Impact study report

For Cement concrete road intervention along with side pathways & streetlights

A Study for Atul Foundation January 2024



Centre for Integrated Development

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Acknowledgement

We are grateful to Atul Ltd. and Atul Foundation for entrusting us with an impact study of Cement Concrete (C.C.) Road Project. We would especially like to thank the project team members for their continued support throughout the study.

We are grateful to all the community members and road users for providing their time and input during field level interactions.

Tapan Patel Tanvi K Patel Centre for Integrated Development, Ahmedabad January 2024

Abbreviations

C.C.	Cement Concrete
CSR	Corporate Social Responsibility
FGD	Focus Group Discussion
IM	Instrument Mechanic
КІІ	Key Informant Interviews
Km	Kilometer

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Background

About Atul Group

Atul Ltd. was founded in 1947 after Indian independence by Late Shri Kasturbhai Lalbhai. The Company is a manifestation of his dream to generate large-scale employment, create wealth in rural India and make the country self-sufficient in its requirements of chemicals. At present, Atul Ltd is a chemical conglomerate specializing in the production of over 900 products. Atul is Headquartered in Valsad district of Gujarat and spread over 1,300 acres of land.



Atul Foundation was created as part of Corporate Social Responsibility (CSR) to bring all activities related to serving society under one umbrella. The Foundation undertakes projects and activities, broadly under six programs like Education, Empowerment, Health, Relief, Infrastructure and Conservation.

Project Brief- C.C. Road Project

Atul Foundation undertook construction of a Cement Concrete road of 1.7 kilometers with (C.C.) walkway and streetlights starting from Parnera-1st gate to Atul village in year 2022-23. The road also provides access to Hariya and Bhagod villages. Prior to a two-lane flexible the project, pavement road (Bitumen) of 7 meters carriage way catered to huge traffic of trucks from Atul limited to National Highway 8. То strengthen the pavement, the road was topped with Cement Concrete Polymer based white topping (6-inch thickness and M30 Concrete Grade). R.C.C. Drainage on both sides of roads have been strengthened to channelize storm water and separate walkway cum cycling track has been constructed on each side of the road. Streetlights have also been installed for ease in commuting at night. This has enhanced safety and ease for commuters and users, benefiting thousands of Atul employees, school children and villagers.



Figure 1 Project location

About the Study

Study Objectives

Impact assessment study is aimed at evaluating and attributing outcomes and impacts to the project interventions. Objective of Impact assessment study is to derive Impact of road construction on communities in adjacent villages, vehicle operators and Atul employees.

Study Approach & Methodology

- The study adopts a mixed method approach involving qualitative as well as quantitative data.
- 53 people have been interviewed for the Cement Concrete Road Project.
- Computer Assisted Personal Interview (CAPI) is used for data collection, using KoboCollect app for personal interviews through structured questionnaire.
- Qualitative surveys have been done through Key Informant Interviews (KII) and Focus Group Discussion (FGD) with different stakeholders.

Sampling

- **Students:** 15 students of different age groups and gender from 2 schools and 3 villages using the road have been covered through stratified random sampling based on varied age and gender.
- Atul employees: 18 Company employees using the road have been taken as sample through purposive sampling based on their availability during the survey.
- **School teachers:** 8 teachers from 2 schools have been taken as samples through purposive sampling based on their availability during the survey.
- Vehicle users: 12 vehicles users have been taken as sample through purposive sampling based on their availability during the survey and considering varied vehicle types (school bus/passenger bus/truck/auto rickshaw)
- **Project team:** Interaction has been done with Chief Engineer and Technical Head- Civil as well as Senior Manager & Lead CSR.
- Village head: Interaction has been done with Village Panchayat Head/Sarpanch of Atul Village.

Study Sample and Tools

Table 1 Study sample and tools

Study Sample/Stakeholder	Tool		
15 Students from 2 schools	Structured CAPI based questionnaire	Personal Interview	
8 teachers from 2 schools	Structured CAPI based questionnaire	Personal Interview	
Panchayat body- 1 village	Semi Structured Questionnaire	Focus Group Discussion	
18 company employees	Structured CAPI based questionnaire	Personal Interview	
12 truck/bus drivers	Structured CAPI based questionnaire	Personal Interview	
Project Team -3	Semi Structured Questionnaire	Key Informant	
		Interview (KII)	

Key Findings

The development of rural infrastructure in general and rural connectivity in particular plays an important role in economic development and growth of the region. Rural connectivity ensures access to critical services, increased economic opportunities as well as employment generation through industrialization in rural areas.

Prior to the project, two lane flexible pavement road (Bitumen) of 7 meters carriage way catered to huge traffic of trucks from Atul to National Highway 8. There was lack of drainage, walkway and appropriate lighting. To provide better access to vehicular traffic as well as enhance safety and ease of movement for company employees and other commuters, Atul Foundation undertook construction of a Cement Concrete (CC) road of 1.7 kilometer with walkway and streetlights starting from Parnera first gate to Atul Village in year 2022-23. The road also provides access to villages like Hariya, Dived Bhagod etc. Further, a road drainage system has been constructed to remove storm water from the road and its surroundings. Additionally, a separate walkway cum cycling track have been constructed on each side of the road for safety and ease of use for Atul company employees and school children in adjacent villages. Further, streetlights have been

Glimpses of Road Improvement Project

- Total Length: 1.7 Km
- Specification: Cement Concrete Polymer based white topping (6 inch thickness and M30 Concrete Grade
- Road carriage width 7 meters
- Both sidewalk Way Width: 1.2 meters each side including drainage.
- Drainage: RCC "C" type
- Total streetlights: 15 meters interval LED
- Total Users: Approximate 716 commercial vehicles
- Design Life: 20 years with growth rate of 7.5%
- Villages Benefitted: 4 (Approximate. 6000 users including Atul employees)

installed for ease in commuting at night. Speed breakers and signages as well as night reflectors (cat eye) for night safety have also been installed.



To ascertain the impact of the road, interactions were done with road users including company employees of Atul ltd., vehicle users (mainly bus/truck/rickshaw drivers), pedestrians and cycle user, school students and teachers. Panchayat members of Atul village village were consulted for their perception on overall impact of roads on socioeconomy of community.



Following are key findings of the study:

Profile of Study Participants:

School Students

- A total of 15 students from Atul Vidyalaya and Kalyani Shala, Atul Village covered. The students are from grade 8-12.
- 60% Respondents are female and 40% are male students.
- The students from Atul and adjacent villages like Parnera and Pardi are covered with distance of their home to school ranging from 1-10 kms.

School Teachers

- A total of 8 teachers from Atul Vidyalaya and Kalyani Shala, Atul Village have been covered.
- 62.5% Respondents are female and 37.5% are male teachers.
- The teachers from Atul and adjacent villages like Parnera and Pardi are covered with distance of their home to school ranging from 1-12 kms.

Drivers

- Total 12 male drivers have been covered for the study.
- Of them 25% are school bus drivers, 41.5% are truck drivers, 8.5% are auto rickshaw drivers and 25% are car drivers.

Company Employees

- Total 18 company employees (3 Women, 15 Men) of Atul Ltd are covered for study.
- The employees are staying in Atul Campus or nearby villages like Parnera and Pardi with average distance of 2-5 kms from their home to Atul Factory.
- All respondents travel in their own vehicles. 11% use a car, while 89% use two wheelers like scooters/bikes for daily commuting.

Perception of Study Participants on Impact of Roads:

Increased safety, ease of movement for pedestrians/cyclists, reduced traffic jams and reduced accidents are the major impacts perceived the road users.

Perceived Benefits of New Road

- Major benefits of improved road as perceived by various categories of respondents are lowering of traffic jam reported by more than 85% respondents in each category as well as ease in commuting in monsoon due lowering of waterlogging.
- Further, due to separation of walkway/cycling track from main road, there has been increased safety of commuters. More than 80% of company employees reported to have enhanced safety post intervention.



- The addition of appropriate drainage on roads has been instrumental in reduction of water logging and increased ease in commuting in monsoon. Nearly 75% of bus/truck drivers, 86.7% students and 66.6% company employees reported ease in commuting during monsoon. (refer Figure 2)
- Further, more than 50% of students and 37.5% teachers reported to have increased frequency to school, specifically during monsoons.

Earlier there was no drains which led to water logging and pot holes. This created unsafe conditions for two wheel drivers as well as pedestrians, particularly during night hours. New roads including appropriate slopes and drainage as well as street lights has eliminated water logging and has led to good illumination, which has increased safety for users.



