DRAFT

A Study on

Efficacy and Impact of NATS throughout the Country

Submitted to

The Ministry of Education
Government of India

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EXECUTIVE SUMMARY

Apprenticeship is a structured system through which students gain practical, on-the-job training while earning a minimum stipend or wage. The age of entry and stipend levels differ across countries. This system aligns the industry's demand for skilled manpower with the supply of trained youth, thereby ensuring that industrial establishments have a workforce with relevant skills. Upon completion, apprentices obtain valuable work experience and certification, enhancing their employability in the job market.

To boost the supply of skilled labour and provide job-ready skills to the country's youth, the Government of India enacted the Apprentices Act, 1961, establishing the National Apprenticeship Training Scheme (NATS). The key objectives of the scheme are (i) Bridging skill gaps by providing practical, hands-on experience to fresh graduate engineers, diploma holders, and general streams graduate and diploma holders, complementing their academic learning, (ii) Facilitating training opportunities across public and private sector establishments, and (iii) Disseminating information on practical training through lectures, films, and other means. Since its enactment, the Act has been modified with five amendments enacted in 1973, 1986, 1992, 2014 and 2019. Some of the major changes enacted in recent amendments are:

- 2014: Non-engineering degree and diploma courses were included under NATS with effective from 2021.
- 2019: (i) Mandatory engagement of apprentices in the range of 2.5 to 15 per cent by establishments/employers having 30 or more workers, (ii) Voluntary engagement of apprentices in the range of 2.5 to 15 per cent by establishments having more than 4 and upto 29 workers, (iii) Stipend for different category of apprentices was revised with effective from 2021.

The Ministry of Education implements the scheme through four Regional Boards of Apprenticeship Training (BOATs) located at Chennai (Southern Region), Kanpur (Northern Region), Mumbai (Western Region) and Kolkata (Eastern Region).

The present study assesses the key objective of the Scheme at the PAN-India level. The objectives are (i) to examine the impact of NATS on employment outcomes, (ii) assess the input-use efficiency of the scheme, (iii) analyse the requirement and availability of apprentices, (iv) evaluate the scope and coverage of the scheme, (vi) determine the scheme's relevance for national priorities and the Sustainable Development Goals (SDGs), (vii) identify bottlenecks in implementation and recommend remedial measures to improve effectiveness.

A 360-degree evaluation approach and a suitable methodology (as suggested by DMEO, NITI Aayog) are used to find answers to the questions corresponding to each objective stated above. As recommended by DMEO, NITI Aayog, the evaluation analysis of the study is based on the Output-Outcome Monitoring Framework (OOMF) and REESI+C+E (Relevance, Effectiveness, Efficiency, Sustainability, Impact, Coherence and Equity) evaluation methodology (for details see Chapter 2). The OOMF framework has a number of benefits, such as providing a standardised approach for strategic mapping of the scheme, clearly demarcating outputs and outcome indicators, and helping to identify key audit and evaluation questions.

The analysis of information collected from all stakeholders of the Scheme covers both quantitative and qualitative data. While quantitative information has been collected from both secondary and primary sources, qualitative information has been obtained from only primary sources. The secondary information covers the published data related to the scheme by the Ministry of Education (MoE) and four regional boards. Primary data collection involves personal interviews of beneficiaries, non-beneficiaries and key informant interviews of implementers at different levels and experts from various fields such as industry and academic institutions. Stakeholders covered under the survey are (i) establishments, (ii) institutions, (iii) ex-apprentices, (iv) ongoing/on-roll apprentices, (v) graduates as a control group (not part of NATS), (vi) third-party aggregators (TPAs), and (vii) regional boards.

A scientific statistical method was used to derive the sample size from the total population of establishments. Using the statistical formula, we found that the sample size of establishment for the study is 355 with a 95 per cent confidence interval and a 5 per cent margin of error. From each establishment, on an average 10 apprentices/trainees (including ex- and ongoing) were covered under the study. In total, 4334 trainees were interviewed under the study from four regions. The details of the sample size are given in Chapter 2.

The key findings of the study are presented below:

A. Basic Profile

- ✓ *Establishments:* A total of 334 establishments were surveyed under the study. Out of which, the ratio of private to public establishments is reported as 79.3:20.7 per cent. In terms of activity, the ratio of manufacturing to services is 42.2:57.8 per cent. The composition of establishments by size is 38.6 per cent of large, 31.1 per cent of medium, 11.4 per cent of micro and 18.9 per cent of small.
- ✓ *Ex-apprentices:* The total number of ex-trainees covered under the study is 939, out of which 58.5 per cent got their training from private establishments and 41.5 per cent from public establishments
- ✓ *On-Roll apprentices:* A total of 3395 apprentices were surveyed. Out of which, about 77 per cent are currently undertaking training from private establishments, and the remaining 23 per cent from public sector establishments. By qualification, 69.1 per cent of apprentices have a degree qualification, and 30.9 per cent have a diploma qualification.
- ✓ *Institutions:*39 institutions participated in the survey. Out of which 19 were public sector institutions and 20 were private sector institutions.
- ✓ *TPAs:* A total of 53 TPAs were interviewed, out of which 22.6 per cent of TPAs were covered from the northern region, 24.5 per cent from the eastern region, 24.5 per cent from the western region and 28.3 per cent from the southern region.

B. Impact of the Scheme

- ✓ 74 per cent of Ex-NATS trainees are engaged in wage employment, self-employment, and family enterprises. Out of which, the majority (60 per cent) are in wage employment, reflecting strong employability outcomes of the scheme.
- ✓ 76 per cent of wage-employed Ex-NATS trainees secured their first job within three months of completing training. Only 4 per cent experienced job searching beyond one year.

A staggering 91 per cent of wage-employed trainees reported being fully satisfied with their current job, which reflects a positive alignment between knowledge gained from NATS training and current job assignment.

- ✓ A whopping 67 per cent of ex-apprentices were hired by the same enterprise where they received training, which indicates that the on-the-job training has enhanced the employability of the students as per industry needs.
- ✓ Not only wage-employed apprentices, but also 79 per cent of self-employed respondents have reported NATS training is very useful for them.
- ✓ The average starting remuneration for a wage-employed NATS trainee is Rs. 20,105 per month. For a self-employed trainee, the average monthly gross income is Rs. 17,876 per month. A significant 70.4 per cent of respondents acknowledged that NATS contributed to their wage employment or self-employment, either fully or partially. This indicates the scheme's strong role in enhancing employability, improving job readiness, and creating entrepreneurial confidence among youth. Thus, the Scheme's objectives are aligned with Sustainable Development Goal (SDG) 8 of 'decent work and employment'.
- ✓ 97.9 per cent of on-roll apprentices rated training is useful or very useful in securing employment. By sector, On-roll trainees from the private sector units have reported higher usefulness than those in the public sector units.
- ✓ Another important impact of NATS is the significant improvement in skills of trainees. Judging by the feedback of the establishments or self-assessment by the trainees, there is significant upward mobility of the trainees in terms of acquisition of industry-relevant skills.
- ✓ A staggering 77.5 per cent of Establishments/ employers found that NATS apprentices are fully fit for absorption in their units after the completion of training. More importantly, more than 95 per cent of private sector establishments have expressed their desire to retain the trainees.
- ✓ Establishments feel that NATS training increases skill competence and infuses commitment and discipline among the candidates, and hence increases productivity at workplaces. Around 97.5 per cent of establishments reported productivity improvement due to NATS trainees. This is one of the reasons behind the willingness of establishments to retain the trainees.

C. Relevance

- ✓ The relevance of NATS scheme lies in how the objectives of the scheme align with the priorities of the nation, the sector and the beneficiaries. The NATS scheme was revamped by the Government to suit the requirements of the industry to improve the availability of skilled labour and thus can cater to the overall industrial growth and capacity building of the current generation.
- ✓ Our study found that the NATS scheme is most relevant in bridging the skill gap and creating an industry-ready workforce. Out of total number of establishments surveyed, 97 per cent of them feel that the scheme is successful in meeting the skill needs of the industry, and 99 per cent of them reported that the scheme is relevant for them to create an industry-ready and future-ready workforce.

- ✓ Of the total number of sample establishments, around 99 per cent of them think that the NATS scheme substantially reduces the hiring cost of skilled workers, and 97 per cent of them feel that the scheme is helpful in providing local employment to local youth.
- ✓ On the part of the apprentices, 87 per cent of them feel that NATS scheme imparts necessary skills and training and thus helps reducing skill deficiency. Not only that, 95 per cent of On-roll apprentices and 96 per cent of ex-apprentices feel that the training curriculum under NATS is fully relevant and aligned with the requirements of modern industrial needs. Going by the responses and feedback of all stakeholders, it can be safely argued that the importance and relevance of the NATS scheme have enhanced over the years.

D. Effectiveness

- ✓ Effectiveness of a scheme refers to whether the scheme has achieved its desired outcomes. The self-assessment evaluation done by apprentices revealed that while only about 5 per cent of the candidates whose skill level was "excellent" or "very good" at the time of joining apprenticeship, by end of one-year training, above 60 per cent of same candidates revealed that their skill level as either "excellent" or "very good".
- ✓ This view is corroborated by establishments also, where 63 per cent of public and 67 per cent of private establishments feel that the skill proficiency level of NATS trainees is either "excellent" or "very good" at the end of completing the training.
- ✓ Around 99 per cent of establishments feel that the scheme is advantageous to them. Needless to say that this advantage comes from access to new talents and skills of fresh graduates who can be imparted necessary training and can be moulded to fit the industry's need at a very young age.

E. Efficiency

- ✓ Efficiency of the NATS scheme has improved over the years. The implementation process starting from hassle-free admission to end term assessment and certificate generation has been made online and easily accessible. Any scope for leakage has been eliminated with the introduction of Direct Benefit Transfer.
- ✓ The scheme provides ample opportunity for skilling and capacity building of students. They are highly satisfied with the training facilities, learning modules and experienced faculties under whose supervision they work. In their view NATS is bridging the gap between theoretical knowledge and practical applications.
- ✓ Establishments are satisfied with the quality of talent they get through NATS. They feel that the NATS trainees are committed to learning, disciplined and have a good level of understanding. NATS portal has made all the compliances easy. They get required help and support from the BoAT all the time. Introduction of TPA has made their task easy and have lessened the burden on them.
- ✓ Although there has been a continuous effort by BoAT to improvise the system through plugging the loopholes, delay in the payment of DBT is still a major concern. A large number (almost one-fourth or 25 per cent) of the apprentices have reported delay in the receipt of DBT. This causes a lot of hardship to the apprentices. All necessary steps (including ensuring adequate funds for DBT) should be taken for timely disbursal of DBT.
- ✓ BoAT has in recent years stepped up awareness generation activities through meetings, interactions with institutes and students. They have also been organising industry- institute interactions and job fairs on regular basis, but there is in general low level of awareness

among the educational institutes. The outreach of BoAT has increased in recent years, and more new institutes have been brought under the platform. But still there are more efforts are required in this regard. BoAT also needed to be strengthened with additional manpower and funds.

- ✓ Another suggestion that came from all the stakeholders is to make the NATS portal more user-friendly and accessible. Since most of the tasks are now being done through the NATS portal, efficiency of the scheme crucially depends on how well the portal is working. It should be developed and maintained by a reputed software company and incorporate the latest features and advances in IT.

F. Sustainability

- ✓ Future sustainability of the scheme will depend on adequate provisioning of the financial and human resources. We have done a simple extrapolation exercise to calculate the amount of resources required for the continuous expansion of the scheme under two different scenarios. In the first scenario, at the current rate of growth of apprentices and present rate of stipend, the scheme would cost 2.2 per cent of total budget of DoHE in 2029-30. In the second scenario, with the current rate of growth and an enhanced rate of stipend (50 per cent hike from the current stipend) would cost 3.3 per cent of departmental budget of DoHE in 2029-30. Thus, it can be safely said that the scheme would not cost much additional burden on the government even if the stipend is hiked to a realistic level, considering the rising cost of living over the years.
- ✓ The target number of apprentices has been increasing over the years. Between 2024-25 and 2025-26, the target has doubled. But most of the BoAT offices lack adequate manpower. A simple calculation shows that at the all-India level, one assistant director has a set target of enrolling 50000 apprentices. Below the level of assistant directors, there are a few field-level staff such as officers on special duty or liaison officers, who are given charge of specific regions. In addition to enrolling apprentices, there are other responsibilities such as contract approval, constant liaison with establishments, organising events, certificate generation and so on. Therefore, unless the regional BoATs are strengthened with additional manpower, the expansion of the scheme will suffer.

G. Equity

- ✓ About 75 per cent of apprentices, both from ex-apprentices or on-roll, come from families earning below ₹42,000/month, underscoring the program's role in supporting low- and lower-middle-income groups.
- ✓ Out of total trainees surveyed, male trainees are 65.7 per cent and female trainees are 34.7 per cent, suggesting further improvement in participation of girl's students in the program.
- ✓ In terms of social categories, trainees from other backward classes (OBC) represent highest with 39.9 per cent, followed by general class with 39.7 per cent, SC with 16.3 per cent and ST with 4.0 per cent, highlighting that the scheme has fairly taken care of all sections of the society.

H. Skill Gaps and Future Skill Needs

- ✓ The study looked into the skill gap in different sectors. Majority of establishments viewed that skill deficiency is evident in sectors like soft skills, Dairy technology, Electrical and Electronic Engineering, Electronics and Telecommunication Engineering, Healthcare, Pharmaceuticals, Automobile, and Tool and die manufacturing.

- ✓ Almost 42 per cent of private enterprises and 34 per cent of public enterprises suffer from lack of skilled labour. In case of highly skilled workers, these figures are 24 per cent and 35 per cent respectively, which suggests that NATS provides an opportunity to fill these gaps.
- ✓ As far as shortages of skilled labour in future is concerned, 34 per cent of the private enterprises and 19 per cent of public enterprises predict a shortage of skilled labour in their industry.
- ✓ As far as areas of future skill training required by students, emerging trades like AI & ML, mechanical and communication engineering are most sought by degree engineering students. For diploma engineering students, the most desired courses are mechanical, electrical and AUTOCAD specializations. For non-engineering background students, communication and management skills, account managers, and biotechnology will be in high demand.

I. Key Challenges and Policy Suggestions

Regional Boards (BOAT/BOPT)

Key Challenges

- In comparison to regional coverage and increasing targets under the scheme, BoAT has limited manpower or insufficient human resources, which affects its operations, especially, timely service delivery, outreach to establishments and institutions and awareness generation and overall administration and management of the scheme.
- Frequent glitches in the NATS 2.0 portal have caused many operational inconveniences and difficulties for BoAT (See Appendix for details). The user experience is less than satisfactory. The whole process of data uploading and management is time-consuming and subject to frequent timeout errors. At present, the portal fails to meet even less of its expected outcomes or features.
- BoAT often runs out of funds for timely disbursement of DBT. Hence, payment of DBT is often delayed and that causes enough difficulties and hardships for apprentices. Some of the private establishments who have migrated to the reimbursement mode and pays the full stipend amount to apprentices in order to claim the reimbursement of government share from BoAT have complained that the reimbursements never arrive on time and the waiting period is very long.

Policy Suggestions

- To manage the increasing workload more efficiently and to increase its presence at the field-level BoAT needs to recruit additional manpower particularly field level officers and technicians.
- There is an urgent need to resolve the technical hitches and security risks on the NATS portal. It should be managed by professional agencies. More user-friendly features such as AI based chat bots, bulk action features, in built analytical tools should be introduced.
- Adequate fund should be made available to BoATs for timely disbursement of DBT to candidates and payment of reimbursement to establishments. The establishments can be given the freedom to choose either DBT or reimbursement mode as per their convenience.
- The present coordination system between BoAT, establishments and institutions looks like one-way traffic, where despite BoAT's full efforts, the participation of establishments and

institutions is lagging. There is a need to bring some policy changes by motivating the other two stakeholders to actively participate in NATS – for say, giving credit points to institutions under NAAC for conducting NATS related activities and loan facilities to MSMEs for participating in NATS.

Establishments

Key Challenges

- Some establishments find it difficult to find sufficient number of candidates to comply with the Act. Some face a high attrition rate. This is happening largely due to low awareness, lower stipend, preference for direct jobs than apprenticeship, unwillingness to relocate to different locations, absence of job guarantee, lack of available candidates in certain disciplines with specific skills and so on.
- The problem of drop-outs and absenteeism among apprentices is a significant concern for many establishments. A considerable number of apprentices discontinue their training midway and in such case termination of the apprenticeship contract, which requires approval from BoAT, takes a long time leaving the establishments uncertain about the next steps and causing administrative delays.
- Establishments also find it challenging to manage their affairs on the NATS portal. The entire process right from contract generation and ROP uploading to certification, is time-consuming and requires an enormous effort.

Policy Suggestions

- Expediting the process of approvals by BoAT, establishing a proper mechanism, managing the demand-supply gap more efficiently, more field-level engagement, addressing portal related issues immediately, hike in stipend to make the scheme more attractive.
- MSMEs should be provided with additional incentives or business support if they engage apprentices under the scheme. Such measures would encourage MSMEs to participate more actively in NATS, contribute to skill development, and promote balanced industrial growth.
- Establishments should consider giving priority to NATS-trained apprentices when filling regular employment vacancies. This could significantly increase the attractiveness of the scheme among students and make more candidates available to them. PSUs/ PSEs should reserve a certain percentage of their entry-level jobs for apprentices.

Institutions

Key Challenges

- Apprenticeship training is generally not the first preference for bright students or those studying in urban areas where multiple job opportunities are readily available.
- Many students in such contexts prefer to secure direct employment immediately after completing their courses or opt for higher studies to further enhance their qualifications.
- Lack of awareness among institutions and students about the NATS scheme and its benefits.

- Do not receive timely information about which of their students have completed registration under NATS and who have secured placements.

Policy Suggestions

- Institutions should have direct access to apprenticeship requirements and advertisements posted by establishments on the NATS portal. They should also have a tool for tracking the applications from their respective institutes on the portal.
- To attract talented and urban students, the scheme should offer competitive stipends, clear career pathways, and potential employment assurances, making apprenticeship a more attractive and viable choice for all categories of students.
- Feedback on trainees' performance and their grievances during apprenticeships should be shared with the respective institutions, either through the BOAT office or directly by the establishments. This would help institutions assess training effectiveness and address any gaps.
- BOAT was advised to develop an alumni portal for NATS trainees. Such a portal would play a crucial role in building a network of past apprentices and serve as an information hub, motivating and guiding future students to register under NATS.
- Conduct more institute-industry interactions and make more efforts for awareness generation and engagement of industries. Link NATS portal to institute website. Information dissemination through admission brochure and awareness sessions at early years in college.
- Use more present- day methods of communication such as WhatsApp messaging, sending SMS etc. to reach out to students

Apprentices (Ex-Apprentices and On-roll Apprentices)

Key Challenges

- Many apprentices expressed dissatisfaction with the current stipend amount, particularly those who have to stay away from home and bear additional living expenses. They find it challenging to manage within the limited financial support provided.
- Most apprentices reported facing delays of **2–3 months** in receiving their stipend through the Direct Benefit Transfer (DBT) system. This persistent delay significantly affects their morale and financial stability.
- Some newly joined apprentices highlighted that they have not received even a single installment of their stipend since starting their apprenticeship, despite depending on it to meet basic living expenses.
- Given that the overall stipend amount is already considered low, such delays exacerbate the financial hardship faced by apprentices, often forcing them to rely on personal loans or family support to manage day-to-day expenses.
- Delay in certificate of Proficiency also causes substantial difficulty for job applications.
- Many private companies still do not consider apprenticeship as full-time job experience even when necessary government orders are in place in this regard.

Policy Suggestions

- Stipend disbursement process be streamlined and made more robust to ensure **timely and uninterrupted credit of stipend** to apprentices' bank accounts, thus upholding the credibility of the scheme and supporting the trainees' welfare.
- Stipend should be linked to the minimum wage rates prevailing in each State for skilled workers, taking into account the cost of living in different categories of cities (e.g., metro, urban, rural). This would make the apprenticeship financially viable and more attractive to students.
- Certain marks or weightage should be accorded to the apprentices during the recruitment process for State and Central Government jobs. Currently, no such preference or benefit is extended to candidates who have completed their apprenticeship under NATS, which reduces the attractiveness of the scheme.
- **NATS portal should be made more user-friendly and accessible**, with additional checkboxes, clear options, and streamlined navigation to make the registration, tracking, and reporting processes smoother and faster.

Third Party Aggregators (TPAs)

Key Challenges

- Students are unable to clearly differentiate between the National Apprenticeship Promotion Scheme (NAPS) and the National Apprenticeship Training Scheme (NATS). This lack of awareness often creates confusion during registration and selection processes. Students who were eligible for NATS inadvertently applied for and joined apprenticeships under NAPS, only to realize later that they were receiving a lower stipend than they would have under NATS.
- There is a lack of awareness among establishments and institutes about the NATS scheme. This makes their job challenging.
- Many establishments prefer a longer period of apprenticeship (more than one year). But given the fact that government subsidy for stipend is just for one-year, many establishments find it difficult to engage apprentices under NATS.

Policy Suggestions

- Targeted awareness campaigns and clear guidance should be provided to students, institutions, and establishments to clearly distinguish between NAPS and NATS. This would help students make informed choices and prevent financial and administrative inconveniences for both trainees and establishments.
- Students who have completed their post-graduation should also be provided with opportunities to undertake apprenticeships under NATS with higher stipend.
- TPAs emphasized that to maintain trust in the system and reduce unnecessary pressure on their operations the DBT should be processed and released **on time every month — ideally by the 7th of each month.** This would ensure financial security for apprentices and smooth functioning for all stakeholders involved.

J. Overall Summary & Suggestions

Implementing these targeted policy measures will address the critical challenges faced by all stakeholders of the National Apprenticeship Training Scheme (NATS). Strengthening outreach, enhancing manpower and digital infrastructure, ensuring timely and adequate stipends, aligning academic curricula with industry needs, and fostering stronger industry–institution linkages will make NATS more effective, inclusive, and attractive. A robust and responsive apprenticeship ecosystem will not only boost youth employability but also equip India's workforce with industry-ready skills, driving sustainable economic growth.

The National Apprenticeship Training Scheme (NATS) is a vital national initiative aimed at providing practical, industry-oriented training to graduates and diploma holders, thereby improving their employability and bridging the skills gap in India's workforce. Despite its significant potential, the scheme currently faces multiple challenges, including limited outreach in remote areas, inadequate staffing and technical infrastructure at Regional Boards (BOAT/BOPT), low stipend rates, delays in stipend disbursal, gaps between academic curricula and industry needs, and lack of clear job pathways after training.

To address these issues, a comprehensive set of policy measures has been proposed:

- ✓ **Expand outreach and awareness**, especially in backward districts and hard to reach regions.
- ✓ **Strengthen staffing and digital infrastructure** to improve service delivery and grievance redressal.
- ✓ **Increase and ensure timely disbursal of stipends**, linking them to local minimum wages and cost of living.
- ✓ **Align academic programs with industry needs** and integrate apprenticeships into regular courses.
- ✓ **Mandate compliance and incentivize MSMEs** to engage more apprentices.
- ✓ **Promote post-training employability of trainees** through preference in hiring and prompt certification.
- ✓ **Clarify distinctions between NATS and other apprenticeship schemes** to avoid confusion.

Collectively, these measures will enhance the scheme's reach, credibility, and impact, making apprenticeships a more attractive and effective pathway for youth, while ensuring that industries have access to a steady supply of skilled, job-ready talent. This, in turn, will contribute to India's broader goals of skill development, industrial growth, and economic resilience.

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CHAPTER – 1

APPRENTICESHIP: ITS CONTEXT AND RELEVANCE

1.1 Introduction

New technologies, demographic shifts, climate change, globalization and more recently the crises such as the global health pandemic and regional conflicts are causing major disruptions to the movement of labour globally. In this context, it becomes paramount important for countries, particularly emerging ones, to build an agile workforce capable of navigating the fast-changing labour market through appropriate and timely skilling, reskilling and upskilling. The use of apprenticeship models or dual training systems can be an effective solution in the context of the future of work, as it bridges the gap between education and training systems and the world of work. Although apprenticeship is a centuries-old system which enables youth to acquire skills related to specific occupations, questions are increasingly being raised about its relevance for skilling, re-skilling and up-skilling in the context of the future of work and lifelong learning (ILO, 2023)[1].

Since time immemorial, societies have ensured that skills are transferred from one generation to another. Artisans were skilled workers who created things/products or provided services. These artisans were divided into two categories: a master craftsman and a journeyman or apprentice. The master craftsmen were highly valued and respected, and in order to uphold the standard of their trades formed Craft Guilds.

The nature of apprenticeship has changed over time with considerable variation among countries, but the apprenticeship method by which trainees learn a craft or trade by hands-on experience while working with a skilled worker is being practiced all over the globe. Apprenticeship isthe backbone of Technical Education and is complete only when conceptual knowledge at educational institutions is supplemented with effective and practical hands-on training in industry.

The apprentice system provides an opportunity for an apprentice to earn while learning; it is both a form of full-time employment and a process of education and training. Because of this dual character of apprenticeship, the academic-cum-industrial curriculum of apprentices must be designed in such a way as to help apprentices meet these two objectives.

[1] International Labour Organization (ILO) Recommendation R208: Quality Apprenticeships Recommendation (111th Conference Session Geneva 5 June 2023).
Available at:
https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:4344781

1.2 Importance of Apprenticeship in the Global Context

Apprenticeship is a system in which workers get on-the-job training, earning wages and doing productive work. After completing the apprenticeship, the apprenticeswill have valuable work experience and certification that allows them to work in an industry/trade.

The period of apprenticeship may vary from trade to trade and may last between one to six years. Apprentices work full-time and are paid a minimum wage or stipend. The age of entry and the amount paid to an apprentice vary from country to country.

There are three types of apprenticeships[2]:

- **Time-based**: the apprentice's progress is measured by the number of hours spent on the job and in the classroom.
- **Competency-based**: the apprentice's progress is measured by his or her ability to demonstrate the application of relevant knowledge, skills and abilities.
- **Hybrid**: the apprentice's progress is measured through a combination of hours spent in the program and competencies demonstrated in the workplace.

A bird's-eye view of apprenticeship systems in different countries is given below.

Australia: Australian apprenticeship caters to more than 500 occupations with an intake capacity of nearly four lakh trainees. The training is provided through Australian Apprenticeship Support Network[3].Australia also has a fairly unique safety net in place for businesses and Australian Apprentices with its Group Training Scheme. In addition to a safety net, other benefits include support for both the host employer and the trainee/apprentice through an industry consultant who visits regularly to make sure that the trainees/apprenticesare fulfilling their work and training obligations with their host employer.

Canada: In Canada, each province has its own apprentice programme. At the completion of the provincial examination, they may write the interprovincial standard examination. British Columbia is one province that uses these exams as a provincial exam. This means a qualification for the province will satisfy the whole country. The interprovincial exam questions are agreed upon by all provinces.

France: In France, the first batch of training centers for apprentices were set up in 1961 and in 1971 apprentices were legally made part of professional training. In 1986, the age limit for

[2]https://innovativeapprenticeship.org/what-is-apprenticeship/
[3]Australian Apprenticeships www.australianapprenticeships.gov.au

beginning an apprenticeship was raised from 20 to 25 years. The minimum training time rose to 360 hours a year in 1961, then 400 in 1986. From 1987, the range of qualifications achievable through an apprenticeship was widened to include the certificate of vocational aptitude, the vocational baccalaureate diploma, the advanced technician's certificate, engineering diplomas and more.

Germany: Apprenticeship training forms an integral part of Germany's dual education system and is recognized as the most successful model of apprenticeship. The dual system means that apprentices spend most of their time in companies and the rest in formal education. Usually, they work for three to four days a week in the company and then spend one or two days at vocational school. In 1969, a law was passed which regulated and unified the vocational training system and codified the shared responsibility of the state, the unions, associations and chambers of trade and industry. Finding employment without having completed an apprenticeship is almost impossible, which makes the training mandatory for all. The employer is responsible for the entire programme coordinated by the German Chamber of Commerce; apprentices are not allowed to be employed and have only an apprenticeship contract, which protects him/her from abrupt dismissal until the programme ends.

Japan: In Japan, apprenticeship and employee training have often featured a personal orientation rarely found in other industrial nations. The unique Japanese concept of apprenticeship stems from a difference in the relationship between employer and employee. Although this arrangement does not hold for most small and medium-sized companies, large Japanese companies have had a social obligation to provide lifelong work for employees who, in return, are required to continue with the same employer (until death or retirement)—no matter what the job assignment. Because Japanese apprenticeship emphasizes employment with a particular company, the close relationship between an apprentice and a specific trade, common elsewhere, is missing in Japan.

United Kingdom: In 1995, the UK government introduced Modern Apprenticeships (the name was changed to Apprenticeships in 2004), again to try to improve the image of apprenticeships and encourage young people to take them up. Work was begun on developing a more regulated system, defining frameworks for apprenticeships (such as Business Administration or Accounting) and linking them to particular qualifications and certificates. Those who complete an Advanced Apprenticeship (previously known as an Advanced Modern Apprenticeship) receive National Vocational Qualifications, a technical certificate and an apprenticeship certificate. The apprenticeship training is revitalized and as of 2009, there are 180 trades under apprenticeship programme in UK. Young people learn core skills rather than concrete subjects or abilities; employers have an employment contract with the apprentices and at the same time, independent companies offer them formal education. There is no minimum time requirement, although the average time spent completing an apprenticeship is roughly 21 months.

Government funding agencies contract with 'learning providers' to deliver apprenticeships and may accredit them as a Centre of Vocational Excellence or National Skills Academy. These organizations provide off-the-job tuition and manage the bureaucratic workload associated with

the apprenticeships. Providers are mainly private training companies but might also be further education colleges, voluntary sector organizations, the chamber of commerce or employers themselves.

United States: As per the US Department of Labour, Apprenticeship is a proven approach for preparing workers for jobs while meeting the needs of business for a highlyskilled workforce. It is an employer-driven, "learn-while-you-earn" model that combines on-the-job training, provided by the employer that hires the apprentice, with job-related instruction in curricula tied to the attainment of national skills standards. The model also involves progressive increases in an apprentice's skills and wages.There are five components of typical apprenticeship programs. These include:

- *Business Involvement*: Employers frequently work together through apprenticeship councils, industry associations, or other partnerships to share the administrative tasks involved in maintaining apprenticeship programmes.
- *Structured On-the-Job Training*: Apprentices receive hands-on training from an experienced mentor at the job site. On-the-job training focuses on the skills and knowledge an apprentice must learn during the programme to be fully proficient on the job. This training is based on national industry standards, customized to the needs of the particular employer.
- *Related Instruction*: One of the unique aspects of apprenticeships is that they combine on-the-job learning with related instruction on the technical and academic competencies that apply to the job. Education partners collaborate with business to develop the curriculum, which often incorporates established national-level skill standards.
- *Rewards for Skill Gains*: Apprentices receive wages when they begin work and receive pay increases as they meet benchmarks for skill attainment. These helps reward and motivate apprentices as they advance through their training.
- *Nationally recognized Credential*: Every graduate of an Apprenticeship program receives a nationallyrecognized credential. This is a portable credential that signifies to employers that apprentices are fully qualified for the job.

The above-mentioned developed countries are implementing the Apprenticeship Training Programme successfully compared to the developing countries. The present challenge in front of developing countries is to blend these skills at work and in technical training. This will require continued work on defining what is needed. When the Apprenticeship system takes lead in defining what skills are needed, the system can then turn to service providers to fulfil those needs more directly. This approach is respectful of adults who usually have limited resources to prepare for success. It may also motivate reluctant participants to gain confidence that essential skills training relates to their goal of completing an apprenticeship.

1.3 NATS Scheme and its importance for India

India has a young demographic profile and is home to 500 million workers, the Indian labour force in 2019 was the world's second largest. Young people (18–29 years) constitute 22 per cent of the country's population, totalling 261 million people, which is more than the population of many countries in the world, other than Indonesia, the US and China. However, this advantage, often termed as a demographic dividend, will remain a numerical strength unless India proactively and consciously focuses on the overall development of its young people, and beginning from 2021, India has only 10 years to hold on to this dividend. The Youth in India report published by the Ministry of Statistics and Programme Implementation (MoSPI) (2022) states that the median age of the Indian population was around 28 years in 2021 and would become 31 years by 2031[4].

India has a well-established and regulated apprenticeship system. However, as is the case in many other countries, the modern-day Indian apprenticeship system was laid down in the mid-twentieth century. At that time the economy was very different (for example, greater emphasis on manufacturing), and also expectations about work and learning were different. In particular, the expectation that learning would occur only at the start of one's working life has changed, since that time, throughout much of the world.

Reform of the Indian skills development system is proceeding at a rapid pace, with significant change planned and underway in many key areas to make the supply of skills more responsive to the growing demands of the Indian economy (World Bank, 2013)[5].

Apprenticeship training is a critical component in creating skilled manpower in India, supporting the vision of Viksit Bharat. The National Apprenticeship Training Scheme is one of the flagship programmes of Government of India for Skilling Indian Youth in Trade disciplines. The National Apprenticeship Training Scheme under the provisions of the Apprentices Act, 1961 amended in 1973; offers Graduate, Diploma students and Vocational certificate holders; a practical, hands-on On-the-Job-Training (OJT) based skilling opportunities with duration ranging from 6 months to 1 year.

