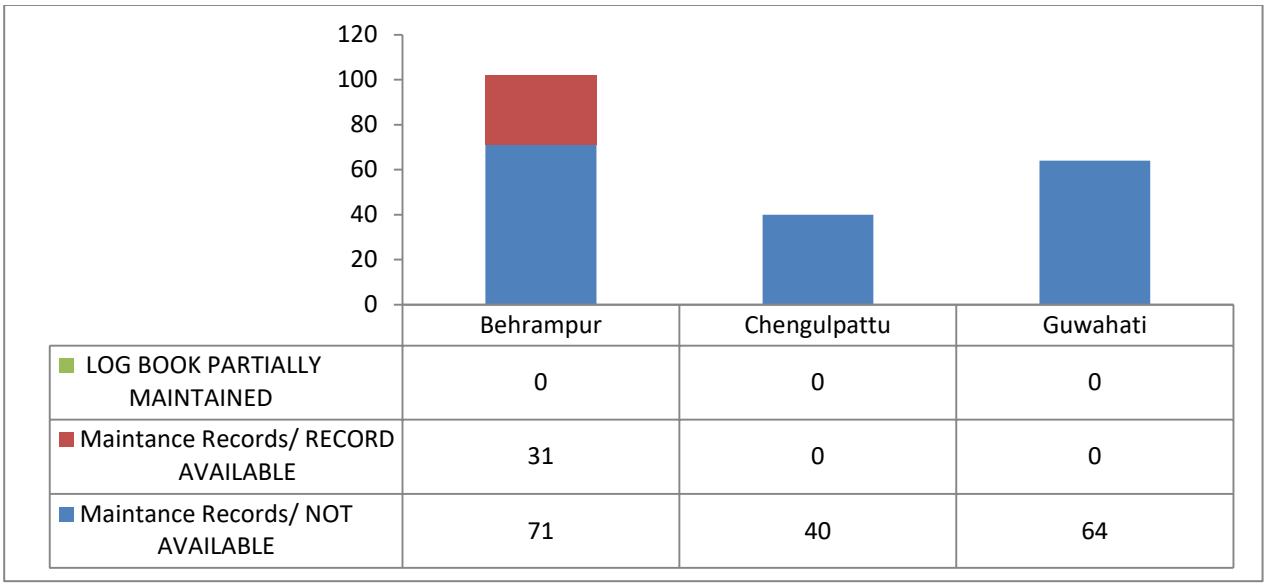


	Behrampur	Chengulpattu	Guwahati
utlised	101	40	47
Unutilised/ Packed /Sealed	1	32	17