Perceived benefits of separate pathways

- Separate both side pathways/walkway have been instrumental in increased safety of pedestrians and cyclists. Of those using the pathway, 100% of students and teachers and 94.4% company employees reported to have increased comfort for walking/cycling as compared to pre project. (refer Figure 4)
- Parents of 46% students surveyed accompanied children to school prior to road improvement and construction of sperate pathways. Due to increased safety, currently only 20% of parents accompany their children to school. This has reduced the burden on parents and time spent by parents.
- 100% of students and teachers using the walkway reported to have increased safety, while more than 85% of teachers and all students reported reduced travel time and more than 85% teachers and students reported reduction in accidents. (refer Figure 5)













Perceived Benefits of Street Lights

- Installation of streetlights have been instrumental in increased safety for commuting at night.
- This has increased the number of people using the road during the late evening or night. 100% of company employees reported to have been using the road during night hours now as compared to only 80% prior to the project. Similarly there is significant rise in students and teachers commuting in late evening or night (refer Figure 6).



Figure 6 Status of commuting on road at night

• The major perceived benefits of streetlights are feeling of safety and ease in travel during night, lower incidence of nuisance at night and reduced accidents. (refer Figure 7).





Figure 7 Perceived benefits of street lights

Perception of Gram Panchayat

Interaction with Panchayati Raj Institution members/Sarpanch of Atul Village, indicate that improved road has benefitted in terms of increase in road safety and reduction of accidents. Further streetlights have eased movement of pedestrians and cyclists and even those using motorized two wheeler due to better visibility and increased senses of security in late evening or night. Drainage system on road has made commuting much easier in monsoon due to minimal water logging now. Further, there is ease in movement of essential services vehicles like ambulances, resulting in quick medical services in more than 10 villages nearby.

Sense of security and independence Impact of road improvement on students

Shifa Faiz Sheikh is a grade 9 student at Kalyani High School in Atul Campus. She stays with her family in Atul village. Prior to road improvement project, she was accompanied by her father to school. Her father owns a bag shop and has to spend more than 1 hour every day for drop and pick up from school. Due to separate walkway, she now goes to school independently through cycle. New road has given a sense of safety and comfort. She further adds that improved road along with speed breakers have controlled vehicle speed and she has noticed reduction in accidents on the road. Road improvement has been a boon for students and community in nearby villages.



Quality of Interventions:

Cement Concrete Polymer based White topping (6 inch thickness and M30 Concrete Grade) has been used on the road. The road technology has been developed by Ultratech Cement Company and construction is done by the company's certified contractor with 15 years warranty. The features includes integrated groove cutting with no expansion joints throughout the road. The camber (slope) is set mechanically. Hume pipe culverts were placed for crossroad drainage of storm water. Paving has been done at night to control concrete temperature. Project was completed in 45 days. The major achievement in the process has been retention of all the existing trees.

Way Forward

- Installation of cameras can be done for monitoring.
- Speed Breaker width can be increased (making it less bumpy) for ease in riding vehicle and to avoid slipping in monsoon.

Impact Study Report

Apprenticeship project- Skill training to youth as apprentices



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Acknowledgement

We are grateful to Atul Foundation for entrusting us with Impact study on Apprenticeship Project (year 2022-23). We would especially like to thank team member of Atul Ltd & Atul Foundation for their continued support throughout the study and other organizations for giving their insightful inputs on the project.

We are grateful to all the trainee respondents and parents for providing their time and input during field level interactions.

Tapan Patel Tanvi K Patel Centre for Integrated Development, Ahmedabad January 2024

Abbreviations

AOCP	Attendant Operator in Chemical Plant
B.E.	Bachelor of Engineering
CAPI	Computerized Assisted Personal Interview
СОРА	Computer Operator
CSR	Corporate Social Responsibility
E.C.E	Instrumentation and Control
FGD	Focus Group Discussion
HR	Human Resource
IM	Instrument Mechanic
ITI	Industrial Training Institute
KII	Key Informant Interviews
LACP	Laboratory Assistant in Chemical Plant
M.B.A.	Master of Business Administration
M.Sc.	Master of Science
PPE	Personal Protective Equipment
RFM	Refrigerator and Air Conditioning Technician
SOP	Standard Operating Procedure

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Executive summary

Background

India offers a great scope in capitalizing on the advantage of a young workforce through developing a skilled human resource base. Many industries are now part of the skill ecosystem and are putting their best foot forward in the "Skill India" movement. While the corporate sector had always recognized the need for skill development and invested in skilled human resource for their own operations, the introduction of Section 135 of Companies Act, 2013 gave an impetus to their efforts through Corporate Social Responsibility. Further, Apprentice Act 1961 in India and its amendments mandate Industrial Establishments to engage apprentice to utilize fully the facilities available in industries for imparting practical training and thus developing skilled human resource for industries.

Atul Ltd., under its Corporate Social Responsibility (CSR) has been implementing a project namely Skills training to youth as apprentices project since year 2020. The main purpose of the project is to assist youth gain trade specific knowledge, skills, and behavior for enhancing their occupational competency and enhance their livelihood. A total of 740 trainees have been covered under the project from 2020 to 2023 in 18 technical trades with training duration of one year. The trainees have been given on the job training at Atul Ltd. along with a stipend as per Government rules and guidance on job placement after training. In 2022-23, 250 trainees from various villages near Atul were part of this project.

About the Study

Objectives:

Impact assessment study is aimed to evaluating outcomes and impacts of the project interventions. This includes studying the impact on employment status of trainees trained by Atul Ltd for the year 2022-23 and effectiveness of the project in terms of design, delivery, and impact.

Approach and methodology:

The study adopts a mixed method approach involving qualitative as well as quantitative data. About 105

samples were taken from Apprenticeship project (76 trainees, 10 parents, 12 trainers, 3 from project team and 4 from Employer.

Computer Assisted Personal Interview (CAPI) is used for data collection for individual surveys, using Kobo Collect App for individual surveys through structured questionnaire. Qualitative survey involves Key



Informant Interviews (KII) and Focus Group Discussion (FGD) through semi-structured questionnaire for employers and trainers. Sampling is mainly done through stratified random sampling. Some trainees

are covered through purposive sampling considering their availability near the study region. Trainees are proportionately covered from different trades.

Key findings of apprenticeship project

Objective and coverage

Apprenticeship project aims at creating a skilled work force in various technical trades and improved livelihoods of youth specifically in rural and peri-urban areas. The project is structured as a one year on the job training project. A total of 250 trainees have been covered in the year 2022-23 in 18 technical trades.

Project Value Chain and Process

Pre training phase

- The first step consists of identifying skill based human resources demand in industries in the region, followed by design of trade wise curriculum by head of department and trainer/supervisors. In depth needs assessment through scoping and interaction with other industries is however not done.
- Pre training also considers shortlisting of candidates based on trade specific qualification and personal interviews. Trainers and Human Resource department play major roles in shortlisting of candidates. Currently, there is no structured mechanism for advertisements for trainee recruitment and most of them have joined through recommendation from friends, family or colleges. A



pre-training counselling and formal contract is provided to trainees for apprenticeship enrolment.

• Trainers/supervisors are employees of Atul Ltd working in various technical trades and having a minimum of 4-5 years' experience in specific trade.

Training phase

- Training mode: Training is undertaken by trainers and supervisors in two phases. An initial three month training course which focuses on basic company instructions, Standard Operating Procedures (SOPs), and safety protocols followed by nine months training involving actual trade related technical skills. Trainees also participate in mock drills conducted by the company on a regular basis. These trainings are mainly hands-on with minimum theory part, generally on-job practical training during 8 hours of shift on weekdays and 6 days a week. Printed reference books are not included as part of the training module. Trainees can refer to reference books in the library.
- **Soft skill training:** There are no structured soft skill training undertaken currently. However, many trainers instruct trainees on basic communication, behavior and interview skills and trainees also learn from observation of co-trainees and trainers.

- Assessment and certification: On job assessment is undertaken by trainers during the training period 3-4 times. Upon successful completion of training, a certificate is provided to candidates after technical interview taken by the company.
- Stipend: Stipend is given to all trainees as per Government rules based on various trades.