Through the ages, apprenticeship has been a time tested approach towards learning a craft or trade under the guidance of a skilled and experienced mentor. It has the double benefit of earning while learning. The Apprentices are taught the latest applications, processes and methodologies in their respective fields of work from some of the most renowned organisations in India. This also acts as a transition phase for a school/college student from classroom to a working background. The apprentice also learns soft skills, work culture, ethics and organisational behavior while undergoing training. This goes a long way in helping them secure permanent employment in the future. With its origins in the 1960s and in the early stage of India's industrialization process, the NATS scheme today offers technically qualified youth with practical knowledge and skills required in their field of work so as to address any gaps in industry skill requirements and curriculum and thus in effect promote equitable employment opportunities. The Scheme covers graduated students or students pursuing either of the following categories of Graduate, Graduate Sandwich, Technician, Technician Sandwich, and Technician Vocational. Disciplines include

[4] https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40ed_emp/%40ifp_skills/documents/publication/wcms_872249.pdf

[5] World Bank, 2013, Possible Futures for the Indian Apprenticeship System, Optional Paper for India. Available at https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40asia/%40ro-bangkok/%40sro-new_delhi/documents/publication/wcms_234727.pdf

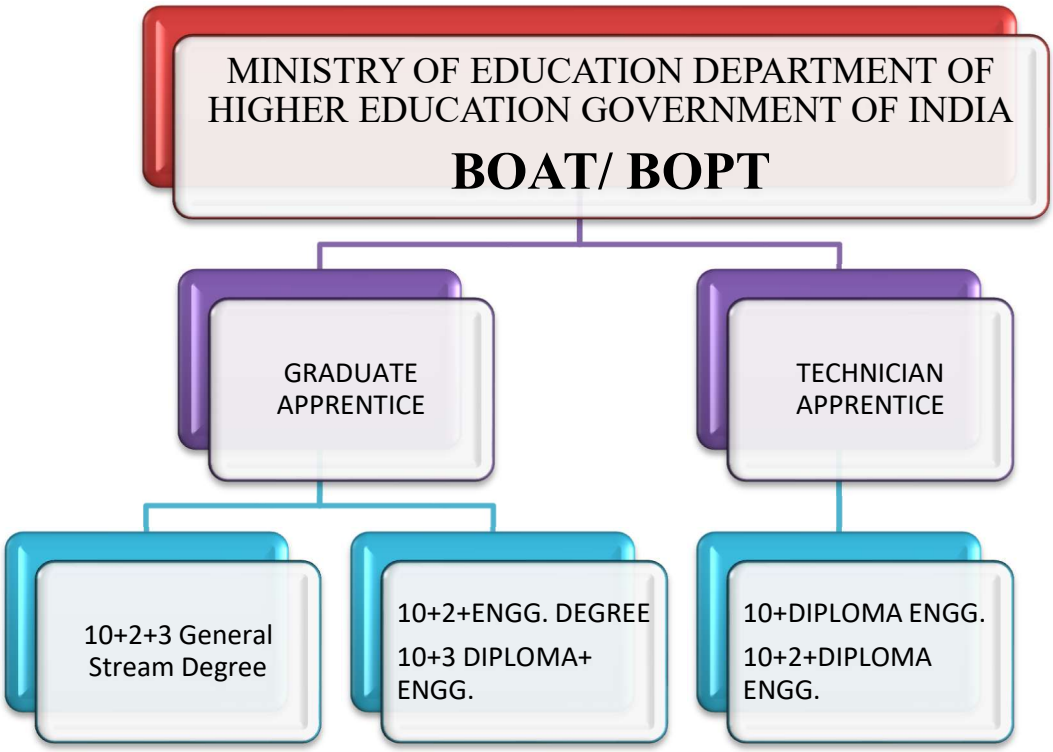
Technical, Engineering disciplines and shall be extended further to Commerce, Arts, Humanities, and Management domains.

Establishments registered on the NATS 2.0 Portal have dedicated training managers, comprehensive training modules and training facilities and selected apprentices are provided on the job training as part of their apprenticeship tenure. This enables apprentices to enhance their skillsets and upgrade their professional skills. During the period of apprenticeship, the apprentices are paid a stipend amount, 50 per cent of which is reimbursable to the employer from Government of India. Stipend Paid is aligned to minimum rates prescribed under the Act for each category of apprentice – Graduate/Technician Diploma/Technician Vocational etc. At the end of the training period the apprentices are issued a Certificate of Proficiency by Government of India, which can be registered at employment exchanges across India as valid employment experience. There is no guarantee of employment after completion of training as an apprentice. For implementation of NATS Scheme, Board of Apprenticeship Training (BOAT) regional offices conduct and organize Apprenticeship Fairs held periodically, which provide students and establishments a valuable opportunity to meet their training/manpower needs.

About the Scheme:

The importance of industrialization was emphasized by the Government of India in order to provide job opportunities for the vast majority of the people and to achieve economic growth. The various skills needed for the industries were identified. In order to meet the requirements of the industries, the Government of India decided to utilize the facilities available in the industries for training of fresh graduates, diploma holders in Engineering / Technology, Pharmacy, Architecture, Hotel Management & Catering Technology, Library Science, and Graduates in General Stream and students of sandwich courses of engineering colleges and polytechnic colleges under the category of Graduate, Technician, Graduate sandwich, Technician sandwich Apprentices respectively under the purview of the Apprentices Act 1961 as amended in 1973, 1986, and 2014 and the Apprenticeship Rule 1992 (as amended in 2015). The Schematic representation of National Apprenticeship Training Scheme is given in **Figure 1.1** below:

Figure 1.1: The Schematic representation of the NATS



Objectives of the Scheme:

- ✓ To bridge any gaps, the practical/hands on Skill of fresh graduates, diploma holders in engineering & technology and graduates in general stream pass-outs that they do not acquire during their study in colleges.
- ✓ Facilitate the employers to develop disciplined & regulated skilled manpower to meet the present and future manpower requirement which will help them to face the establishment to develop human resources for their present and future challenges of technology growth in the industries at the competitive cutting edge in global market.
- ✓ Help prospective employers in making better selection for regular employment.

Over the period, the government of India has made several key changes in the scheme as per the suggestions and inputs received from various stakeholders in line with the changing needs of the market. These changes are reported in **Tables 1.1 and 1.2**.

Table 1.1: Chronological Development of Apprentice Scheme in India

Sl. No.	Amendments	Specification
1	National apprenticeship scheme, 1959	Promoted apprenticeship on a voluntary basis
2	Apprentices Act, 1961	To regulate the programme of training of apprentices in the industry so as to conform to the syllabi, period of training, etc. as laid down by the Central Apprenticeship Council; and to utilise fully the facilities available in industry for imparting practical training with a view to meeting the requirements of skilled manpower for industry. Initially the Act envisaged training of trade apprentices only.
3	The first amendment (1973)	The scope expanded by including training of graduate and diploma engineers as "graduate" & "technician" apprentices
4	The second amendment (1986)	The scope was further expanded to include the training of the 10+2 vocational stream as "technician (vocational)" apprentices.
5	Third amendment (1997)	Provisions clearly spelt out definition of “establishment” and “worker”; termination of apprenticeship contract; number of apprentices in a designated trade, practical and basic training of apprentices; obligation of employers; penalty for contravening the provisions of the act and cognizance of offences
6	Fourth amendment (2008)	Focused on: (a) Reservation for candidates belonging to other backward classes (OBCs) (b) Expenditure on related instruction shall be imparted at the cost of employer and the employer shall, when so required, afford all facilities for imparting such instructions and to provide flexibility in respect of ratios prescribed for apprenticeship seats.
7	The amendments (2014)	• It focused on replacing trade-wise regulation by a band of 2.5% to 10% of the total strength of the workers • Introduction of optional trades, extending the scope to non-engineering occupations • Doing away with imprisonment for non compliance and limiting the penalties to fine only. • Allowing outsourcing of basic training and bringing the establishments operating in four or more states into the fold of central authorities for easy interface, etc.
8	The Amendment in 2019	Mandatory engagement of apprentices by establishment/ employer having 30 or more workers in the range of 2.5 to 15% #Voluntary engagement of apprentices for establishments having more than 4 and upto 29 workers in the range of 2.5 to 15%. Revision of stipend rate for different categories of apprentices.

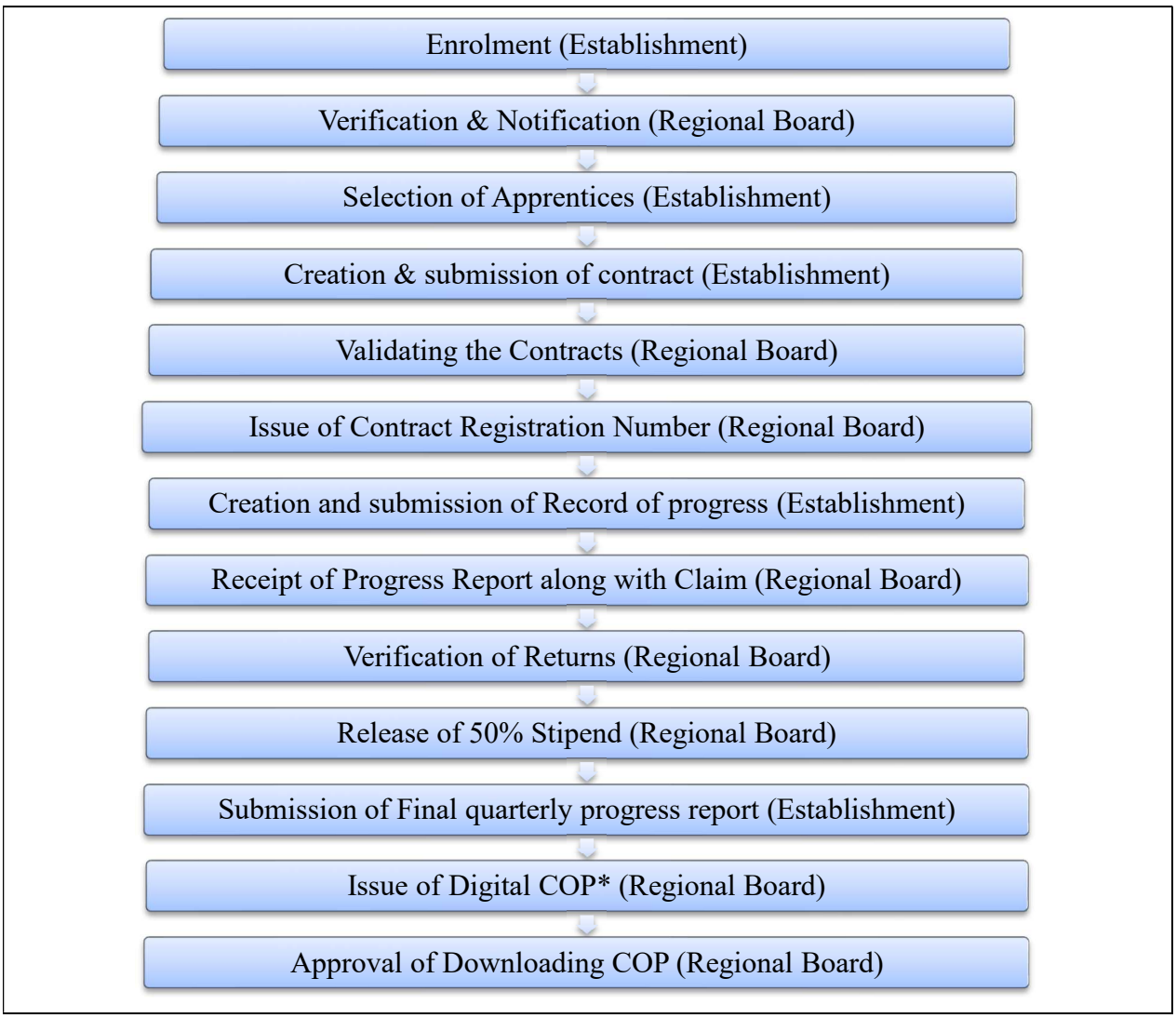
Table 1.2: Administrative reforms in the Apprentices Act, 1961 (2015–2021)

Formalizing the role of intermediaries: New stakeholders have been engaged into the apprenticeship ecosystem- Third Party Aggregators (TPAs).They assist establishment for enrolment of apprentices and can work in clusters both the MSMEs and large industries.	**Introduction of Optional Trades:** Trades, or occupations, or any subject field in engineering or non-engineering or technology or any vocational course as may be determined by the employer. By the end of 2018, 230 optional trades were available for apprenticeship training. Given Power to employers/ establishments to determine qualification, period of apprenticeship training holding of test, grant of certification and other conditions relating to the apprentices engaged in optional trade category.	**Allowing employers to formulate their own policies on requirement of apprentices. Removing stringent penalty clauses like imprisonment by financial penalties only. Allowing industries to outsource basic training** to fresher candidates so that they are free from burden of creation of infrastructure for classroom training for apprentices.
Digitalizing the Apprenticeship Management System- Use of portal The portal manages all the processes of the apprenticeship lifecycle covering registration of establishment and candidate, selection of establishment by apprentices and vice versa, all approval process and online reimbursement of fund under NATS to establishment.	**Other reforms:** Theworking hours of apprentices and over time possibilities were made simpler; The jurisdictions of establishments which are operating in 4 and more states were changed to Central Government. This reform allowed these establishments to work with one government instead of approaching to four different State governments.	**Ease of doing business for Apprenticeship Training-** move from regulation to Self-regulation. The establishments have been empowered to conduct assessment for issue of certificates.

Implementation Procedure

The Board of Practical Training / Boards of Apprenticeship Training identify the Industries for notification as per Section 8 (1) of The Apprentices Act 1961 (as amended in 2015). 2014) and Rule 7(8) of The Apprenticeship Rule, 1992, (as per Notification, the eligible establishments shall enroll / register online through the National web portal. Along with the request letter, the establishment has to send brief profile about the establishment, latest Income Tax Return, structured training module, certificate of incorporation or MoA for registration. After the establishments' enrolment, the following steps have to be undergone for the implementation of the scheme (**Figure 1.2**).

Figure 1.2: The Steps for the Implementation of NATS



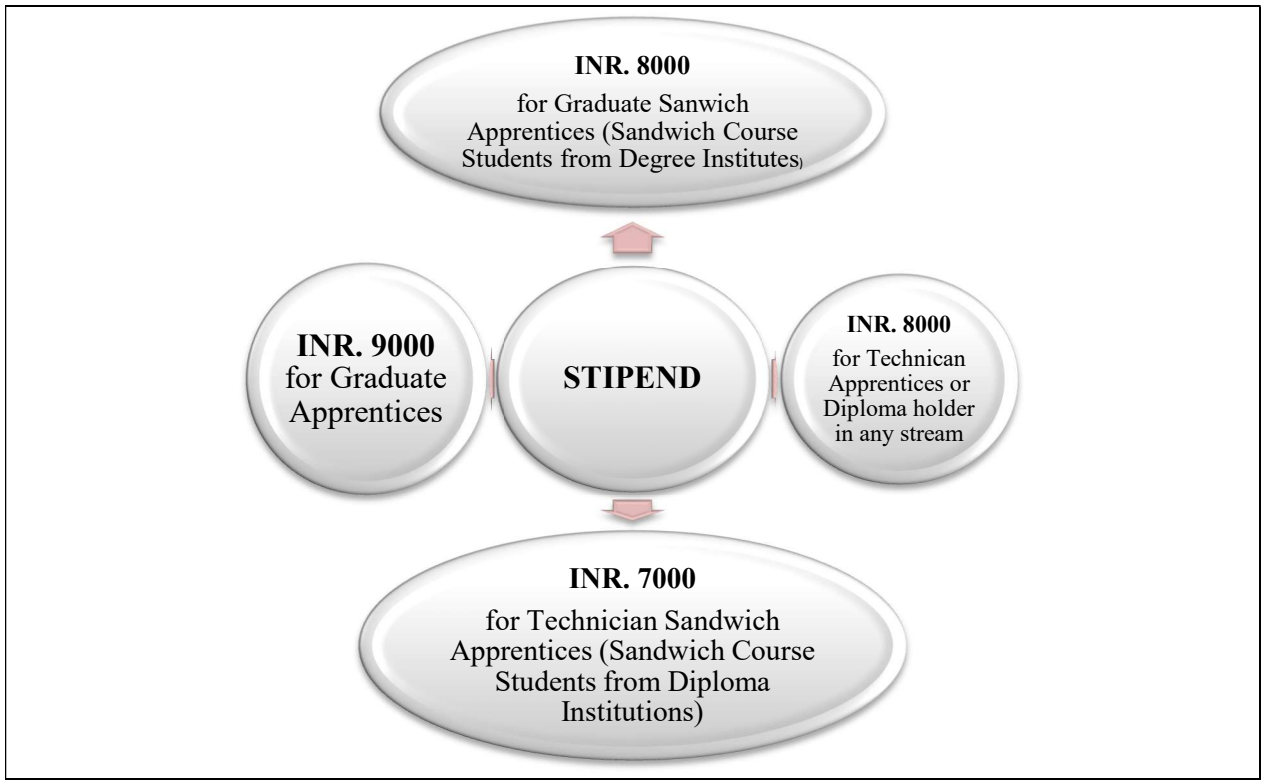
*COP: Certificate of Proficiency

Salient Features of NATS

- ✓ Several employees may join together either themselves or through an agency approved by Regional Central Apprenticeship Advisor for the purpose of providing apprenticeship Training to the apprentices engaged by them. Also, for general streams, students should not complete five years after passing the qualifying examination.
- ✓ All transactions are made online by launch of National Web Portal (Enrolment, Contract Submission, Claim Submission, Record of Progress, Training completion report, Issue of Digital Certificate of Proficiency).
- ✓ Period of training is six to one year. Establishments can engage apprentices at any point of time throughout the year. Students should not have work experience of one year or more and not undergone Apprenticeship Training elsewhere.

- ✓ Apprentices are entitled for leave and holiday as observed in the Establishment in which he/she is undergoing training. Establishment can engage apprentices from any part of the country considering the eligibility criteria.
- ✓ Subject fields have been designated for the category of Graduate / Technician Apprentices and Graduate in general stream Apprentices, in addition to that optional trades are also available. Employers have to fulfil their obligations under the Act.
- ✓ Establishment operating business through different regions of India can implement the scheme from any one of the Boards under PAN India basis.

Figure 1.3: Stipend support to various types of Apprentices under NATS:



The revised rates of stipends illustrated in **Figure 1.3** are the minimum prescribed amount which has been effective from 1st of April 2021, however the Establishments are free to pay higher stipend. The share of 50% re-imbursement to the establishment is restricted to the Government fixed minimum stipend rate only. The stipend has to be paid before 10thday of the following month as per the Apprenticeship Rules 2015 Rule 11(3). The Government of India revises the monthly rate of stipend periodically. To ensure that the stipendiary benefits of NATS are delivered to intended apprentices in a time-bound, efficient, and transparent manner, Government of India has initiated the payment of its share of stipend directly to the apprentices' bank accounts through Direct Benefits Transfer (DBT) mechanism since 2024. It's aimed to extend the use of DBT system to provide Government's share of stipend to all beneficiaries of the scheme.

1.4 Relevance of the Present Study

A strong emphasis on education is vital for India's journey towards becoming a developed nation (Viksit Bharat). Shifting the focus from rote learning to critical thinking, problem-solving, and creativity will produce well-rounded individuals ready to thrive in a technology-driven world. There is a need to combine education with practical skills, and bridge the gap between learning and education. Integrating vocational education with academic streams will equip students with practical skills, enhancing their job prospects and contributing to a more skilled workforce. Furthermore, enhancing cognitive learning and digital literacy will prepare students for a rapidly evolving job market. Developing workforce readiness through practical training and internships will ensure that students can seamlessly transition into professional roles.

Given the importance of the Scheme of making India a global skill hub that can facilitate expanding the country's global footprints in manufacturing, commerce and services sectors and the Hon'ble Prime Minister's vision of making India a Developed country (Viksit Bharat) by 2047, achieving effective outcomes under the Scheme holds vital. Further, the Scheme plays an important role in achieving national priorities in the area of Sustainable Development Goals. Hence, the Ministry of Education has entrusted NILERD to carry out a third-party evaluation to find out the effectiveness, efficiency, relevance and impact of the Scheme at the ground level.

Against this backdrop, the present study attempts to critically evaluate the NATS scheme and provide appropriate policy suggestions to improve the reach and scope of NATS in improving skill enhancement of the youth. The study is based on a large survey data carried out across 15 sample states in India. The study is based on a desk review of the policy, analysis of primary survey data and the secondary data available from both the Central and state government sources, insights from focus group discussions (FGDs) involving major stakeholders like government officers, industry representatives, both ex-apprentices and on-roll apprentices to understand the issues relating to the effectiveness of the scheme.The study also looks into the structural problems present in the formulation and implementation of the scheme and recommendssuitable policy suggestions to strengthen the scheme. The next chapter of the report gives a brief idea on the methodology adopted in this study.

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CHAPTER – 2

OBJECTIVES, SCOPE, COVERAGE AND METHODOLOGY

2.1 Introduction

This chapter outlines the key objectives of the study, its scope and coverage, and the process of holding consultations and discussions with various stakeholders. It also presents a detailed methodology for sample selection, field survey execution, approaches to data analysis and discussion.

As discussed in the previous chapter, the main purposes of doing this evaluation study are (i) to understand the progress and achievements being made under National Apprenticeship Training Scheme (NATS) in the recent period, (ii) types of changes being made in the Act to widen the scope and coverage of the Scheme, (iii) understanding the real benefits received by all the stakeholders through this Scheme and (iv) conducting the evaluation using a more calibrated and applied method to analyse the findings and draw suitable policy conclusion.

In view of the above, the study has outlined the following set of objectives:

2.2 Objectives of the study

1. To assess the impact of NATS training on employment and skills of targeted beneficiaries
2. To identify the bottlenecks in the implementation of NATS
3. To recommend remedial steps to improve the effectiveness of NATS
4. Relevance of the scheme to achieve national priorities/ SDGs
5. Input use efficiency assessment
6. Whether the extent of number of apprentices are enough to drive industry-oriented training in the country
7. Issues in spreading the scope of the scheme both in terms of breath (number of industries/ sectors offering apprenticeship) and depth (number of apprentices) and the possible way forward

In addition to the above objectives, the Ministry suggested during the presentation of the proposal on 7th January 2025 that the study should also examine and provide directions on the following aspects along with the evaluation of study objectives based on the Output-Outcome Monitoring Framework.

1. The right scale of target beneficiaries NATS
2. Incorporation of a sectoral approach for analysis, which will include sector specific skill requirements and gaps

3. Engagement with Universities and constituent colleges, especially at the state level for leveraging Apprenticeship Embedded Degree Programme under NATS
4. Supply and demand side variables which include reasons for student drop / outs from apprenticeships, reasons for not being selected by industry, skill gaps, etc.
5. Student experience - payments, nature of work at the establishment
6. Social inclusion and reach
7. Ideas on quick expansion of scheme and its benefits in the context of four implementation bodies, i.e. regional Boards of Apprenticeship/ Practical Training
8. Insights on other services that can be provided under NATS which is currently a single component scheme
9. Analysis from a process flow perspective - and how is it impacting the outcomes

The methodology and approach of the present study to analyse the above objectives are discussed in the subsequent section.

2.3 Scope and Coverage

NATS is implemented in all states and Union Territories (UTs) in the country. The scheme is managed by the Ministry of Education through four Regional Boards of Apprenticeship/Practical Training (BOATs/BOPT) located in Mumbai, Kanpur, Chennai, and Kolkata. These boards are responsible for implementing the scheme in their respective regions.

NATS is governed by the 1961 Act, but it has undergone desirable changes over the years to expand the scope and coverage of the Scheme. The latest changes happened in June 2015 in bringing modifications of Apprentices Rules 1992 in which three major changes were notified as: (i) Graduates of Arts, Science and Commerce etc. streams are eligible to undergo apprenticeship training under the Act, (ii) Industry to engage apprentices in the band of 2.5 per cent to 10 per cent of the company's total strength of employees, including contract workers and industry is no more restricted to follow subject field wise notification and (iii) 10+2 stream was transferred to Ministry of Skill Development and Entrepreneurship. In 2018, the government introduced the Third-Party Aggregator (TPA). TPAs are entities that facilitate the apprenticeship ecosystem by connecting establishments, educational institutions, and aspiring apprentices.

In order to bring out a clear and logical understanding of designing, implementation, output, outcome and impact of the Scheme by sectors (manufacturing and services), streams (technical and Non-technical) and stakeholders, the study covers and collects information and opinions from

(i) NATS Ex-apprentices (completed training)
(ii) NATS On-Roll Trainees
(iii) Students Control Group (Students didn't opt for NATS)
(iv) Establishments – Engaging Apprentices
(v) Educational Institutions
(vi) Third Party Aggregators
(vii) Regional Offices of BOAT

2.4 Methodology

The study uses a 360-degree evaluation approach and a suitable methodology (as suggested by DMEO, NITI Aayog) to find answers to the questions corresponding to each objective stated above. The analysis of information collected from all stakeholders of the Scheme covers both quantitative and qualitative data. While quantitative information has been collected from both secondary and primary sources, qualitative information has been obtained from only primary sources. The secondary information covers the published data related to the Scheme by the MoE and four BOATs/BOPT. Primary data collection involves personal interviews of beneficiaries, non-beneficiaries and key informant interviews of implementers at different levels and experts from various fields such as industry and academic institutions.

As recommended by DMEO, NITI Aayog, the evaluation analysis of the study is based on the Output-Outcome Monitoring Framework (OOMF) and REESI+C+E (Relevance, Effectiveness, Efficiency, Sustainability, Impact, Coherence and Equity) evaluation methodology. The OOMF framework has a number of benefits, such as providing a standardised approach for strategic mapping of the scheme, clearly demarcating outputs and outcome indicators, and helping to identify key audit and evaluation questions.

OOMF framework delineates the entire process of implementation of the scheme into five measurable categories- input, activities, output, outcome and impact. Evaluation exercises are based on progress in indicators chosen under these five categories. In the present case, input allocation and utilisation of budgetary and manpower resources under NATS. Activities are different functions and activities carried out by BOPT/ BOAT for implementation and monitoring incongruent with the Act. Outputs of the scheme are physical achievements and coverage, such as the number of apprentices, number of applications, number of seats available (notified) and utilised, number of establishments added, regions and sectors covered, and so on. Outcomes are the short-term results, such as increasing skills and employability of apprentices, post-training employment, bridging skill gaps and skill mismatches and so forth. Impacts are long-term outcomes such as better livelihood options for trainees, creating a pool of talented, future-ready manpower, reducing hiring costs for employment, and improving industrial productivity and output. The whole framework is summarised below:

Categories	Indicators
Input	• Budget Outlay for NATS • Personnel engaged to look after the Scheme • Spending on Physical Infrastructure related to NATS
Activities	• No. of job fairs/awareness programmes conducted • No. of establishments surveyed by BoAT/BoPT • No. of visits to establishments carried out by BoAT/BoPT • Types of methods adopted by BoAT/BoPT to identify establishments • Types of methods adopted by BoAT/BoPT for notifying vacancies

	• No. of meetings held by BoAT/BoPT to facilitate collaboration between institutions & establishments
Output	• Number of students trained (different categories)under NATS (Target 3 lakhs from 2022-23 & onwards) • Number of seats utilized under different categories(Utilisation gap if any?) • Number of States/districts covered • Number of establishments covered by Region/States
Outcome	• Different Types of skills gained under NATS • Number of trainees employed (types of employment) • Skilled-ready manpower (as per the requirements of industries in emerging/priorities areas) • Addressing the Skill Gap in high-skilled categories
Impact	• Employability of youths (Youths have the ability/confidence to be employed – either wage employment or self-employment after completing the training) • Better lives and livelihoods in terms of income and decent work and quality of life (trainees & family) • Future-ready manpower (helps the overall development of industry in sustaining high growth and creating more employment opportunities) • Reducing the hiring cost of establishments • Creating a pool of trustworthy/disciplined workforce/employees

The above indicators of OOMF have been evaluated under the REESI+C+E Framework methodology. Each pillar of REESI+C+E is described below.

***Relevance**:*

Relevance addresses a pertinent question of how well the intervention's (scheme's) objectives align with the needs of the target population and the priorities of the stakeholders. Under this theme, the study focuses on how NATS is helpful in achieving the objectives of making India a global skill hub that can facilitate expanding the country's global footprints in manufacturing, commerce and services sectors. Also, the study examines the usefulness of the scheme from the perspective of employers and trainees, i.e., whether the provisions under the scheme meet their expectations of trained and disciplined manpower and exposure to practical learning with the latest technology. Particularly, the trainees' interest lies in acquiring industry-specific skills that enhance employability, gaining on-the-job training that supplements their academic knowledge, building connections with industry professionals, earning a competitive stipend, receiving a certificate of proficiency that is well recognised, and increasing prospects for a full-time job.

Some of the key points discussed under relevance are:

- What is the unique way NATS becomes useful for students? (Financially?/educationally?/Skills?/employability?/attitude?/behavioural change?/beliefs?)

- What is the unique way NATS becomes useful for establishments?
    - Filling skill gaps: Is the scheme helpful to employers and addresses skill gaps by providing trained candidates to fill their needs?
    - Building a talent pool: Is NATS helpful for organizations to build a steady pool of industry-ready talent?
    - Reducing hiring costs: Apprentices can start contributing productively to the organization right away. So, is the scheme achieving the intended results in terms of reducing hiring costs?
    - Creating a proactive workforce: Is NATS creating a proactive workforce that can benefit the organization in the long run?
    - Improving brand recognition: Is NATS helping to build brand recognition by showing that a company cares about the local population?

***Efficiency**:*

Efficiency broadly refers to input use efficiency, without which the desired results will remain unaccomplished. In the context of this project, efficiency refers to the utilisation of human resources, and funds available to implementing agencies i.e. the Boards of Practical Training. The study looks into all related issues of sufficiency and proper and innovative utilisation of manpower, funds, checks and balances to restrict leakage and misuse of funds, timeliness of funds allocation and disbursal, and full utilisation of capacity i.e., seats available for the apprenticeship. If seats remain unutilised or an eligible candidate is excluded, that is also a kind of inefficiency in the system. The whole process and all important milestones- beginning selection, on-the-job training, assessment, and post-training job opportunities- and transparency and efficiency in the whole process have been discussed. Some of the questions under this theme are stated below.

How efficient is the scheme in terms of:

- Resource utilisation (financial and human resources)
- Timely communication with various stakeholders
- Timely implementation of action plan
- Maximising outreach
- Achieving the intended target as per the timeline

***Effectiveness**:*

Effectiveness addresses the extent to which the intervention's (scheme's) planned outputs have been achieved. The study examines how useful NATS is in meeting its aim to prepare a future-ready workforce that can help script an industry-led growth story for India. The effectiveness of the scheme depends on a mix of factors ranging from the right environment and infrastructure at the work site, availability of skilled supervisors, choice of right candidates, willingness to learn and seriousness on the part of the apprentices and employers.

Through personal interviews, the study tries to address some of the following issues under effectiveness.

- Creating employment opportunities for youths?

- Creating employment opportunities for students belonging to socially and economically backward classes
- Improving the lives and livelihoods of households represented by students who get employment opportunities under NATS
- How is NATS more effective than other skill and employment-related schemes?

***Equity**:*

Equity explains the extent to which the benefits of the intervention (scheme) are distributed fairly and equitably across different groups. The study analysed the impact of the scheme on the lives of apprentices hailing from backward classes, regions, women and economically weaker sections. This will reflect on the equality of learning opportunities, fair treatment on the work floor, and how helpful the apprenticeship is as a launch pad for sustainable career growth for students belonging to the weaker sections.

***Sustainability**:*

The long-term sustainability of NATS in terms of financial and social aspects has been studied. The objective is to study whether the benefits generated by the scheme, both for apprentices and the industry are sustainable in the long run. In this regard, the study assessed whether the skills imparted, the jobs created, and the pool of talents have any future potential and relevance in the fast-changing economic and production scenario. The study also examines whether the funds and interests of employers are sustainable in the long run. Under social sustainability, the welfare and well-being of apprentices, migration and adaptability to new working conditions, and protection against exploitation have been studied.

***Impact**:*

This study covers all short-term and long-term, intended and unintended impacts of the scheme. Particularly, it focuses on the impacts on employability, skill sets, earning potential, addressing skill-mismatch, meeting the industry requirement for a skilled labour force, etc. In the short run, acquirement of skills, employment and income generation are the most important factors. In the long run, meeting the industrial requirement of skilled labour, industrial growth, and career development are important. The study covers both dimensions.

2.4.1 Sampling

Although NATS is being implemented in all States and Union Territories in the country, due to a paucity of time, the study carried out the evaluation of the scheme in 15 major states based on a sample basis from four regions that come under four regional boards. As per the data available on NATS Dashboard for 2024-25, there were 3122 establishments at the all-India level enrolled under NATS to facilitate training for students in different disciplines. We used a scientific statistical method to derive the sample size from the total population of establishments. The formula used to derive the sample size is described below in **Table 2.1**. Using the statistical formula, we found that the sample size of establishment for the study is 355. For each establishment, on an average 10 apprentices/trainees were proposed to cover under the study. In total, 3550 trainees (including both on-roll and completed trainees) were proposed to survey from sample states. This sample size of trainees has been distributed across sample States (15) using the stratified sampling method based

on the proportion of States in total number of trainees. A random sampling method was used to select the trainees in each state. The details of the sample size are given below.

Table 2.1: Sample Size

Categories	Number
Number of States to be covered*	15
Total number of establishments (2024-25)**	3122
Sample number of establishments[#]	**355**
Sample number of apprentices[@]	**3550**
Sample number of institutions[$]	**150**
Sample number of students as control group[##]	**750**
Sample number of TPA @50 from each region	**200**

*Maximum four states with the highest number of apprentices/ seats notified have been selected from each region. The states are West Bengal, Odisha, Bihar and Assam (Eastern region), Maharashtra, Gujarat, and Madhya Pradesh (Western region), Delhi, Haryana, Uttar Pradesh and Himachal (Northern region), Tamil Nadu, Telangana, Karnataka and Kerala (Southern region).
**As per information from NATS Dashboard
As calculated using the formula $Sample\ size\ (n) = \frac{N}{1+N(e)^2}$ With a 95 per cent confidence interval and 5 per cent margin of error. A stratified, random sampling method will be used for the selection of sample establishments.
@ 10 apprentices per establishment on average. A 60:40 ratio is to be maintained in the sample between on-roll apprentices and those who have completed the course.
$10 institutions from each state- 2 from each category (one public and one private)- technical degree (BE/ BTech/ ME/ MTech), technical diploma (diploma engineering), general (arts, science and commerce), professional (management, law etc.)
The Control group will be students who are either doing jobs or remain unemployed or doing higher study but have not taken part of NATS. On an average 5 students were proposed to cover from each institution.

The actual number of various stakeholders covered under the survey is given in **Table 2.2** below.

Table 2.2: Number of stakeholders covered under the study

Categories	Number
Regions	4
States	15
Establishments	335
Apprentices#	4334
Institutions[$]	39
Students as control group	785
TPA	53

Includes On-roll (3395) and completed (939). $ We found that institutions are not actively participating in NATS, hence they didn't share the information despite of several rounds of visits and follow-ups.

To capture the variation in impact, effectiveness and relevance of the scheme in four geographical regions, the study chose to cover different stakeholders in the sample data under the following classifications:

(i) Establishments
- Public and private
- Micro, Small, Medium and Large
- Manufacturing and Services

(ii) Apprentices
- Degree and Diploma
- Technical and non-technical

(iii) Institutions
- Engineering college (Government and private)
- General college (Government and private)
- Polytechnic institutions (Government and private)
- Universities (Government and private)

(iv) Students control group
- Private institutions
- Government institutions

The details of the number of sample units covered under different stakeholders are discussed below.

<u>On-Roll Apprentices</u>:

Tables 2.3 and 2.4 present sample units of on-roll students by type of establishments and by qualification, respectively. Out of the total sample units of 3395, about 77 per cent of on-roll apprentices are currently engaged in training in private establishments, and the remaining 23 per cent are engaged in public sector establishments. By qualification, 69.1 per cent of apprentices have a degree qualification, and the remaining 30.9 per cent have a diploma qualification.