V. Training effectiveness

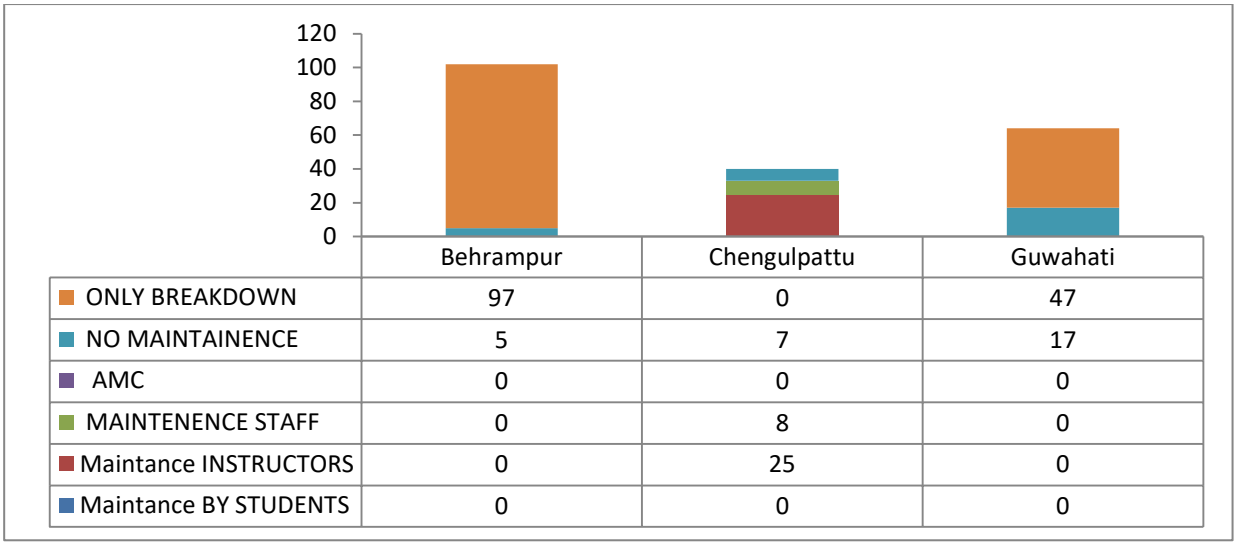


VI. Log book Maintenance



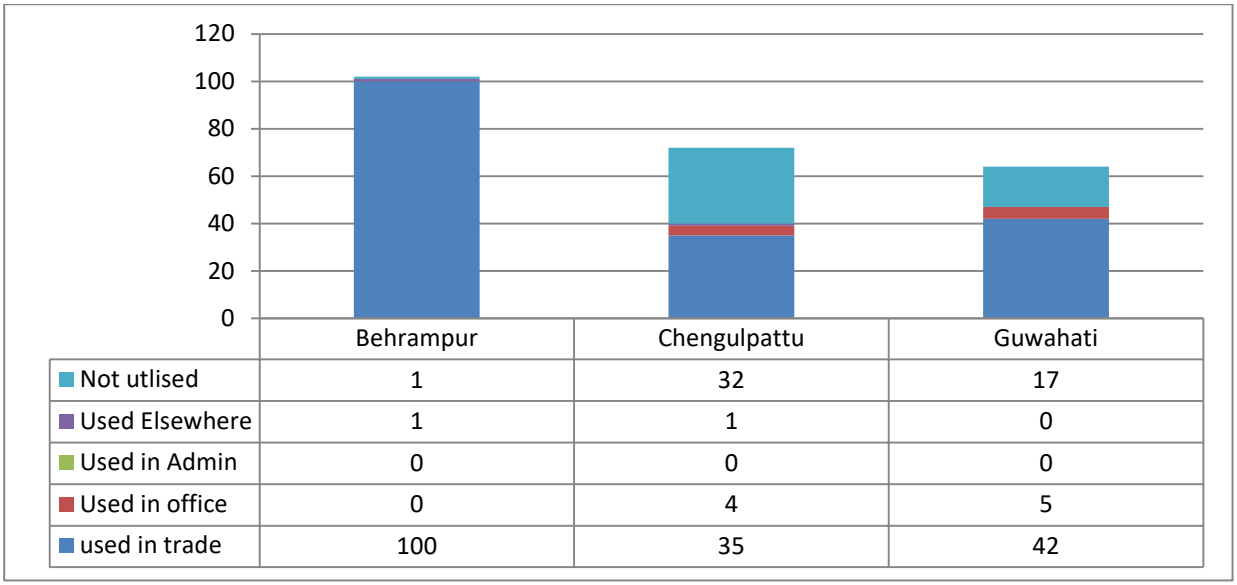
	Behrampur	Chengulpattu	Guwahati
LOG BOOK PARTIALLY MAINTAINED	0	0	0
Maintance Records/ RECORD AVAILABLE	31	0	0
Maintance Records/ NOT AVAILABLE	71	40	64