Post training

- Job placement support: The project does not have any provision on campus placement or direct linkages for job placement, which is one of the major disabling factors for project success. However, industry prospects and a list of probable employers are provided to the trainee. Major job prospects are in surrounding GIDC (Gujarat Industrial Development Corporation) area such as Vapi, Ankleshwar and Jhagadiya, mainly in chemical and engineering companies. Atul company provides job priority to the candidates who have successfully completed apprenticeship training in the company. Trainers also provide recommendations of good candidates in other industries. However, apprenticeship does not guarantee job placement in Atul or any company, which needs to be clarified to the candidates before they enroll for apprentice project.
- Monitoring of trainees: There is no mechanism for concurrent monitoring of the trainees for longer run and hence there is a lack of long term record on the status of employment of trainees.

Motivation and application channel for trainees

 The study reveals that the major reason for enrollment in the apprenticeship project is better job security / job placement as stated by 85.5% of trainees. 76.3% of trainees joined to develop work skills, and 64.5% joined for career progression. More than 50% of trainees stated that getting paid during learning was also one of the motivational factors. While nearly 50% stated that they joined to obtain a certificate of apprenticeship which is valuable for their career.





from a range of people and institutions for the decision to enroll in Apprenticeship project. The majority (76.3%) stated that the source of information and advice was from friends or family, while 22.4% were informed by their college. Other sources of information have been from parents who are employed at Atul Ltd., newspaper and social media and employers in various industries near Atul.

Employment Status of Trainees

Employment status at a glance- % Trainees				
	Status	Based on primary	Based on secondary data	່າດ
		data	(collected by Atul Foundation)	000

		1	1
		(Sample Study)	
		N=76	N=250
Apprenticeship	Drop Out/Dismissed		2.8
not complete	Abscond		2.8
not complete	Resigned		0.4
Apprenticeship	Employed at Atul Ltd.	13.2	7.2
complete	Contract workmen associated		
complete	with Atul Ltd	18.4	10.4
	Employed in Other Companies	24.9	31.2
	Self Employed/Business	2.6	1.6
	Unemployed	26.4	40.4
	Further Studying	14.5	1.6
	Not Reachable		1.6

Based on secondary data provided by Atul Foundation (250 trainees) :

- Based on the data of all 250 candidates enrolled under Apprenticeship project, a total of 6% have not completed training. 2.8% have been dismissed by company during training period due to lack of appropriate behavior and lack of adherence to company rules. 2.8% have left their training without informing the company and 0.4% have resigned from training by formal process due to job prospects.
- If we look at employment status, merely 7.2% are placed in Atul Ltd. 10.4% respondents are contract workmen associated with Atul Ltd. Currently. 31.2% are placed in other companies. 1.6% are self-employed doing small scale business like household wiring, construction contracting.
- As many as 40.4% of trainees are currently unemployed.
- 1.6% have taken up further study.
- 1.6% of trainees are currently not reachable.

Based on primary Data/ sample study of 76 trainees:

• Employment status: Prior apprenticeship, to only 11.8% of respondents were employed. Post training, currently 59.1% of trainees are either employed either at Atul Ltd., work at contract workmen in Atul Ltd., employed in other companies or are selfemployed. Another 14.5% of trainees are studying



further and 4% have left their jobs for various reasons like better job prospects and salary, while 22.4% are still not employed. 14.5% respondents have currently taken up further study.

• Place of employment: As per sample survey 13.2% are employed at Atul Ltd, 18.4% are contract workmen with Atul Ltd., while 24.9% are employed in other companies/industries located in Vapi and

Daman, while few in Mumbai and Surat. Trainees have been placed in industries like Valvel Industries, Vapi; Sachin Solar, Mumbai, Oxford Pharma, Pardi, Valsad, Novex Polyfilms, Daman.

- Trade wise employment status: If we look at the trade wise employment status, analysis indicate high placement in trades like ECE (Instrumentation and control engineering), Environment, Instrument, RFM (Refrigeration and Airconditioning Technician), Wireman, Research and Development-Engineering, IMCP (Instrument Mechanic Chemical Plant) and electrician with 100% placement. There is good placement for AOCP (Attendant Operator in Chemical Plant) and IM (Instrument Mechanic) with more than 80% employed, while there is moderate placement with 50-70% placement in LACP (Laboratory Assistant in Chemical Plant), Electrical Engineering, Civil and Mechanical Engineering. Trades like Welder, COPA (Computer Operator) and Chemical Engineering has comparatively low placement.
- **Placement linkages:** While there is no formal system for job placement, 39.4% of trainees indicated that they received guidance/reference for job placement.
- Income range: If we look at trade wise salary offering of all those currently employed with Atul Ltd. as well as other companies, the average salary of those in trades like electrician, instrument mechanic, wireman, fitter and COPA ranges from Rs. 11,000/-to 13000/-month. Salary of IMCP, welder and AOCP range from Rs. 13,000/-to 14,500/-month. Those in trades like research and development in engineering, electrical engineering and RFM have salary range of Rs, 18,500/-to 20,000/-month. LACP have a better salary at Atul Ltd compared to other companies with average salary of Rs. 22,500/-month. Those in the engineering trades have the highest salary ranging from Rs. 20,000/- to 32,000/-month, maximum in civil engineering trade.
- Impact on rise in income: Trainees who had jobs prior to apprenticeship (9 trainees), 88.8% have indicated a rise in their salary after apprenticeship. The average rise in salary of fitters is Rs. 12,000/-year, while that of electrician, wireman and instrument mechanic is Rs. 48,000/-year. Those enrolled in AOCP trade have been able to get rise in salary by nearly Rs. 70,000/-year. LACP and Electrical engineer have informed considerable rise in salary of average Rs. 1,40,000/-year.
- Self-employment: 2.6% trainees (2 trainees) are self-employed, 1 is doing small civil contracting, while other is driving auto rickshaw (mainly due to lack of job placement).
- Reasons for unemployment: 22.4% are unemployed due to lack of job opportunities in the industries in vicinity. Many of them had applied to Atul Ltd. but could not find a job due to lack of vacancy for a suitable post. A few candidates also stated that candidates scoring higher grades in HSC were preferred in job and that was one of the reasons they were left out.
- Challenges in current Job: For those who are currently employed in various companies, major challenges that they face are distance from hometown indicated by more than 30% candidates from those employed.

Perception on Satisfaction Level of Apprenticeship project

- More than 90% of trainees reported to have been satisfied or highly satisfied with the project content and training delivery.
- However, 57.9% of trainees are not satisfied with job placement support and indicate that placement support needs to be improved for overall success of the project.

Perception on Project Impact

 The major impact and benefit of the project as perceived by the apprentice are improved skills as indicated by 71.1% trainees, and improved confidence as



stated by 63.2% trainees. More than 50% of trainees stated improved job prospects and career progression as benefits of the project. About 40-45% of trainees indicated that there is increased income, improved discipline and improved social life. Nearly 40.8% of trainees indicate that industry exposure is also one of the helpful aspects of the project.



 The major impact and benefit of the project as perceived by the parents are mainly increased family income and better job opportunities. 50% of parents have stated that getting paid while learning is also major impact as trainees have been able to contribute to family income.



Key findings from interaction with trainers & supervisors

- **Project impact on trainees:** One of the major reasons for enrollment in this project is increased job prospects and improved income. Earning money while learning is also an added advantage for many candidates who are the main earners in their family. Improved self-confidence, industry exposure and experience of learning working culture incorporates is an added advantage of this project.
- **Challenges:** Trainees coming for ITI and freshers from certain fields with no practical experience, need a refresher course on technical aspects of their trade prior to commencement for training due to lack of basic practical skills in trade. Another major challenge is that few trainees simply join the project for stipend and hence the significance of improvisation of skills for better employment is not seen amongst them.
- Suggestions for project improvisation: Trainers who have prior work experience with other companies have suggested certain good practices that can be adopted for this project including like half yearly evaluation and examination of trainees apart from observation and assessment, inclusion of basic theory along with practical training as refresher module, provision of technical and safety related reading materials to trainees, introducing concept of 5S in training as well as providing certain soft skill trainings.