Table 2.3: Table Distribution of Sample Size of On-roll apprentices by type of Establishment

	Numbers			Per cent share		
Region	**Public**	**Private**	**Total**	**Public**	**Private**	**Total**
Northern	182	1041	1223	14.9	85.1	100.0
Eastern	102	244	346	29.5	70.5	100.0
Western	312	479	791	39.4	60.6	100.0
Southern	181	854	1035	17.5	82.5	100.0
Total	**777**	**2618**	**3395**	**22.9**	**77.1**	**100.0**

Table 2.4: Distribution of Sample Size of On-roll Apprentices by Qualification

	Numbers			Per cent share		
Region	Diploma	Degree	Total	Diploma	Degree	Total
Northern	488	735	1223	39.9	60.1	100.0
Eastern	76	270	346	22.0	78.0	100.0
Western	192	599	791	24.3	75.7	100.0
Southern	292	743	1035	28.2	71.8	100.0
Total	**1048**	**2347**	**3395**	**30.9**	**69.1**	**100.0**

Ex-Apprentices:

The total number of trainees who have completed NATS training covered under the study is 939, out of which 58.5 per cent have completed their training from private establishments and 41.5 per cent have completed their training from public establishments (**Table 2.5**).

Table 2.5: Sample Size of Completed Apprentices

Region	In Numbers			Per cent Share	
	Public	**Private**	**Total**	**Public**	**Private**
North	120	142	262	45.8	54.2
East	90	93	183	49.2	50.8
West	147	95	242	60.7	39.3
South	33	219	252	13.1	86.9
Total	**390**	**549**	**939**	**41.5**	**58.5**

Graduates without attending NATS (Control Group)

To understand the opinion of students who have not been part of NATS or have not opted for NATS and the reasons thereof, the present study interviewed around 785 students who are either employed or unemployed or pursuing higher studies. The sample distribution of the control group is given in **Table 2.6**.

Table 2.6: Sample Size of Pass out Graduates without Joining NATS (Control group) by Gender

Region	Numbers			Per cent share	
	Female	**Male**	**Total**	**Female**	**Male**
Eastern	21	85	106	19.8	80.2
Northern	42	108	150	28.0	72.0

Southern	61	92	153	39.9	60.1
Western	111	265	376	29.5	70.5
Total	**235**	**550**	**785**	**29.9**	**70.1**

Establishments

The sample size of establishments is given in **Tables 2.7, 2.8 and 2.9**. A total of 334 units were covered under the survey from four regions. Out of which, the share of private and public establishments is 79.3 per cent and 20.7 per cent, respectively. In terms of activity, 42.2 per cent of manufacturing and 57.8 per cent of service establishments were covered. In terms of composition by size of establishments, the survey covered 38.6 per cent of large, 31.1 per cent of medium, 11.4 per cent of micro and 18.9 per cent of small establishments.

Table 2.7: Sample Establishments by Sector

	Number			Per cent share		
Region	**Private**	**Public**	**Total**	**Private**	**Public**	**Total**
Eastern	63	17	80	78.8	21.3	100.0
Northern	70	10	80	87.5	12.5	100.0
Southern	68	30	98	69.4	30.6	100.0
Western	64	12	76	84.2	15.8	100.0
Total	**265**	**69**	**334**	**79.3**	**20.7**	**100.0**

Table 2.8: Sample Establishments by Activity

	Number			Per cent Share		
Region	Manufacturing	Services	Total	Manufacturing	Services	Total
Eastern	26	54	80	32.5	67.5	100.0
Northern	33	47	80	41.3	58.8	100.0
Southern	45	53	98	45.9	54.1	100.0
Western	37	39	76	48.7	51.3	100.0
Total	**141**	**193**	**334**	**42.2**	**57.8**	**100.0**

Table 2.9: Sample Establishments by Size

	Number					Per cent Share				
Region	Large	Medium	Micro	Small	Total	Large	Medium	Micro	Small	Total
Eastern	22	25	17	16	80	27.5	31.3	21.3	20.0	100.0
Northern	31	26	7	16	80	38.8	32.5	8.8	20.0	100.0
Southern	46	31	6	15	98	46.9	31.6	6.1	15.3	100.0
Western	30	22	8	16	76	39.5	28.9	10.5	21.1	100.0
Total	**129**	**104**	**38**	**63**	**334**	**38.6**	**31.1**	**11.4**	**18.9**	**100.0**

Institutions

The study was supposed to cover 150 institutions from four regions. However, due to lack of interest on the part of institutions, only 39 participated in the survey. Out of the total of 39 units, 19 were public sector institutions and 20 were private sector institutions (**Tables 2.10 and 2.11**).

Table 2.10: Sample Size of Institutions

Region	Sample Institutions
Eastern	27
Northern	4
Southern	4
Western	4
Total	**39**

Table 2.11: Sample Size of Institutions by Type of Management and Type of Institutions

Type of Institute	Type of Management		
	Public	**Private**	**Total**
Engineering	6	7	13
Polytechnic	5	2	7
General College	6	5	11
University	2	6	8
Total	**19**	**20**	**39**

Third-Party Aggregators (TPAs)

A total of 53 TPAs were interviewed from four regions. The distribution of coverage shows that 22.6 per cent of TPAs were covered from northern, 24.5 per cent from eastern, 24.5 per cent from western and 28.3 per cent from southern region (**Table 2.12**).

Table 2.12: Sample Size of Third-Party Aggregators (TPAs)

Region	Number	Per cent share
Northern	12	22.6
Eastern	13	24.5
Western	13	24.5
Southern	15	28.3
Total	**53**	**100.0**

2.4.2 Method of data collection and Data Analysis

The primary survey constitutes an important part of this study. Structured questionnaires were prepared and used for data collection and gathering information from all stakeholders (Please see **Appendix**). All questionnaires were designed digitally using Zoho software, and face-to-face interviews were held with all stakeholders except ex-apprentices and students (control group), who were reached out to over telephonically, and by email after getting their contact details from establishments and institutions, respectively. A pilot survey was conducted before the full-fledged survey by visiting a few establishments in Sonipat and Delhi to receive input on draft questionnaires.

As part of the methodology, Focus Group Discussions (FGDs) were conducted with four regional boards in the presence of representatives from establishments, institutions, TPAs, ex- and on-roll apprentices using a set of pre-devised open-ended qualitative questions. Further, a comprehensive interaction and discussion were carried out with officials at BOAT /BOPT to get their insights into the NATS scheme.

The secondary data involved review of annual reports and fund release and utilisation statistics of the Ministry of Education, the BOAT/BOPT, various reports of the Ministry, reports of past evaluations, reports of the other parallel schemes, research studies by universities and research institutes etc.

Data Analysis

Both qualitative and quantitative data were collected using the structured questionnaire and discussion. In quantitative analysis, descriptive Tables and Graphs, percentages and ratios are used for analysis. In qualitative data, the opinions and views of various stakeholders were recorded and presented in a separate chapter. The report presents some suitable policy recommendations to strengthen the scope and coverage of the scheme.

***

CHAPTER – 3

THE PROGRESS AND ACHIEVEMENTS UNDER NATS

3.1 Introduction

In the previous two chapters, we discussed in detail the salient features of NATS scheme, the importance of the study in the present context, and the methodology and sampling used for data collection and analysis. In this chapter, the study analyses the progress and achievements being made under NATS during the last five years (2019-20 to 2023-24) using the secondary information collected from four regional Boards. Further, the study also discussed the budgetary and human resource provisions available to four regional Boards to understand the adequacy and efficiency of these resources in successful implementation and operation of NATS Scheme.

3.2 Progress of NATS at the All-India Level

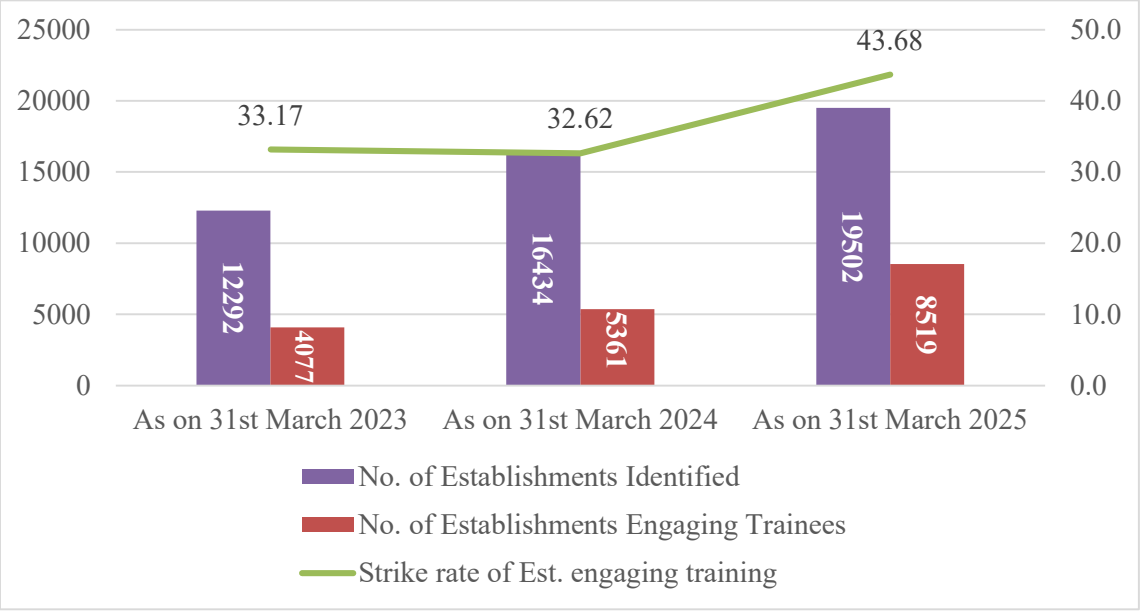
NATS is one of the oldest apprenticeship schemes in India, has been growing steadily since it was instituted by the Government of India in 2006. But, as the mandate of the present study is to assess the progress of the Scheme during the recent years, we chose to collect the recent years' information on various performance indicators from different Boards and analyse and present them one by one below. Some of the key indicators that are presented in this chapter are as follows:

- No. of establishments identified vis-à-vis the number of establishments engaged in training
- No. of seats available for NATS in establishments vis-à-vis the number of seats utilised
- No. of candidates selected vis-a-vis the number of candidates joined

As far as number of establishments identified is concerned, it is mandatory for each Board to identify a new/additional set of establishments each year in addition to the existing list of establishments to achieve a specific target of trainees for the year. Since some of the existing establishments that were conducting apprenticeship training programme in the past sometimes dropped out or discontinued taking apprentices due to various reasons, to fill up the gap and to enhance the coverage, new establishments have been identified. But all establishments that have been identified may not necessarily be engaged in training due to several reasons. As per our discussion with various stakeholders, we were informed that the number of establishments engaged in training has always been remained less than the number of establishment identified due to inadequate human resources with Boards to continuously pursue with establishments, non-availability of sufficient number of candidates due to location and other constraints particularly migration issue, women and rural candidates don't prefer to go outside their hometown, non-availability of candidates with relevant academic backgrounds, preference of students for regular jobs over apprenticeship training etc. **Figure 3.1** presents the number of establishments identified and number of establishments engaged in training during 2023 and 2025. As on 31st March 2023,

12292 establishments were identified (including existing establishments), out of which only 33.17 per cent or 4077 establishments were engaged in training. In the next year (as on 31st March 2024), in addition to existing establishments (12292), 4142 new establishments were identified. Out of total 16434 establishments, only 32.62 per cent were engaged in conducting apprenticeship training. The strike rate of the number of establishments engaging in training, however, improved to 43.68 per cent by 31st March 2025. A further improvement of this rate is warranted, at least of more than 50%, to achieve a substantial number of trainees under NATS. However, achieving such a high target requires a continuous follow-up by Board officers and an effective grievance redressal mechanism either online or offline. Unfortunately, at present, neither of these mechanisms is working effectively.

Figure 3.1: Strike rate of No. of Establishments engaged in training out of total no. of establishments identified



Source: Calculated using Boards Data

A comparative analysis of establishments engaged in training out of total number of establishments identified across the regions shows a wide variation in percentage ranging from 52.6 per cent (highest) in the eastern region to 37.8 per cent (lowest) in the northern region against all India average of 43.7 per cent (**Table 3.1**). An important conclusion that could be drawn from the table is that, except for the eastern region, all other regions have failed to convince and engage 50 per cent of establishments that they had identified till 31st March 2025. Therefore, to achieve a wider

coverage of students, institutions, and sectors, all regional Boards should step up their efforts and use their resources more effectively.

Table 3.1: Region-wise Strike rate of No. of Establishments engaging in training out of total no. of establishments identified by 31st March 2025

Regions	No. of Establishments Identified	No. of Establishments Engaging Trainees	Strike rate of Est. engaged in training
Eastern	3699	1945	52.6
Northen	5724	2163	37.8
Southern	4943	2073	41.9
Western	5136	2338	45.5
Total	**19502**	**8519**	**43.7**

Source: Calculated using Boards Data

Another challenge that comes across discussions with various stakeholders is that even after less than 50 per cent of total identified establishments were taking apprentices under NATS, these establishments have not been able to utilise or fill up 50 per cent of their seats sanctioned for NATS, which is a matter of concern. **Table 3.2** shows the status of number of seats for NATS in the establishments and number of seats actually utilised in different regions between 2022-23 and 2024-25. The percentage of seats utilised at all India level was 58.9 per cent in 2022-23, which declined to 37.9 per cent in 2023-24, but it improved considerably to 54.2 per cent in 2024-25, contributed largely by northern and southern regions.

Table 3.2: No. of seats in the establishments and seats utilised

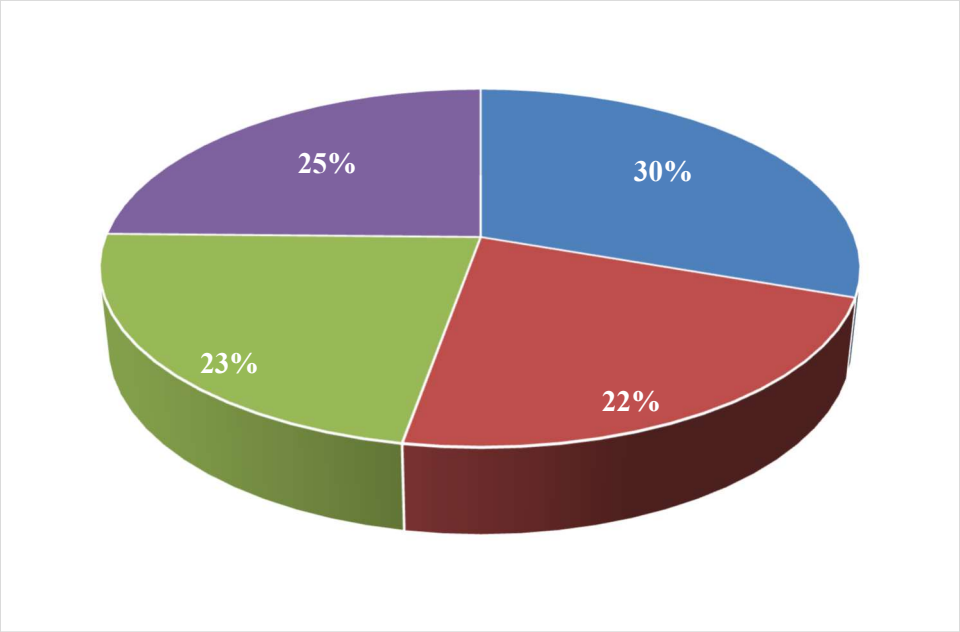
Region	No. of Seats for NATS in the Establishments/Notified seats			No. of Seats Actually Utilised			%share of seats actually Utilised		
	2022-23	2023-24	2024-25	2022-23	2023-24	2024-25	2022-23	2023-24	2024-25
Eastern	89978	129770	243897	75132	78196	133836	83.5	60.3	54.9
Northen	68828	108903	144418	45348	57815	106952	65.9	53.1	74.1
Southern	140749	173784	211046	77850	58031	141768	55.3	33.4	67.2
Western	155785	267271	366491	69707	63663	140532	44.7	23.8	38.3
Total	**455340**	**679728**	**965852**	**268037**	**257705**	**523088**	**58.9**	**37.9**	**54.2**

Source: Calculated using Boards Data

However, during the last five years (2019-20 to 2023-24), the average percentage of seats utilised from total no. of seats notified by establishments has been found highest in the southern region (32 per cent) followed by western region (28 per cent), eastern region (26 per cent) and then northern region (14 per cent) (**Figure 3.2**). This suggests that the performance of southern regional board

is much better than that of other boards in terms of maintaining a strong network with establishments.

Figure 3.2: Region-wise seat Utilised between 2019-20 and 2023-24 (in %)



Source: Calculated from Boards' Data

Another pertinent issue that emanated from the discussion with different stakeholders is unavailability of desired number of students, particularly graduates under NATS scheme. Multiple factors are responsible for this, such as low stipend or high cost of living in metro cities, better campus placements, preference for higher studies, no guarantee of jobs after training, students from rural areas don't prefer going to cities, graduates prefer to join NAPS due to one time and timely payment of stipend compared to two separate sources of payments under NATS – 50 per cent from the establishment and 50 per cent from Direct Benefit Transfer (DBT), indeed, the payment from the government has not been paid on time since the DBT system came into force. In this context, we collected information on students from different boards, and present them in **Table 3.3**.

The table shows that candidates enrolled as a percentage of number of seats notified by establishments in different regions is found to be lowest in the western region, even less than the national average. At the national level, the enrollment as a percentage of seats notified was 88.2 per cent in 2022-23, which increased to 93.2 per cent in 2023-24. On the other hand, the western region witnessed 55.4 per cent of students enrolled against the seats notified by establishment in 2022-23, which even declined further to 45 per cent in 2024-25. The major challenges faced by establishments in getting students in Mumbai are that the stipend amount is very less compared to

the cost of living. Compared to the western region, all other regions are doing relatively better as far as establishments are getting a good number of candidates under NATS.

Table 3.3: Region-wise status of students enrolled and joined under NATS

Region	Year	No. of Candidates Enrolled Through Online/Offline	No. of Candidates Selected	No. of Candidates Joined	Candidates Enrolled (% of seats notified)	Candidates selected (%of Enrolled)	Candidates Joined (%of selected)
Northern	2022-23	69221	45348	45348	100.6	65.5	100.0
	2023-24	105593	57815	57815	97.0	54.8	100.0
	2024-25	241767	106952	106952	167.4	44.2	100.0
Eastern	2022-23	91867	76761	75132	102.1	83.6	102.2
	2023-24	123892	82513	78196	95.5	66.6	105.5
	2024-25	209426	136914	133836	85.9	65.4	102.3
Southern	2022-23	154171	77850	77850	109.5	50.5	100.0
	2023-24	162181	58031	58031	93.3	35.8	100.0
	2024-25	283849	141768	141768	134.5	49.9	100.0
Western	2022-23	86257	70978	69707	55.4	82.3	101.8
	2023-24	103656	72938	63663	38.8	70.4	114.6
	2024-25	165084	140532	140532	45.0	85.1	100.0
Total	2022-23	401516	270937	268037	88.2	67.5	101.1
	2023-24	495322	271297	257705	72.9	54.8	105.3
	2024-25	900126	526166	523088	93.2	58.5	100.6

Source: Calculated using Boards Data

One of the positive trends that emerged from the above table is that there are more than 100 per cent of candidates have joined the apprenticeship scheme after getting selected. This trend is visible across all four regions.

3.3 Progress of NATS at the Regional/State Level

In this section, we analyse some of the performance indicators of the scheme for each region separately, basically focusing on the performance of states within a region.

3.3.1 Eastern region

Seats utlisation or number of trainees trained under NATS in the eastern region over the past six years (2019-20 to 2024-25) is demonstrated in **Table 3.4**. The table shows that there are 1.34 lakhs of students were trained under NATS during 2024-25, which is substantially higher than the number of trainees trained during the COVID years (21,797 in 2019-20 and 21,988 in 2020-21). In terms of seats utilisation as percentage of seats notified by establishments in different states within the eastern region, data presented in **Table 3.5** shows that the average percentage of seats

utlisation between 2019-20 and 2023-24 is highest in Sikkim (85.2 per cent), followed by West Bengal (75.4 per cent), Bihar (66.6 per cent), Jharkhand (63.0 per cent), and so on and so forth. The least performing state within the eastern region is Nagaland (2.9 per cent).

Table 3.4: Seats Utlised or No. of Trainees trained in the eastern region

States	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Odisha	9870	8966	21798	34938	15538	28279
West Bengal	7815	8030	15616	29250	49890	75863
Jharkhand	2131	2959	2800	3558	3387	10158
Assam	858	671	938	1967	1380	1721
Bihar	736	932	914	4621	7112	16565
Sikkim	212	239	475	405	601	651
Arunachal Pradesh	63	71	93	71	15	17
Tripura	30	45	120	189	141	295
Meghalaya	25	22	31	29	67	39
Mizoram	24	6	28	43	33	72
Manipur	20	30	33	29	3	116
Andaman & Nicobar Islands	12	15	20	32	19	18
Nagaland	1	2	3	4	10	42
Total	**21797**	**21988**	**42869**	**75136**	**78196**	**133836**

Source: Eastern regional board

Table 3.5: Seats utilised as a percentage of seats notified in the Eastern Region (%)

States	2019-20	2020-21	2021-22	2022-23	2023-24	Average
Sikkim	98.1	96.4	93.3	60.6	77.5	85.2
West Bengal	69.1	69.8	77.7	88.7	71.7	75.4
Bihar	52.6	63.9	57.8	72.6	86.0	66.6
Jharkhand	59.8	64.2	56.1	69.6	65.3	63.0
Odisha	46.3	41.9	77.8	90.1	39.3	59.1
Assam	50.7	38.4	49.3	44.3	29.7	42.5
Meghalaya	22.3	20.4	28.7	26.9	62.0	32.1
Tripura	8.1	12.2	32.5	59.4	28.8	28.2
Arunachal Pradesh	23.2	26.2	34.3	18.2	3.8	21.2
Manipur	15.5	23.3	25.6	22.5	2.3	17.8
Mizoram	11.9	3.1	11.5	17.3	13.1	11.4
A&N Islands	5.7	7.2	6.6	10.5	6.2	7.2
Nagaland	0.7	1.4	1.9	3.0	7.5	2.9
Total	**53.3**	**51.9**	**73.1**	**83.5**	**60.3**	**64.4**

Source: Calculated from Table 3.4

Overall, the eastern region has performed well in terms seats utilisation, wherein it has achieved an average of 64.4 per cent during 2019-20 and 2023-24 and more importantly seats utlisation which was low during the COVID years (2019-20 and 2020-21), has increased in the subsequent years.

As far as fund allocation and utilisation are concerned, each Board receives funds from the ministry under two heads - for establishments and stipend. Funds received and utilisation by the Eastern Board are given in **Table 3.6**. The average growth rate of fund allocation and fund utilisation is found to be 68.8 and 80.5 per cent respectively during 2019-20 and 2023-24.

Table 3.6: Fund Allocation and Fund Utilisation in the Eastern Region (Rs. In Lakh)

Year	Fund Allocation for Establishment	Fund Allocation for Stipend	Total Fund Allocated	Fund Utilisation for Establishment	Fund utilisation for Stipend	Total Fund Utilised	Growth rate of Total Fund allocation (%Y-o-Y)	Growth rate of Total Fund utilisation (%Y-o-Y)
2019-20	900	2999	3899	708	3027	3735	-	-
2020-21	926	3756	4682	640	3935	4575	20.1	22.5
2021-22	1226	2339	3564	671	2251	2922	-23.9	-36.1
2022-23	1522	10061	11584	1093	10061	11153	225.0	281.7
2023-24	1361	16500	17861	946	16226	17172	54.2	54.0

Source: Eastern regional board

Figure 3.3: Fund Allocation and Fund Utilisation in the Eastern Region

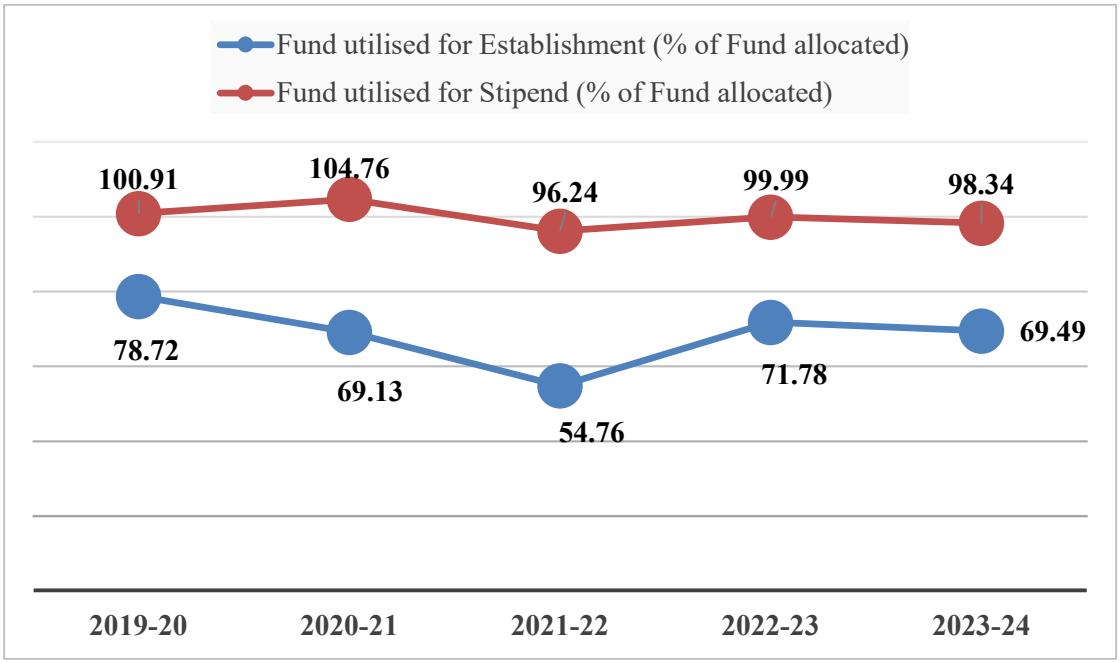


Figure 3.3 presents the efficient allocation of resources by the Eastern Board in terms of utilisation of fund as a percentage of allocation of funds. The data shows that the average percentage of fund utlisation under stipend is nearly 100 per cent between 2019-20 and 2023-24 for the eastern region. In the case of establishment, the average percentage of fund utilisation is found to be around 69 per cent during 2019-20 and 2023-24.

3.3.2 Northern Region

In the northern region, seat utilisation under NATS is highest in Uttar Pradesh and Haryana and least in J&K and Ladakh. The total number of seats utilisation or number of students trained under NATS were 57815 in 2023-24, which is considerably higher than the number of seats utilised during the COVID years (10298 in 2019-20 and 10237 in 2020-21) (**Table 3.7**).

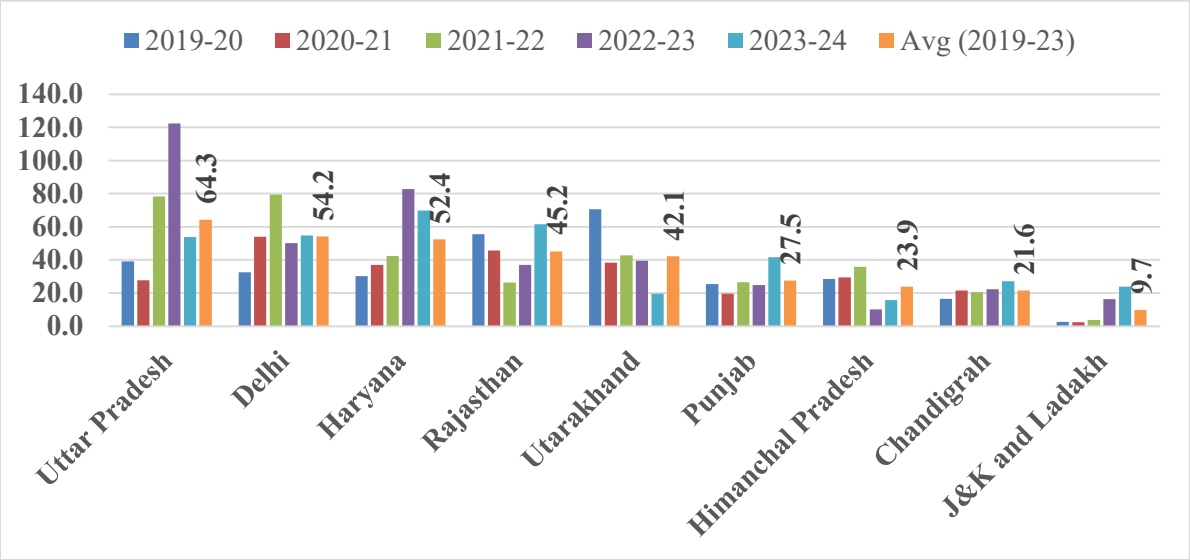
Table 3.7: Status of No. of seats utilised for Apprentices in the Northern Region during 2019-20 and 2023-24

States	2019-20	2020-21	2021-22	2022-23	2023-24
Uttar Pradesh	4284	3410	6734	16846	11587
Haryana	2809	3569	4252	16275	25691
Delhi	1280	1381	2029	3257	6499
Uttarakhand	564	452	696	3084	1779
Punjab	495	328	390	480	2614
Rajasthan	452	647	945	4492	7467
Himanchal Pradesh	334	385	527	486	1106
Chandigarh	55	46	49	270	800
J&K and Ladakh	25	19	29	158	272
Total	**10298**	**10237**	**15651**	**45348**	**57815**

Source: Northern regional board

The effectiveness of the scheme in terms of number of seats utilised as a percentage of number of seats notified is found to be highest in Uttar Pradesh with 64.3 per cent during 2019-20 and 2023-24 followed by Delhi (54.2 per cent) and Haryana (52.4 per cent). All other states within the northern region have recorded an average of less than 50 per cent of seat utilisation during the said period, which is a matter of concern. To achieve a better outcome, the northern regional board must put its best effort into building a strong network with both institutions and establishments, particularly in non-performing states.

Figure 3.4: Seats utilised as a percentage of seats notified in the Northern Region (in %)



Fund allocation and utilisation data provided by the Northern Regional Board are presented in **Table 3.8**. The data suggests that the average percentage growth of fund allocation and utilisation has been growing merely around 3.4 per cent during the period 2019-20 and 2023-24, as compared to more than 60 per cent in the case of eastern region.

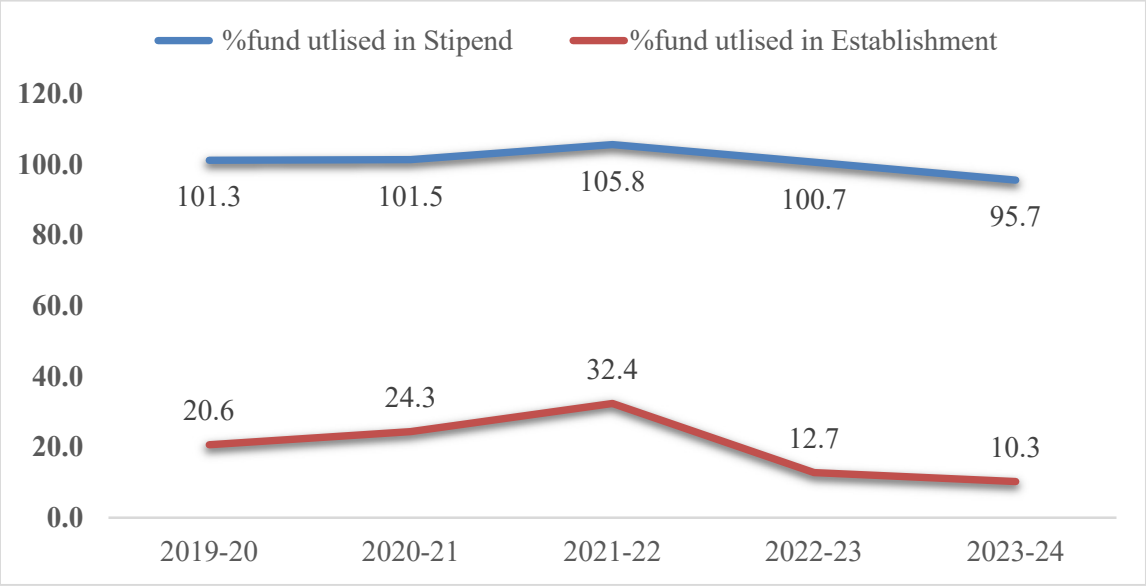
Table 3.8: Status of Fund Allocation and Utilisation in Northern Region (Rs. Lakh)

Year	Fund Allocation for Stipend	Fund Allocation for Establishment	Total Fund Allocated	Fund utilised for Stipend	Fund utilised for Establishment	Total Fund Utilised	%Change of total fund allocated	%Change of total fund utilised
2019-20	2550	532	3082	2583	427	3010		
2020-21	2100	519	2619	2131	611	2742	-1.5	-0.9
2021-22	1600	548	2148	1692	478	2171	-1.8	-2.1
2022-23	4625	592	5217	4657	532	5189	14.3	13.9
2023-24	6000	589	6589	5742	560	6302	2.6	2.1

Source: Northern Regional Board

However, like the eastern region, the northern region has been efficiently using the resources under stipend wherein it has utilised nearly 100 per cent of funds during the last five years (2019-20 to 2023-24). Fund utilisation under establishment was around 20 per cent in 2019-20, which increased to 32.4 per cent in 2021-22 before declining to 10.3 per cent in 2023-24.

Figure 3.5: Fund Allocation and Fund Utilisation in the Northern Region



3.3.3 Southern Region

No. of seats utilised in the southern region under NATS is reported in **Table 3.9**. The total no. of seats utilised in 2019-20 was 39713, which increased to 47386 in 2021-22 and further to 77850 in 2022-23, but it declined to 58031 in 2023-24. Among the states, Tamil Nadu has reported the highest no. of seat utilisation, followed by Karnataka, and the least no. of seats utilised is found in Puducherry.

Table 3.9: Status of No. of seats utilised for Apprentices in the Southern Region

States	2019-20	2020-21	2021-22	2022-23	2023-24
Tamil Nadu	27250	24732	33332	45967	28453
Karnataka	5928	4112	6402	10314	11113
Kerala & Lakshadweep	3290	2361	2555	8145	8478
Andhra Pradesh & Telangana	3138	3165	4793	12706	9565
Puducherry	107	186	304	718	422
Total	**39713**	**34556**	**47386**	**77850**	**58031**

Source: Southern Regional Board

Although Tamil Nadu and Karnataka have reported highest number of seats utilised in absolute number, the percentage of seats utilised to total no. of seats notified is found to be highest in Kerala with 54.1 per cent during 2019-20 and 2023-24. Except Kerala and Tamil Nadu, all other states in the southern region have reported average seats utilisation of less than 50 per cent during 2019-20 and 2023-24 **(Figure 3.6)**.