VII. Maintenance Mechanism



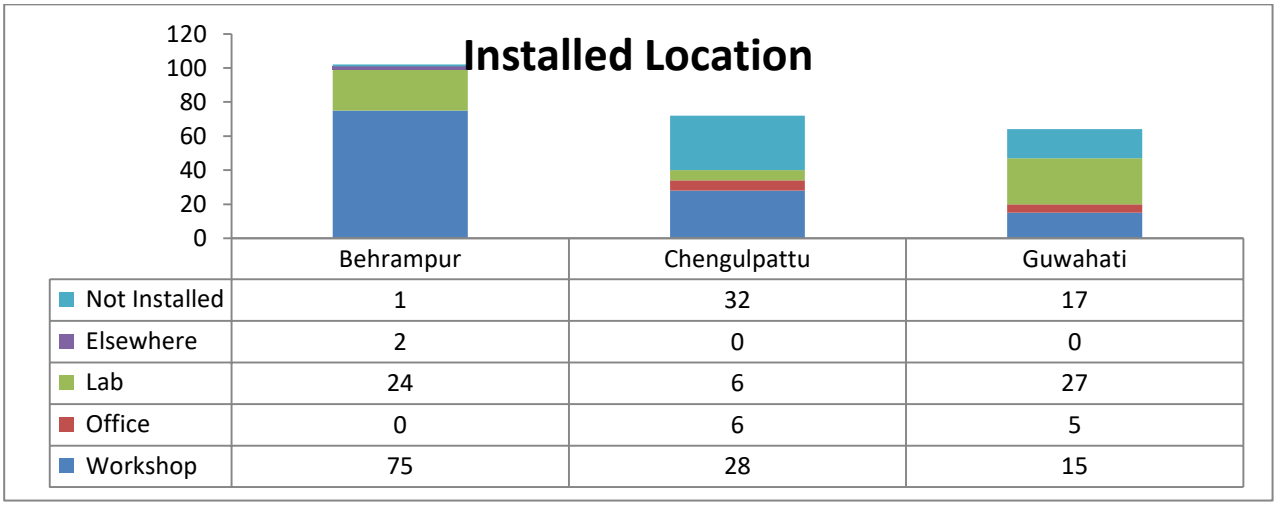
	Behrampur	Chengulpattu	Guwahati
ONLY BREAKDOWN	97	0	47
NO MAINTAINENCE	5	7	17
AMC	0	0	0
MAINTENENCE STAFF	0	8	0
Maintance INSTRUCTORS	0	25	0
Maintance BY STUDENTS	0	0	0

VIII. Current use of equipment



	Behrampur	Chengulpattu	Guwahati
Not utlised	1	32	17
Used Elsewhere	1	1	0
Used in Admin	0	0	0
Used in office	0	4	5
used in trade	100	35	42

IX. Installed Location



	Behrampur	Chengulpattu	Guwahati
Not Installed	1	32	17
Elsewhere	2	0	0
Lab	24	6	27
Office	0	6	5
Workshop	75	28	15

Chapter 4

Good Practices observed in the Survey

1. Cleanliness of Campus Premises:

   During the survey it was found that ITIs have been focussing on providing neat and clean environment to trainees. This also includes cleanliness in toilets and extensive use of waste collection and disposal means.

2. Green Areas and Plantation:

   Most of the ITIs maintain green areas with the involvement of students. It has been observed that plantations and well as management of green areas has created a positive environment in learning institutes.

3. Use of Environment Augmentative measures:

   ITIs has adopted Solar energy and rain harvesting measures to save energy and environmental care. Moreover, ITIs are moving to energy efficient equipment as well as lightening while procuring new equipments.

4. Involvement of students in preventive maintenance of Equipments:

   It has been observed that ITIs have involved students and workshop in-charges in preventive maintenance of electrical and mechanical equipments. It is proving to be hand on experience for trainees to understand and include the preventive maintenance in curriculum as well.

5. ITIs have initiated inclusion of EHS aspects in course curriculum for trainees. It involves use of safe practices on equipment operation, Use of PPE, Use of safe handling of hazardous material and handling of emergency situations.