Key findings from interaction with HR Team for employment of apprentice

- Key criteria for job placement: Educational qualification for specific trade is pre-requisite for shortlisting, followed by work experience. Other soft skills like behavior, discipline and attitude are also considered. English communication skills are considered an advantage for managerial jobs but not required for technician level jobs. None of the companies have any pre-requisite for successful completion of apprenticeship project. However, preference is given to such candidates as they have better practical understanding as compared to fresher. One of the companies indicates that they prefer employees from nearby regions now as there is a high attrition ratio of those whose hometown is far.
- Strength of apprentice trained in Atul Ltd: The major strength of apprentice trained at Atul ltd. are better trade specific technical knowledge, knowledge on basic occupational safety as well as good behavioral skills like positive attitude, problem solving and discipline.
- Suggestion for project improvisation: Companies who have placement of Apprentice trained from Atul have indicated that certain trainings can additionally be provided to apprentice which may include career planning and knowledge on working ethics and environment in Corporate and Multinationals companies.

Summary

• The study indicates high satisfaction among both employers and apprentices regarding this project, as it is mutually beneficial for both. The employer gets better skilled resources with a cost-effective approach, and the trainees acquire required skills for career growth, and financial support. However, job placement support is one of the major areas, which needs to be focused on for achieving overall success of the project.

Strengths

- The apprenticeship project by Atul adopts very transparent processes in terms of recruitment of apprentices and job placement post training.
- High quality training delivery, experience and skilled trainers and appropriate training content have been instrumental in success of the project.
- HR agencies of other companies have shown preference in recruiting trained apprentices from Atul Ltd and have also applauded good behavior and attitude of trainees along with sound skills and practical knowledge of the trade.

Opportunities

• The region has many industries in varied trades concentrated near Vapi, Ankleshwar and Jhagadiya, which has huge potential for placement linkages for apprentices. These opportunities may be tapped by strengthening the placement support.

Challenges

- Trainees dropping out may be a concern which needs to be looked upon to ensure greater impact on the project. There were incidences of even job drop out of some trainees from Huber Industries due to their distant hometown.
- The lack of structured mechanism for job placement is one of the major weaknesses of the project.
- Greater handholding and support for trainees post apprenticeship may be required for better placements outside of Atul.
- There is no structured documentation and concurrent monitoring of trainees, which is leading to lack of monitoring project impact and scope of improvisation.
- There is a lack of appropriate communication to trainees on project objective. Candidates are not aware that apprenticeship is meant for skill enhancement but does not guarantee immediate job placement.

Way forward

There is a significant demand for apprentices in the region due to the presence of various industries. Apprenticeship projects thus have a great scope of filling the gap by linking candidates to industries/companies. The current initiative is noteworthy and fulfilling its purpose, yet there is scope to enhance its relevance and impact. Some of the major recommendations in this direction are:

Pre-training phase:

- Scoping study and skill needs assessment: A detailed scoping of industries and skill requirement may be carried out to refine the apprentice project and cover more trades feasible within the works of Atul Ltd. A consultation can also be held with various companies in the region as well.
- **Project advertisement:** To invite candidates for the training, advertisements can be done in colleges, newspapers and social media platforms.
- **Clarity on project objective to trainees:** It is essential that candidates applying for apprenticeship project have awareness that the project is meant for skill upgradation and does not directly guarantee job placement.
- Inclusion of clause for training completion in contract: Trainees should be made aware of importance of investment company is making on them in the project and insist on selecting candidates who show inclination of signing contract with clause on completion of training.
- Only 16% of total 250 trainees are female this year. Project can look on improved gender ratio of trainees through increased female participation.

Training Phase:

- **Printed curriculum for enhanced learning:** Some of the basic contents like trade specific SOPs, trades specific occupational safety and theory can be given in printed form to trainees which can be referred to by them and enhance their learning.
- Enhancing employability through soft skills: As stated by trainers and HR department of other companies, trainees should be given a career planning guidance on importance and scope of working in corporates, industries, and multinational companies along with soft skills for placement in such organizations which may include knowledge on contract and company rules, interview skills, communication skills, basic English where required in certain trades, etc. Based on sample study,

about 41% trainees have indicated need for some soft skill trainings including basic computer operations, team building, interview skills, financial literacy (banking and investment), English communication and digital skills (use of mobile application and software). If needed external experts can also be brought in for soft skill training.



- Job placement support: Structured mechanisms should be designed for job placement to achieve targeted impact of the project. Campus interviews can be promoted by inviting various industries and companies of specific trades for better linkages of trainees with employers.
- **Counselling for job relocation:** The study shows clear evidence that there is high attrition in jobs due to migration. Hence counselling for trainees as well as parents can be done for job relocation.
- Providing entrepreneurship support: Many trainees have indicated their willingness to initiate their own business post training but lack finance and guidance. The project can also look into some of the linkage support like provision of credit and capital; technical and legal guidance for setting up an enterprise as well as support for marketing skills, market linkages etc.
- **Concurrent monitoring of project:** Continuous tracking and monitoring of trainees for 1-2 years can help in post placement linkages and determining the impact and challenges in project. Longitudinal impact assessment can also be considered every 3 years. Additionally an annual gathering of trainees can be held to understand their current placement, further needs, and also check on prospects of job placement for other trainees in these companies.
- **Post training feedback form:** Post completion of training, a detailed feedback form can be taken from trainees on various aspects like overall project design, content, training delivery and satisfaction level etc. This can help in improvisation in overall project design and delivery.

Project indicators at a glance

(Based on Primary Data/ Sample Study of 76 trainees)- % trainees.

Parameters		Rai	nking (% Re	espondents)		
A. Details of training						
Motivation factor for	Develop work skills			76.3%		
enrolment	Progress in career		6	4.5%		
	Paid while learning		56.6%			
	Beter job security				85.5%	
	Certification		50%			
Safety training	Yes					100%
Mock drill	Yes			65.7%		
Soft skill training	From trainer	14.7%				
	Through observation	39	9.5%			
Source of information	Friends/Family				76.3	
about apprenticeship	College	22.4%				
project at Atul Ltd	Social media	5.3%				
B. Employment						
Before project	Employed	11.8%				
After project	Employed at Atul	13.2%				
enrolment	Contract Workmen at Atul	18.4%				
	Employed in Other	24.9%				
	Companies					
	Self Employed/ Business	2.6%				
	Left Job	4%				
	Further Study	14.5%				
	Unemployed	22.4%				
Placement support	Guidance/ Reference	39	9.4%			
Duration in which job	Immediate	34	4.9%			
received post training	2-4 months	23.3%				
(of those currently	5-6 months	23.3%				
empioyea in Job)	7-12 months	18.3%				
Current Job	Yes			7	8.6%	
satisfaction (those who	No	21.4%				
employed)						

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Param	neters	Ranking (% Re	espondents)
Challenges in current job	Distance from home	30.2%	
(of those placed in Job)	Lack of lodging-boarding	18.6%	
(Lower salary	7%	
	Temporary position	7%	
Reasons of	No opportunities in		68.9%
unemployment (of those	sector/no vacancy		00.370
unemployed)	Far from home town	3.4%	
	Low salary	27.7%	
Reasons for leaving Job	Low salary		100%
C. Project impact			
Overall impact of project	Improved skills		71.1%
	Better job prospects	50%	
	Career progression		54%
	Increased income	44.7%	
	Improved Confidence		52.3%
	Improved social life	40.8%	
	Industry Exposure	40.8%	
	Improved discipline	42.1%	
D. Perception of pr	oiect		
Content	Highly satisfied		52.6%
	Satisfied	40.8%	
	Needs improvement	6.6%	
Suggestion for content	Printed material	13.1%	
improvement	availability		
Delivery	, Highly satisfied	50%	
,	Satisfied	47.4%	
	Needs improvement	2.6%	
Suggestion for training	Better trainer	6.5%	
delivery improvement	Improved training mode	17.1%	
Job placement support	Highly satisfied	11.8%	
	Satisfied	30.3%	
	Needs improvement	5	57.9%
Suggestion for job	On campus placement	5	55.3%
placement support	Information on		69.7%
	employment Source		
	Six months job	4%	
	experience In Atul Ltd as		
	consultant or trainee		

Parameters		Ranking (% Respondents)	
E. Further skill b	uilding needs		
Type of skill	Technical skills	15.8%	
	Digital skills like software,	6.6%	
	mobile application etc		
	Basic computer operation	22.4%	
	English communication	9.2%	
	Financial literacy skills	13.2%	
	Interview skills	14.5%	
F. Future plans			
Further plans for	Change job/find new job	44.7%	
employment	Continue current job	38.2%	
	Self-employment	17.1%	

Background

About Atul Group

Atul Ltd. was founded in 1947 after Indian independence by Late Shri Kasturbhai Lalbhai. The Company is a manifestation of his dream to generate large-scale employment, create wealth in rural India and make the country self-sufficient in its requirements of chemicals. At present, Atul Ltd. is a chemical conglomerate specializing in the production of over 900 products. Atul is headquartered in Valsad district of Gujarat and spread over 1,300 acres of land.