Figure 3.6: Seats utilised as a percentage of seats notified in the Southern Region (in %)

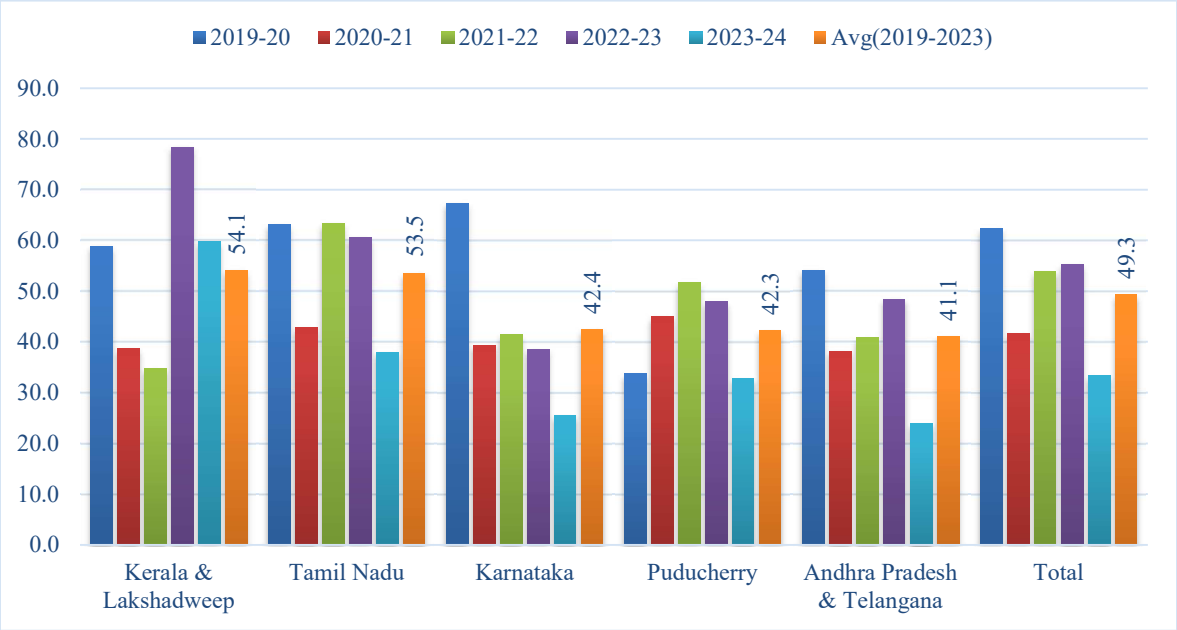


Table 3.10: Status of Fund Allocation and Utilisation in Southern Region

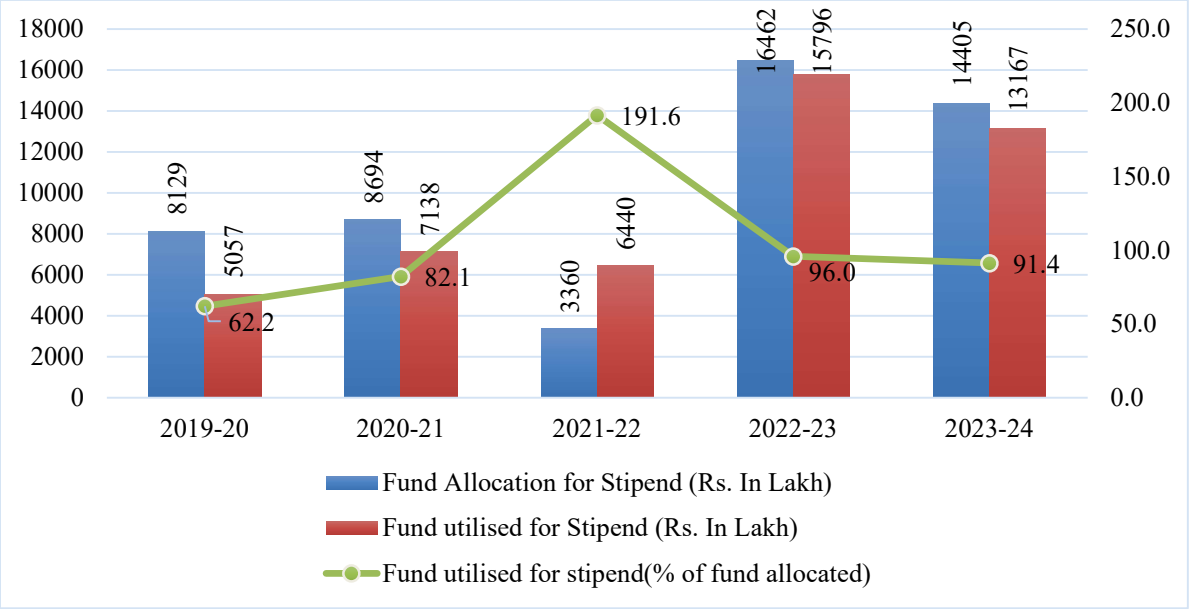
Year	Fund Allocation for Stipend (Rs. in Lakh)	Fund utilised for Stipend (Rs. in Lakh)	%Change of fund allocated for stipend	%Change of fund utilised in stipend
2019-20	8129	5057		
2020-21	8694	7138	7.0	41.2
2021-22	3360	6440	-61.3	-9.8
2022-23	16462	15796	389.9	145.3
2023-24	14405	13167	-12.5	-16.6

Source: Southern Regional Board

Table 3.10 shows fund allocation for stipend was Rs. 8129 lakhs in 2019-20, which declined to Rs. 3360 lakhs in 2021-22 due to a large amount of funds being unspent during the COVID years and that was carried forward to 2021-22. In 2022-23, the fund allocation for stipend increased by a whopping 389.9 per cent. Overall, the average growth rate of fund allocation has been more than 80 per cent during 2019-20 and 2023-24. But fund utilisation has grown at an average of around 40 per cent during the same period, suggesting that some part of the fund has remained unspent over the years. **Figure 3.7** shows that fund utilisation as percentage of fund allocation for stipend was 62.2 per cent in 2019-20, which increased to 82.1 per cent in 2020-21 and further to 191.6 per cent in 2021-22 before declining to 91.4 per cent in 2023-24. Therefore, except 2022-23, in all

other years, the southern region board has been unable to fully utilised the fund allocated for stipend.

Figure 3.7: Fund Allocation and Fund Utilisation in the Southern Region



3.3.4 Western Region

Seats utilization in the western region is largely concentrated in Maharashtra, which contributes around 79 per cent of total seats utilised in the region. The state facilitated 21854 trainees in 2019-20 out of 29429 trainees in the region (**Table 3.11**). This number has increased by more than two times during 2022-23 and 2023-24. Gujarat has also reported a 100 per cent increase of no. of seats utilised between 2019-20 and 2023-24. All other states in the region, however, have reported less growth in number of seats utilised, which warrants a greater effort from the board to achieve a higher target in the future.

Table 3.11: Status of No. of seats utilised for Apprentices in the Western Region

States	2019-20	2020-21	2021-22	2022-23	2023-24
Maharashtra	21854	23515	34539	55664	50048
Gujarat	4893	3888	4824	8278	9516
Madhya Pradesh	1586	923	1191	2278	2239
Chhattisgarh	501	1656	1050	2535	847
Goa	455	342	529	766	798
D&N and Daman and Diu	140	110	119	186	215
Total	**29429**	**30434**	**42252**	**69707**	**63663**

Source: Western Regional Board

In terms of seats utilisation as a percentage of number of seats notified, **Figure 3.8** shows that none of the states in the region has achieved 50 per cent or more, which is a matter of concern as far as achieving the target set out by the ministry is concerned. During 2019-20 and 2023-24, the region has achieved only 39.9 per cent of seats utilised as a percentage of total seats notified. Among the states, Chhattisgarh has reported 49.7 per cent utilisation of seats during 2019-20 and 2023-24.

Figure 3.8: Seats utilised as a percentage of seats notified in the Western Region

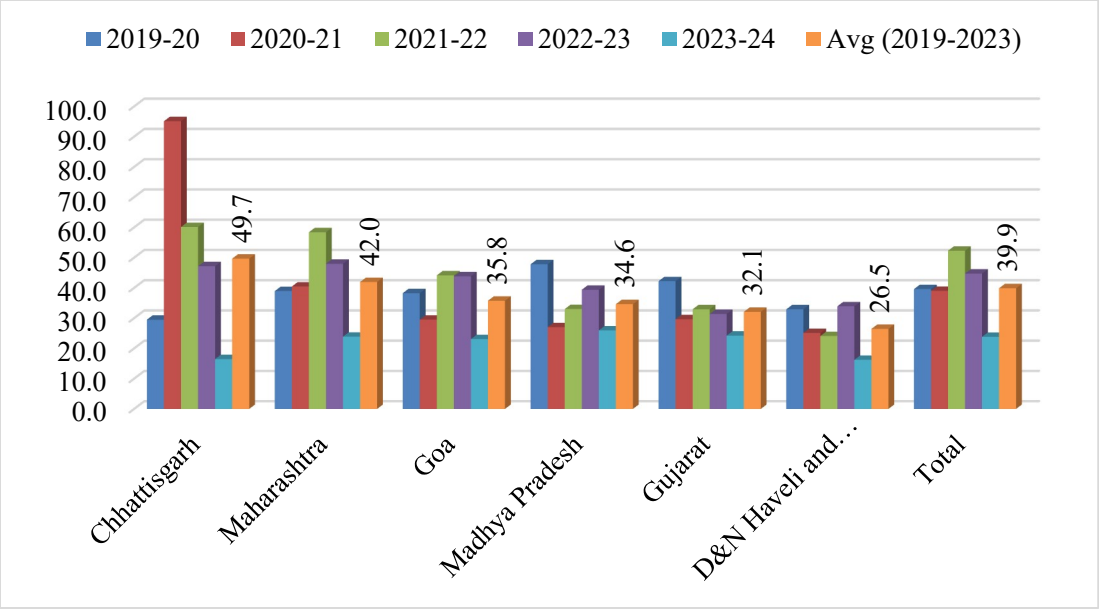


Table 3.12: Status of Fund Allocation and Utilisation in Western Region (Rs. Lakh)

Year	Fund Allocation for Stipend	Fund utilised for Stipend	% change of Fund Allocation for Stipend	% change of Fund utilised for Stipend
2019-20	3,710	3,332		
2020-21	3,400	4,075	-8.4	22.3
2021-22	3,075	3,075	-9.6	-24.5
2022-23	9,625	9,626	213.0	213.0
2023-24	9,750	9,350	1.3	-2.9

Source: Western Regional Board

Fund allocation for stipend to the western region has more than doubled between 2019-20 and 2023-24 (**Table 3.12**). Similarly, fund utilization under stipend has also increased correspondingly during the same period. On average stipend fund has increased by around 50 per cent, and around the same percentage of increase has also been witnessed in the utilisation of stipend fund.

Figure 3.9: Fund Allocation for Stipend as percentage of Fund Utilisation in the Southern Region

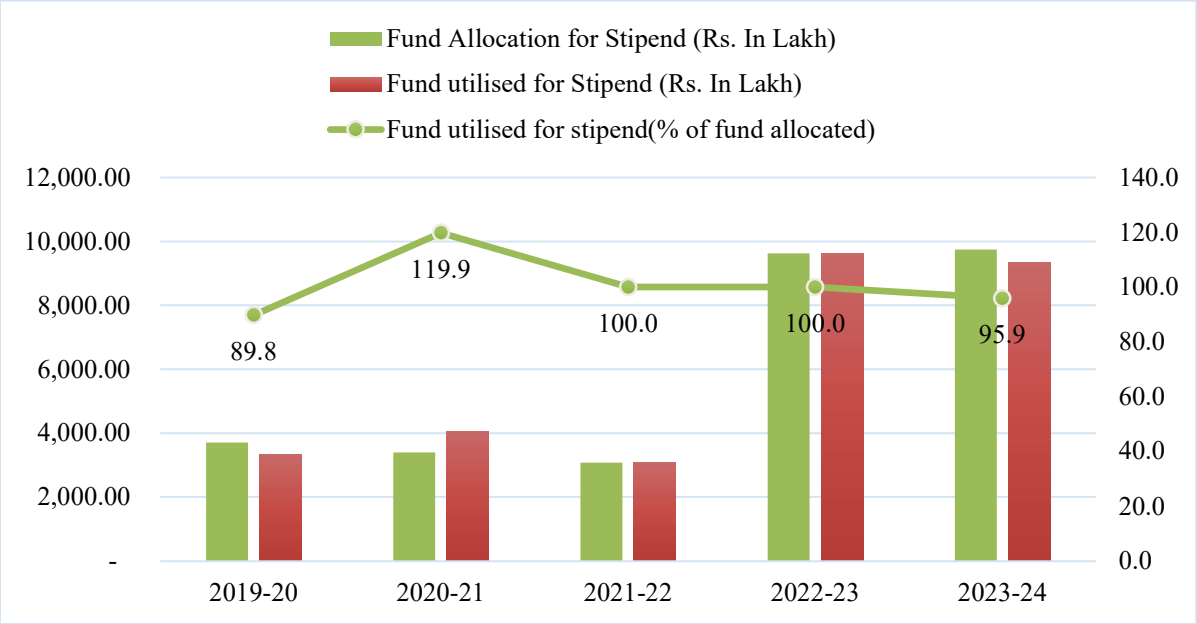


Figure 3.9 shows that utilization of funds as a percentage allocation of funds for stipend was 89.8 per cent in 2019-20 and thereafter it has been around 100 per cent in the subsequent years, suggesting a more efficient use of resources in offering training to students under NATS.

3.4 Status of Human Resource at Regional Offices

For the effective implementation and monitoring of any scheme, the availability of a requisite number of human resources is very important. Otherwise, it is difficult to get a good outcome/result by assigning too many activities or a large volume of work to a limited number of people. In this regard, the study visited different BOAT/BOPT for a focus group discussion and collected primary information on current strength of human resources. **Table 3.13** gives cadre-wise staff position in BOAT/BOPT.

From the table, one can find that all boards together have reported around 84 per cent of positions are filled in out of total 158 sanctioned position. In other words, 16 per cent sanctioned position are vacant in all four boards. The percentage very from one board to other. While northern board has reported 76.9 per cent of position filled in, it is 87.8 per cent in case of eastern board. By position, it is found that more vacancies are reported in case of UDC, LDC and Jr. Steno, which suggests that senior officers of BOAT/BOPT would be devoting time performing administrative activities, which would be otherwise carried out by support staff. Thus, it is hampering the field activities of officers and overall performance of the scheme. Further, we found that each Deputy

director and Assistant director has been assigned multiple states. As a result of which effective monitoring and implementation of scheme in terms of building strong network with establishments and institutions is not happening and therefore the scheme has failed to achieve its target and intended results. Hence, to achieve a better result and outcome, there is a need to fill in the vacancies at the earliest and increase the strength of position at the Assistant and Deputy Director level.

Table 3.13: Cade-wise Staff position

Region	Sanctioned Strength					Filled-in-positions				
Position	**NR**	**ER**	**SR**	**WR**	**Total**	**NR**	**ER**	**SR**	**WR**	**Total**
Director	1	1	1	1	4	1	1	1	1	4
Dy. Director	1	1	1	1	4	1	1	1	1	4
Admin. Cum. Acctts. Officer	1	1	1	1	7	1	1	0		5
Asstt. Director	6	3	4	4	14	6	3	3	4	13
Office Supdt.	1	1	1	1	4	1	1	1	1	4
Sr. Steno	1	2		1	5	1	2			4
Steno			2					2		
Jr. Acctt.	1	2	1	1	5	0	2	1	1	4
Assistant	2	1			6	0	1			3
Jr. Steno	3	2		2	19	1	2		1	13
Jr. Hindi Translator			1					1		
UDC	4	7	12	7	20	3	5	9	6	16
LDC	9	9	15	8	41	8	8	14	8	38
Driver	1	1	2	1	5	0	0	2	1	3
MTS(DMO. Peon, Chowkidar)	8	8	2	4	22	7	7	2	4	20
Analyst		1	3		1		1	2		1
Jr. Translation Officer		1			1		1			1
Total	**39**	**41**	**46**	**32**	**158**	**30**	**36**	**39**	**28**	**133**

Source: All four Boards

3.5 Challenges and suggestions

The key objective of NATS programme is to offer on the job skill training to Graduates and Diploma holders (both technical and non-technical) and make them employable and at the same time the long term goal is to create a larger pull of skilled manpower in the country so that the need of the industry and the market can be met. The programme is being implemented and

monitored by four regional boards with financial support from the Ministry of Education, Government of India.

The data analysis presented in previous sections suggests that none of the boards has been able to achieve the intended results, neither in coverage and registration of establishments nor in enrolment of students. This could be due to various challenges faced by boards while implementing the programme at the ground level

The major challenges faced by regional boards are:

- Financial constraints: the finances are required mainly for salary and administrative expenses, and also for reimbursement of the government share of stipend. The Ministry provides total financial support to these offices on a monthly basis based on requirement, but the pattern of grants in aid is quite irregular and does not commensurate with the requirements. Although Direct Benefit Transfer (DBT), which was introduced recently viewed as a game changer to minimise the leakages and improve the efficiency of the stipend payment system, but has not been implemented effectively, where many trainees have complaint about pending dues and delays in the payment process.
- Shortage of the requisite number of technical and non-technical manpower is also viewed as another major challenge faced by all boards. Due to this challenge, they are unable to visit different establishments regularly as a result of which the outreach has been affected. Further, shortage of manpower has also been adversely affected in many key activities such as handling the Portal related activities and grievance redressals, Feedback system, outreach to institutions, career guidance programme, awareness programme, and other additional activities being assigned to boards by the ministry time to time.
- Apart from financial and manpower challenges, there are several other challenges faced by boards such as lack of participation of students in the programme particularly in metropolitan cities due to low stipend compared to the cost of living, no creditisation of the course, no acceptance of certificate by many industries as one year experience, non-availability of desired courses and establishments in the locality and lack of awareness about the programme. It was also observed that overlapping of NATS and NAPS programme wherein graduates are eligible to apply to both the programmes, students are giving preference to latter programme due to onetime payment system against the performer's dual payment system in which payment through DBT has not been timely paid that creates discontent among the students. Further, it was also observed that although establishments are actively participating in the programme, institutions are not, as they feel that it is not mandatory for them to create awareness among the students and motivate the students to join the programme. Unless the ministry comes out with a guideline of giving credit points to institutions under NAAC against placement of a number of students under NATS, the institutions would continue to ignore it.

3.6 Key Takeaways

- The study found that out of total number of establishments identified by all boards, only around 37 per cent of them are engaged in apprenticeship training, which is quite low, and needs to improve to more than 50 per cent by better monitoring and coordination mechanisms with establishments.
- Except the Eastern board, which has achieved 52.6 per cent of identified establishments conducting the apprenticeship training, all other boards have reported below 45 per cent.
- Further, out of the total number of establishments engaged in training, it was found that 50 per cent of their seats remain unutilized, which requires serious introspection and necessary action.
- Candidates enrolled as a percentage of number of seats notified by establishments is found to be lowest in the western region, even less than the national average (50 per cent). This could be due to trainees in Mumbai and Pune feel that the stipend is very less compared to the cost of living in the city, hence not willing to join the programme.
- One of the positive trends that emerged from the above table is that there are more than 100 per cent of candidates have joined the apprenticeship scheme after getting selected. This trend is visible across all four regions
- Within the eastern region, seat utilisation was found to be highest (more than 60 per cent) in Sikkim, West Bengal, Bihar, and Jharkhand, and least in Nagaland (2.9 per cent).
- Within the northern region, seat utilisation was found to be more than 50 per cent in Uttar Pradesh, Delhi and Haryana, and all other states have achieved below 50 per cent. Overall, the performance of the northern region is not the mark vis-à-vis eastern and southern regions.
- Among the states in the southern region, Kerala and Tamil Nadu have reported more than 50 per cent seats utilisation, and all other states have reported less than 50 per cent.
- In the western region, we found that none of the states achieved more than 50 per cent seats utilisation, which is a matter of concern as far as achieving the target set out by the ministry is concerned.
- As far as fund utilisation of the total fund allocated for stipend is concerned, all the regional boards have achieved nearly 100 per cent of the target, which suggests that there is further scope for increasing the coverage of trainees, new sectors with a commensurate increase in fund allocation.

***

CHAPTER – 4

SURVEY FINDINGS AND DISCUSSIONS

4.1 Introduction

In this chapter, the study presents and discusses the findings from primary survey data that were collected and compiled from various stakeholders of NATS. The survey data findings are discussed under REESI+C+I framework as prescribed by DMEO, NITI Aayog. The key issues pertaining to NATS are discussed in this chapter as follows:

- How well the scheme's objectives align with the needs of the target population and the priorities of the stakeholders?
- To what extent are the inputs of the scheme used efficiently to get the expected results?
- To what extent is the scheme effective at the ground level in achieving its major goals in terms of employment and income generation for students, particularly those belonging to socially and economically backward classes?
- To what extent are the benefits of the scheme distributed fairly and equitably across different groups?
- Whether the scheme is sustainable financially and socially in the long term?
- How has the scheme impacted the knowledge, skill, employability, productivity and efficiency of students?

4.2 Survey findings

The survey findings under the REESI+C+I framework are discussed below.

4.2.1 RELEVANCE

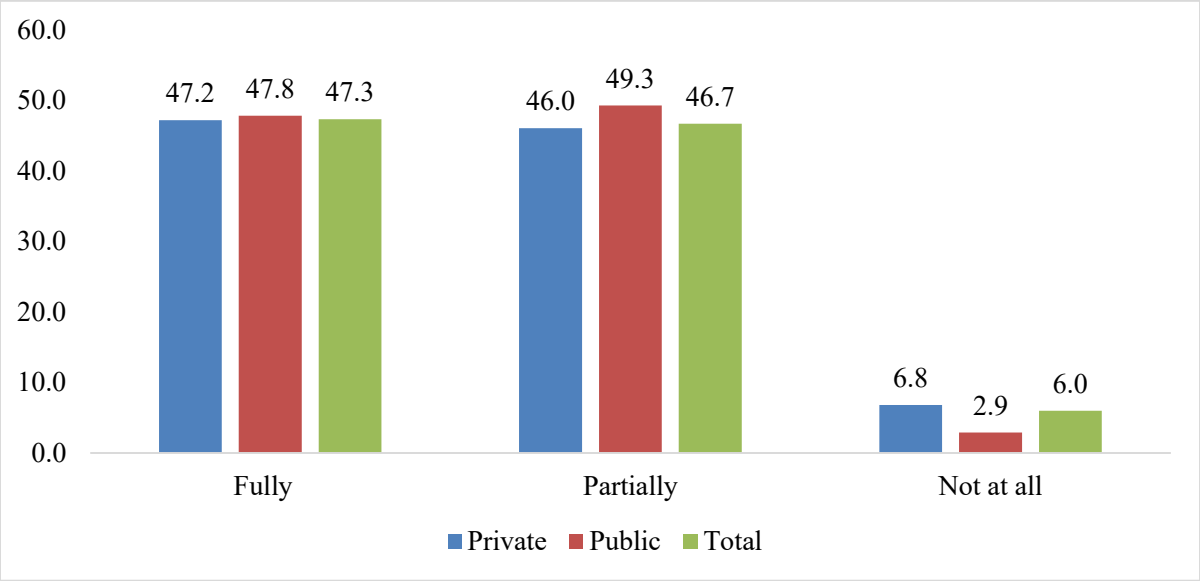
Relevance is an important evaluation standard in monitoring and evaluation practice, as it focuses on ensuring that programs, projects, and activities are designed and implemented to meet the needs of their intended beneficiaries and achieve their intended outcomes. Relevance helps to ensure that the resources invested in these activities are used efficiently, that the programs are held accountable for their outcomes, and that decision-makers can make informed decisions based on evidence-based evaluations. In this context, relevance is often used as a key criterion for assessing the effectiveness and impact of programs, projects, and activities.

4.2.1.1 College Curriculum Vs. Industry Needs: Establishment's Perspectives

The study attempts to find out the relevance of the scheme in imparting practical or on-the-job skills required by the industry vis-à-vis skills imparted through college curriculum. **Figure 4.1** indicates that most establishments/employers (around 47 per cent) believe the curriculum is only partially aligned with industry needs. Only 47.3 per cent of establishments feel that the curriculum fully meets their expectations, indicating room for enhancement. Notably, 6 per cent of establishments feel the curriculum does not meet their needs at all—a signal for deeper reform in

certain disciplines or regions. Public sector establishments are slightly more optimistic, with a higher share (49.3 per cent) reporting partial alignment compared to the private sector. This feedback confirms that the current academic curricula do not fully equip graduates with job-ready skills**.** It underscores the essential role of apprenticeships under NATS in providing practical training and exposure to bridge this gap. NATS is acting as a critical interface between academic learning and industry demands, especially in fast-evolving technical domains. Without this bridge, many trainees would enter the workforce underprepared.

Figure 4.1: Institution Curriculum and Industry Requirements (% responses by establishments)



Formalising regular curriculum updates with industry advisory boards at institutional and national levels will help Curriculum - Industry Sync Mechanism. Mandatory Apprenticeship Integration, like making industry internships/apprenticeship credit-bearing and compulsory components in higher education syllabi. Sector Skill Council (SSC) Involvement in aligning higher education curriculum with NSQF-aligned job roles defined by SSCs and ensuring skill standards are embedded into coursework. Skill Audit and Feedback Loops by encouraging the establishments to provide structured feedback on curriculum gaps to academic institutions post-apprenticeship cycle will be very useful in bridging the gaps between college curriculum and industry needs.

4.2.1.2 Relevance of NATS in Enabling Right Job Placement

The Relevance of the NATS in facilitating meaningful employment was assessed by seeking feedback from participating establishments across both private and public sectors. A substantial 71.9 per cent of all establishments reported that NATS fully helped apprentices in securing the right jobs, demonstrating the scheme's overall effectiveness. The private sector shows stronger endorsement, with 75.5 per cent confirming full support by NATS in matching trainees with appropriate employment opportunities. By contrast, only 58 per cent of public sector establishments felt the scheme fully helped apprentices, with a concerning 36.2 per cent stating

NATS did not help at all in job placement. This suggests potential gaps in public sector absorption or job alignment mechanisms. The percentage of establishments rating NATS as having "no impact" (24.3 per cent) highlights the need for improvement in placement linkages and post-training support, particularly in the public sector (**Table 4.1**).

NATS has made significant strides in enhancing employability, especially in the private sector, where apprentices are more likely to transition into suitable roles. However, the relatively lower satisfaction from the public sector and the still-high share of "not at all" responses point to the need for stronger placement ecosystems, career counselling, and job matching tools for all apprentices.

Table 4.1: Relevance of NATS for apprentices getting the right jobs in the market (% responses by establishments)

Sector	Fully	Partially	Not at all	Total
Private	75.5	3.4	21.1	100.0
Public	58.0	5.8	36.2	100.0
Total	**71.9**	**3.9**	**24.3**	**100.0**

Source: NILERD Survey 2025

4.2.1.3 Relevance of NATS in Addressing Skill Gaps

To assess the relevance and impact of NATS on organizational productivity and workforce development, employers were asked whether NATS is helpful for their establishment in addressing skill gaps. The summary of the response has been given in **Table 4.2**. An overwhelming 97.3 per cent of establishments across sectors agreed that NATS has been helpful in addressing their skill shortages, affirming the program's strong alignment with employer needs. Private sector establishments showed slightly higher endorsement (97.7 per cent), reflecting a greater reliance on apprentices to fill real-time technical roles. The public sector also showed high satisfaction (95.7 per cent), though a slightly higher proportion (4.3 per cent) did not find NATS helpful, potentially due to slower recruitment cycles or limited apprentice utilization in some public sector establishments.

The results clearly indicate that NATS is widely regarded very relevant and effective mechanism for bridging skill gaps, particularly in technical and engineering domains. The program is not only preparing youth for employment but also supplying industry-ready manpower to establishments facing shortages in key skill areas.

Table 4.2: Relevance of NATS in Addressing Skill Gaps (% responses by establishments)

Sector1	No	Yes	Total
Private	2.3	97.7	100.0
Public	4.3	95.7	100.0
Total	**2.7**	**97.3**	**100.0**

Source: NILERD Survey 2025

4.2.1.4 NATS as a Source of Industry-Ready Talent

To assess whether NATS contributes to long-term human resource planning and workforce readiness, establishments were asked whether they think NATS is helping the industries to build a steady pool of industry-ready talent or not? The responses were presented in **Table 4.3** below. An overwhelming 98.5 per cent of establishments agree that NATS plays a key role in building a steady pipeline of industry-ready talent. Private sector employers show near-unanimous confidence in the scheme, with 99.2 per cent acknowledging its value in workforce preparation. Public sector units, while also largely supportive (95.7 per cent), reflect a slightly more conservative view, possibly due to limitations in absorption or internal training systems.

These findings strongly validate the strategic role of NATS in workforce development. The apprenticeship model under NATS not only addresses short-term skill gaps but is also viewed as a sustainable mechanism to prepare industry-ready youth, fostering long-term employability.

Table 4.3: Relevance of NATS for building Industry-Ready Talent (% responses by establishments)

Sector	No	Yes	Total
Private	0.8	99.2	100.0
Public	4.3	95.7	100.0
Total	**1.5**	**98.5**	**100.0**

Source: NILERD Survey 2025

4.2.1.5 NATS and Reduction in Industry Hiring Costs

One of the key potential benefits of apprenticeship schemes like NATS is cost-effective talent acquisition. To examine this, participating establishments were asked: "*Do you think NATS helps in reducing hiring costs for industries?*" A resounding 96.4 per cent of establishments across sectors believe that NATS helps reduce hiring costs, validating its role as an efficient talent acquisition strategy. The private sector strongly endorses this benefit, with 98.1 per cent confirming cost savings—likely due to reduced recruitment expenditure, faster onboarding, and lower training needs. Although public sector establishments also acknowledge this benefit (89.9 per cent), a notable 10.1 per cent disagree, suggesting that some PSUs may face structural or procedural constraints that limit cost savings from apprenticeship engagement (**Table 4.4**). NATS is proving to be an economically beneficial model for industries, especially in the private sector, where agility in recruitment and cost efficiency is crucial. NATS provide pre-trained, culturally adapted talent, thereby lowering hiring and training costs and reducing turnover risks.

Table 4.4: Do you think NATS helps in reducing hiring costs for industries (% responses by establishments)?

Sector	No	Yes	Total
Private	1.9	98.1	100.0
Public	10.1	89.9	100.0
Total	**3.6**	**96.4**	**100.0**

Source: NILERD Survey 2025

4.2.1.6 NATS and Creation of a Future-Ready Workforce

To understand the strategic impact of NATS on long-term industry preparedness, establishments were asked about their views on the Role of NATS in creating a future-ready workforce that can benefit the industries in the long run. The responses are presented in **Table 4.5** below. A remarkable 98.5 per cent of establishments across sectors believe that NATS is contributing to the creation of a future-ready workforce, highlighting the scheme's long-term relevance. In the private sector, confidence is especially high, with 98.9 per cent endorsement, reflecting the strong alignment between apprenticeship training and evolving skill requirements in dynamic industries. Even in the public sector, which typically adopts more structured and regulated recruitment processes, 97.1 per cent of establishments agree on NATS's value in preparing youth for future industry roles. These findings indicate that NATS is not just addressing immediate skill shortages but is also playing a critical role in shaping a resilient, industry-aligned workforce capable of adapting to technological advancements and sectoral shifts. The program supports a pipeline of young professionals who are better prepared, more productive, and aligned with future industry needs.

Table 4.5: NATS Creating a Future-Ready Workforce (% responses by establishments)

Sector	No	Yes	Total
Private	1.1	98.9	100.0
Public	2.9	97.1	100.0
Total	**1.5**	**98.5**	**100.0**

Source: NILERD Survey 2025

4.2.1.7 NATS and Employment of Local Youth in Local Industries

One of the core objectives of the NATS is to promote localized employment opportunities and retain skilled youth within their regions. To capture the progress on this front, establishments were asked their views on whether the NATS is helping the local youth in getting employment in the local industries or not. And responses were recorded and presented in **Table 4.6** below. A robust 96.7 per cent of establishments agree that NATS is facilitating employment of local youth within

local industries, validating the scheme's role in regional skill matching and retention of talent. The private sector shows slightly higher support, with 97.4 per cent affirming this benefit—reflecting the growing trend of localized hiring to reduce attrition and improve workforce stability. Public sector support is also strong (94.2 per cent), though a slightly higher 5.8 per cent of public establishments did not find the scheme helpful in this regard—possibly due to central recruitment processes or limited local placements in certain PSUs. These results affirm that NATS is actively supporting local ecosystems by connecting local youth with nearby industry opportunities. This helps reduce out-migration, supports regional economic development, and fosters community-rooted employment growth—particularly valuable for smaller towns and semi-urban regions.

Table 4.6: Establishments' Views on Local Employment Outcomes of NATS (%)

Sector	No	Yes	Total
Private	2.6	97.4	100.0
Public	5.8	94.2	100.0
Total	**3.3**	**96.7**	**100.0**

Source: NILERD Survey 2025

4.2.1.8 Curriculum–Training Alignment: Apprentice Perceptions

To assess the relevance of academic education to industry needs, apprentices were asked: "To what extent does the course curriculum of your discipline/subject field in your college match the training you received in the establishment?" The responses are tabulated below in **Table 4.7** for both completed and on-roll trainees, disaggregated by public and private sector establishments. A high proportion of both completed (68.2 per cent) and on-roll (68.5 per cent) apprentices reported that their academic curriculum fully matched the training received at the workplace. This reflects strong perceived alignment, particularly in private sector establishments, where 70.4 per cent (on-roll) and 69.5 per cent (completed) acknowledged full curriculum relevance. However, around 27–28 per cent of apprentices noted only partial alignment, suggesting that while foundational knowledge is present, there may be gaps in practical exposure, emerging technologies, or industry-specific tools. A small but significant share (around 4–5 per cent) reported that their academic background did not match at all with their apprenticeship training—highlighting cases where industry practices diverge sharply from what is taught in educational institutions. Private sector establishments show a slightly better match than public sector counterparts in both completed and ongoing apprenticeships, potentially due to more responsive and updated skill demands. The data indicates a generally positive perception of curriculum-industry coherence, especially among private sector trainees. However, the persistence of partial or no alignment in nearly one-third of cases underlines the need for curricular modernization and greater industry participation in academic planning.