Chapter 5

Recommendations based on the survey Inputs

1. It has been observed that few software which are purchased for the previous trades are not updated. It is recommended that educational/functional equipments must be purchased for perpetual licenses wherever possible so as to reduce the skill gap in industry viz-a-viz technical trainings offered by ITIs.

2. AMC is hardly provided for sophisticated equipment's. It is recommended, to ensure AMC of sophisticated equipment's for the durability of the equipments.

3. It was observed that, though, Personal Protective Equipment (PPEs) were available at ITI's, quantity, quality & application of PPE is found to be less when compared to number of registered students. It is recommended to provide the number of PPEs as per industrial requirements.

4. Nodal authority for Environmental Management Plan (EMP) and Environmental Management Follow-up Plan (EMF) has to be appointed for each ITI so that environmental awareness, sustainability plan and environmental projects such as solar panels installation, energy efficient lighting (BEE labelled), wastewater management, Rainwater harvesting solid and hazardous waste management can be done effectively as sufficient fund for maintenance is found to be available during the survey. In general, Environment, Health and Safety (EHS) is to be prioritized in the curriculum.

5. Public Works Department (PWD) and Management of ITI's have to work together to ensure timely maintenance of building. Most of the new buildings do not include sanitation facilities and design for physically challenged is found to be less adequate.

6. Though, 78% of Equipment procured meets NCVT requirements, procurement strategy should include the relevant product quality mark wherever possible to ensure adherence to quality standards, user safety and environmental norms.

7. It has been found that equipment traceability is a big challenge and no usage/maintenance records are available in most of the ITIs. Equipment maintenance record needs to digitizes and maintained centrally as only 11% of the sampled ITI's maintained the log book for maintenance. Maintenance of equipment should be a key part of the MIS and to be monitored and measured for effective usage.

8. As a good practice, It has been observed that most of the ITI's opted for ISO 9001 certification and none of them were found to be Valid and certificates expired almost 5 years back. It is recommended that all ITI's should opt for ISO 9001:2015 certifications so that quality of the system remains same for all institutes. It will give an opportunity for improvements and easy to use platform for auditing the documented information procedures as well as records.