Atul Foundation was created as part of Corporate Social Responsibility (CSR) to bring all activities related to serving society under one umbrella. The Foundation undertakes projects and activities, broadly under six projects like Education, Empowerment, Health, Relief, Infrastructure and Conservation.

Project brief- Apprenticeship project

Atul Foundation initiated Apprenticeship project in 2020 with aim of assisting youth to gain knowledge and skills for enhancing their occupational competency and livelihood. A total of 740 trainees have been covered under the project from 2020-23 in 18 technical trades. The trainees have been given practical on job training for one year at Atul Ltd. along with a stipend as per Government rules, and guidance on job placement post training. The year 2022-23 covered 250 trainees.



Figure 1 Project Location

About the study

Impact assessment study for Apprenticeship project (2022-23) is aimed at evaluating and attributing outcomes and impacts to the project interventions. Further the interventions are analyzed on parameters like relevance, efficiency, impact, effectiveness, and sustainability. The major objective of Impact Assessment Study is to derive impact on employment status of apprentices trained by Atul Ltd and effectiveness on the project and suggest scope of project improvisation.

Study approach & methodology

- The study adopts a mixed method approach involving qualitative as well as quantitative data.
- About 105 persons were interviewed for Apprenticeship project
- Computer Assisted Personal Interview (CAPI) is used for data collection, using Kobo Collect app for personal interviews through structured questionnaire.
- Qualitative surveys involve Key Informant Interviews (KII) and Focus Group Discussion (FGD) with different stakeholders.

Sampling

- Trainees: 30% of the total trainees were selected for the study sample, based on stratified random sampling considering proportionate to the number of trainees in different trade. Sample also included trainees from both genders. A total of 76 trainees were selected from a universe of 250, from the year 2022-23. 50% of respondents have been covered through stratified random sampling, while another 50% are sampled through purposive and convenient sampling based on their physical availability in and around Atul. Personal (face to face) interviews were done with 68% of trainees, while the remaining 32% were engaged through telephonic conversation.
- **Trainers:** 11% of total trainers/supervisors (12 trainers from universe of 109) covering various trades have been interviewed for sample study.
- Parents: Study covers 10 parents of trainees which were selected randomly across different trades.
- **Project team:** 3 project team members of Atul Ltd, including Senior Manager, and HR team members have been covered.
- **HR department of other companies:** 4 HR team members from Atul and other companies have been consulted.

Study sample and tools

Table 1 Study Sample and Tools

Study sample/Stakeholder	Tool	
76 (30% of total sample)	Structured CAPI based questionnaire	Personal Interview
12 trainers/supervisors	Semi Structured Questionnaire	Key Informant Interview (KII)
10 Parents	Structured CAPI based questionnaire	Personal Interview
4 Project/Management Team	Semi Structured Questionnaire	Key Informant Interview (KII)

Key findings

Apprenticeship project aims at creating a skilled work force in various technical trades and improved livelihoods for youth specifically in rural and peri-urban areas. The project is a structured one year on job training project.

Project coverage (2022-23)

- A total of 250 trainees have been covered in the year 2022-23 in 18 technical trades.
- 81.6% trainees are male and 18.4% are females.
- Of total, 250 trainees, 6% (15 nos.) are dropouts.
- 109 trainers/supervisors have participated in this project.
- The trainees are from nearby villages to Atul village and from villages/town is Valsad and Navsari districts.

List of trainees covered under each trade is as per annexure 1

Project value chain & processes

Apprenticeship project may be divided into 3 stages- pretraining, during training and post-training stages for understanding the processes and impact.

Pre-Training phase:

- Needs assessment: First step consists of identifying skill needs within Atul and nearby industries. The head of the department and trainers are involved in the process and have a basic discussion on industry needs and gaps as well as mapping of local youth economy in nearby regions. In depth scoping and interaction with other industries is, however, not done.
- **Curriculum design:** The next step involves design of trade wise curriculum by head of department and trainer/supervisors. Most of the training courses are designed as hands on practical training.
- **Invitation for enrolment:** Invitation for enrolment is not done in formal way or advertisement in public domain. This year advertisement is given in newspaper and social media.
- Trainee identification: Pre training also considers shortlisting of candidates based on trade specific qualification and personal interviews, technical interview with experts, conducting background check of shortlisted candidates and final enrollment. Trainers and HR (Human Resource) department play major roles in shortlisting of candidates.
- Identification of trainers: Trainers are by default employees of Atul working in various technical trades and having at least 4-5 years' experience in the trade.





18 Technical Trades

"Building Capabilities, Empowering Lives"

Training Phase

- Delivering training: Training is undertaken by trainers and supervisors in two phases. An initial three month training course which focuses on basic company instructions, Standard Operating Procedures (SOPs), and safety protocols followed by nine months training involving actual trade related technical skills. Safety training involves use of protective tools (gloves, mask, boots Personal Protective Equipment -PPE kit etc), permit system, knowledge and safety on hazardous chemicals, 5S principles of safety, toolbox safety , zero accident and various SOPs. Trainees also participate in mock drills conducted by the company on a regular basis. These trainings are mainly hands-on with minimum theory part, generally on-job practical during 8 hours of shift on weekdays (6 days a week). Printed reference books are not included as part of the training module. Trainees can refer to reference books in the library.
- Assessment: On the job assessment is undertaken by trainers during training period for 3-4 times
- **Certification:** Post completion of training, certificate is provided to candidates. Examination/tests are however not yet conducted.
- Stipend: Stipend is given to trainees as per Government rules based on various trades.



 Post Training Phase mainly comprises of placement linkages. The project does not have structured placement system yet. Currently the project does not have any on-campus placement or linkage support for trainees. However, industry prospects and a list of probable employers are provided to the trainee. Trainers provide guidance on placement and sometimes give references.



Figure 2 Apprenticeship Project Value Chain

Key characteristics of apprentice - study sample

Figure 3 Profile of trainee respondents

Respondents profile- % HHs (n=75)			
Male	84.5	Female	15.5

Parameter	Category	Trainees profile - % (n= 75)
Age	20-25	77.6
group	26-30	21.1
	31-35	1.3
Educational qualification	SSC Complete	4.0
	HSC Complete	5.3
	ITI	44.6
	Diploma Engineering	4.0
	B.E. Engineering	23.7
	B.Com.	1.3
	B.B.A.	1.3
	B.Sc.	4.0
	B.C.A.	1.3
	M.Sc.	7.9
	M.B.A	2.6

- 76 trainees have been consulted for this study from the year 2022-23.
- **Gender:** 84.5 % are male and 15.5% are female.
- Age Group: Majority of trainees (77.6%) are from age group of 20-25 years. About 21.1% are from age groups of 26-30 years, while only 1.3% are from age group of 31-35 years.
- Educational qualifications of the trainers: About 10.5% trainees have completed post-graduation, mainly Master of Science (M.Sc.) and Master of Business Administration (M.B.A.), while 23.7% of trainees are qualified in Bachelor of Engineering, and 44.6% have completed Industrial Training Institute Certification- ITI. Those who have completed ITI are Welder, Attendant Operator in Chemical Plant, Fitter, Refrigerator and Fridge Mechanic, Electrician, Instrument Mechanic. B.E. Engineering is mainly in trades like mechanical and electrical.
- Hometown Location: 76.6% trainees are from Valsad district, 22.9% from Navsari district while about 0.5% trainees are from Surat District.
- Earning Members: 18.5% of trainees stated that they are the main earning members of their family.

Trades, training duration and contract of trainees (based on primary data/sample study)

• **Trades:** Trainees have enrolled in 18 different types of trades with more than 15% in COPA (Computer operator) and more than 17% in Instrument mechanic (IM). Refer Figure 4)



Figure 4 Trades Enrollment of Trainees

- **Training Duration:** Training duration for all the courses is 12 months for 6 days are week and an average of 8-9 hours per day.
- Stipend: A stipend has been provided to all trainees as per Government rules. Stipend for trades like Fitter, Electrician, Instrument Mechanic, AOCP is Rs. 8,050/-month, while that for COPA is Rs. 8,050/-9,000/-month and for Engineering, LACP and Environmental Trades is Rs. 9000/month.