Table 4.7: Curriculum and Training Alignment (%)

Categories	Responses by Ex-apprentices			Responses by On-roll apprentices		
	Public	Private	Total	Public	Private	Total
Fully	66.4	69.5	68.2	62.2	70.4	68.5
Partially	28.7	26.8	27.6	33.3	25.0	26.9
Not at all	4.9	3.6	4.2	4.5	4.7	4.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NILERD Survey 2025

4.2.1.9 Training Effectiveness in Bridging College Education Skill Gaps

To assess the value addition of apprenticeship training beyond classroom learning, apprentices were asked: "Is the training fulfilling the skill gap that remains after your college education?" The following **Table 4.8** presents the sector-wise response from trainees. A significant 86.9 per cent of apprentices believe that NATS training is effectively filling skill gaps left unaddressed by their formal college education. Private sector apprentices express slightly higher satisfaction (87.6 per cent) than their public sector counterparts (84.6 per cent), indicating more direct exposure to current industry practices and technologies. Still, 13.1 per cent of respondents feel the training does not adequately bridge educational gaps, pointing toward areas where further curriculum-industry alignment is needed, particularly in practical, hands-on, or soft skill development. The findings reinforce that NATS is playing a critical role in enhancing the practical employability of graduates by equipping them with job-relevant skills not typically covered in academic institutions. The real-world exposure, discipline-specific training, and workplace mentoring are seen as crucial supplements to theoretical knowledge.

Table 4.8: Apprentices' Perception of NATS Training in Bridging Skill Gaps (%)

Type	YES	NO	TOTAL
Public	84.6	15.4	100.0
Private	87.6	12.4	100.0
Total	86.9	13.1	100.0

Source: NILERD Survey 2025

The Relevance analysis underscores that the NATS scheme is well-aligned with the evolving needs of employers and apprentices while also highlighting areas for curriculum and system-level improvements. Insights from establishments and apprentices reveal that the scheme meaningfully complements formal education, fills skill gaps, and serves broader workforce development objectives. The NATS scheme is highly relevant in the current skill development and employment ecosystem. It is filling key institutional and operational gaps, strengthening curriculum-to-career

transitions, reducing hiring costs, and enhancing local employment outcomes. However, improvements are still needed in academic alignment, public sector job linkages, and dropout prevention to fully optimize its impact.

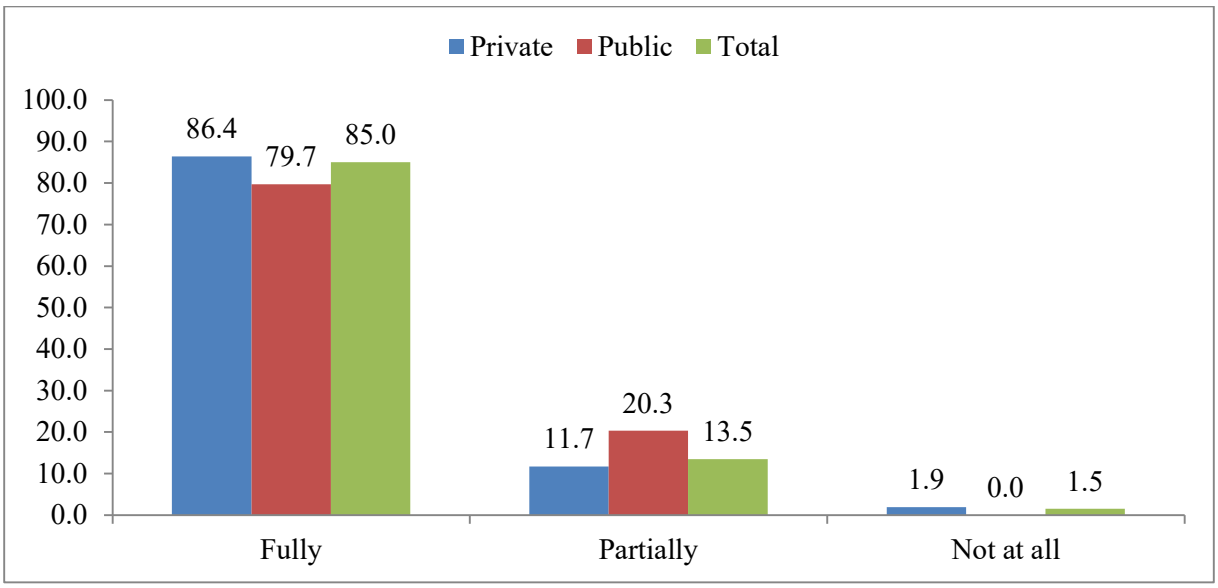
4.2.2 EFFECTIVENESS

In an Output-Outcome Monitoring Framework (OOMF), the effectiveness of a scheme is paramount. It determines whether the scheme's interventions are achieving their intended outcomes and producing desired changes in the target population. Assessing effectiveness helps in understanding what works, what does not, and why, enabling informed decisions about program improvement, resource allocation, and potential scaling up. The following analysis gives the effectiveness of the NATS in terms of achieving its intended outcomes.

4.2.2.1 Advantages of NATS to Establishments

To evaluate the direct benefits of the NATS scheme from the employer's perspective, establishments were asked, "To what extent is the scheme advantageous to their organization?". Their responses—categorized as *Fully*, *Partially*, or *Not at all*—are presented below **Figure 4.2**, segregated by sector. A significant 85.0 per cent of establishments stated that the scheme is fully advantageous, indicating strong endorsement across sectors. This sentiment is strongest in the private sector (86.4 per cent), where NATS is widely viewed as a cost-effective and flexible talent development tool. In the public sector, 79.7 per cent of establishments reported that the scheme is fully advantageous—still a strong majority, though slightly lower than private counterparts, potentially reflecting procedural or recruitment constraints in public sector units.13.5 per cent of total respondents find the scheme partially advantageous, suggesting that some establishments may benefit in limited ways—perhaps due to a mismatch in skill sets, or challenges in conversion to full-time roles. Notably, only 1.5 per cent of establishments overall found no advantage at all, underscoring the widespread appreciation for the scheme's relevance. The overwhelmingly positive response indicates that NATS is well-aligned with industry needs, particularly in offering work-ready talent, lower onboarding and training costs, and better recruitment prospects. This widespread perception across the public and private sectors validates the scheme as an effective mechanism to bridge the skill gap and support workforce development.

Figure 4.2: Extent of advantages of NATS to the establishment (% responses by establishments)



4.2.2.2 Intensity of Skill Acquisition Before and After NATS Training

To assess the effectiveness of NATS in enhancing the skill intensity of apprentices, trainees were asked to self-evaluate their skill levels both at the time of joining and at the time of completion of their apprenticeship. The data is categorized by educational discipline and graded on a 5-point scale from *Poor* to *Excellent* in **Table 4.9** below. Across all educational streams, there is a dramatic improvement in skill levels post training. The percentage of apprentices rating their skills as 'Very Good' or 'Excellent' rose sharply—from 4.4 per cent to 61.6 per cent in Graduate Engineering, 5.7 per cent to 63.5 per cent in Graduate General, and similar patterns for diploma streams. Diploma (Other Disciplines) recorded the most significant post-training transformation, with 69 per cent of apprentices rating themselves in the top two categories (up from just 5.9 per cent).'Poor' skill level ratings fell drastically across all categories. For example, among Graduate Engineering apprentices, the percentage dropped from 12.8 per cent to 5.4 per cent. In Sandwich Programmes, while improvements are evident, the gains are relatively modest, possibly due to already higher practical exposure or unique program structures. The apprenticeship training under NATS has clearly led to a substantial uplift in perceived skill levels, validating the scheme's role in bridging the academic–industry skill gap. Apprentices reported becoming confident, job-ready, and capable of higher-value tasks post-training. This self-assessed improvement in skill intensity underscores that NATS is not only an employment support scheme but also a transformative skilling mechanism, particularly effective for graduates from general and diploma backgrounds.

Table 4.9: Self-Reported Skill Levels by Apprentices Before and After Training (%)

	At the time of joining					At the time of completion				
Discipline	Poor	Average	Good	Very Good	Excellent	Poor	Average	Good	Very Good	Excellent
Graduate engg	12.8	54.6	28.2	4	0.4	5.4	4.5	28.5	42.1	19.5
Graduate genl.	13.7	53.3	27.3	5.3	0.4	4.1	6.3	26.1	38.7	24.8
Diploma engg.	14.1	54.5	26.2	4.7	0.5	6.8	6.8	25.8	38.4	22.2
Diploma in others	14.2	52.7	27.2	5.2	0.7	0.1	11	20	40.3	28.6
Sandwich	24.3	41.1	27.1	7.5	0	17	17	27.3	27.4	11.3

Source: NILERD Survey 2025

4.2.2.3 Effectiveness of NATS over Other Skill Schemes

To assess how establishments perceive the relative effectiveness of NATS in comparison to other skill development programs (such as NAPS, PMKVY, DDU-GKY, NSDC-certified training, etc.), establishments were asked "whether NATS is relatively more effective than other skill-related schemes?" And the responses were presented in **Table 4.10** below. A clear two-thirds majority (66.2 per cent) of responding establishments consider NATS more effective than other skilling schemes. Both public (68.1 per cent) and private (65.7 per cent) sector employers show strong confidence in the NATS framework, reflecting its structured design, academic-industry integration, and hands-on industrial exposure. Around one-third (33.8 per cent) of respondents feel otherwise. The majority opinion affirms that NATS offers superior value to establishments by ensuring a pipeline of technically educated apprentices, who can be productively integrated into work processes from day one. This applied learning model, anchored in real industry settings, is viewed as more robust than shorter-term or general skill development programs.

Table 4.10: Sector-wise Distribution of Responses on Relative Effectiveness of NATS (% responses by establishments)

Sector	No	Yes
Private	34.3	65.7
Public	31.9	68.1
Total	**33.8**	**66.2**

Source: NILERD Survey 2025

4.2.2.4 Skill Proficiency Levels Before and After Apprenticeship

One of the core indicators of NATS effectiveness is the change in apprentices' self-assessed skill proficiency levels before and after the training. Establishments were asked to evaluate the skill levels of apprentices in their respective trades both prior to and post-training, separately for public and private sector establishments. The responses are presented in **Table 4.11** below. There is a notable improvement in the 'Excellent' proficiency category, especially in the private sector, where the share rose from 25.9 per cent to 39.9 per cent, and in the public sector from 15.9 per cent to 33.8 per cent—more than doubling. The share of apprentices rated as 'Average' fell sharply, by nearly 15 percentage points in public establishments and by 16 percentage points in private establishments, indicating upward skill mobility. The combined share of 'Excellent' and 'Very Good' apprentices increased. From 35.1 per cent to 63.0 per cent in the public sector and from 43.6 per cent to 66.5 per cent in the private sector. While the 'Good' category remains substantial post-training, its share slightly decreased, indicating that a significant number of those rated as 'Good' at the start moved into higher skill brackets after training. The data highlights a substantial shift in skill proficiency post-training, validating NATS's role in enhancing technical competence and workplace readiness. The greater gain observed in the private sector suggests more intense or diverse exposure to live tasks, modern tools, and productivity environments, although public sector gains are also impressive.

Table 4.11: Skill/Proficiency Levels of Apprentices – Before and After Training (% responses by establishments)

Level	Public		Private	
	Before	After	Before	After
Excellent	15.9	33.8	25.9	39.9
Very good	19.2	29.2	17.7	26.6
Good	37.2	25.4	31.5	27.1
Average	24.6	9.7	20.8	4.9
Poor	3.1	1.8	4.2	1.5
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: NILERD Survey 2025

4.2.2.5 NATS Training and Market-Ready Employability

To capture the labour-market relevance of NATS, apprentices were asked whether the training received under NATS meets the employability requirements needed to compete for a job in the market? The responses are presented in **Table 4.12** below. Nine out of ten apprentices (92.5 per cent) feel that NATS fully equips them to compete for jobs, underscoring the scheme's strong labour-market alignment. Private-sector trainees report even higher confidence (96.5 per cent)—likely reflecting direct exposure to contemporary tools, production methods and work culture. While still high, the public-sector 'YES' share (86.9 per cent) is lower, and a notable 13.1 per

cent believe gaps remain—pointing to potential mismatches in certain state-owned units or slower technology adoption. The overall 7.5 per cent "NO" responses provide valuable feedback on where curricula or workplace mentoring can be strengthened. The findings confirm that NATS overwhelmingly meets industry employability standards, especially in the private sector, where competition and innovation cycles are rapid. This high level of confidence validates NATS as a critical bridge between academic learning and labour-market needs.

Table 4.12: Apprentices' Perception on Employability Readiness by type of Establishments (%)

Type	YES	NO	Total
Public	86.9	13.1	100.0
Private	96.5	3.5	100.0
Total	92.5	7.5	100.0

Source: NILERD Survey 2025

4.2.2.6 Employability Readiness: Degree vs Diploma holders

In addition to sector-wise analysis, responses were also classified by educational qualification (Degree or Diploma) to understand whether NATS training aligns with job-market requirements for different academic backgrounds. Both degree and diploma holders report high employability confidence, indicating strong curriculum-to-practice alignment across educational levels. Diploma holders show slightly greater confidence (94.1 per cent) compared to degree holders (91.9 per cent), possibly due to the more practical and hands-on orientation of diploma programs that blend well with the apprenticeship model. The marginally higher dissatisfaction (8.1 per cent) among degree holders may point to expectation gaps or a need for advanced or specialised training exposure (**Table 4.13**). These findings reaffirm that **NATS training is well-structured to serve both diploma and graduate apprentices,** with consistently high satisfaction levels. However, subtle differences suggest the need to **tailor post-apprenticeship support or upskilling pathways** based on educational qualifications to ensure maximum career alignment.

Table 4.13: Apprentices' Perception on Employability Readiness by Qualifications (%)

Type	YES	NO	Total
Degree	91.9	8.1	100.0
Diploma	94.1	5.9	100.0
Total	**92.5**	**7.5**	**100.0**

Source: NILERD Survey 2025

4.2.2.7 Completion Rate of Apprenticeship Candidates

An important indicator of the operational success of the NATS scheme is the completion rate of apprentices. Training Partner Agencies (TPAs) were asked about the percentage of candidates who typically complete the full course of apprenticeship. The responses were recorded and presented in **Table 4.14** below. A majority of TPAs (50 per cent) report that 75 per cent to 100 per cent of their candidates complete the full apprenticeship term, suggesting strong retention and scheme adherence. More than a quarter (26.3 per cent) of TPAs observe moderate completion rates (50–75 per cent), indicating room for improvement in trainee retention and engagement. However, a notable 23.7 per cent of TPAs report completion rates below 50 per cent, which raises concerns about dropout rates and underlying barriers (e.g., stipend delays, placement mismatches, institutional issues). While the overall picture is positive, with 3 out of 4 TPAs reporting over 50 per cent completion, the variation in completion rates suggests the need for targeted interventions to reduce apprentice dropouts. Higher retention is critical not only for training ROI (Return on Investment) but also for ensuring meaningful skill acquisition.

Table 4.14: TPA's Response on Apprenticeship Completion Rates (%)

Candidates Completion Rate	Percentage of total TPAs
Less than 25%	7.9
25% to 50%	15.8
50% to 75%	26.3
75% to 100%	50.0
Total	**100.0**

Source: NILERD Survey 2025

4.2.2.8 Reasons for Non-Completion/Dropout under NATS Training

For TPAs reporting apprenticeship completion rates below 75 per cent, further inquiry was made to identify the underlying reasons for early dropouts. The findings highlight a mix of personal, financial, and systemic challenges faced by apprentices. Looking at **Table 4.15** below, the top reason (35.3 per cent) for apprentices dropping out is that they find job opportunities elsewhere, suggesting either (a) improved employability due to partial training, or (b) Apprenticeship mismatches compared to their expectations or aspirations. A significant share (17.6 per cent) cites location-related difficulties—such as inability to sustain themselves in far-off industrial areas—indicating the need for geographically sensitive placements or mobility support. Family constraints and low/irregular stipend are also cited equally (17.6 per cent), underscoring the socio-economic fragility of many apprentices. A very small portion cites training quality, workplace environment, or hazardous job nature as dropout causes—indicating these are not systemic issues but still require attention in specific contexts. The findings reinforce that external economic opportunities, geographical hardship, and financial insecurity are the dominant reasons for apprenticeship discontinuation. While some of these factors are beyond institutional control, others can be strategically addressed to improve completion rates.

Table 4.15: TPA's response on Reasons for Apprenticeship Dropout

Reasons	Percent
Low Quality Training	3.9
Find Job Elsewhere	35.3
Difficulty in sustaining in far-off places	17.6
High Standards and Benchmarks of Training	3.9
Family Issues	17.6
Lack of Friendly Atmosphere at Workplaces	2.0
Low/Irregular Stipend	17.6
Hazardous Nature of the Job	2.0
Total	**100.0**

Source: NILERD Survey 2025

The effectiveness assessment of the NATS, based on field survey data, reveals strong evidence that the scheme is achieving its core objectives of skill development, industry alignment, and employability enhancement. NATS has proven to be a highly effective skill development initiative with broad-based industry approval and demonstrable gains in trainee proficiency and employability. While its outcomes are strong, addressing dropout challenges and enhancing support for vulnerable apprentices can further strengthen its impact and sustainability.

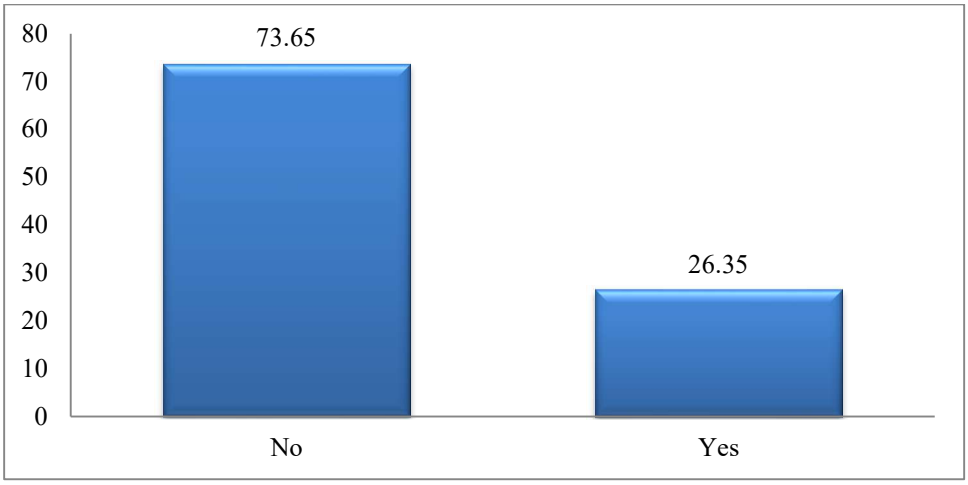
4.2.3 EFFICIENCY

Efficiency of a program refers to optimum utilization of resources to achieve the desired outcomes. The success of NATS scheme in fulfilling its mandate crucially depends on the efficient utilization of inputs that save costs, time and optimal use of available manpower. An assessment of efficiency must take into account the experience and feedback of beneficiaries, as well as the implementing agency (BOAT) gives valuable insights into the efficient implementation of the scheme. The following section presents and discusses feedback received from various stakeholders who participated in the survey.

4.2.3.1 Efficiency in Compliance of the Act

Figure 4.3 presents the perception of establishments whether they faced any difficulties in compliance of NATS Act? While the majority of the establishments (73.65 per cent) feel that they did not face any difficulties in compliance of the Act, a one-fourth of them, however, said there are some difficulties in complying the Act.

Figure 4.3: Did the establishment face any difficulties in compliance of the Act (% responses of establishments)



Those who said they have been facing difficulties in compliance of the Act, a further question was asked to them to find out the possible reasons. The data presented in **Table 4.16** below suggests that two major factors contributed to non-compliance of the Act. One is non-availability of requisite number of trainees as per the requirements of the establishments, particularly in different social groups. Second, establishments have been facing constant challenges in non-receipt of reimbursement dues and late payment of stipend to trainees through DBT.

Table 4.16: Reasons behind difficulties in compliance of the Act (% responses by establishments)

Type of reasons	Private	Public	Total
i) Absence of basic training facilities	5.7	0.0	5.7
ii) Not having desired number of training in the locality	35.2	13.6	48.9
iii) Lengthy and cumbersome record keeping	10.2	0.0	10.2
iv) Lengthy and cumbersome registration process	11.4	0.0	11.4
v) High cost of training/stipend to company	6.8	0.0	6.8
vi) non-receipt of reimbursement/ DBT from BoAT/ BoPT on time	35.2	10.2	45.5
vii) others, (please specify):	25.0	8.0	33.0

Source: NILERD Survey 2025

Establishments that have reported non-availability of required number of trainees (such as low stipend, unawareness etc.) as one of the reasons that led to non-compliance of the Act, a further question was asked to find out the causes of it. Three major reasons reported by the majority of establishments are low stipend, unawareness about the scheme and lack of minimum skills as per industry requirement (**Table 4.17**). Often, the establishments and students complain that the

minimum stipend under NATS is insufficient to meet the basic expenses. It is even lower than the daily minimum wages of skilled labourers in some States. On the other hand, it was found that there is a lack of knowledge about the scheme and its benefits among educational institutions and the students. This knowledge gap needs to be filled urgently for scaling up the scheme.

Table 4.17: Reasons for not having the desired number of trainees in the locality (% responses by establishments)

Type of reasons	Private	Public	Total
i)Due to non-matching of designated trades	16.3	2.3	18.6
ii) no job guarantee even after completing training	11.6	18.6	30.2
iii) Lack of minimum skills as per requirement of industry	23.3	2.3	25.6
iv) Low stipend	25.6	20.9	46.5
V) Un-awareness about the scheme	25.6	14.0	39.5
vi) any other, (please specify	23.3	2.3	25.6

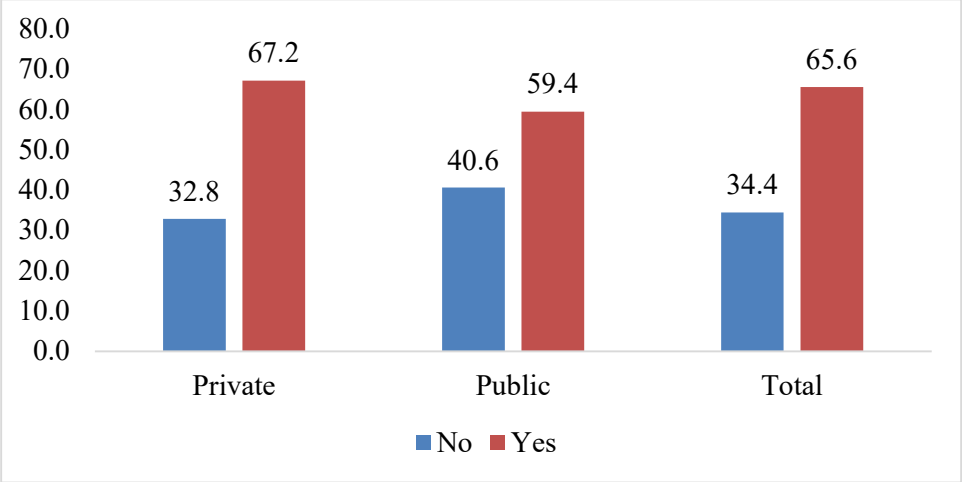
Source: NILERD Survey 2025

4.2.3.2 Efficiency in Implementation of the Scheme

Effective monitoring and implementation of different activities enhanced the efficiency and outcomes of the scheme. In this context, the study tries to assess the monitoring activities of BoAT for which two pertinent questions were asked to establishments about "whether the officers of BoAT visit to their units regularly or not to check the effective implementation of the scheme?" and "how frequently the officers of BoAT visit to the units?" A regular visit by officers can help the establishments to address many issues and challenges that arise during implementation. Moreover, the officials can keep an eye on the learning and benefits of the trainees. Although the advances of communication and the digital revolution have made monitoring a lot easier, physical visits and inspections still have their relevance. Visiting establishments to meet the apprentices are important component of the work assignment of BoAT officers. The views of establishments on first question are presented in **Figure 4.4**.

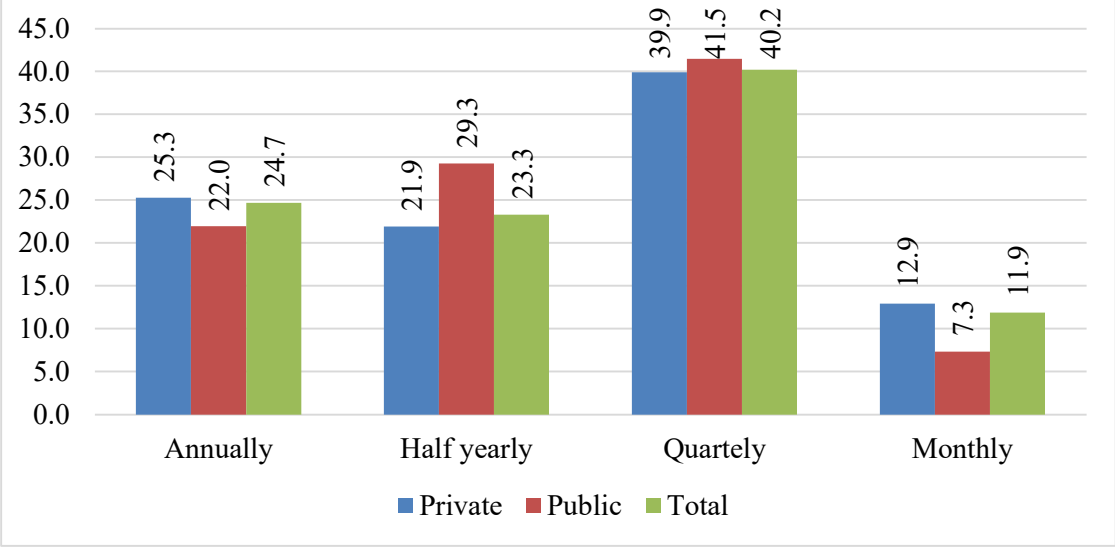
It is found that nearly two-thirds (65.6 per cent) of the establishments reported the BoAT officers' visit to their units on a regular basis. Others (34.4 per cent) think the visits are irregular/ infrequent. This proportion is higher in the case of public establishments (67.2 per cent) compared to public sector establishments (59.4 per cent).

Figure 4.4: Did officers from BoAT/ BoPT visit establishments regularly/ frequently?(% responses by establishments)



With respect to second question, about 40 per cent of establishments reported the BoAT officers visit their units on a quarterly basis and 24.7 per cent reported annually. These views are endorsed by nearly an equal percentage of both private and public enterprises. On the other hand, nearly 7.3 per cent public enterprises and 12.9 per cent of private enterprises think that BoAT officers visit on a monthly basis. One major challenge in conducting more frequent field visits by BoAT officers is a lack of manpower, and each officer has to cover multiple states, which practically makes it impossible for them to visit a unit more frequently. In addition, for more field support and liaisoning, BoATs have to increase their regional presence, such as through opening sub-regional and district-level offices and deputing required manpower in these offices.

Figure 4.5: Frequency of visits by BoAT officers to establishments (% responses by establishments)



4.2.3.3 Efficiency in Payment process of Stipend and issuing Certificates

Efficiency in the payment process of stipend in terms of on time payment to apprentices is necessary and important because any lapses or delay in payment unnecessarily complicate the administrative procedures of establishments, and more importantly, trainees find it difficult to manage their daily needs in metro cities. Similarly, timely issuing of certificates by BoAT to apprentices after successful completion of training is imperative because many apprentices who looked for a suitable job in the market need to submit the certificate to get the preference or some additional weightage.

The views of ex-apprentices and on-roll apprentices on timely payment of stipend through DBT are reported in **Table 4.18**. About 28 per cent of current apprentices and 26 per cent of past apprentices reported a delay in stipend payment. There is not much difference in opinion between apprentices who are doing apprenticeship either in public or private establishments. Delayed DBT have affected them equally and hardly. Our discussion with stakeholders suggests that often the disbursal through DBT is delayed by 2-3 months even after uploading all necessary reports on the NATS portal. One of the reasons for late disbursal of DBT is lack of funds in the hands of BoAT. Hence, there should be timely transfer of funds from the Ministry of Education to BoAT so that they can release the stipend within the first week of every month. Also, there should be some flexibility given to the candidates regarding the choice of bank accounts to credit DBT because the DBT is credited to an Aadhar-linked account, but often for many candidates, these Aadhar linked accounts are dormant due to non-use. Hence, freedom must be given to the candidates to choose any active account for credit of DBT. Also, they should have the option to change the bank account on the portal in case such a requirement arises.

Table 4.18: Whether stipend is received in time from BoAT through DBT?

Type	Reposnes by Ex-apprentices (Completed)		Responses by On-Roll apprentices	
	YES	NO	YES	NO
Public	74.6	25.4	69.4	30.6
Private	73.8	26.2	72.8	27.2
Total	**74.1**	**25.9**	**72.0**	**28.0**

Source: NILERD Survey 2025

In the case of stipend received from establishments, views of ex-apprentices and on-roll apprentices presented in **Table 4.19** suggest that nearly 90 per cent of both the apprentices reported they received stipend on time. However, in the case of public establishments, the instances of late disbursal of stipend is higher. Hence, necessary steps need to be taken to improve their performance of these establishments.

Table 4.19: Whether stipend is received in time from Establishment?

Type	Responses by Ex-apprentices (Completed)		Responses by On-Roll apprentices	
	YES	NO	YES	NO
Public	89.2	10.8	83.0	17.0
Private	90.7	9.3	92.9	7.1
Total	**90.1**	**9.9**	**90.6**	**9.4**

Source: NILERD Survey 2025

Receiving a certificate on time after completion is important for the future career of apprentices. Unless the certificate is generated on time, the apprentices who have completed their course cannot apply for jobs, and their experience will not be counted without a certificate. At the all-India level little over three-forth (75.5 per cent) of ex-apprentices feel that they received certificate on time. However, northern and eastern regions are lagging compared to other two regions. Nearly, one-third of the apprentices who have completed training reported that their certificate was delayed (**Table 4.20**).

Table 4.20: Whether the certificate was issued on time ? (% responses by Ex-apprentices)

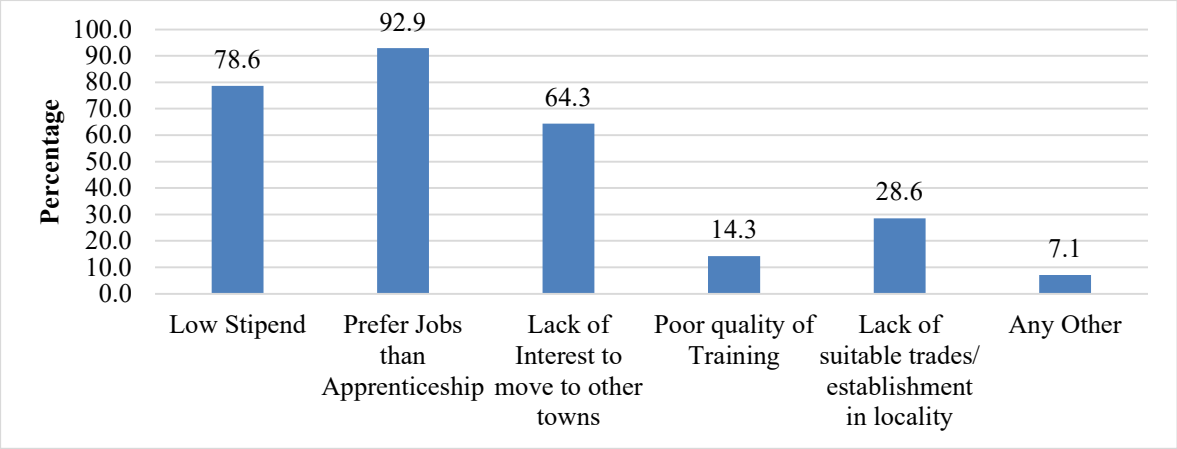
Type	YES	NO	Total
Northern	67.9	32.1	100.0
Eastern	66.7	33.3	100.0
Western	78.1	21.9	100.0
Southern	87.3	12.7	100.0
Total	**75.5**	**24.5**	**100.0**

Source: NILERD Survey 2025

4.2.3.4 Efficiency in rolling out the scheme through TPAs

Third Party Aggregators (TPAs) have been an important addition to the NATS scheme in recent years. They play a significant role in bringing the establishments and prospective apprentices together. TPAs make the process of selection, registration, contract generation, uploading of returns easier and hence work as an important mediator. However, they often face major challenges in finding candidates who are interested in NATS. There are many reasons for the lack of interest on the part of students in joining apprenticeship. Three major important reasons, according to TPAs, are low stipend (78.6 per cent), preference for jobs over apprenticeship (92.6 per cent) and lack of interest in moving to a far-off place (64.3 per cent). Hence, proper incentives given to students in the form of periodic revision of stipend, some additional benefits to apprentices posted in difficult places, and aligning stipend to the cost of living in big cities (**Figure 4.6**).

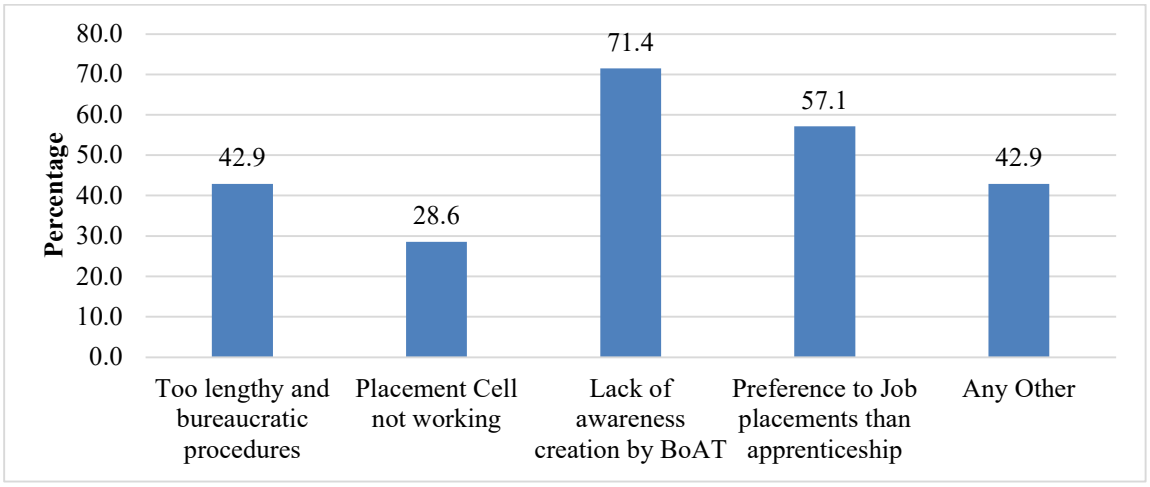
Figure 4.6: Reasons for lack of interest on the part of students (% reponses by TPAs)



4.2.3.5 Awareness and Efficiency on the Part of Institutions and Students

As in the case of students, many institutes also lack interest in NATS. The major reason for this is their ignorance about benefits of the scheme, which is largely due to lack of awareness creation by BoAT (71.4 per cent). In addition to this, most of the institutes prefer to see their students directly on the payroll of companies rather than doing an apprenticeship (57.1 per cent). They often feel apprenticeship is the last option for those who are weak in studies. Furthermore, too lengthy and administrative procedures also discourage many institutes.