9. First aid and fire drills should be must for all ITI staffs.

10. Wherever possible, sophisticated equipment's must be insured.

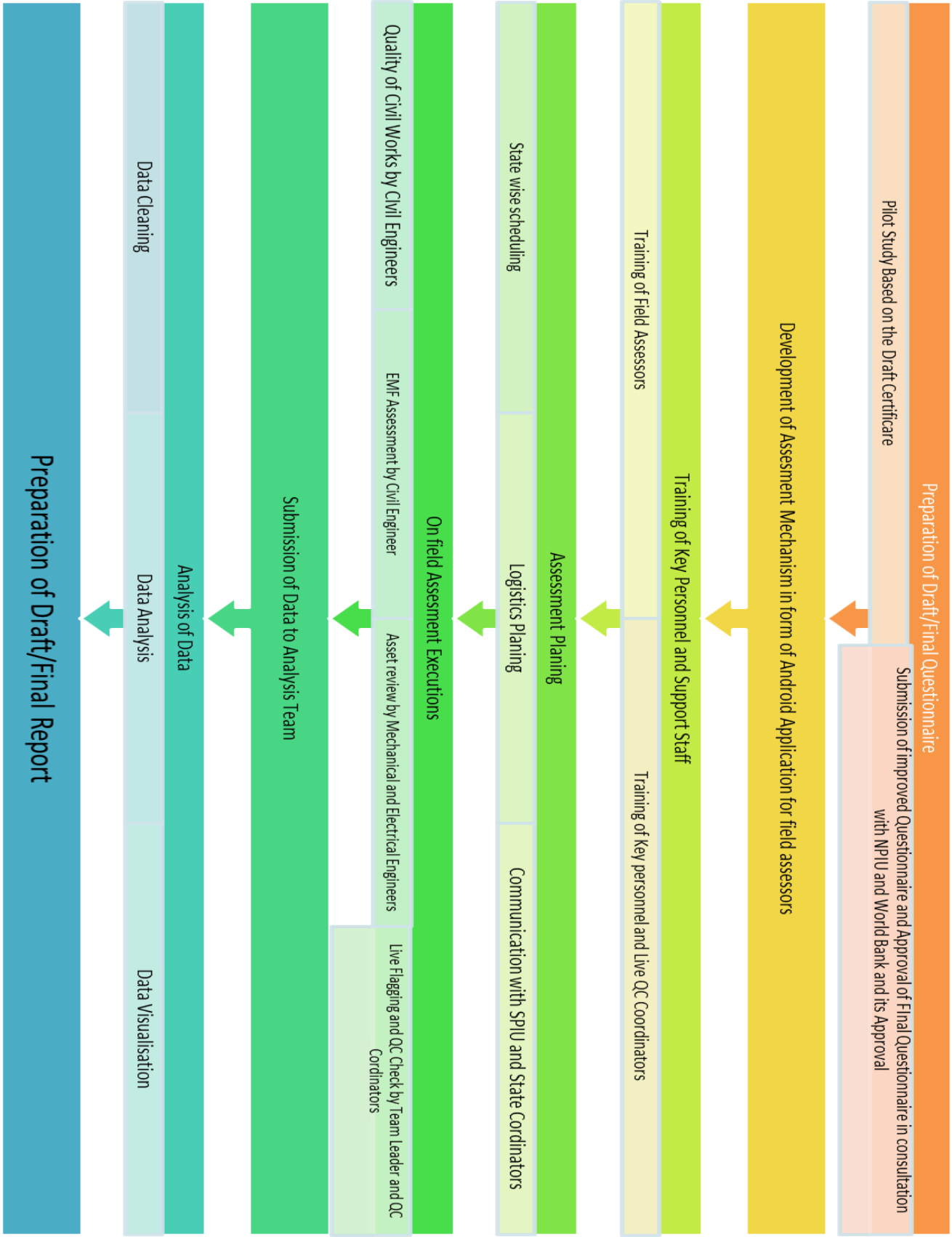
Chapter 6

Annexures

Annexure A: List of Sampled ITIs

List of 40 Sampled ITI						
States	District	Location	ITI Code	Trade	Catefory	Gender Specification
Andhra Pradesh (17 ITIs)	Visakapatnam	Visakhapatnam, Kancherlapalem Mett, Industrial Estate,	GU28000144	Automobile	URBAN	
Andhra Pradesh (17 ITIs)	Chittoor	Tirupati	GR28000182	Electrical	RURAL	
Andhra Pradesh (17 ITIs)	Vizianagaram	Vizianagaram (W)	GR28000281	Electrical	RURAL	WOMEN
Gujarat	Rajkot	Gondal	GU24000308	Electrical	URBAN	
Gujarat	Mahesana	Vadnagar	GR24000132	Automobile	RURAL	
Gujarat	Mahesana	Mehesana	GR24000129	Production & Manufacturing	RURAL	
Gujarat	Kachchh	Gandhidham	GU24000307	Electrical	URBAN	
Gujarat	Anand	Vasad	GR24000216	Chemical	RURAL	
Haryana	Sirsa	Sirsa	GU06000008	Automobile	MCD/URBAN	
Haryana	Hisar	Hisar	GU06000003	Fabrication(Fitting & Welding)	URBAN	
Haryana	Palwal	Palwal	GU06000017	Fabrication	URBAN	
Haryana	Sonipat	Butana	GR06000078	Upgradation of trades	RURAL	
Jharkhand (3ITIs)	Dhanbad	Dhanbad	GR20000007	inforamtion Technology	RURAL	
Jharkhand (3ITIs)	Ranchi	Ranchi (Welfare)	GR20000011	Electrical	MCD/RURAL	
Madhya Pradesh(28 ITIs)	BHOPAL	Gas ITI Bhopal	GR23000263	Ref & Air Conditioning	MCD/RURAL	
Madhya Pradesh(28 ITIs)	BALAGHAT	Baiher	GR23000067	Upgradation of Trades	RURAL	
Madhya Pradesh(28 ITIs)	MORENA	Morena	GR23000034	Upgradation of trades	RURAL	
Madhya Pradesh(28 ITIs)	UJJAIN	Ujjain	GR23000245	Upgradation of trades	RURAL	
Madhya Pradesh(28 ITIs)	RAISEN	Mandideep	GR23000139	Upgradation of trades	RURAL	