• Motivation: The major reasons for enrollment in the apprenticeship project is better job security /job placement as stated by 85.5% trainees, developing work skills as stated by 76.3% trainees, career progression stated by 64.5% trainees. More than 50% of trainees stated that getting paid during learning was also another motivational factor. While nearly 50% stated that certification was



Figure 5 Motivation for Enrolment in Apprenticeship Project

also a major reason for enrollment, which they think would increase their job placement prospectives.

Source of information and advice: Apprentices sought information or advice from a range of people and institutions for the decision to enroll in Apprenticeship. The majority (76.3%) stated that the source of information and advice has been from friends or family and 22.4% were informed from their college. Other sources of information have been from parents who are employed at Atul Ltd., Newspaper Figure 6 Source of Information for Apprenticeship Enrolment and social media and employers in various industries near Atul.



Impact on employment

Employment status:

Table 2 Trainee employment status at a glance

Employment status at a glance- % Trainees			
	Status	Based on primary data	Based on secondary data
		(Sample Study)	(collected by Atul Foundation)
		N=76	N=250
Apprenticeship	Drop Out/Dismissed		2.8
not complete	Abscond		2.8
not complete	Resigned		0.4
Apprenticeship	Employed at Atul Ltd.	13.2	7.2
complete	Contract Workmen associated		
	with Atul Ltd.	18.4	10.4
	Employed in other Companies	24.9	31.2
	Self Employed/Business	2.6	1.6
	Unemployed	26.4	40.4
	Further Studying	14.5	1.6
	Not Reachable		1.6

Based on secondary data provided by Atul Foundation of 250 trainees:

- Based on the data of all 250 candidates enrolled under Apprenticeship project, a total of 6% have not completed training. 2.8% have been dismissed by company during training period due to lack of appropriate behavior and lack of adherence to company rules. 2.8% have left their training without informing the company and 0.4% have resigned from training by formal process due to job prospects.
- If we look at employment status, merely 7.2% are placed in Atul Ltd. 10.4% respondents are contract workmen associated with Atul Ltd. Currently. 31.2% are placed in other companies. 1.6% are self-employed doing small scale business like household wiring, construction contracting.
- As many as 40.4% of trainees are currently unemployed.
- 1.6% have taken up further study.
- 1.6% of trainees are currently not reachable.

Based on primary data/sample study of 76 trainees:

• Employment status: Prior to apprenticeship, only 11.8% of respondents were employed. Post training, currently 59.2% of trainees (45 nos.) are employed either at Atul Ltd., work as contract workmen associated with Atul Ltd.., employed in other





companies or self-employed. Another 14.5% of trainees are studying further and 4% have left their jobs for various reasons like better job prospects.

- **Self-employment:** 2.6% trainees (2 trainees) are self-employed, 1 is doing small civil contracting, while other is driving auto rickshaw (mainly due to lack of job placement).
- Unemployed: 22.4% of trainees (18 nos.) stated that they are currently not employed mainly as they are unable to find appropriate jobs. Of those not employed, 43.8% are from various engineering trades, 25% enrolled for COPA (Computer Operator) training, 12.5% from LACP (Laboratory Assistant in Chemical Plant) training, 12.5% enrolled in welding training and 6.3% enrolled in AOCP (Attendant Operator in Chemical Plant). Those not employed have applied to Atul Ltd. for jobs post apprenticeship but could not find jobs there mainly due to lack of vacancy for a suitable post. A few candidates also stated that low result in graduation or HSC marksheet was also one reason for preference of other candidates over them.
- Employment linkages: 39.4% of trainees indicated that they received guidance/reference for job placement, most of them are currently employed in Atul Ltd.

Trade wise employment (based on primary data/sample study)

 If we look at the trade wise employment status, analysis indicates high placement in trades like ECE, Environment, Instrument, RFM, Wireman, Research and Development- Engineering, IMCP and electrician with 100% placement. There is good placement for AOCP and IM with more than 80% employed, while there is moderate placement with 50-70% placement in LACP, Electrical Engineering, Civil and Mechanical Engineering, Trades like Welder, COPA and Chemical Engineering has comparatively low placement.



Employer and Employment details

based on Primary Data/Sample Study of 76 candidates)

Employer: 56.5% of trainees (43 nos. who are currently doing job) have been placed in various Industries. Of them, more than 65% are placed in Atul Ltd. or work as contract workmen with Atul Ltd., while others are mainly employed in various industries location in Vapi and Daman, while few in Mumbai and Surat. Some of the other Industries where trainees are placed are Valvel Industries. Vapi: Sachin Solar, Mumbai, Oxford Pharma, Pardi, Valsad, Figure 9 Employer Details Novex Polyfilms, Daman.



Placement time: About 34.9% of trainees indicate that they got immediate placement, while 23.3%

got placement between 2-4 months and remaining got placement within 1 year.

- Working hours: The majority of the employed work in normal shift timings of 9 am. – 6 p.m. with average 8-9 working hours.
- Welfare benefits: Those working for Atul Ltd. have benefits like medical insurance coverage, Provident Fund (PF) and annual holiday entitlements. Similar benefits are available to those placed in other companies.



Figure 10 Duration of Job Placement Post Training

Apart from that 36% of trainees placed in other companies also have Life Insurance Coverage benefits. Atul Ltd provides additional benefits like 2 uniform sets and PPE Kit.

Perception of satisfaction in current employment: Those who are employed currently in Atul Ltd. and other companies (43 nos.), 78.6% have stated that they are satisfied with their job. Overall, 21.4% of trainees currently employed in jobs indicated nonsatisfaction at jobs. Those not satisfied are mainly from trades like IM, IMCP, fitter and wireman. Of those placed in Atul Ltd., 79.3% indicated satisfaction with their job.



Figure 11 Satisfaction Level in Current Employment

 Major challenges in job: Distance of job from hometown is one of the major challenges stated by 30.2% of those employed. Lack of appropriate lodging and boarding, lower salary and temporary position are other challenges stated by few. Discussion with one of the Employer HR team also indicated distance from hometown is





major reason for employee attrition in the company even after good monetary offers and other benefits.

 Future employment plans: 38.2% of trainees stated to continue with current job, while 44.7% indicate that they plan to change job for better prospects. 17.1% of trainees indicated their dreams to start their own small business in future. Some of the dreams stated by these trainees are working abroad, starting new venture like fabrication unit, or civil contracting etc.



Figure 13 Future Employment Plans of Trainees

Impact on income (based on primary data/sample study)

- Trade wise salary: If we look at trade wise salary offering of all those currently employed with Atul Ltd. as well as other companies, the average salary of those with trades like electrician, instrument mechanic, wireman, fitter and COPA range from Rs. 11,000/-to 13,000/-month. Salary of IMCP, welder and AOCP range from Rs. 13,000/-to 14,500/-month. Those in trades like research and development in engineering, electrical engineering and RFM have salary range of Rs, 18,500/-to 20,000/-month. LACP have a better salary in Atul Ltd compared to other companies with average salary of Rs. 22,500/-month. Those in the engineering trades have highest salary ranging from Rs. 20,000/-to 32,000/-month, maximum in civil engineering trade.
- **Rise in salary:** Those who had jobs prior to apprenticeship (9 trainees), 88.8% have indicated a rise in their salary after apprenticeship. The average rise in salary of fitters is Rs. 12,000/-year, while that of electrician and wireman, and instrument mechanic is Rs. 48,000/-year. Those enrolled in AOCP trade have been able to get rise in salary by nearly Rs. 70,000/-year. LACP and Electrical Engineer have informed considerable rise in salary of average Rs. 1,40,000/-.

Type of trades for	Designation	Companies where	Average salary per
apprenticeship		placed	month
Electrician	Operator	GEB-Vapi, Atul Ltd.	Rs. 11000- Rs. 12000
Instument Mechanic	Operator/Technician	Atul Ltd.	Rs. 10000- Rs. 12500
Wireman	Wireman	Aul Ltd.	Rs. 12700
Fitter	Operator	Maintenance Dept.	Rs. 13000
СОРА	Computer Operator	Atul Ltd, VIMS	Rs. 13000
IMCP	Operator/Technician	Atul Ltd.	Rs. 13000-Rs. 14000
Welder	Welder	Construction	Rs. 14000
AOCP	Operator	Colour Division, Atul	Rs. 14500
LACP	Executive	Atul Ltd	Rs. 22500
	Lab Analytics	Oxford Pharma	Rs. 14500
Research and	Executive- Quality	Novex Poly, Daman	Rs. 16500
Electrical Engineering	Project Manager	Sachin Solar	Rs. 18000
RFM	Utility Operator	Atul Ltd	Rs. 18500
Environmental	Safety Engineer	Engineering Company	Rs. 20000
Mechanical	Mechanical Engineer	Jay Chemicals Vapi	Rs. 25000
Civil Engineering	Senior Executive	Civil Department, Atul	Rs. 32000

Table 3 Salary of trainees working in various trades

Income from small business: 2 respondents are currently doing small business. Average monthly income from civil contracting is Rs. 15,000/-. Another trainee who runs auto rickshaw due to lack of employment, earns about Rs. 10,000/-month.