Figure 4.7: Reasons for lack of interest on the part of Institutions (% reponses by TPAs)



A significant number of students who have not joined NATS (taken as a control group) are not aware of the apprenticeship scheme. At the all–India level, over one-forth (27.4 per cent) of the students are not aware of the scheme (**Table 4.21**). Hence, more awareness creation drives need to be undertaken by the BoATs. Awareness generation is at the core of all necessary reforms and

improvisations that can be brought into the scheme. A higher outreach and coverage require efforts for awareness generation from all quarters.

Table 4.21: Awareness of Students about NATS (% responses by Students who are not part of NATS)

Region	No	Yes	Total
Eastern	55.7	44.3	100.0
Northern	24.7	75.3	100.0
Southern	28.1	71.9	100.0
Western	20.2	79.8	100.0
Total	**27.4**	**72.6**	**100.0**

Source: NILERD Survey 2025

Reasons were asked to students who have not joined the NATS. The results presented in **Table 4.22** show that 'Not interested in NATS' and 'Got employment through campus' are the two most important reasons for not joining NATS. Together, they constitute 70 per cent of all responses. It has been observed that students prefer direct placements and jobs as compared to having one year apprenticeship experience. On the other hand, many are not interested in NATS due to low stipend. Many of them prefer to pursue higher studies rather than joining NATS.

Table 4.22: Reasons for not joining apprenticeship training (NATS)

Region	Not interested in NATS	Got employment through campus	Applied but did not get response	Others*	Total
Eastern	22.3	62.8	4.3	10.6	100.0
Northern	18.0	43.4	20.5	18.0	100.0
Southern	52.2	25.0	6.6	16.2	100.0
Western	40.9	24.6	10.3	24.3	100.0
Total	36.3	33.7	10.6	19.4	100.0

* includes applied but got rejected, no suitable opportunities in the locality, to pursue higher studies etc.

Source: NILERD Survey 2025

Institutions belong to the supply side of apprentices. Their role is important in encouraging students to go for apprenticeship to gain necessary industry exposure. However, nearly 69 per cent of the institutes have said that their students do not apply for NATS (**Table 4.23**). This percentage is highest for universities. None of the universities we visited feels that their students apply for NATS. Lack of awareness on the part of institutes and students is one of the reasons. However, more engagement with the institutes is required for higher popularity of the scheme among students.

Table 4.23: Institutions' opinion on whether students apply for NATS

Type of Institute	Yes	No	Total
Engineering	25.0	75.0	100.0
General College	33.3	66.7	100.0
Polytechnic	71.4	28.6	100.0
University	0.0	100.0	100.0
Total	30.6	69.4	100.0

Source: NILERD Survey 2025

The role of educational institutions is necessary for spreading awareness and ensuring a steady supply of apprentices to the industry. This they can do through multiple ways such as uploading information and necessary links on their website, providing NATS related information in their admission brochure, conducting awareness camps, holding special sessions for sensitisation and so on. For all these, they need to work in tandem with BoAT. Our survey found interesting observations on the role of institutions in popularising the scheme. Important findings are presented below:

An overwhelming majority of the institutes do not provide any information related to NATS on their website (nearly 90 per cent) (**Table 4.24**). This is one of the major setbacks in the way of taking off the scheme on a higher scale. Information regarding NATS on institutes website can play major part in generation of interest among students about the scheme.

Table 4.24: Whether the institution's website contains information on NATS (% responses by Institutions)

Type of Institute	Yes	No	Total
Engineering	8.3	91.7	100.0
General College	11.1	88.9	100.0
Polytechnic	0.0	100.0	100.0
University	25.0	75.0	100.0
Total	**11.1**	**88.9**	**100.0**

Source: NILERD Survey 2025

As in the case of website, majority of the institutes (83.3 per cent) do not print any information regarding NATS in their admission brochure (**Table 4.25**). Hence, a more active role on BoAT is required for soliciting with the institutes to provide information about NATS in their brochure. Otherwise, an important opportunity to upgrade their skills through NATS will remain unreached and unutilised by the students.

Table 4.25: Whether the institutes give any information about NATS in the Admission Brochure (% responses by Institutions)

Type of Institute	Yes	No	Total
Engineering	16.7	83.3	100.0
General College	0.0	100.0	100.0
Polytechnic	57.1	42.9	100.0
University	0.0	100.0	100.0
Total	**16.7**	**83.3**	**100.0**

Source: NILERD Survey 2025

Providing access to the institutes to the list of establishments is needed so that their training and placement officers can inform the students accordingly about the positions of apprenticeship open in various establishments. However, as the data shows, at present no institute has such access (**Table 4.26**). Necessary changes may be brought in the NATS portal to provide such access to the institutes.

Table 4.26: Whether the institutes can access to list of establishments registered under NATS portal (% responses by Institutions)

Type of Institute	Yes	No	Total
Engineering	0.0	100.0	100.0
General College	0.0	100.0	100.0
Polytechnic	0.0	100.0	100.0
University	0.0	100.0	100.0
Total	**0.0**	**100.0**	**100.0**

Source: NILERD Survey 2025

A majority of institutes (75 per cent) do not keep any records of their graduated students who have joined or completed NATS (**Table 4.27**). One of the major reasons for this is that they do not have the required access mechanisms on NATS portal to track their students who have registered on the portal. Hence, unless the students inform them directly, the institutes have no other way to track their status on NATS. However, during our visits, many of the institutes demanded a tracking mechanism for their students on NATS portal. It is in their interest to track the students who have registered under NATS and publicise their success to attract more students.

Table 4.27: Whether the institutes maintain any record of students who joined/completed apprenticeship training under NATS (% responses by Institutions)

Type of Institute	Yes	No	Total
Engineering	25.0	75.0	100.0
General College	11.1	88.9	100.0
Polytechnic	57.1	42.9	100.0
University	12.5	87.5	100.0
Total	**25.0**	**75.0**	**100.0**

Source: NILERD Survey 2025

4.2.4 SUSTAINABILITY

Sustainability is an integral part of the evaluation process to understand the viability of continuing the scheme/program in the future or the long run. The long-term sustainability of the National Apprenticeship Training Scheme (NATS) hinges on its ability to adapt, scale, and deliver consistent value to trainees, industries, and the broader economy. In this context, the study makes an attempt to assess the financial viability of the scheme in terms of allocation of fund for stipend and manpower requirements to achieve the target. This analysis is important because the survey findings suggest that around 80 per cent of establishments reported that there should be an enhancement of stipend. Further, ex-apprentices and ongoing apprentices have reported that stipend should Rs. 17,000/ per month, particularly in the metro cities, as the cost of living is high. Since the low stipend is one of the critical reasons for the lower participation of students under NATS, increasing the stipend in future is necessary to keep the scheme more effective and sustainable. In this context, analysing the financial sustainability of the scheme is important.

4.2.4.1 Financial Sustainability

For financial sustainability, the study analysed the actual data available till 2023-24/2024-25 from the annual report of Ministry of Education and budget documents and data on apprentices received from four regional boards. The future projections on budgetary support required for stipend are based on certain assumptions.

The first scenario is that the current stipend rate of @Rs.8000 for Diploma holders and @Rs.9000 for Degree holders would continue in the future (Government's share of 50 per cent is taken into account while deriving the numbers for future years). Assuming (i) the total budgetary expenditure of the Department of Higher Education would increase by 5 per cent per year from 2026-27[6], and (ii) the target for boards to achieve 2 lakh additional apprentices over and above the previous year from 2026-27, with other assumptions as mentioned below the **Table 4.28**, the study estimated that the budgetary spending for stipend is expected to reach 2.2 per cent of DoHE's expenditure

[6]Budgetary increase was 7.7 per cent in FY 2025-26 over FY 2024-25

by 2029-30, which is a reasonable increase considering the number of apprentices to be trained each year.

Table 4.28: Scenario 1: Budgetary support required for Stipend at the current rate

No. of Apprentices	Apprentices (Target)	Apprentices (Achieved)	Expenditure on Stipend @ Rs4500 (in Crore)	Budget allocation for NATS (in Crore)	Expenditure on stipend (% budget allocation for NATS)	Department of Higher Education (Total Expenditure)	NATS Expenditure (% of Total exp of DoHE)
(1)	(2)	(3)	(4)	(5)	(6) = col.(4) % of col. (5)	(7)	(8)
2022-23	300000	268037	227.8				
2023-24	400000	257705	219.0	460	47.6	55393	0.8
2024-25	500000	523088	444.6	750	59.3	46482	1.6
2025-26	1000000	1000000	450.0	1178	38.2	50078	2.4
2026-27	1200000	1200000	540.0	900	60.0	52582	1.7
2027-28	1400000	1400000	630.0	1050	60.0	55211	1.9
2028-29	1600000	1600000	720.0	1200	60.0	57971	2.1
2029-30	1800000	1800000	810.0	1350	60.0	60870	2.2

Source: Budgetary data is taken MoE Annual report, Budget documents. The number of Apprentices is taken from all four Boards.

Note: Assumption:

(i) Target of additional 2 lakh apprentices in each year from 2026-27
(ii) Actual achieved is 100 per cent of the target from 2025-26
(iii) Average expenditure on stipend is @Rs 4500 per trainee, which may be less if we count the case of Diploma holders.

In scenario 2, the study assumes that there will be a 50 per cent hike in the stipend rate of the Government's share from 2026-27. Given that other assumptions remain the same as scenario 1, the study estimated that the expenditure on stipend is expected to touch 3.3 per cent of DoHE's total budget in 2029-30 (**Table 4.29**). If, budgetary allocation of DoHE would increase by more than 5 per cent each year, the expenditure share of stipend may remain around 2 per cent, which is again viable and sustainable for the next five years.

Table 4.29: Scenario 2: Budgetary support required for Stipend at the New rate

No. of Apprentices	Apprentices (Target)	Apprentices (Achieved)	Expenditure on Stipend @ Rs 6750 (50% hike) (in Crore)	Budget allocation for NATS (in Crore)	Expenditure on stipend (% budget allocation for NATS)	Department of Higher Education (Total Expenditure)	NATS Expenditure (% of Total exp of DoHE)
(1)	(2)	(3)	(4)	(5)	(6) = col.(4) % of col. (5)	(7)	(8)
2022-23	300000	268037	227.8				
2023-24	400000	257705	219.0	460	47.6	55393	0.8
2024-25	500000	523088	444.6	750	59.3	46482	1.6
2025-26	1000000	1000000	675.0	1178	57.3	50078	2.4
2026-27	1200000	1200000	810.0	1350	60.0	52582	2.6
2027-28	1400000	1400000	945.0	1575	60.0	55211	2.9
2028-29	1600000	1600000	1080.0	1800	60.0	57971	3.1
2029-30	1800000	1800000	1215.0	2025	60.0	60870	3.3

Note: Assumptions:

(i) Stipend for Degree trainees increase @30 per cent from Rs.9000 to Rs11700 from 2026-27

(ii) Stipend for Diploma students increase @30 per cent from Rs 8000 to Rs 10400 from 2026-27

(iii) Other assumptions as given in the previous table

Nevertheless, making the NATS financially sustainable, (i) the MoE can explore shared funding models, private sector contributions using CSR fund, (ii) like NAPS, government establishments may be instructed to make full payment of stipend (including Government's share), (iii) Boards may be asked to generate their own funds by launching demand driven skill training programmes on paid basis.

4.2.4.2 Human Resource Sustainability

BOAT/BOPT offices are under-resourced and face significant staffing shortages (as discussed in Chapter 3). The BOPT/BOAT can be strengthened by enhancing the human resource capacity, digitising systems, and streamlining apprenticeship registration and monitoring. The MoE can invest in capacity building, use of technology platforms, and public-private partnerships for better implementation.

Table 4.30 below presents the number of apprentices enrolled by per Assistant or Deputy Director in each region. Since they are the ones who have been assigned for the field visit to contact

establishments, institutions, and apprentices, an increase in the target put a lot of pressure on them without additional manpower. The table below shows, the target has been set double for each officer for FY 2025-26. Therefore, increasing the number of field officers is warranted to achieve the higher target set by the ministry and sustain the scheme in the long run.

Table 4.30:Target achieved and expected to achieve by Dy. Directors/Assistant Directors

Region	No. of Dy./ Asst. Directors	2022-23	2023-24	2024-25	2025-26
Eastern	4	18783	19549	33459	62500
Northen	7	6478	8259	15279	30000
Southern	4	19463	14508	35442	67500
Western	5	13941	12733	28106	54000
Total	**20**	**13402**	**12885**	**26154**	**50000**

4.2.4.3 Industry Participation and Alignment

Uneven participation across sectors and regions; low awareness in remote and aspirational districts reduce the coverage and effectiveness of the scheme. By incentivising MSMEs and startups, link apprenticeships with skill councils, and promoting cluster-based apprenticeship ecosystems.

4.2.4.4 Social and Economic Relevance

Mismatch between trainee expectations and job outcomes; limited post-training absorption in some sectors. For more effective implementation of the scheme, the scheme can ensure that training translates into employment. This can be achieved by regular tracking of employment outcomes, course relevance review, and career progression pathways.

4.2.4.5 Policy and Regulatory Sustainability

The current apprenticeship landscape is marked by fragmentation across multiple rules and regulatory frameworks, which often leads to confusion among stakeholders and hinders effective implementation. To enhance long-term sustainability and efficiency of the NATS, there is an urgent need to consolidate and align various apprenticeship-related policies and guidelines under a unified national apprenticeship framework. This will improve coherence, reduce administrative burden, and streamline governance across sectors and regions.

For NATS to be truly sustainable, it must evolve beyond stipend support and become a robust, adaptive skills-to-employment pathway. This requires continuous engagement with industry, reform of administrative frameworks, stronger financing mechanisms, and alignment with national skilling goals like Skill India and Atmanirbhar Bharat.

4.2.5 IMPACT

"Impact" is a crucial evaluation standard in monitoring and evaluation practice, as it helps assess the broader and long-term effects of a program or intervention. Impact evaluation typically seeks to answer the question: "What would have happened if the program had not been implemented?" By comparing the actual outcomes of a program to a counterfactual scenario, impact evaluation can determine the program's net contribution to development outcomes.

4.2.5.1 Post-Training Employment Status of Ex-NATS Apprentices

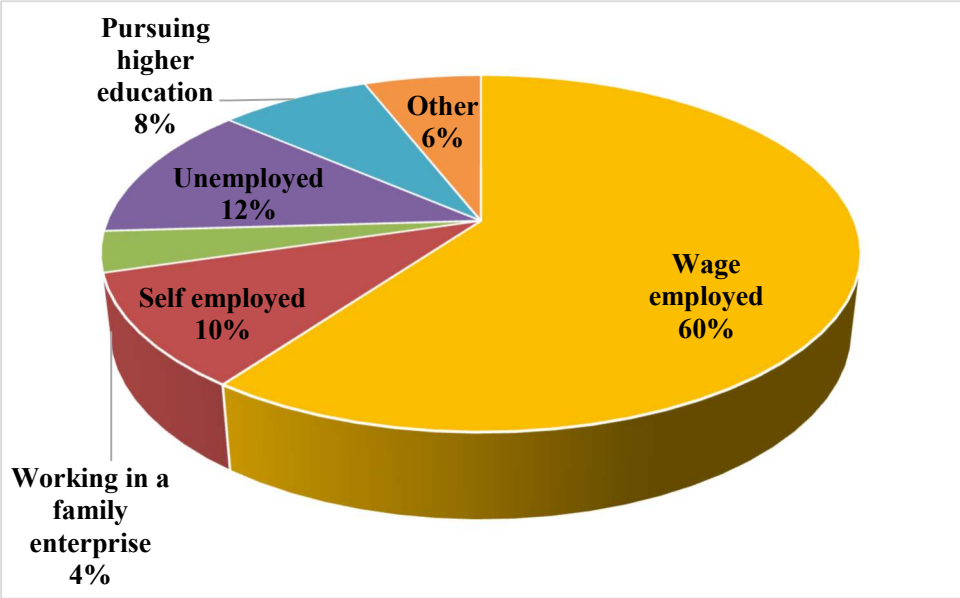
The overall picture emerging from the survey is highly encouraging—74 per cent of Ex-NATS apprentices are engaged in productive pursuits, including wage employment, self-employment, or working in a family enterprise. This highlights the scheme's effectiveness in supporting youth transition into the workforce and in building employable skills.

Figure 4.8 below illustrates the post-training activity status of apprentices who completed one year of training under the National Apprenticeship Training Scheme (NATS). A majority (60 per cent) of the apprentices are engaged in wage employment, reflecting effective transition into formal job roles. This indicates that the NATS training has been largely successful in enhancing employability and meeting industry demands.

However, 12 per cent remain unemployed, which points to persistent challenges in the training-to-employment pipeline. These may stem from a mismatch between acquired skills and job market requirements, limited job availability, or geographical and salary constraints. Another 10 per cent have opted for self-employment, signalling either entrepreneurial intent or limited access to formal employment. Meanwhile, 8 per cent are pursuing higher education, possibly to strengthen their qualifications or shift career paths.

Additionally, 6 per cent fall under the "Other" category, which may include temporary work. Another 4 per cent are working in family enterprises, reflecting engagement in informal or subsistence-level occupations. The high share of wage employment (60 per cent) is a positive indicator of the scheme's relevance and success in facilitating market-ready skills. The combined 22 per cent in unemployment, other and family enterprise categories highlight areas needing targeted policy attention.

Figure 4.8: **Current Employment Status of Ex-NATS Apprentices**



Career counselling and job matching services should be strengthened to address the 12 per cent unemployment rate. Regional demand-supply mapping can help align training with local job opportunities. Entrepreneurship development support, such as access to credit, mentoring, and incubation, can empower the 14 per cent (self-employed + family enterprise) to grow sustainably. Efforts should also be made to engage the 6 per cent in "Other" with more structured pathways toward employment or education.

The overall picture is encouraging, with 78 per cent of NATS completed apprentices engaged in productive pursuits such as employment, entrepreneurship, or higher education. To ensure an inclusive and equitable impact, policies must focus on bridging the remaining gaps for the 22 per cent who remain underemployed or unemployed.

Table 4.31: Reasons for Unemployment (% responses by Ex-apprentices)

Reasons	Responses (In %)
Non-availability of suitable job/ work	76.1
Apprentice training was not adequate	22.4
Did not opt due to low salary	22.1
Did not opt due to far off place	11.9

Source: NILERD Survey 2025

A nuanced understanding of the underlying reasons for unemployment is essential for designing responsive training systems and effective policy interventions. Respondents who remained unemployed after completing one year of apprenticeship under NATS were allowed to indicate multiple contributing factors, shedding light on both systemic and personal-level constraints.

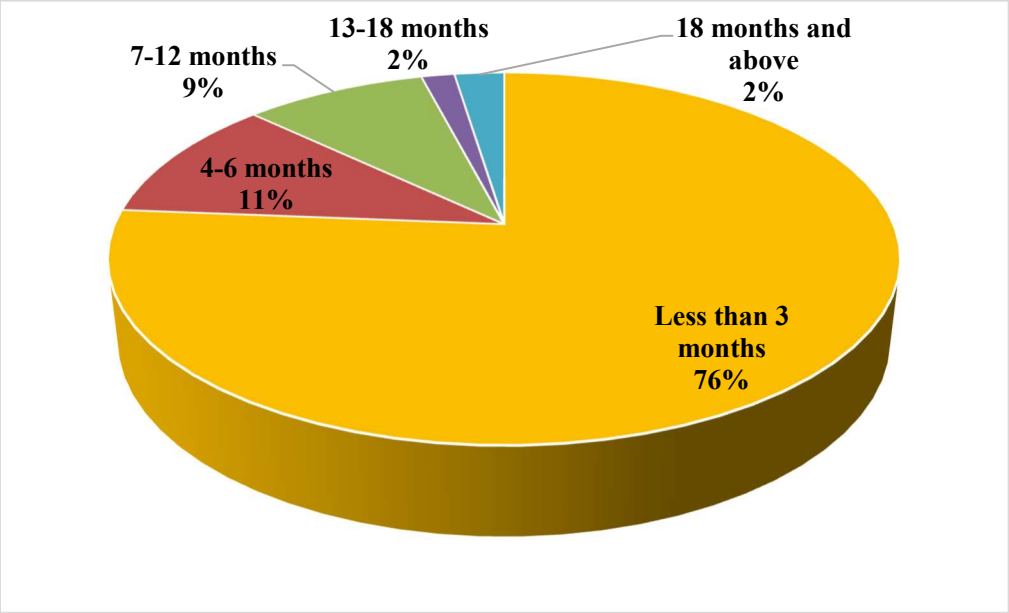
It is clear from **Table 4.31** that majority of respondents (76.1 per cent) indicated that they were unable to find a suitable job or work, underscoring a substantial mismatch between job-seekers' expectations/skills and the opportunities available in the labour market. A significant portion of respondents reported that apprentice training was not adequate (22.4 per cent), suggesting that current training modules may lack practical orientation or market relevance. Low salary expectations also influenced decision-making, with 22.1 per cent opting out of employment due to perceived inadequate compensation. This highlights the need to reassess wage structures and communicate long-term growth prospects. A smaller, yet important segment (11.9 per cent) cited geographical distance as a deterrent, pointing to mobility and relocation barriers that need to be addressed through better support systems and decentralized employment hubs.

The multi-dimensional nature of unemployment after completion of the training under NATS calls for a holistic and tailored approach, including: (a) Strengthening industry-academia linkages to ensure job-oriented skill development. (b) Enhancing the quality and market alignment of apprenticeship training. (c) Promoting region-specific employment opportunities to reduce mobility constraints. (d) Addressing wage competitiveness, particularly for entry-level roles.

4.2.5.2 Waiting Period for First Employment after Completion of NATS

Among the wage-employed respondents, a significant majority (76 per cent) secured their first job within less than three months of completing their training under NATS, indicating a relatively swift transition to employment for most candidates. The remaining respondents experienced longer waiting periods. As indicated in **Figure 4.9** below, around 11 per cent reported a waiting period of 4 to 6 months, while 9 per cent took between 7 to 12 months to find employment. A small proportion experienced even longer delays, with 2 per cent each waiting for 13–18 months and more than 18 months, respectively. In other words, 4 per cent remained unemployed for over a year. These figures highlight that while the training under NATS appears effective in facilitating early employment for most, targeted support may be required for those facing extended waiting periods. Post-training interventions such as job matching support, employer linkages, and continuous career counselling, especially for those facing prolonged waiting periods, may help them to get right kind of job in the market. Moreover, strengthening such support mechanisms could further enhance the overall impact and inclusivity of the training under NATS.

Figure 4.9: Waiting Period of Getting First Employment (% responses by Ex-apprentices)

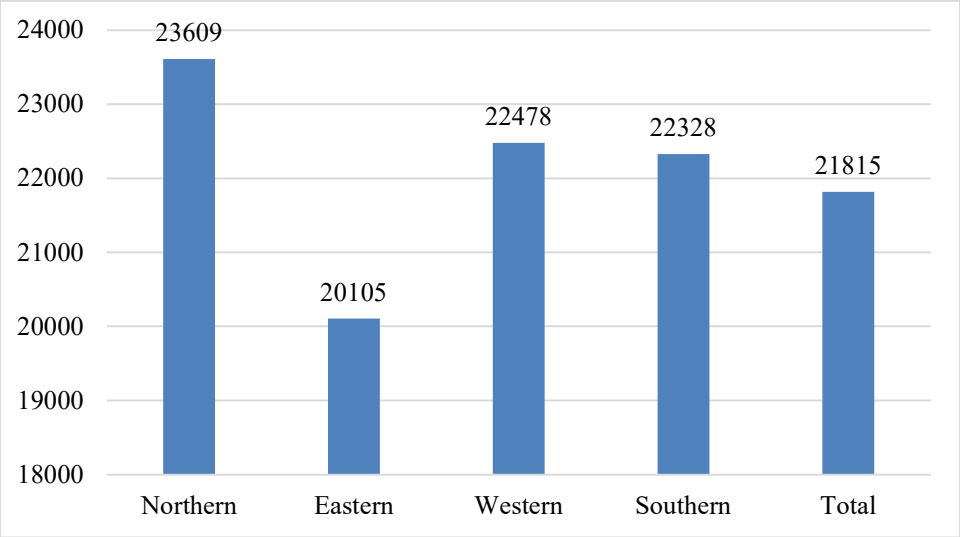


4.2.5.3 Average Monthly Income of Wage-Employed Respondents (by Region)

The analysis of average monthly income among wage-employed respondents in **Figure 4.10** below highlights encouraging overall outcomes, with an average income of Rs. 21,815 across all regions. However, regional disparities are evident and require policy attention. The Northern region recorded the highest average monthly income at Rs. 23,609 followed closely by the Western (Rs. 22,478) and Southern (Rs. 22,328) regions. In contrast, the Eastern region reported a significantly lower average income of Rs. 20,105, suggesting weaker wage returns despite employment.

These figures suggest that while training under NATS has contributed to wage employment, the income outcomes vary considerably by geography—potentially due to differences in local industry presence, skill demand, or employment conditions. These findings underscore the need for region-specific strategies to ensure equitable outcomes from training efforts under NATS. In lower-paying regions like the East, initiatives could include enhanced industry partnerships, promotion of high-growth sectors, and targeted skill upgrades aligned with local demand. Furthermore, integrating wage benchmarking and post-placement support mechanisms into programme design could help ensure that employment not only improves access to jobs but also translates into sustainable and fair livelihoods.

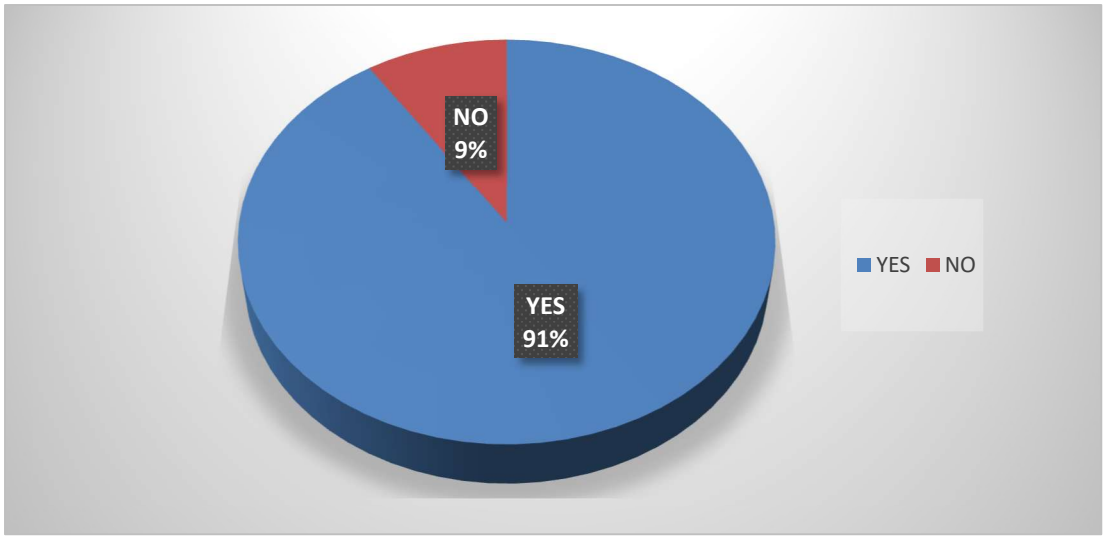
Figure 4.10: **Average Monthly Income (Rupees) of Ex-apprentices**



4.2.5.4 Job Satisfaction among Ex-NATS Apprentices who are Wage-Employed

Looking at **Figure 4.11** below, it is evident that an overwhelming majority (91 per cent) of ex-NATS apprentices who are wage-employed are satisfied with their current job, while only 9 per cent expressed dissatisfaction. This high level of job satisfaction suggests that the employment outcomes generated through the NATS are not only quantitatively significant but also qualitatively meaningful. It reflects positively on the relevance of training content, job-role alignment, and the overall working conditions experienced by the beneficiaries. However, the 9 per cent who reported dissatisfaction highlight the need for continued efforts to improve job quality, including aspects like job security, career advancement opportunities, and workplace environment.

Figure 4.11: **Job Satisfaction among Ex-apprentices**

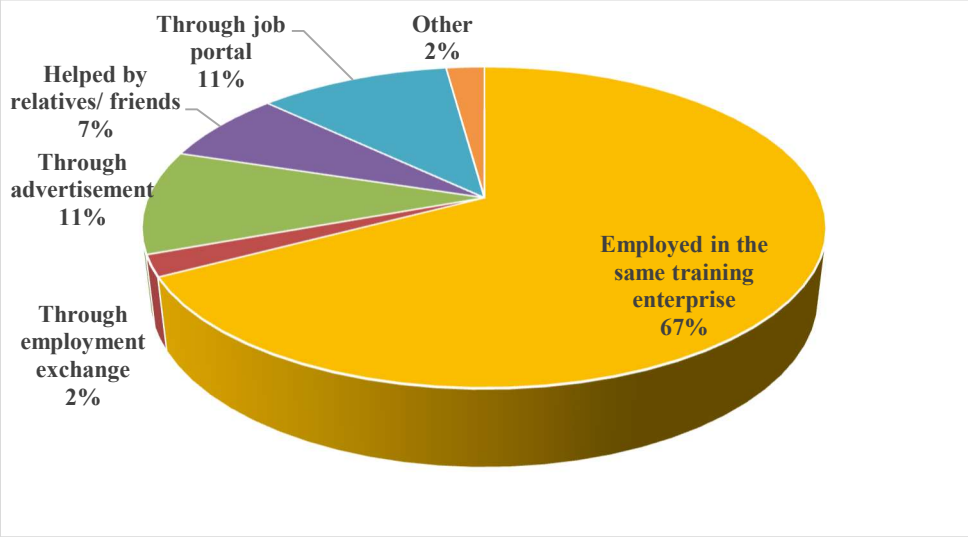


4.2.5.5 Source of Employment

During our field survey, when we asked the ex-apprentices to mention the source of their current employment, a majority of respondents (67 per cent) reported being employed in the same enterprise where they underwent training, underscoring the critical role of training-linked absorption, facilitating immediate employment. Other significant sources included job portals (11 per cent) and advertisements (11 per cent), which reflect the growing reliance on digital and public channels for job search. A smaller number of ex-trainees secured jobs through relatives or friends (7 per cent), while employment exchanges and other sources accounted for 2 per cent each. A relatively low dependency on public employment exchanges indicates a possible gap in their effectiveness (**Figure 4.12**).

These findings highlight the importance of strengthening industry-integrated training models and formalizing employer tie-ups within training programmes. Additionally, enhancing collaboration with job portals and media outlets can further expand the scope of placement opportunities, especially for those not retained by their training enterprise.

Figure 4.12: **Sources of Employment (% responses by Ex-apprentices)**



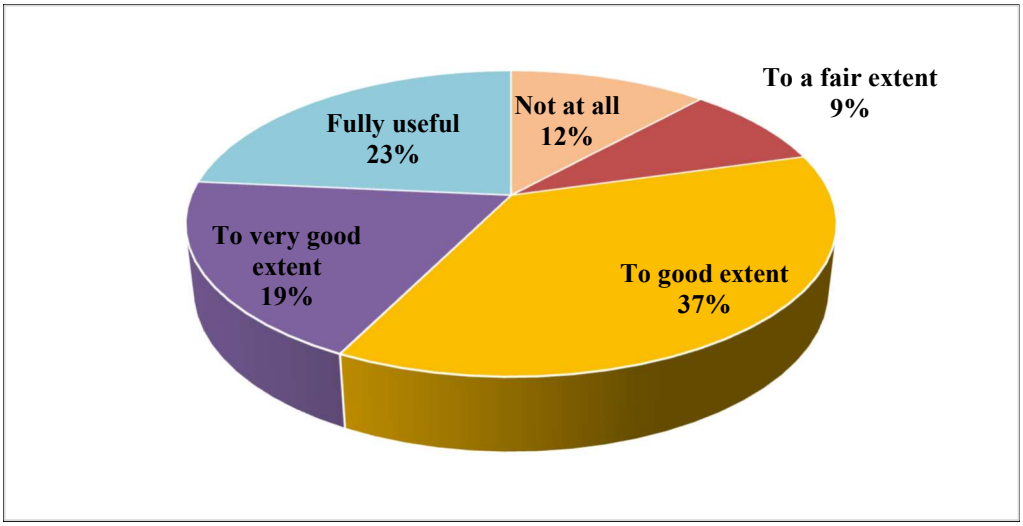
4.2.5.6 Usefulness of NATS Training among Self-Employed Respondents

Self-employed respondents were asked to assess the relevance of NATS training in their current entrepreneurial or independent work. The responses indicate a broadly positive perception of the programme's utility. A combined 79 per cent of respondents found the training useful to varying degrees, as 37 per cent rated it as useful "to a good extent". Another 23 per cent found it "fully useful" and 19 per cent said it was useful "to a very good extent". Meanwhile, 9 per cent rated the training useful only "to a fair extent", and 12 per cent stated it was "not at all" useful for their current work (**Figure 4.13)**.

These findings highlight the transferability and practical value of skills acquired through NATS, even beyond wage employment. However, the presence of a small proportion who did not find the

training useful suggests room for greater tailoring of content to entrepreneurial needs. Integrating entrepreneurship modules, hands-on business exposure, and post-training mentorship could further enhance the relevance and impact of NATS for self-employed youth.

Figure 4.13: **Usefulness of NATS Training (% responses by Ex-apprentices)**



4.2.5.7 Average Gross Annual Income of Self-Employed Respondents

Table 4.32 below indicates that the average gross annual income of self-employed respondents across all regions stands at Rs. 2,14,512. However, there are noticeable regional variations. The Southern region leads with the highest average income of Rs. 2,50,800, indicating stronger entrepreneurial returns—possibly due to better market access or local economic conditions. This is followed by the Northern (Rs. 2,22,813) and Western (Rs. 2,11,667) regions, which also report incomes above the national average. In contrast, the Eastern region lags significantly with an average income of only Rs. 1,62,262, suggesting the need for enhanced support mechanisms such as market linkage, credit access, and mentorship. These variations highlight the importance of adopting region-specific entrepreneurship promotion strategies, including targeted capacity-building and financial support to ensure more balanced and inclusive outcomes for NATS completed self-employed youth.

Table 4.32: Average Gross annual income of self-employed (Rupees)

Region	Amount (Rs.)
Northern	222813
Eastern	162262
Western	211667
Southern	250800
Total	**214512**

Source: NILERD Survey 2025

4.2.5.8 Contribution of NATS in Securing Employment or Business

To assess the effectiveness and impact of the NATS in facilitating employment and entrepreneurial outcomes, ex-apprentices eere asked whether the training contributed—fully or partially—to their current job or business. A significant 70.4 per cent of respondents acknowledged that NATS contributed to their employment or self-employment, either fully or partially. This indicates the scheme's strong role in enhancing employability, improving job readiness, and creating entrepreneurial confidence among youth. However, 29.6 per cent reported that NATS did not contribute to their current occupation, suggesting a need to strengthen training relevance, job matching processes, and post-training support (**Table 4.33**). These findings underscore the overall value of the scheme, while also highlighting the importance of continuous curriculum alignment with market needs, deeper industry collaboration, and improved tracking of placement and entrepreneurial outcomes.