Maharashtra(87 ITIs)	Kolhapur	Kolhapur	GU27000021	Production & Manufacturing	URBAN	
Maharashtra(87 ITIs)	Pune	Ghodegaon Dist Pune	GR27000227	Production & Manufacturing	RURAL	
Maharashtra(87 ITIs)	Pune	Malegaon(B) Dist Pune	GR27000065	Industrial Automation	RURAL	
Maharashtra(87 ITIs)	Aurangabad	Paithan Distt Aurangabad	GR27000117	Upgradation of trades	MCD/RURAL	
Maharashtra(87 ITIs)	Ahmednagar	Ahmednagar	GR27000023	Electrical	RURAL	
Maharashtra(87 ITIs)	Thane	Vangaon	GR27000051	Production & Manufacturing	RURAL	
Maharashtra(87 ITIs)	Mumbai	Kurla	GU27000167	Production & Manufacturing	URBAN	
Maharashtra(87 ITIs)	Ahmednagar	Jamkhed	GR27000092	Upgradation of trades	RURAL	
Maharashtra(87 ITIs)	Solapur	Aklus	GR27000182	Upgradation of trades	RURAL	
Maharashtra(87 ITIs)	Solapur	Solapur	GR27000022	Production & Manufacturing	RURAL	
Maharashtra(87 ITIs)	Thane	Thane (W)	GU27000230	Electronics	URBAN	WOMEN
Maharashtra(87 ITIs)	Nagpur	Nagpur (W)	GU27000151	Information Technology	URBAN	WOMEN
Orissa(9 ITIs)	Ganjam	Berhampur	GU21000525	Automobile	URBAN	
Orissa(9 ITIs)	Bolangir	Balangir	GU21000513	Upgradation of trades	URBAN	
Orissa(9 ITIs)	Khurda	Bhubaneshwar(W)	GU21000510	Information Technology	URBAN	WOMEN
Tamil Nadu(17 ITIs)	Chennai	Guindy (W)	GR33000070	Apparel	RURAL	WOMEN
Tamil Nadu(17 ITIs)	Kacheepuram	Chengalpattu	GR33000066	Production & Manufacturing	RURAL	
Tamil Nadu(17 ITIs)	Madurai	Madurai	GU33000060	Automobile	URBAN	
Uttrakhand(10 ITIs)	Haridwar	Haridwar	GU05000082	Production & Manufacturing	MCD/URBAN	
Uttrakhand(10 ITIs)	Udham singh nagar	Kashipur(W) Udham Singh Nagar	GU05000096	Upgradation of trades	MCD/URBAN	WOMEN
Assam (7 ITIs)	Kamrup	Guwahati	GU18000004	Construction & Wood working	URBAN	