Earning While Learning Impact of apprenticeship project

Meet Bhandari, a Civil Engineer from Valsad enrolled in apprenticeship project with Atul Ltd. in 2022-23 just after completion of his Engineering. His family comprises of 4 members. His father is stamp vendor and it was difficult to meet ends due to limited income. Meet received a stipend of Rs. 9,000/- per month and was happy to contribute to family income in difficult times. Post training, he was successful in getting contractual job at Atul Ltd. as Senior Executive in Civil Engineering Department. Post contractual period, he is now a permanent employee of Atul Ltd. He earn Rs. 32,000/-month and avails other benefits like medical insurance, provident fund, and annual holidays. He is now sole earning member of his

Due to stable and reasonable income, his family has better living standards and better social status. Meet states "Apprenticeship is a great project which offers youth an opportunity to earn while learning and improve job prospects."

Satisfaction level of apprenticeship project & further needs

(Based on primary data/sample study of 76 candidates)

Project design, delivery & placement support:

• **Content:** Nearly 52.6% of trainees have indicated high satisfaction level in terms of training content. However, the majority of trainees have stated need for printed contents which can be referred during and after the training, mainly



in terms of trade wise standard operating procedures and industry safety protocols.

- Training delivery: 97.4% of trainees Figure 14 Perception on Project Design, Delivery & Support are satisfied with the training delivery. Selection of trainers and their delivery is one of the major enabling factors of the project.
- Job placement support: 57.9% of trainees have indicated that job placement support needs to be improved. Discussion with trainees indicates that systems like 6 months job on probation in Atul Ltd post training, campus placement through invitation other to companies and employment source information can help in better job placements.
- Soft skill training: There is no structured content or training currently related to soft skills. However, many trainers have indicated the importance of certain soft skills during training mainly including appropriate dressing, communication tips and team building. About 14.5% of trainees indicated that they learnt these basic soft skill training from their Figure 16 Soft Skill Training Needs

trainers post technical sessions.



Figure 15 Suggestions on Improved Job Placement



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Moreover, many learnt some of the behavioral skills by observation of trainer and other colleagues, which mainly involve interpersonal skills and grooming About 39.5% trainees indicated need of various soft skill along with technical training like basic computer operations (MS Word, Excel & Power point), Interpersonal Skills like team work, Interview Skills and English Communication, Digital skills like use of basic mobile applications and software as well as financial literacy like banking and investments.

- Occupational safety training: It is mandatory for all the trainees undergo industrial safety training, some general safety, and some trade specific safety. 78.9% trainees were able to recollect various safety related trainings, which mainly include use of PPE Kit (Personal Protective Equipment), chemical handling, fire safety and electrical equipment handling. About 65.7% of trainees indicated that they have participated in mock drills mainly involving evacuation during fires.
- Project impact: Major impact as perceived by the apprentices are improved skills as indicated by 71.1% trainees, and improved confidence as stated by 63.2% trainees. More than 50% of trainees stated improved job prospects and career progression. About 40-45% of indicated trainees increased income, improved discipline, and improved social life. Nearly 40.8%



Figure 17 Perception of Trainees on Impact of Apprenticeship

of trainees indicate that industry exposure was helpful.



Improved confidence and competence Impact of apprenticeship project

Nilima Patel is a resident of Tithal town in Valsad district. She has completed M.Sc. in Organic Chemistry. Post completion, she was not able to find good job. To gain practical knowledge and work experience for increased prospects for employment, she decided to enroll in Apprenticeship project. She worked as LACP (Laboratory Assistant in Chemical Plant) at Atul in 2022-23 and received a stipend of Rs. 9,000/- per month. She is currently employed in Oxford Pharma near Tithal as Laboratory Analytic in Research Laboratory- Instruments. She received monthly salary of Rs. 15,000/- and other benefits like Life and Medical Insurance.

She is happy to get employment near her hometown. She acknowledges that apprenticeship project was pivotal to enhance her skills, confidence, and competence to work with corporate company and that led to better.

- 12 trainers from Atul Ltd. have been consulted for this study. Trainers are from various trades like instrumentation, mechanical engineering, store and purchase department, chemical plant operation, electrical engineering. Maintenance department and quality control.
- Educational qualifications of the trainers are mainly Bachelor of Engineering (B.E.), Diploma Engineering, Bachelor of Technology (B.Tech.) and Master of Science (M.Sc.) for technical fields and Master of Business Administration (MBA)- Finance for training related to record keeping and finance.
- 68% of surveyed trainers have been working with Atul Ltd. for more than 10 years, while 16% have been working for the past 5-10 years and 16% have been working with Atul Ltd for less than 5 years.

Key findings from interaction with trainers & supervisors

- Role of trainers/supervisors include preparation of training content and guide and mentor trainees for stipulated period.
- Shortlisting of candidates for apprenticeship: First review is done by HR department based on trade wise needs and shortlisting is done based on educational qualification and interest. The second review is done by trainers through interviews for attitude and competence before the candidates are finalized.
- Training: For each trade, a total of 12 months training is given including off job and on job training. The initial 3 months training mainly involve counselling, safety training and general standard operating procedures. There after 9 months training involve actual trade specific on-job learning. This duration is sufficient for the project. 3-4 times on job assessment is done by trainer and certificate is given after completion of training. Sometimes refresher training is also provided. While no formal designed modules are taken up for improvement of soft skills, most trainers guide trainees on basic communication etiquettes and grooming/dressing and discipline for better job prospects. Certain soft skill training must be kept as part of curriculum which can include, interview skills, basic computer skill (for specific trades), communication and grooming, Basic English (for specific trades) and interpersonal skills.
- Job placement: No structured mechanism is yet designed for job placement for trainees. However, trainers provide informal support and recommendations for eligible candidates for placement in Atul and various other companies. Major job prospects are in surrounding Gujarat Industrial Development Corporation (GIDC) area such as Vapi, Ankleshwar and Zagadiya in chemical and engineering companies. Atul company provides job priority to the candidates who have successfully completed apprenticeship training in the company.
- **Project impact on trainees:** One of the major reasons for enrollment in this project is increased job prospects and improved income. Earning money while learning is also an added advantage for many candidates who are main earners in their family. Improved self-confidence, industry exposure and experience of learning working culture in corporates is an added advantage of this project.
- **Challenges:** Trainees coming for ITI and freshers from certain fields with no practical experience, need a refresher course on technical aspects of their trade prior to commencement for training due to lack of basic practical skills in trade. Another major challenge is that few trainees simply join the project for stipend and hence the significance of improvisation of skills for better employment is not seen amongst them.

 Suggestions for project improvisation: Trainers who have prior work experience with other companies have suggested certain good practices that can be adopted for this project including like half yearly evaluation and examination of trainees apart from observation and assessment, inclusion of basic theory along with practical training as refresher module, provision of technical and safety related reading materials to trainees, introducing concept of 5S in training as well as providing certain soft skill trainings.

Key findings from interaction with HR Team for employment of apprentice

Interactions have been done with Human Resource (HR) department of 3 companies including Atul Ltd. Following are key findings:

- **Evaluation process:** Based on educational qualifications and experience, candidates are shortlisted. Interviews of shortlisted candidates are conducted mainly on technical aspects of each trade. No written tests are conducted.
- Key criteria for job placement: Educational qualification for specific trade is pre-requisite for shortlisting, followed by work experience. Other soft skills like appropriate behaviour, discipline and attitude are also considered. English communication skill is considered an advantage for managerial jobs but not required for technician level jobs. None of the companies have any pre-requisite for successful completion of apprenticeship project. However, preference is given to candidates who have gone through full apprenticeship, as they have better practical understanding as compared to freshers. One of the companies indicates that they prefer employees from nearby regions now as there is a high attrition ratio of those who come from distant places.
- Strength of apprentice trained in Atul Ltd: The major strengths of apprentice trained at Atul ltd. are better trade specific technical knowledge, knowledge on basic occupational safety as well as good behavioral skills like positive attitude, problem solving and discipline.
- **Contract type:** Normally placement is offered for 6 months on probation period and then permanent job offers are given to suitable candidates.
- Suggestion for project improvisation: Companies who have placement of apprentice trained from Atul have indicated that trainings on career planning, knowledge on working ethics, and environment in Corporate and Multinationals Companies may be included in apprentice project for better grooming of candidates.