Table 4.33: Contribution of NATS in Securing Employment or Business (% responses by Ex-apprentices)

Whether contributed	Responses (In %)
YES	70.4
NO	29.6
Total	100

Source: NILERD Survey 2025

4.2.5.9 Socio-Economic Impact of NATS

The data reflects the positive socio-economic impact of employment and self-employment generated through the NATS. A substantial 94 per cent of ex-apprentices reported that their current job or business has improved their standard of living, while only 6 per cent did not observe such an improvement. In terms of financial support capacity, around 84.1 per cent can support their families' health expenditures, whereas 82.1 per cent are contributing to educational expenses, and 79.8 per cent can meet contingency-related expenses, such as emergencies or unforeseen costs (**Table 4.34**).

These findings affirm that the employment outcomes facilitated by NATS not only provide individual livelihood security but also enable broader household-level economic resilience. However, the responses from the remaining segments also signal the need for continued efforts to enhance income levels and stability, especially for those on the margins.

Table 4.34: Socio-Economic Impact of NATS (% responses by Ex-apprentices)

Questions	YES	NO	Total
Whether the current job/ business has improved standard of living?	94.0	6.0	100.0
Are you able to support your family in meeting health expenditure of your family?	84.1	15.9	100.0
Are you able to support your family in meeting education expenditure of your family?	82.1	17.9	100.0
Are you able to meet any contingency expenditure of your family?	79.8	20.2	100.0

Source: NILERD Survey 2025

4.2.5.10 Usefulness of Training in Enhancing Employability

During our field survey, the on-roll apprentices were asked to rate how useful their current training has been in helping them seek or secure employment. The responses highlight a largely positive perception across both public and private establishment where the apprentices are engaged for training. Overall, 61.5 per cent of on-roll apprentices rated the training as "very useful", and another 36.4 per cent found it "useful", amounting to a combined 97.9 per cent who see value in the training for employability. Only 2.1 per cent reported the training as not useful. The feedback from private sector apprentices was particularly strong, with 66.7 per cent rating the training as "very useful" and only 1.1 per cent reporting it as not useful. By contrast, while most public sector apprentices also found the training beneficial, a slightly lower 44 per cent rated it as "very useful," and 5.3 per cent did not find it useful (**Table 4.35**).

This suggests that private sector establishments may be offering more market-aligned or hands-on training, contributing to greater confidence among apprentices. The data reinforces the need to promote industry-linked, outcome-driven curricula—especially within public sector establishments—to enhance relevance and employment outcomes.

Table 4.35: Usefulness of Training under NATS in Securing Employment (% reposnes by On-roll apprentices)

Type	Very useful	Useful	Not useful	Total
Public	44.0	50.7	5.3	100.0
Private	66.7	32.2	1.1	100.0
Total	**61.5**	**36.4**	**2.1**	**100.0**

Source: NILERD Survey 2025

4.2.5.11 Post-Training Absorption Readiness of Apprentices

The extent to which apprentices are considered fit for absorption into establishments after completion of training shows a stark contrast between sectors. Overall, 77.5 per cent of establishments found apprentices fully fit for employment, and another 17.4 per cent found them partially fit. Only 5.1 per cent rated them as not fit at all. The private sector establishments showed exceptionally high confidence, with 95.5 per cent of establishments rating apprentices as fully fit—highlighting a strong alignment between training content and workplace requirements. Conversely, only 40.9 per cent of public sector establishments considered apprentices fully fit, with 49.1 per cent finding them only partially fit, and 10 per cent finding them unfit for absorption (**Table 4.36**).

This divergence signals a critical need to enhance the relevance, rigour, and assessment standards in public sector establishments. It also points to the success of industry-integrated training models in the private sector establishments, which could be replicated or adapted within public systems to improve overall effectiveness and employability outcomes.

Table 4.36: Establishments Feedback – Fitness of Apprentices for Absorption (%)

Sector	Fully	Partially	Not at all	Total
Private	95.5	1.8	2.7	100.0
Public	40.9	49.1	10.0	100.0
Total	**77.5**	**17.4**	**5.1**	**100.0**

Source: NILERD Survey 2025

4.2.5.12 Apprentice Absorption Rates (last 3 years)

The data on apprentice absorption over the past three years reveals a stark contrast between the private and public sector establishments in terms of their integration of trained apprentices into the workforce. In the private sector, a remarkable 27.9 per cent of establishments reported absorbing more than 75 per cent of their apprentices, and another 35.1 per cent absorbed 1–25 per cent, indicating a broad-based commitment to hiring apprentices after one year of training is completed. Only 13.6 per cent reported no absorption of apprentices, suggesting a relatively strong track record in converting training into employment. In contrast, the public sector displayed limited absorption, with 63.8 per cent of establishments reporting no apprentice absorption at all in the last three years. Only a small proportion (5.8 per cent) reported hiring above 75 per cent, pointing to systemic or structural constraints in integrating apprentices into regular positions. Overall, across both sectors, 23.4 per cent of establishments absorbed more than 75 per cent of apprentices, while 32 per cent absorbed at least up to 25 per cent (**Table 4.37**).

This analysis clearly highlights the effectiveness of private sector involvement in realizing the full employment potential of apprenticeship training. To improve public sector performance, policy interventions such as dedicated apprentice-to-employee pipelines, incentivized absorption targets,

and relaxation of recruitment barriers could be explored to ensure better utilization of trained manpower.

Table 4.37: Sector-wise Percentage of Apprentices Absorbed in the Last 3 Years (% reposnes by establishments)

Sector	Nil	1 - 25	26- 50	51- 75	Above 75
Private	13.6	35.1	12.5	10.9	27.9
Public	63.8	20.3	4.3	5.8	5.8
Total	**24.0**	**32.0**	**10.8**	**9.9**	**23.4**

Source: NILERD Survey 2025

4.2.5.13 Productivity Gains by Employing NATS Trainees

Establishments across both sectors overwhelmingly reported that employing NATS trainees has had a positive impact on workplace productivity. At the aggregate level, 97.5 per cent of establishments affirmed productivity improvements due to the integration of NATS-trained apprentices. In the private sector, the endorsement is nearly unanimous, with 98.4 per cent of employers acknowledging productivity gains. This reflects the high degree of job-readiness and relevance of training provided, particularly in market-responsive sectors. The public sector also responded positively, with 93.9 per cent agreeing that employing NATS trainees has improved productivity—though slightly lower than the private sector, potentially due to structural rigidity or limited deployment flexibility. Only 2.5 per cent of all establishments reported no perceived impact, underscoring the broad success of NATS in building workplace-capable talent (**Table 4.38**).

These findings strongly justify continued investment in and expansion of the NATS scheme. They also make a case for scaling apprenticeship intake and encouraging closer collaboration between educational institutions and establishments, particularly within the public sector.

Table 4.38: Impact of NATS Trainees on Productivity of the Establishments (% responses by establishments)

Sector	No	Yes
Private	1.6	98.4
Public	6.1	93.9
Total	**2.5**	**97.5**

Source: NILERD Survey 2025

The findings from the above impact analysis based on primary survey data provide strong evidence that the National Apprenticeship Training Scheme (NATS) has made a significant and positive contribution to the employability and livelihood outcomes of youth across India. With 74 per cent

of NATS-completed apprentices engaged in productive pursuits—including wage employment, self-employment, and Family business—the scheme has proven to be a critical instrument in easing school-to-work transitions and addressing youth unemployment and skill development. While NATS is delivering meaningful results and fulfilling its mandates to large extent, its full potential can be realized through targeted, data-driven policy refinements that ensure no apprentice is left behind.

4.2.6 EQUITY

The theme "Equity" explores how M&E contributes to social and organizational learning processes, deciphering equity in specific contexts, i.e., contextual equity, and supporting appropriate and effective ways of achieving a more equitable distribution of costs, benefits, opportunities, and resources.

This section reports on the impact of the scheme on the lives of apprentices hailing from backward classes, regions, women and economically weaker sections. This will reflect on the equality of learning opportunities, fair treatment on the work floor, and how helpful the apprenticeship is as a launch pad for sustainable career growth for students belonging to the weaker sections. Side-by-side, regional distribution of benefits will also be covered.

Looking at **Table 4.39** below, the majority of the apprentices under NATS are from Low-to-Mid Income Groups family. Over 80 per cent of both completed and on-roll trainees come from households earning below Rs. 42,000/month, indicating strong inclusion of economically weaker sections. Eastern and Western Regions show higher concentration of trainees from the lowest income bracket (i.e. <Rs. 10,500)—notably 42.6 per cent for both regions among completed trainees, reflecting socio-economic vulnerability and need for targeted support. The southern region stands out for having the highest share in the Rs. 10,500– Rs. 42,000 bracket (57.5 per cent completed), suggesting a more stable lower-middle-income base for its trainee population. The percentage of High-Income representation is minimal, as less than 3 per cent of trainees in all regions come from households earning over Rs. 2.5 lakh per month, underscoring NATS's focus on economically modest backgrounds.

Table 4.39: Parents'/Guardians' monthly income (in Rupees)

Region	Ex-Apprentices				On-roll Apprentices			
	<10500	10500-42000	42000-250000	>250000	<10500	10500-42000	42000-250000	>250000
Northern	33.2	43.9	19.1	3.8	36.5	51.3	9.7	2.4
Eastern	42.6	45.9	8.7	2.7	37.0	50.0	10.1	2.9
Western	42.6	38.0	15.7	3.7	33.2	43.7	18.2	4.8
Southern	33.7	57.5	7.9	0.8	36.4	51.4	10.4	1.7
Total	**37.6**	**46.4**	**13.2**	**2.8**	**35.8**	**49.5**	**12.0**	**2.8**

Source: NILERD Survey 2025

This income profile reinforces the pro-poor orientation of NATS and suggests that further support (like increased stipend or transport assistance) may be essential for continued participation from economically vulnerable groups, especially in Eastern and Western India.

4.2.6.1 Profile of NATS Completed Apprentices

Table 4.40 below indicates that male apprentices constitute nearly two-thirds (65.7 per cent) of the sample, while female apprentices account for 34.3 per cent, indicating a significant gender gap in participation. This reflects the broader gender disparity in technical and vocational training programs and highlights the need for gender-focused outreach and support initiatives under NATS. **OBC and 'Others' categories** together constitute almost **80 per cent** of the apprentice population, with nearly equal representation (around 40 per cent each). Looking at the social category-wise distribution of NATS completed apprentices, representation of SC is 16.3 per cent and ST is 4.0 per cent, which suggests that a reasonable representation of both groups as per their population. To increase the outreach, the scheme can be **focused on gender and social equity interventions** in NATS implementation. Special incentives or reserved slots for female and SC candidates can be given. The outreach of NATS can be enhanced in underrepresented regions and communities.

Table 4.40: NATS Ex-Apprentices by Gender and Social Categories

Categories	Number	% share
Gender category		
Male	617	65.7
Female	322	34.3
Total	**939**	**100.0**
Social category		
SC	153	16.3
ST	38	4.0
OBC	375	39.9
Others	373	39.7
Total	**939**	**100.0**

Source: NILERD Survey 2025

4.2.6.2 Profile of NATS on-roll Apprentices

Despite growing policy emphasis on inclusive skilling, **female representation hovers below 35 per cent**, indicating a persistent gender gap. Gender parity remains a critical area requiring sustained policy attention and targeted interventions under NATS. Gender equity efforts must be sustained and scaled, especially in traditionally male-dominated trades. The drop in ST enrolments

despite earlier strong participation highlights the need for revived tribal outreach and retention strategies. The rise in SC representation among on-roll apprentices is promising and may reflect the impact of targeted inclusion measures, which should be further reinforced.

Table 4.41: NATS on-roll Apprentices by Gender and Social Categories

Categories	Number	% share
Gender category		
Male	2217	65.3
Female	1178	34.7
Total	**3395**	**100.0**
Social category		
SC	581	17.1
ST	89	2.6
OBC	1260	37.1
Others	1465	43.2
Total	**3395**	**100.0**

Source: NILERD Survey 2025

Table 4.41 above shows that the share of females is also low in On-roll apprentices as compared to males, with 34.7 per cent and 65.3 per cent respectively. This shows that there is a need for changes in the initial selection process and in the facilities provided to apprentices. There is a need to make a secure, safe, and comfortable working environment for female candidates so that their percentage of participation increases in the future and helps to empower this section of society. Similarly, On-roll apprentices also show the same trend like completed trainees, but here the proportion of ST is only 2.6 per cent and the proportion of SC is 17.1 per cent. However, Others still dominate here with 43.2 per cent (Table). Participation of the OBC section is also very significant, with 37.1 per cent of the total On-roll apprentices. This also shows the need to empower the minority class, whether it is SC or ST. Only then can we increase the effectiveness of NATS. If required changes are not made, then this inequality will restrict the positive impact of this scheme on the goal of a skilful labour force. But if the required changes happen, then this helps to reduce the overall inequality, which is always good for any economy.

4.2.6.3 Profile of Graduates without having training under NATS

If we look at **Table 4.42**, the region-wise percentage of pass-out graduates without joining NATS, the Western region dominates with 265 males and 111 females out of a total of 550 and 235, respectively (70.5 per cent and 29.5 per cent in percentage). On the other hand, the least number of graduates comes from the Eastern region, with a huge gender gap—only 21 total females out of 106 total graduates (19.8 per cent female and 80.2 per cent male).

Table 4.42: Profile of Graduates without Joining NATS (Control group) by Gender

Region	Numbers			% share	
	Female	Male	Total	Female	Male
Eastern	21	85	106	19.8	80.2
Northern	42	108	150	28.0	72.0
Southern	61	92	153	39.9	60.1
Western	111	265	376	29.5	70.5
Total	**235**	**550**	**785**	**29.9**	**70.1**

Source: NILERD Survey 2025

The Southern region shows the least gender gap compared to other regions, with percentages of 39.9 per cent for females and 60.1 per cent for males. However, the Northern region shows a similar trend to the Western region but with only 108 total graduates, out of which the percentage of females is 28.0 per cent compared to 72.0 per cent males.
This shows that even among graduate pass-outs, gender inequality is present, which needs to be tackled for a better future.

Similarly, looking at **Table 4.43**, the pass-out graduates without joining NATS based on social category across different regions shows the same trend, in which the number of graduates from the ST category is the least across all regions, whereas the General category dominates with 400 graduates out of a total of 785 candidates. Here also, the majority of candidates come from the Western region, with a total number of 376, out of which 203 are from the General category, whereas only 6 are from the ST category. However, the number of OBC candidates is still noticeable, with 124 in the Western region alone.

Table 4.43: Profile of Graduates without Joining NATS (Control group) by Social Category

Region	General	OBC	SC	ST	Total
Eastern	59	38	7	2	106
Northern	77	49	22	2	150
Southern	61	83	7	2	153
Western	203	124	43	6	376
Total	**400**	**294**	**79**	**12**	**785**

Source: NILERD Survey 2025

On the other hand, the least number of graduates comes from the Eastern region—only 106 out of 785—divided as 59 from General, 38 from OBC, 7 from SC, and only 2 from ST. Among all four regions, only the Southern region shows a different trend, in which graduates from the OBC category dominate over other categories, with 83 out of 153, and the General category has only 61. The SC and ST categories follow the same sequence as in other regions. So, combining all regions, only 12 graduates come from the ST category, which shows a very alarming concern for the future and highlights the urgent need for change to ensure better outcomes.

As per the Apprentices Act, the reserved seats for SC and ST or incentives for SC, ST, and female candidates can be further improved by establishments for a greater inclusion of trainees under NATS. A safe and supportive environment for female apprentices with gender-sensitive facilities and grievance redressal systems can encourage female participation. Focused Tribal Outreach through Mobile awareness units, language-sensitive materials, and collaboration with tribal welfare departments will be useful and attract more tribal youth to join NATS. An Equity Monitoring Dashboard for disaggregate enrolment and outcomes data by gender, income, and social category for real-time policy response can be developed and maintained by different regional boards.

4.2.7 SKILL SHORTAGE AND DEMAND

One of the important objectives of the study is to find out the skill gap in important sectors at present, as well as for the future. In this regard, data have been collected from different establishments to understand this issue. **Table 4.44** below points to the shortage of skilled workers in trades, wherein more than 70 per cent of establishments have reported 90 per cent shortages of skilled workers in soft skills and Dairy technology. Similarly, more than 60 per cent establishments have reported that shortages of skilled workers in Electrical and Electronic Engineering (50 per cent), Electronics and Telecommunication Engineering (35 per cent), Healthcare (50 per cent), Pharmaceuticals (20 per cent), Automobile (16 percent), and Tool and die manufacturing (10 per cent).

Table 4.44: Current Shortage of Skilled workers in different trades

Areas/trades	Skill shortage (in%)
Soft skills	90.0
Dairy technology (food Products)	90.0
Electrical and Electronic Engineering	50.0
Electronics and Telecommunication Engineering	35.0
Healthcare	25.0
Pharmaceuticals	20.0
Automobile	16.0
Tool and die manufacturing	10.0

Source: NILERD Survey 2025

Establishments were asked whether they are going to face shortages of skilled workers in the industry in future. About 30 per cent of establishments have reported that they may face shortages of skilled workers in Future **(Table 4.45).** Between public and private establishments, while 33.6 per cent of private establishments reported a shortage of skilled workers in future, only 18.8 per cent of public establishments reported a shortage of skilled workers.

Table 4.45: Do you predict a shortage of skilled workers in future in your Industry?

Sector	No	Yes
Private	66.4	33.6
Public	81.2	18.8
Total	69.5	30.5

Source: NILERD Survey 2025

In a follow-up question, establishments that said in favour of shortages of skilled workers in future have reported that there will be 41.3 per cent shortages of skilled workers and 26.1 per cent of high-skilled workers shortages in the future for their industries (Table 4.46). A higher percentage of shortages of both skilled and high-skilled workers is being reported by private establishments.

Table 4.46: Shortages of Skilled and High-Skilled Workers in Future (% responses by establishments)

Sector	Shortage of high-skilled (%)	Shortage of Skilled (%)
Private	24.4	42.3
Public	37.5	33.5
Total	26.1	41.3

Source: NILERD Survey 2025

Table 4.47: Emerging Skills demanded by trainees (responses by establishments)

Engineering degree	Diploma Engineering	Non - engineering
AI & ML	Mechanical	Communication Skills
Mechanical	Electrical	Management Skills
Technical	AutoCAD (DCAD)	Account Manager
Communication	Automation	Biotechnology
Chemical	Civil Engineering	Entrepreneurship Development
Electrical	Robotic and automation	Graphic Designing
Analysis & Design	Electronics	HR Analytics and Data-Driven Decision
Computer Science	Web development	Business Strategy and Planning
Robotics		

Source: NILERD Survey 2025

In order to understand the emerging areas/skills in which apprentices require training in different disciplines, a higher percentage of establishments (more than 60 per cent) have reported some of the important emerging skills areas in which students from Degree engineering, diploma engineering, and non-engineering require training (**Table 4.47**).

CHAPTER – 5

FOCUS GROUP DISCUSSION WITH KEY STAKEHOLDERS

5.1 Introduction

In order to gather in-depth insights into the core issues of NATS- its design, implementation and impact- focus group discussions (FGDs) with all important stakeholders were organised at BoAT offices in four different regions- Kanpur, Kolkata, Mumbai, and Chennai. These events were attended by the representatives from industry, institutions, TPAs, apprentices, and BoAT. The FGDs generated a significant amount of qualitative information and helped gain an understanding of the perspective of different stakeholders on key issues and challenges affecting the scheme. It complemented the quantitative information and data that were collected through structured questionnaires and subjected to statistical analysis. The discussion was open and free-flowing with NILERD faculty and researchers playing the role of moderator and catalyst to facilitate the FGDs to create an engaging environment for the participants and guide the discussion in the right direction. In the sections below we present region-wise the main viewpoints that emerged from the experiences and opinions shared by various stakeholders, beneficiaries and non-beneficiaries:

Summary of the FGD held by BoAT Northern Region Office, Kanpur

Overview:

The entire northern region of the country which includes states such as Delhi, Haryana, Punjab, Rajasthan, Uttar Pradesh, Himachal Pradesh, Uttarakhand, Jammu & Kashmir, and Ladakh comes under the BoAT northern region (BoAT- NR). The FGD at the BoAT-NR office was attended by senior officers from BoAT-NR, NILERD, establishments, institutions and TPAs. The discussion focused on identifying gaps in the implementation of NATS and possible pathways to improve the scheme. All stakeholders agreed that the scheme has immense potential and it has made incremental progress in recent years. The discussants stressed extending the scheme to new and emerging areas. They dealt upon the challenges such as limited awareness, resource constraints, and difficulties in moblisation of challenges. During the course of the discussion, the participants also delved into potential solutions and actions needed. The summary of the FGD is outlined below in a few points:

1). Quick response to DBT Disbursement: There were concerns from all quarters regarding delayed DBT processing, further affecting the disbursement of stipend/salary to apprentices. Timely disbursement of DBT is crucial for the success of the programme.

2). Inclusion of Sports Category Students: A suggestion was given to include students with sports categories within the scheme.

3). Recognition of Apprentice Training: It was suggested that the apprentice training should be considered as professional experience thus it was clarified with the reference to OM issued by the ministry for recognition of Apprenticeship certificate in work experience.

4). Awareness Activities: It was suggested to have more awareness through online seminars, meetings and conferences. There should be a prior circulation of notices to all stakeholders for participation in the scheme events.

5). Dynamic Stipend Model: A suggestion has been made to implement a dynamic stipend structure based on the categories of the cities (i.e. Tier-I, Tier-II and Tier-III) and the cost of living to be reviewed and revised annually.

6). High Sourcing Cost: TPAs highlighted sourcing cost as a significant operational challenge.

7). Incentives for Women Apprentices: Recommended providing greater incentives and support to promote participation from women apprentices.

8). Inclusion of CSR and Training Components: It was suggested to integrate CSR benefits and structured training modules into the scheme.

9). Enhancing Scheme Appeal: Proposals were made to add value-added elements to increase scheme attractiveness among potential apprentices: It was suggested to include value-added elements to increase scheme attractiveness among potential apprentices.

10). Faster Processing of Contract Approvals: It called for the expedited processing of establishment approvals and contract applications.

11) Portal Integration for TPAs: It was recommended to integrate the TPA module on the Establishment's portal.

12) Aadhaar-related Enrollment Issues: It was reported that several candidates are facing delays due to pending Aadhaar validation.

13) Suggested Portal Enhancements: a. Institute-level notification pop-ups after contract creation for approval. b. Candidate relocation option within the portal. c. Consideration of experienced skilled candidates with special weightage.

14) Awareness Among Non-Technical Candidates: Suggested targeted awareness drives for non-technical disciplines.

15) Joint Awareness Drives: Recommended coordinated awareness campaigns by BOAT and TPAs across institutions and establishments

Picture: FGD at BoAT office, Kanpur

Summary of the FGD held by BoPT Eastern Region Office, Kolkata

Overview:

Eastern region (ER) is less industrialised as compared to other regions of the country. The existence of large industries is low in this region. But despite industrial backwardness this region is far ahead in terms of registration and successful completion of apprenticeship. In 2024-25, nearly 1.34 lakh apprenticeship contracts were generated for apprenticeship which was almost 1.5 times the number achieved in 2023-24 (78 thousan). In view of this achievement, the target for ER has been fixed at 2.50 lakhs for the year 2025-26. In April 2025 itself nearly 35000 apprentices have registered in the NATS portal. The BoPT ER is focusing on apprentice embedded degree/ diploma programme (AEDP), creditisation of apprenticeship and integration of AI in apprenticeship. In the eastern region alone nearly 10000 candidates have registered for AEDP course. The creditisation of apprenticeship programme has been launched on a pilot basis in collaboration with the National Institute of Technical Teachers Training and Research (NITTTR), Kolkata. BoPT- ER has initiated a portal call ACJF (Apprenticeship- cum- Job Fair) portal (https://apprenticeship.bopter.org/jobfair) where students in the final year of their studies can register themselves for prospective apprenticeship opportunities after completion of their degree/ diploma. It has generated large scale awareness and interest among students. This has also made easier for BoPT-ER to track the interested students and encourage them to register on the NATS portal after their final examination. The ACJF portal is now working as a model for other BoATs who have shown interest to replicate this initiative in their respective regions. The FGD organised by BoPT-ER brought together all three stakeholders- the industries, institutions and TPAs on one platform and discuss the challenges they are facing and the path ahead. Presented below is a summary of the points discussed:

Industry Perspective:

1). **Skill development through apprenticeship**:

Establishments are of the view that the apprenticeship scheme is beneficial for their organisation. They prefer NATS as they more often get right candidates through NATS that other similar schemes. NATS candidates have a better understanding, skill, knowledge and more disciplined. These establishments often encourage apprentices to develop innovative solutions in the production process that can reduce cost, improve quality and save time. Most establishments have well-defined modules of training for induction and field immersion. In hazardous and accident prone industries the apprentices receive intensive training on workplace safety and risk avoidance.

2). **Delay in the disbursement of stipend**:

Most establishments release their part of the stipend on time (within first week of the month). However delay in disbursement of DBT has taken a serious proportion and it has a toll on the scheme's popularity and acceptability among the candidates. In a significantly large number of cases the DBT is delayed by two to three months even after uploading the necessary information and documents related to RoP on the NATS portal by the HR. Delay in release of DBT creates unnecessary anxiety and tension among candidates and HR. Especially, in cities where cost of living is so high late release of DBT makes the lives of apprentices precarious. When DBT is delayed apprentices question the TPA and HR about the present status but they are often at a loss as after successfully completing the RoP things are not at HR or TPA's hand.

While it is mandatory for the public establishments to follow the DBT route, many private establishments as a result of extraordinary delays in DBT have chosen the reimbursement route where they release the full amount of stipend to the apprentices and later claim reimbursement of the government's share. But even here the establishments have to wait six to eight months to receive the reimbursement.

3). **Low stipend and issues in retention of good candidates**:

Stipend is an important factor to attract more number of talented candidates to undergo apprenticeship. The stipend should be sufficient enough to sustain their basic expenditures during the course of apprenticeship. Low stipend for the apprentices is a major challenge for retention of apprentices. Many apprentices leave midway when they receive a better job offer from outside. The instances of drop-out are high in cities where the cost of living (especially the rent, transportation and food) is high. Due to low stipend many establishments are not getting the required number of candidates as prescribed in the law. Hence, the industries have made two suggestions- first to align the stipend to cost of living index where apprentices in tier I cities where the cost of living is high will get a higher stipend and accordingly for higher cities. Secondly, the establishments demanded periodic revision of the mininum stipend at fixed intervals. As the minimum stipend amount as prescribed the law works as floor, a revision upwards of the minimum stipend will incentivise establishments to pay a higher stipend which will be beneficial to the apprentices. Some of the representatives from hazardous industries felt that the government should bear a part of the mandatory insurance given to the apprentices.

There is another issue related to the payment DBT. DBT is deposited only in the Aadhar seed bank account. But many times the Aadhar seeded accounts have become dormant or are not in use. Candidates face difficulties in withdrawing money from these accounts. Therefore the condition of Aadhar seeded accounts may be relaxed.

4) **Benefits other than stipend**:

Some of large companies offer many other benefits other than stipend such as subsidised food from their canteen, safety gear, uniforms, accidental insurance (in case of hazardous industries), treatment from their medical units, transportation, low cost accommodation, casual, medical and extra-ordinary leaves. Some companies have said that they don't discriminate between their employees and apprentices in this regard. However, this list of benefits is not uniform. There are many companies also who provide only the stipend amount which is just sufficient to meet their basic needs and no other facilities.

5). **Technical issues in the NATS portal**:

The establishments unanimously said that the NATS 2.0 portal is slow, there are always network problems and they face many difficulties while working on that portal. They viewed that NATS 1.0 was better and well maintained than NATS 2.0. All of them have faced issues of portability from NATS 1.0 to NATS 2.0. The records that were maintained in NATS 1.0 were lost and is irretrievable when they shifted from NATS 1.0 to NATS 2.0. Some of the specific issues raised by the establishments are as follows-

- NATS 2.0 portal should be made user-friendly. Even registering candidates on the portal is a major challenge. In few cases even after registering candidates their profile has been blocked.
- There should be option to edit the bank account details and RoP details.
- Some establishments face the difficulty that they are automatically logged out from the portal after uploading 5-6 RoPs. In some cases at the time of uploading RoPs the whole system gets refreshed and the HR has to enter the information again.
- In the portal facilities should be there for the apprentices to upload their assignments, attendance, grievances and the industry should be able to verify that.
- Some establishments claimed that their openings are displayed while logging in from candidates account while not displayed while logging in from another account.
- Screening/ sorting of candidates on the portal at the time of selection is difficult. Profile some ineligible candidates or those outside the states are shown even after specifying the requirements.

6) **Increasing the duration of NATS**:

Some of the private establishments are so satisfied with the quality and performance of NATS apprentices that they demanded that the duration of training for technical apprentice be increased to a minimum of two years. They cited the example of NAPS where an establishment can keep apprentices for three years and the government provides subsidy for the entire duration. They also demanded that the upper limit of apprentices be increased from the current 15 percent to 25 percent. Some of them are of the view that candidates who completed post-graduation should be covered under NATS and should be entitled to a higher minimum stipend.

7). **Absorption of apprentices after completion**: Most private establishments said that they absorb the best performers after completion of the course. They also prefer to retain apprentices their employees as the trainees have already have good exposure to the work environment and also have knowledge of the production process. They think that the apprentice who has completed the training from their establishment is always preferable than a completely new recruit. On the other hand, as getting regular positions in public establishments requires a clearing a long process of

written exams and interview, keep the successful apprentices as contractual workers. However, the public enterprises give preference to the NATS candidates during their interview process. Both the public and private enterprises agreed that the one year industry exposure and rigorous training prepare the NATS candidates for jobs available in the market and they develop the capability to crack any selection process. Many public enterprises said their apprentices get job offers from their contractors at the end of their apprenticeship.

Institutes perspective:

1). **Awareness generation**:

Institutes feel that there is need for more effort to create awareness among the students about apprenticeship. The students should be made aware of this scheme during the first or second years of their college. BoAT/ BoPT need to organise more such awareness campaigns and seminars. Regarding the NATS portal they have a few suggestions:

- The institutes should have the option of tracking their students who have registered on the portal, i.e. the institute should be able know how many of their students got the opportunity of apprenticeship.
- Some fields such as GNM Nursing should be included in the apprenticeship through gazette notification.
- Some helpline numbers and Chat bots should be made available on the portal.

There is also demand to conduct more General Attribute Development Programmes by BoPT for their non-teaching staff.

Ex-apprentices perspective:

1). **Good learning opportunity**:

Apprentices consider this is a good learning opportunity for them. While at institutes they are only imparted theoretical knowledge but during this one year training they get practical exposure. They feel the work environment is good and they receive proper guidance and handholding from their mentors. They get to work with the latest technology that is industry relevant. The workload is manageable with no experience of unpaid overtime shifts. However, many of them feel that a part of the jobs in PSUs should be reserved for the apprentices. In other words, experience of apprenticeship should be made mandatory for some part of the entry-level jobs in PSUs.

The apprentices feel that new and emerging fields such as AI, cloud computing, python should be integrated with the training module. Many of the projects in science, technology and defence sector are long term projects. Hence to get full exposure and expertise the duration of apprenticeship should be increased in technical fields.

2). **Delay in the DBT component**:

Most apprentices face delay of 2-3 months in receiving the DBT. This dampens their spirit. Some of the newly joined apprentices have not received DBT even for once. When the overall stipend is low receipt of a major portion of their stipend late causes indescribable hardship for them.

3). **Issues with the NATS 2.0 portal**:

Apprentices feel that NATS portal should be made more accessible with more checkboxes or options. Sometimes certificate generation takes a long time and thus hurting the prospects of applying for jobs with this experience.

4). **Counting duration of apprenticeship as work experience**:

The apprentices demanded that this one year apprenticeship should be counted as work experience. But some companies (mostly private) still do not consider this as work experience. They consider this as internship and treat them as fresher.

TPA perspective:

The views of TPAs were not much different from those of the industry and institutes. They bear most of the brunt when the DBT is delayed. The apprentices contact TPAs to know about the status of the stipend and are often at the receiving end of their frustration when they are not able to provide satisfactory answers. Hence, they feel that DBT should always be released on time and preferably by the 7th of every month.

More awareness campaigns are necessary among institutes and students for higher outreach and coverage. Similarly, there is a suggestion to conduct more job fairs.

The functioning of the NATS portal should be smoother and faster with timely registration of candidates, disbursement of DBT, and generation of certificates.

Picture: FGD organsied by BoPT, Kolkata

Summary of FGD held by BoPT Western Region Office, Mumbai

Overview:

BoAT Western Region (BoAT- WR) organised an FGD in their office on 19th May 2025. Apart from NILERD faculty and BoAT-WR officers, the event was attended by representatives of the establishments, institutions, TPAs, and apprentices. In the current year (2025-26) BoAT-WR has received a target of 2.70 lakh apprentices. Last year i.e. 2024-25 the number of apprentices engaged by BoAT-WR was 1.42 lakh and in 2023-24 this number was around 78 thousand. BoAT-WR has started implementing AI in apprenticeship, AEDP, and creditisation of apprenticeship programme. It has also started automation of the DBT process to streamline the DBT process and cut delays in the payment of DBT to the apprentices' bank account. In this regard, it has signed an MoU with the Canara Bank, and in the future the establishment's share of the stipend and the Government's share (DBT) will be paid simultaneously. BoAT- WR is also working to strengthen its presence at the ground level and has recruited 12 liaison officers at across the States of Maharashtra, Gujarat, Goa, and Madhya Pradesh. Another officer will be recruited for the aspirational districts. A dedicated team of 6 officers at the BoAT office is working to handle issues relating to the payment of DBT. BoAT-WR has signed MoUs with 28 institutes in the western region to implement AEDP. It has launched creditisation of the apprentice programme on a pilot basis in collaboration with NITTR Bhopal. At the initial level, 217 trainees from Rashtriya Chemical and Fertilizers Company participated in the assessment and were given tests. But they were awaiting certificates. It was also informed by BoAT-WR to establishments and TPAs that MoE will provide the data dump from the NATS 1.0 portal to BoAT and it will in turn make the dump available to the establishments so that they can recover the data that were not transferred from NATS 1.0 to NATS 2.0 and hence are inaccessible till now to the establishments. The aforesaid FGD provided a common platform to discuss achievement and challenges in the way of implementation of the NATS programme and how NATS can be taken forward with higher scale and efficiency. The main issues discussed during the FGD are listed below:

Establishments' perspective:

1. **Opportunities for training and learning**: The representatives of the industry think that their association with NATS has been a very fruitful one. The scheme is very useful to them. They get fresh candidates through NATS who are more eager to learn and more amenable to their work ethics, discipline, and culture. The candidates are selected through rigorous screening and selection processes. Often the apprentices receive subsidised food, uniforms, insurance, and medical facilities from the companies.