Annexure B: Assessment Methodology



Annexure C: Questionnaire for Quality of Civil Works

Quality of Civil Works				
Sr. NO.	**Assessment**	**Assessment**	**Options**	**Objective**
1	Building Details	**Type of Building**	**Workshop/Teaching Block/Hostel**	**Picture**
		If Others	**Comment**	
2	Building design as per procurement Plan	**Civil**	**DD/MM/YY**	
		Structural Specificatio	**Yes/No**	
		Handing	Yes/No	Picture
		If No-	RECD/ Not	Picture
3	Maintenance of construction	Is sufficient	Yes/No	Picture
		Plastering of	Done/ Not	Picture
		Repair of	Done/ Not	Picture
		Painting in	Done/ Not	Picture
		Minor	Done/ Not	Picture
		Major	Done/ Not	Picture
4	Effective use of new building	Being used	Specify	Picture
		If No- What	Specify	Picture
		the building	Yes/No-	
		What	Specify	
		Level of	High/Mediu	
5	Structural safety issues	Major	Specify	Picture
		If Yes-	Specify	Picture
		Causes of	Specify	
6	Key issues and hurdles	Key issues	Comment	
		Institutional	Comments	
7	Regulatory and Statutory	NOC from	Yes/No	Picture
		Consent to	Yes/No	Picture
		Building	Yes/No	Picture
8	Quality	What are	Comment	

Annexure D: Questionnaire for Environment Management Framework Review

Environment Management Framework review				
Sr. NO.	**Assessment Head**	**Assessment Parameter**	**Tick all applicable options**	**Objective evidence**
1	Building Maintenance and Key Facilities	Water Supply Arrangements	1. N/A /2. Supply from ULB /3. Ground Water/ 4. Natural source	Picture
		Clean drinking water for trainees	Yes/No	Picture
		Sanitation Arrangements/ Discharge from ITI	1. N/A / 2. In-house sewage Treatment / 3. ULB Disposal	Picture
		Waste water disposal	N/A 2/ ETP/ Direct disposal in drain	Picture
		Rain Water Drainage	Yes/ No	Picture
		Solid Waste Collection	N/A 2/sufficient garbage bins 3/ insufficient garbage collection	Picture
		Solid Waste disposal	Through ULB/ Private Operator	
		Power Supply- Internal Source	N/A /As and when required/regular	Picture
		Power Supply- external	N/A /As and when required/regular	Picture
		Storage of Materials (sufficient Designated Areas)	Yes/No	Picture
		Boundary/ fencing of ITI for access restriction	Yes/No	Picture
		Adequate No. of Toilets for all users	Yes/No	Picture
		Separate toilets for Girl Students	N/A Yes/No	Picture
		Natural Light in newly constructed Blocks	Yes/No	Picture
		Effective Ventilation of the facility	Yes/No	
		Effective Cleanliness of Campus	Yes/ No	Picture
2	Fire Safety Arrangements	Availability of Fire extinguishers	Yes/ No	Picture
		Availability of fire buckets	Yes/No	Picture
		Fire Drills	Yes/ No	
3	Electrical Safety practices	Grounding of equipment	Yes/No	Picture
		General electrical Maintenance	In-house/Outsources/ as and when required/ No	
		Three phase termination and transmission boxes are properly assigned	Yes/ No	Picture
		Transformer maintenance	Yes/ No	Picture
		Lightening Arrestor for the building	Yes/No	Picture
4	Barrier free access for physically challenged	Availability of walkways/ Ramps	Yes/No	Picture
		Feedback from physically challenged	N/A 2/ Specify	Comment
5	Handling of hazardous material	Signage and boards	Yes/No	Picture
		Storage Areas	Yes/No	Picture
		How accidental Spillage/ Leakage of Hazardous Material is handled	Comment	
		Availability of PPEs	Yes/No	Picture
6	Workshop Safety	Gaurd on rotating equipment	Yes/No	Picture
		PPEs in workshops	Yes/No	Picture
		Other Safety Arrangements	Comments	
7	First aid and emergency response	Training of key staff on first aid	Yes/NO	Picture
		Availability of first aid kits	Yes/NO	Picture
		Availability of ambulance or emergency carriage on call	Yes/NO	
				Picture
9	Environmental augmented measures	Use of Solar energy	Yes/NO	Picture
		Use of rain water harvesting	Yes/NO	Picture
		Green areas and plantations	Yes/NO	Picture
		Is Energy efficiency a criteria for purchase of Electrical/ energy Saving equipment	Yes/No	
		Energy Efficient lightening is being used in the premises	Yes/No	Picture
		BEE labelled appliances are used in the ITI premises	Yes/No	Picture
		waste segregation	Yes/NO	Picture
10	Other Important Considerations	Current Nodal Person for Managing EMF	Name Designation	
		Schedule of Review/Reporting of EMF	Comment	
		Whether EHS aspects are included in the curriculum	Yes/NO	Picture
		EMF follow-up plan during the project execution exists	Yes/No	Picture
		Availability of Sustainibility Plan	Yes/No	Picture
		Examples of Sustainibility Plan	Comment	
		Picture of Sustainibility Plan	Picture	
		Is Sustainability Plan being followed	Yes/No	Picture

Annexure E: Questionnaire for Physical Review of Assets

Physical Verification of assets		
Sr. NO.	**Parameter**	**Options**
1	**Name of Asset/Item**	Name of the equipment with relevant details
2	**Coding of asset**	Coding of asset done by the institute in asset register
3	**Make of the Asset**	Manufacturer/Brand Name
4	**Date of Purchase**	DD/MM/YYYY
5	**Qty.**	No.
6	**Rate**	INR
7	**Whether the equipment is unutilised/ in Packed condition**	(in case of no equipment is declared non-functional Skipping all other parameters)
8	**Picture of the packed/sealed equipment**	Picture for QC purpose of assessment firm
9	**Installed Location**	Workshop/ Office/ Lab/ Elsewhere-Specify
10	**Whether the equipment was purchased for COE/CTS Section?**	COE/ CTS/ Others- Specify
11	**Name of COE Course for which equipment was purchased**	Name of course
12	**Current Use of the equipment**	Trade Name/ Office-specify/ Admin-specify/ Others-specify
13	**Whether the equipment is functional**	Equipment is functional/ Equipment is not functional/ Under breakdown maintenance/ Others- Specify
14	**10 Sec video of functioning of equipment**	For QC usage by the assessment firm
15	**Applicable relevant Quality Standard**	IS/CE/BEE/DIN/UL/GS/Others-Specify/NA/Not present
16	**Picture of the Quality Mark**	For QC usage by the assessment firm
17	**As per prescribed list of equipment by NCVT**	As per prescribed List/ Not as per prescribed List
18	**If No any deviations wrt to prescription list of NCVT Deviations**	Upgraded/ Others- Specify
19	**Deviations are endorsed by IMC**	Yes/ No
20	**Training by vendor on the equipment use**	Yes/ NO/ Doesn't Required Training
21	**No. of trainings done by vendor**	Number
22	**Quality/Effectiveness of training**	Rating 1 to 5
23	**Maintenance records in log book**	Maintenance Record are Available/ Not Available/ Log book partially maintained

24	**Maintenance Mechanism**	(By students/Instructors/ Maintenance Staff/ AMC/ only breakdown/ No Maintenance)
25	**Details of AMC**	Comment
26	**Which resources are required to operate the equipment**	Identify resources including raw material/consumables (i.e. for printer :cartridges/ toner and paper)
27	**Availability of resources to run the equipment**	Log available Resources
28	**Picture of resources required to operate the equipment**	Picture for QC purpose of assessment firm
29	**Asset insured or not**	Specify
30	**SOP available or not**	SOP Available and Displayed/ NO need of SOP/ SOP not displayed
31	**Whether consistent availability of Power available for the equipment**	N/A, Yes, No, Others-Specify
32	**Equipment Safety Concerns at installed locations**	(safe location, Locking during off hours, Temperature regulation if required, any other environmental variables which may pose safety concerns)
33	**No. of breakdowns for the equipment**	Number
34	**What are the arrangements done by ITI to maintain and monitor the equipment**	Comment
35	**Any good practices observed**	Comment