2. **Low stipend and irregular release of DBT**:
   The minimum stipend for apprentices is too low to sustain their lives in big cities. This is the most important reason for a high rate of attrition. The stipend should be indexed to the cost of living in the cities. Many of the candidates are willing to join apprenticeship as they are apprehensive about the timely release of DBT.

3. **Incentivising MSMEs**: The engagement of apprentices by MSMEs totally depends on the state of their business. Moreover, since MSMEs follow a simple production process, many apprentices feel that there is nothing much to learn in micro, small, or medium enterprises. Since most apprentices prefer brand values they go after big brands. It makes it more difficult for MSMEs to find suitable apprentices since they do not have brand names. Therefore, it is suggested that MSMEs be given some incentives for their business growth if they take apprentices.

4. **NATS 2.0 portal**: Some felt that the NATS 1.0 portal was better than NATS 2.0. The current portal has many glitches. It is not possible to download the profiles of more than 30 candidates and that too is not in Excel format.

5. **Difficulties in getting apprentices**: Many establishments feel that they face difficulties in getting candidates, especially from a technical background. Students who are born and brought up in big cities prefer to join higher studies or want to go abroad. A low stipend also works as a barrier. Therefore, even after attending job fairs or visiting campuses they often are not able to get the mandatory required number of apprentices.

   Some of the discussants also pointed out some industry-specific problems, which are highlighted below:
   - Nowadays, it has become difficult to get good apprentices from core engineering backgrounds such as mechanical, civil, or electrical engineering as most top performers in exams prefer IT or electronics. Therefore, BoAT should put some extra effort into making aware and encouraging students from core engineering disciplines to apply for NATS.
   - Banks often do not engage apprentices in core banking functions due to the confidentiality of their operations. Therefore, there is a need for a directive from RBI that the banks can engage apprentices in their core operations.
   - Railways often find it difficult to send apprentices to remote locations as the stipend is low and they are so unwilling to get posted in the difficult terrains. Also, some of the apprentices in Konkan Railways who have completed their training still have not received certificates as of the date of FGD.

Institutes' perspective:

Institutes feel that the NATS certificate is recognised and appreciated by all companies. Apprenticeship is an important milestone in a student's career. Overall, they are happy with the interaction and support they receive from BoAT. Many of them have organised different events such as HR summits, job fairs, and capacity-building programmes with BoAT on their campus. The AEDP course has generated interest among students. However, there is a need to create more awareness, reforms in the NATS portal, and more clarity on the AEDP course. Specific suggestions from the institutes are described below:

1. **Related to the AEDP programme**: Initially, there is some confusion among the institutes about the duration of apprenticeship in the AEDP course as AICTE (one year) and UGC (6 months) guidelines are different in this respect. There is also an apprehension that the students will lose important academic credits if they join an apprenticeship for one year. Also, there

will be a huge burden on the students if the academic curriculum of 2 semesters (i.e. the 2 semesters of apprenticeship when they will not be available for study) is covered during the remaining semesters. Hence, altogether 8-9 papers taught in two semesters will be affected. Adjustment of these papers in other remaining semesters will not be an easy task.

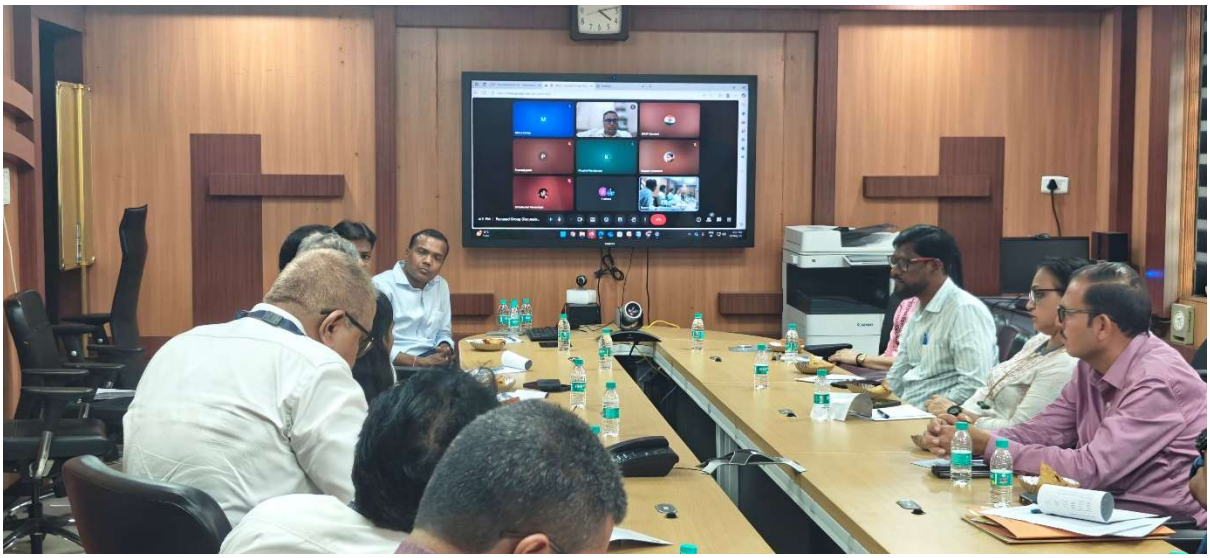
The institutes also feel that MoUs have to be done between industry, institute, and students to make the programme successful. However, there is concern that by doing AEDP students will become experts in one or two particular sectors but will lack knowledge in other branches. Hence, unless there is an assurance from the companies that they will be absorbed after apprenticeship, no students will be interested. Also, there should be a clearly defined role for engineering faculty in the development of training modules and assessments.

2. **Apprenticeship is not the first preference**: According to the colleges, apprenticeship is not the first preference of bright students or students in urban areas where job opportunities are plenty. Most students prefer either direct employment or they go for higher studies. Only those who have no such opportunities go for apprenticeship.
    1. **Awareness creation among students**: The Higher Education Department should bring a circular that colleges should include a paragraph about NATS in their prospectus and also provide the link to the NATS portal on the college website.
    2. **NATS Portal**: There should be a dashboard where institutes can check how many of their students have registered on the portal, how many of them got offers, and how many of them completed and got certified.
    3. **Increase stipend**: Students often complain about the low stipend. It is necessary to increase the stipend amount to make the scheme attractive. Some of the institutes suggested that the minimum stipend should be Rs. 20000/- per month.

TPAs' perspective:

3. **Modernisation of curriculum**:
   According to the TPAs, our education system is too theoretical with little scope for practical exposure colleges need to continuously upgrade their curriculum to keep pace with the fast-changing technology. The AEDP programme is a welcome step in this regard. It will bridge the gap between theoretical knowledge and practical skills by allowing the students to work with the latest technology.
4. **Awareness generation among students**:
   There is a need to undertake a vigorous campaign among the students about the NATS scheme. Still, many students are not aware of the scheme and its benefits. They need to be informed about the excellent technical exposure that the scheme affords and how an opportunity for apprenticeship can be beneficial for their career. Around 50-60 percent of the apprentices later get full-time jobs in the same companies on completion of the training.
5. **Certificate of proficiency**: It was advised the certificate of proficiency should mention the "domain functional segment" of the apprentice.
6. **Award of CSR certificates of companies**: It was also suggested that in order to incentivise the establishments to utilise CSR funds to take apprentices, they can be provided CSR certificates and that can be displayed on the NATS portal.
7. **Differentiation between NAPS and NATS**: Students are often unable to differentiate between NAPS and NATS and it creates confusion in their minds. Some cases have been observed where students who are eligible for NATS have applied and joined NAPS only to discover at the later stages that they are working for a lower stipend under NAPS when are eligible for a higher stipend under NATS.

8. **Increased duration**: There were suggestions to increase the duration of apprenticeship. For technical graduates, it should be for 2 years with an initial three months of boot camp training and the remaining 21 months of on-the-job training.
9. **Creditisation of apprenticeship**: Students should have clarity on how they can obtain the credits and how these can be utilised.
10. **Post-graduate students**: Students who have done post-graduation should get an opportunity to do an apprenticeship with a higher minimum stipend.



FGD at BoAT office, Mumbai

Summary of Focused Group Discussion held at BOAT- SR Office, Chennai.

Overview:

A focused group discussion (FGD) was conducted at the BOAT- SR office in Chennai to discuss various issues relating to the efficacy and Impact of NATS. It was observed during the FGD that in states like Tamil Nadu and other southern states, there are huge opportunities for NATS trainees in the fields of services, manufacturing, processing, and IT. The skill development achieved through NATS is explicitly visible in all the states. The employability & opportunities in the labour market have improved for NATS Trainees. However, there are a few generic problems faced by establishments in the case of the system of processing the stipend/ DBT and regarding the registration of applications and generating certificates using the NATS 2.0 portal, etc. Some of the specific issues have been discussed below:

Selection of Apprentices & their Employability:

CPSUs give open advertisements and wide publicity in the selection of apprentices. There is complete transparency in the identification and selection of apprentices. However, the PSUs feel that the lengthy process of approvals even to fill the existing posts makes hiring of new apprentices difficult. The private entities are very cautious about recruiting the personnel that suits their skill needs. They are looking for (i) graduates with a diversity of skills, and exposure in more competitive companies and (ii) having experience in similar kinds of processing/technology for strategic reasons.

Industry Readiness & Absorption:

Many Establishments said that after one year of training under NATS at their establishment the trainees are **fully fit for absorption**. This option is undoubtedly a preference for the trainees to absorb them in their establishments, in case of any vacancy. They do not want to part with this kind of trainees, and they are retaining and transposing these trainees after one year of NATS training onto their own probation/training mode. In a way, the successful trainees are shifted to the company's payrolls either on their probation/training or as full-time skilled workers with eligible pay packages. Further, Establishments are very confident that, even if there are no vacancies in their establishment, these trainees are capable of gaining suitable jobs outside the establishment in a similar nature of activity.

During the discussion, the ex-apprentice trainees expressed that there should be some marks/weightage accorded to them in the recruitment of State/Central Government. At present, no such preference is given to NATS trainees in the recruitment process by the Government. If it is made compulsory to hire NATS trainees, it will benefit both the State Government departments and also the trainees – an amendment at the State Government level is required for the purpose.

Institutes' Awareness and Perspective on NATS:

The discussion with the representatives of the colleges focused on two issues such as (i) why the students are not opting for NATS in spite of remaining unemployed, and (ii) whether they have enough knowledge about the scheme, especially, how it helps in increasing employment avenues & opportunities. It was found that graduates have a high pride and dignity associated with them and NATS is not attractive to them because of the meager stipend that the scheme affords. They always compare the stipend with the salaries their batch mates get from direct recruitment. Many others prefer to stay unemployed rather than go to a far-off place, or work in a sector or in a job that is not much to their liking. Apart from that, many are preparing for GATE / Management Entrance exams or going for higher studies.

- ✓ Institutes do not get information like names of the students who have completed registration under NATS and who have got placement.
- ✓ Feedback of trainees may be shared with institutions vide the BOAT office or by establishments.

- ✓ BOAT may develop a system of **alumni portal** as it plays a crucial role in developing networks and generating information systems, which may help the next generation to register under NATS.
- ✓ Job-oriented courses like printing technology, photography, multi-media, **AI & ML** should be introduced in the institute curriculum.
- ✓ It was suggested by the representatives of the institutes that district-wise officers may be appointed for NATS just like in the case of NAPS for better coordination. Or the NAPS and NATS should be regulated under a **single umbrella** or a Ministry.

Usefulness/ Relevance of the Scheme:

- ✓ There is strong support for the National Apprenticeship Training Scheme from the establishments. The majority of the Industries/Establishments in the region are benefitting from the scheme.
- ✓ Some establishments expressed that NATS training helps not only in skilling of trainees but also in getting the trained human resources as per their requirements.
- ✓ It emerged that a lot of skills enhancement takes place during the training and remarkable attitudinal and behavioural changes in trainees happen after completion of the NAT Straining.

Problems and Challenges Faced by different stakeholders (Summary in Points):

- ✓ Some of the important challenges faced by BOAT SR are conducting regular field visits to different establishments with **limited resources and manpower**. Also, they face challenges in managing an **increased number of programs** in each district including the aspirational districts to implement NATS.
- ✓ They also find difficulties in resolving the IT-related issues on time due to a **lack of technical HR.**
- ✓ Most of the establishments located within the city or well connected with public transport are able to get the requisite number of trainees/apprentices. Establishments that were located in remote areas expressed that they were not able to get trainees due to their location. Especially, the women and rural candidates preferring apprenticeship locations close to home.
- ✓ Many establishments felt that for the places with **less availability** of candidates, an extended duration of apprenticeship may also be considered or any kind of additional incentive may be given to the students to attract them to distant locations.

- ✓ Many establishments expressed the **difficulties faced in the selection process**. According to them, the selection of trainees is a time-consuming process as they have to visit different locations (institutions). As all selected trainees do not join the establishment in the same time period, it increases their administrative work of preparing contracts and other formalities. This was especially the case with establishments having a large number of trainees. Similarly, getting approvals from the BOAT Regional Office for any additional demand and required modification in demand also gets delayed.
- ✓ The issue of **drop-out and absenteeism** is a major concern among the establishments. Many apprentices drop out during the training period. When termination of a contract is initiated by the establishment for these trainees by the BOAT office also takes time and thus leaves

establishments in dilemma about the future course of action. The process of approval needs to be expedited by the BOAT-SR office.

- ✓ Moreover, at present, there are no guidelines for disciplinary measures or for termination of a trainee in the case of misbehavior or misconduct. This should be looked into urgently for the smooth running of the scheme.
- ✓ The top issue that emerged during the FGD was that **No job guarantee** even after completing training. The establishments should give certain priority to the NATS trainees. The priority can be given in terms of employment in the same establishment where they completed their training or in any other industries. Even some of the institutions/establishments suggested that there should be some **reserve positions** in all industries as well as in the government departments for the NATS graduates.
- ✓ Many students expressed dissatisfaction over the **stipend amount** especially those who were staying away from their home and had to manage within the limited financial resources. The majority of students felt that the stipend may be **linked with the minimum wage** prevailing in each State for the skilled workers in different categories of cities. Moreover, the **DBT amount** should be credited to their account on time.
- ✓ The issue of **enhancing the existing amounts of stipend** was suggested by most of the establishments also. They argue that the present level of stipend is not sufficient for the NATS trainees to give decent accommodation in the city or in an industrial area where they are staying to get training at the establishment.
- ✓ Another issue that came up during the discussion was the **commencement of the session**. As per the existing practices, it starts in June and July whereas students pass out in the months of February and March. Students feel that their one year will be wasted if they go for the NATS. Therefore the end of the degree session and joining of the NATS there should be a minimum gap.
- ✓ Few colleges suggested that; the degree certificates are distributed after one year of the final result has been declared. In this case, the **waiting time** for a NATS aspirant candidate is very high. Therefore, it was suggested by the colleges to accept their applications based on their mark sheet.
- ✓ Considering the students' opinions and interests the representatives of the establishment had an opinion that NATS to be **integrated with the degree and diploma courses** so that crucial one year of the students may save and they can go job hunting and other activities also.
- ✓ Some of the establishments both government and private are paying higher stipends i.e. 15000 to 25,000 per month. It is a little higher than the stipulated amount that is prescribed under the NAT scheme.
- ✓ Certain establishments are not claiming the reimbursement because it is a meager amount for them or they are huge profitable organizations and not bothering about the amount. They are trying to avoid the lengthy procedure of the claim.
- ✓ Some of the establishments raised concerns about the **uploading of quarterly progress reports**, which increased their workload. They argued that it should be done once or maybe twice a year because collecting information for all the candidates from various verticals affects their day-to-day routine functions.
- ✓ It is revealed that some of the students have **no interest in learning** as a trainee but just got admitted to get the stipend. Such students will not get a job even if they finish one year of training under NATS.

- ✓ Most of the establishment representatives said that there is a **clear gap between the degree/diploma curriculum and the actual NATS training** they undergo in the establishment. Therefore urgent focus is to be given in the area of revamping the course curriculum of both degree and diploma so that they can be employable in the industry after completing the course.
- ✓ Some of the establishments have developed monitoring mechanisms for the NATS students for not just their attendance but also started evaluating them on various learning aptitudes of their particular trade domain.

Summary of Suggestions for Effective Implementation of NATS:

- ✓ The scheme provides real-time exposure to modern machines and technologies with several hours of hands-on experience.
- ✓ The officials at BOAT SR suggest some improvement in institutional mechanisms to be developed at the State/District/Industry/Educational institutional level to improve the Implementation of NATS like there should be coordination from industries departments of the State government to initiate the scheme in all industries.
- ✓ Enforcement of NATS by incorporating strict guidelines for new establishments as part of their statutory requirements regarding apprentices will ensure establishments fulfill their duty as per the Apprentice's Act, 1961.
- ✓ Contracts hired through the tendering process should have a mandatory number of apprentices in their establishments as a mandatory precondition.
- ✓ Greater participation is required from state institutions to promote NATS.
- ✓ For broadening the scope and coverage of NATS from 2026 and onwards there is a need to increase the use of digital outreach through social media.
- ✓ Utilising job portals where freshers are made aware of NATS, such as **Naukri, Monster job** etc.
- ✓ Establishments suggested that before notifying the seats for training to any establishment the actual skills required and available in the establishment must be assessed for effective implementation of the scheme.
- ✓ Orientation training of the students after completion of professional course needs to be introduced to make them fit to join fieldwork.
- ✓ Effective participation of institutes in the application of technology in coordination with relevant industry to make the pass-outs more industry-oriented.
- ✓ Though the online portal has facilitated long-distance communication some establishments find it difficult to register, hence, the NATS portal needs to be **made user-friendly** throughout from registration to the reimbursement/ DBT process.
- ✓ Some of the establishments raised concerns about the uploading of quarterly progress reports, which increased their workload.
- ✓ It was also suggested that in view of radical changes in the nature of employment in recent years, there is a dire need to align/modify the education and training curriculum with these changes, especially in areas like Artificial Intelligence, Automation Processes of Manufacturing, and Robotic Process in manufacturing Auto CAD, etc. It was also suggested that training must integrated with the award of a Degree. In this regard, the recent UGC guideline on the Apprenticeship Embedded Degree Programme (AEDP) 2025 is a welcome step by the government and it should be implemented with immediate effect.

- ✓ At the end of the discussion both the representatives from the establishments and education institutions admit that, to overcome skill deficiency and unemployment problems in India; the industries and the colleges should come together and work for the effective implementation of the NATS. This will create better employment opportunities for the youths in the labour market.

Picture: FGD at BoAT Chennai

Summing up

To summarize, the stakeholders converged on the view that the NATS scheme has been beneficial to the students and the industries. It bridges the gap between theoretical knowledge and practical experiences and applications. It has met its aim to produce an industry-ready, disciplined, and dedicated talent pool that is necessary for the industrial growth of the country. Establishments are satisfied with the quality of human resources that are available through NATS. However, they often feel that the minimum stipend under NATS is too low to meet the basic requirement for an apprentice to sustain in metro cities. They have also suggested some important reforms in the NATS portal to make it more user-oriented. Also important is the timely payment of DBT and the generation of a certificate of proficiency at the end of the duration of the apprenticeship. Low stipend and delay in the payment of DBT have been identified as one of the factors for drop-out. Streamlining of the DBT procedure and cutting time for the generation of certificates are the two issues that need urgent attention.

In recent years the BoAT/ BoPT have taken a number of significant steps that have some far-reaching implications for the scheme and capacity building of the students. The creditisation of the apprentice programme, and apprentice embedded degree/ diploma programme are to name a few that have generated much interest and a positive response from establishments and institutions. However, it has taken off only on a pilot basis and the operational procedures are still in the making. The BoAT/ BoPT are severely handicapped to scale up their field visits and outreach programmes due to a shortage of manpower. It has been suggested to open local offices of BoAT/BoPT in every district to improve the coverage of the programme.

On the part of the institutions, they felt the need for more awareness generation among students about the NATS programme. There is a need to make the students aware of the scheme from the early days in their college itself. The institutions are enthusiastic about the new AEDP programme. However, there are some concerns among the institutions about the actual implementation of the AEDP programme on the ground with minimum disruptions to their course curriculum.

Apprentices are the most important constituent of the programme. They feel apprenticeship has provided them with ample opportunities to upgrade their skills, complement their textbook knowledge, and have exposure to industry environments which are crucial for their career. The scheme affords them unique opportunities to increase their domain knowledge. However, the delay in payment of DBT has made sustaining their life difficult. A significant number of them feel that the stipend is low and should be increased in keeping with the fast-rising cost of living in the country.

The TPAs are of the opinion that the apprentice scheme should cover the post-graduates and also the duration of the scheme should be increased to at least two years. They viewed that more awareness generation and interaction meet need to be organised.

In the end, the FGDs were highly fruitful in providing a sneak peek into the ground-level implementation of the scheme and the perceptions, opinions, and experiences of the stakeholders that hold crucial importance for the relevance and success of the scheme.

CHAPTER – 6

CONCLUSIONS

This evaluation study was undertaken to assess the efficacy and impact of the NATS scheme to develop skills and employability among the country's youth. In the process of evaluation we looked into the relevance of the scheme in the present context, its coverage and outreach, implementation efficiency, and effectiveness to achieve its objectives and goals. The present study assumes extreme importance due to change in the scope and coverage of the NATS scheme in recent years, changing economic scenario in the country and thrust of the government of India to promote industrial training and capacity building among the young generation. India, as the one of the youngest nation of the world, has a lot of stake in investing in the nation's youth to make them drivers of country's industrial progress and prosperity. In this regard, apprenticeship scheme can be an important instrument for meaningful transition

The reference period of the present study was the recent three years i.e. 2022-23 to 2024-25. This was a pan-India study covering 15 States across four regions. A mixed method of analysis was adopted for the study where quantitative data collected through structured questionnaire from field and information collected from official records were supplemented by observations collected from field through focus group discussion and key informant interviews with relevant stakeholders. The main respondents of our survey were current apprentices (on-roll), past apprentices (ex-apprentices) who have completed their training, establishments (industry), institutions, third party aggregators, students who haven't joined apprenticeship, and the main implementation agrencies of the scheme i.e. Board for Apprenticeship Training (BoAT). We covered 3395 on-roll apprentices, 939 past apprentices, 335 establishments, 39 institutions, 53 TPAs and 785 students who have not joined apprenticeship. Various types of establishments including public and private, manufacturing and services, MSME and large were covered. Around 42 per cent of the sampled establishments belong to the manufacturing sector and rest to the services sector. Around 39 per cent of our sampled establishments are large, 31 per cent are medium, 19 per cent small and 11 per cent are micro establishments. Both technical and graduate apprentices from engineering and general fields of study were included in the sample. The study applied the RCESSI+E framework for analysis which was originally developed by OECD and has been adapted for the Indian context by the Development Monitoring and Evaluation Office (DMEO). Underlying the study was output-outcome monitoring framework (OOMF) and a well structured logframe model.

From the official records, it is evident that there is a steady increase in the number of apprentices and establishment which come on board across all regions. The recent figures in this respect are very encouraging- number of candidates enrolled for NATS have more than doubled from 4.0 lakh in 2022-23 to 9.0 lakh in 2024-25 and number of candidates who joined apprenticeship has doubled in just one year from 2.71 lakhs in 2023-24 to 5.26 lakhs in 2024-25. Number of establishments engaging trainees has more than doubled from 4077 in 2022-23 to 8519 in 2023-24. Also important is the fact that the proportion of establishments who have merely registered under NATS but are not engaging apprentices have declined significantly during this period. The above figures give a definite indication that the scheme has gained popularity and generated substantial interest among the target groups. However, despite all the spectacular success in recent years in terms of higher

coverage, increasing apprenticeship opportunities and better seats utilisation, still there is always some room for improvement.

The higher outcomes of the scheme are result of calibrated and constant effort of all stakeholders especially, the Ministry of Education (MoE) and regional Boards for Apprenticeship training. Availability of adequate funds by the Ministry and judicious utilsation of funds including some structural reforms such as direct benefit transfer, emphasis on online process, awareness generation, organisation of events such as apprenticeship and job fairs, constant persuasion and following up with the industry have yielded positive results. However, all the regional boards are suffering from manpower shortage stand in the way of more effective outcomes and higher scalability of the scheme.

The results show that the NATS scheme has been extremely beneficial to bridge the skill gap that exists in the industry. The industry participants of the survey have unequivocally testified the utility of the scheme for their establishments in terms of addressing the skill mismatch and building a industry-ready workforce. Around 97 per cent of the establishments feel that the scheme is useful in bridging the skill gaps, 98 per cent opined that NATS scheme is helpful to produce a industry ready workforce, 96 per cent feel that the scheme is effective in cutting the hiring/ searching cost of workers, and 97 per cent are of the view that the scheme is advantageous for the local youth to get employment in the local industry and thus addressing the problem of local unemployment. 86 per cent of the establishments think that the scheme is fully advantageous to their organisaiton. Hence, it is evident that the industry is upbeat about the usefulness of the scheme. It is also very important to note that the compliance burden on the industry has significantly been reduced in the recent years. About 74 per cent of the establishments we visited feel that they faced no major difficulty to comply with the Act. Emphasis on online platforms, simplification of procedures, support from the BoAT officers and introduction of TPAs has made this transformation happen. However, in some cases late disbursal of DBT, and getting desired number of trainees in their specialised fields have created some challenges for them.

Apprentices are the main targets of the scheme as the scheme's objective is to increase their industry readiness, employability, and skill competency. Our results show the scheme proves to be an important stone for their entry into the world of work. Through proper training and guidance, through exposure to the modern industrial line of production, and through providing an environment that cherishes innovativeness and rewards qualities such as discipline, commitment and work ethics, the scheme helps the apprentices to flourish and grow in their career. The apprentices also acknowledge this change and transformation in their life. A 93 per cent of the apprentices who completed their training feel that NATS training meets the employability requirement in a competitive job market. Their self-assessment shows that 35 per cent of the ex-trainees who completed their training from public enterprises felt their skill level was "excellent" or "very good" before joining the training. This number increased to 63 per cent on completion of the training. Similarly, in the private sector 43.6 per cent of the ex-apprentices felt that their skill/ competency level was excellent or good before joining apprenticeship, but this number increased to 66.5 per cent on completion of the training. At the other extreme the number of those whose competency level "average" or "poor" before training has substantially declined after training. As has already been discussed, the main reasons for this skill upgradation are practical learning, workshop facilities and sufficient duration of training. Around 80 per cent of the current apprentices feel that practical instructions at their workplaces are either "excellent" or "very good". The figures for workshop facilities are 77 per cent, and for duration of training it is 76 per cent.

Around 95 per cent of the ex-apprentices and 98 per cent of the current apprentices are satisfied with the work environment of their establishment. However, the major difficulties facing the apprentices are delay in the disbursal of the DBT. Since DBT has been introduced in the system late receipt of DBT has been a real challenge. The candidates also complained in some cases delay in certificate generation. These areas need to be looked into urgently.

Thus, on the parameters of efficiency and effectiveness, barring a few major challenges the scheme has fared unarguably well and proved its utility in real terms. As part of assessing impact of the scheme, we looked into the current activity status of the apprentices who have completed their training during the reference period and data found that 60 per cent of the ex-trainees are wage/ salaried employed, 10 per cent are self-employed, and 4 per cent are working in a family enterprise. Thus altogether, 74 per cent of the ex-apprentices are employed. Among those who are employed, a large section working in the same establishment where they received apprenticeship training. This was also clear during our discussions with the industry reprentatives and HR personnel that industries prefer to retain the apprentices based on their performance and absorb in their direct payroll. However, in public enterprises instances of such retention is rare as they have to select their employees through all India tests. But many stakeholders demanded that in the public sector enterprises experience of one-year apprentice training should be made mandatory or alternatively some proportion of seats should be reserved for apprentices. Significant sections of past apprentices are pursuing higher studies, or preparing for the competitive examinations. Few prefer to wait for more suitable job opportunities in their locality. Majority of the apprentices who are in employment have acknowledged the role of experience in apprenticeship training in getting the job. It also needs to be highlighted that most of the ex-apprentices (77 per cent) got their first employment within three months of the completion of their training and around 91 per cent are satisfied with their job which affords them to support their family and to take care of the needs for their. On average a salaried employment affords a monthly income of Rs. 21,815 month.

On the part of institutions lack of awareness about the benefits of the scheme is a major challenge. This also raises the searching cost for the establishments. Hence more awareness generation activities for students at the early stages of their graduate degree courses are required. The recent initiatives by BoAT such as Apprenticeship Embedded Degree/ Diploma Programme, AI in Apprenticeship and Creditisation of Apprenticeship Programmes has generated interest among institutions and establishments alike and they have on large welcomes these reforms. BoAT have already started implementing this on a pilot basis. If these reforms become successful that can bring a new era and vibrancy into the scheme.

In the canon of equity of NATS scheme performs well. A significant number of beneficiaries of NATS come from poor social and economic background. Around 36 per cent of the current apprentices and 39 per cent of the ex-apprentices come belong to very poor families (monthly household income less than Rs. 10500. One-third of the apprentices are female. Around 37 per cent of apprentices are OBC, 4 per cent are ST and 16 per cent are SC. Hence, by and large different social groups have representation in the scheme as per their population proportion and the benefits flows equitably to all sections of the society. Thus NATS scheme proves to be a important ladder for upward mobility of all sections of the society.

In future the sustainability of the scheme depends on its attractiveness to the talented youth, further simplification of procedure by reducing bureaucratic hurdles, and generation of awareness among establishments and students. Increase in stipend periodically in conjunction with the rising cost of living is a much needed reform. A large number of stakeholders feel that the minimum stipend

under the scheme is too low to meet the cost of living. Hence, the stipend should be sufficient to meet the needs of apprentices and at least it should be linked to the cost of living or minimum wages in metropolitan cities so that their will less instances of unutlised seats and drop outs from the scheme and a higher rate of completion.

Appendix

Issues concerning the NATS portal:

NATS portal was launched for online facilitation of the apprentice scheme. In recent years most of the process ranging from registration, enrollment, DBT, certification is being done online through NATS portal. This has brought certain amount of speed and accuracy in the system. The aim is always to simplify the process of data management, warehousing, and visualisation. Another advantage of digitalisation is to improve transparency and overall efficiency. An updated version of the portal was launched in July 2024. However, there are few challenges that often causes difficulties for the users and often takes toll on the efficiency of the system. Some of them are mentioned below-

A. Key Operating Challenges

- **Unstable Portal Performance:** The portal frequently experiences server-related issues and slow loading speeds, requiring urgent performance optimization. There are frequent occurrences of 504 Gateway Timeout errors, high response time, and system unresponsiveness during crucial activities like contract creation, FTP processing, and report downloads.
- **Incomplete Functionalities:** Many modules such as ROP, Contract Termination, FTP, and Claims are not fully functional and often provide inconsistent behaviour across establishments.
- **DBT Discrepancies:** Payment initiation and processing workflows are fragmented. At times, DBT requests are generated from non-standard modules instead of the ROP process, leading to record mismatches.
- **Lack of Real-Time Visibility:** Officers and establishments often face challenges in accessing real-time data due to missing filters and limited dashboard capabilities.
- **Ineffective Issue Resolution Mechanism:** Issue resolution by AICTE has been delayed, repetitive issues resurface due to lack of permanent fixes, and there's no established TAT for closing stakeholder grievances.
- **Limited Editing Functionality**: Lack of essential functionalities in the portal, such as the option for establishments to edit manpower details.
- **Inadequate ROP Oversight:** No regulatory checks and balances in place for processing Records of Progress (ROPs) in both Reimbursement and Non-Reimbursement categories.
- **Conversion Limitation:** The portal does not support conversion from Non-Reimbursement to Reimbursement mode, which is a critical functional gap.
- **COP Downloading Challenges**: Certificate of Proficiency (COP) downloads are handled using a “Last In, Last Out” logic, causing accessibility challenges.
- **Delayed Issue Resolution (Mantis)**
  Issues and bugs reported through the Mantis system are not being resolved within the stipulated timelines.

- **Absence of Grievance Redressal Mechanism**
  There is currently no module available for users to submit or track grievances.
- **Inefficient Data Migration**
  Migration of data from NATS 1.0 to NATS 2.0 has been ineffective, with missing or incorrectly transferred data in some cases.

B. Enhancement Requests / Feature Requirements

- **Auto-Rejection Retrieval Feature:** Like NATS 1.0, a facility must be added to retrieve auto-rejected candidates through an "Enable Contract" functionality in officer dashboard.
- **Bulk Action Functionalities:** Provision for processing bulk COPs, bulk contract termination, and bulk approvals to ease workload at BoAT/BoPT and establishment level.
- **AI Apprenticeship Enablement:** Dedicated fields and filters for AI-related apprenticeships in contract creation, FTP, and advertisement posting modules.
- **Improved Reporting:** Most reports (like C4, KPI, DBT dashboards) have discrepancies. Data must be auto-synced and aligned with the actual status of contracts and payments.
- **Enhanced Security & Logging:** The portal lacks proper audit logs for critical financial transactions, which is a concern for both Boards and the Ministry.

C. Broader Suggestions for Improvement:

- **Portal Maturity & Risk Concerns:** The current version of NATS 2.0 appears to be half-cooked and not deployment-ready. Core modules are only partially operational, and less than 70% of expected outcomes are currently being met.
- **Involvement of Private Tech Partners:** Considering the scale, financial sensitivity, and nationwide applicability of the portal, it is strongly recommended that future development and maintenance be handed over to professional private IT firms with strong credentials in portal management.
- **Security Audit & Compliance:** Given that the portal deals with direct financial disbursement via DBT, it is critical to ensure a thorough third-party **Security and Vulnerability Assessment (SVA)** and **Audit Certification**. Presently, such safeguards appear to be missing, which creates a significant fraud risk.
- **Stronger Governance & Monitoring:** A centralized PMU with tech, operations, and monitoring support should be put in place to regularly track issue closure, user satisfaction, and ensure compliance.
- **Add New features in NATS 2.0 portal:**

➢ **In-built analytical tools**: Data analytics tools of students, establishments, contracts etc modules and activities needs to be incorporated and made available at BOAT/BOPT officers and Directors dashboard. This will help BOAT/BOPT Director and officer better planning for future apprenticeship.

- **Linkage with HEIs**: NATS portal linkage with other higher educational institutes website shall be enabled. This will also help in promotion, expansion of NATS at Institutes level.
- **Chatbot**: AI based Chatbot help shall be provided at each user profile.