Parents profile

- A total of 10 parents have been consulted for survey. 90% respondents are male and 10% are female.
- Surveyed parents are residents from Valsad and Navsari District.
- In 30% HHs, apprentice are main earning members, while in 70% HHs, parents are earning members from various occupations like small business (30% HHs), Government/Private Jobs (20% HHs) and agriculture (30% HHs)

Perception of parents for the project

- Reasons for enrollment in project: The major reasons for enrollment in the project as per parents' perception are getting paid while learning and developing work skills as stated by 90% of parents. 80% of parents stated that the project can ensure job security, while 70% of parents think that such training can help progress in career.
- Status of employment of apprentices: Prior to enrollment in the project, none of the apprentices had job placement. Currently children of 60% parents surveyed are currently employed, while 40% are still not unemployed. Approximately 40% (4 nos.) are employed by Atul Ltd, while 20% (2 nos.) are employed in companies located in Vapi.
 - Perception of project impact on
children: 90% of parents reported various Figure 19 Parents' perception on project impactbenefit of the project. One of the major benefits indicated by most parents are increased family
income after training (80%) and also support to family income during apprenticeship period as
project offers stipend (50%). 60% of parents also stated that the project has helped their
son/daughters in getting better job opportunity due to increased skills. While merely 10% of parents
stated that certification has helped their children in their career. While 10% of parents indicated that
the project did not have any major impact due to lack of security for job placement.
- Perception on challenges: Major challenges that parents perceive during the project is lower stipend stated by 70% parents. About 30% of parents also feel distance from hometown is also a hurdle, while few parents (10%) feel that there is high workload during training. Major challenges post training are



Figure 20 Parents' perception on challenges

mainly lack of linkages for jobs placement and lack of appropriate job opportunities.







Summary

This evaluation study indicates high levels of satisfaction with the apprenticeship project among both employers and apprentices. Moreover, employers and apprentices reported a range of financial and skills-related benefits as the result of being part of the project, demonstrating that the project delivers the qualifications and skills which employers and learners need. However, post placement support, including linkages for job placement and monitoring of trainees, is one of the major areas which need structured interventions for achieving desired project success. The following are the key enablers, barriers, opportunities, and strengths of the program.

olers	Well Desgined Progam	Trainee drop out
Enal	Competent Trainers and excellent training delivery	Lack of structured mechanism for job placement
	Well designed training content	Distance from home town
	Conducive infrastructure with basic facilities	leading to job attrition
	Focus on safety skills, soft skills and behavorial skills	Lack of continuous monitoring and evlauation of trainees
	Transparent project for selection apprentice	Barriers

Strengths

- The apprenticeship project adopts very transparent processes in terms of selection of Apprentice.
- High quality training delivery, experience and skilled trainers and appropriate training content have been instrumental in success of the project.
- HR agencies of companies recruiting trained apprentices from Atul Ltd. have applauded the skills and practical knowledge of trainees as well as good behavior and attitude which enhances preference during recruitment.

Opportunities

• The region has many industries in varied trades concentrated near Vapi, Ankleshwar and Jhagadiya, which has huge potential for placement linkages for apprentices.

Challenges

- 6% Trainee drop out is seen in year 2022-23 due to various reasons.
- There are incidences of job drop out of some trainees from Huber Industries due to distant hometown. There is a need to orient trainees on the importance of job continuity for long term career planning.

- Though directions and guidance are given for job placement, there is lack of structured mechanism of job placement and handholding for trainees in order to get job security after the completion of training. Dedicated and structured efforts are needed for 100% job placement post training.
- There is no structured documentation and concurrent monitoring of trainees, which is leading to lack of monitoring project impact and scope of improvisation.
- There is a lack of appropriate communication to trainees on project objective. Candidates are not aware that apprenticeship is meant for skill enhancement but does not guarantee immediate job placement.

Way forward

Discussions with various stakeholders indicate that there is huge demand for apprenticeships in this sector. However, trainees face significant challenges in job placement even after huge demand in local industries. On the other hand, companies indicate that they are unable to get appropriate skilled candidates. Atul's apprenticeship project thus has a huge scope in filling this gap through appropriate linkages. The current initiatives in this direction are noteworthy, However, there is scope to improve and improvise it for greater relevance and employability for trainees. Some of the major recommendations as shared by different stakeholders are:

Pre-Training phase:

- Scoping study and skill needs assessment: A detailed scoping of industries and skill requirement may be carried out to refine the apprentice project and cover more trades feasible within the works of Atul Ltd. A consultation can also be held with various companies in the region.
- **Project advertisement:** In order to invite candidates for the training, advertisements can be done in colleges, newspaper and social media.
- **Clarity on project objective to trainees:** It is essential that candidates applying for apprenticeship project have awareness that the project is meant for skill upgradation and does not directly guarantee job placement.
- Inclusion of clause for training completion in contract: Trainees should be made aware of importance of investment company is making on them in the project and insist on selecting candidates who show inclination of singing contract with clause on completion of training.
- **Gender consideration:** Only 16% of total 250 trainees are female this year. Project can look on improved gender ratio of trainees through increased female participation.

Training phase:

- **Printed curriculum for enhanced learning:** Some of the basic contents like trade specific SOPs etc can be given in printed form to trainer's reference and learning.
- Enhancing employability through soft skills: As stated by trainers and HR department of other companies, trainees should be given a career planning guidance on importance and scope of working in corporates, industries, and multinational companies along with soft skills for placement in such organizations which may include knowledge on contract and company rules, interview skills, communication skills, basic english where required in certain trades, etc. Based on sample study, about 41% trainees have indicated need for some soft skill trainings including basic computer operations, team building, interview skills, financial literacy (banking and investment), english communication and digital skills (use of mobile application and software). If needed external experts can also be brought in for soft skill training.

- Job placement support: Structured mechanisms may be designed for job placement to achieve targeted impact of the project. Campus interviews can be promoted by inviting various industries and companies of specific trades for better linkages of trainees with employers.
- **Counselling for job relocation:** The study shows clear evidence that there is high attrition in jobs due to migration and relocation away from hometown. Hence counselling for trainees as well as parents can be done for relocation for career progression.
- **Providing entrepreneurship support:** Many trainees have indicated their willingness to initiate their own business post training but lack finance and guidance. The project can also look into some of the linkage support like provision of credit and capital; technical and legal guidance for setting up an enterprise as well as support for marketing skills, market linkages etc.
- **Concurrent monitoring of project:** Continuous tracking and monitoring of trainees for 1-2 years can help in post placement linkages and determining the impact and challenges in project. Longitudinal impact assessment can also be considered every 3 years. Additionally an annual gathering of trainees can be held to understand their current placement, further needs and also check on prospects of job placement for other trainees in these companies.
- **Post training feedback form:** Post completion of training, a feedback form can be filled in by trainees on various aspects like overall project design, content, training delivery etc. This can help in improvisation in overall project design and delivery.

Annexures

Annexure 1 Details of trainees covered trade wise in Year 2022-23

	No. of
Type of Trades	Trainees
LACP-Laboratory Assistant in Chemical Plant	36
COPA- Computer Operator and Programming Assistant.	30
Mechanical Engg	25
Electrical Engineering/Electrical	12
AOCP- Attendant Operator in Chemical Plant	20
Fitter	21
Instrument Mechanic (IM)	26
Welder	13
Chemical Engineering	11
Civil Engineering	11
Wireman	8
RFM- Refrigerator and Fridge Mechanic	7
IMCP-Instrument Mechanic in Chemical Plant	10
Electrician	13
Instrument	3
Environmental	1
ECE-Instrumentation & Control Engineering	2

List of Key Informant Interviews (KII) with Trainers/Supervisors at Atul Ltd.

Name	Designation
Mr. Niraj Shah	Manager- Quality Control
Mr. Jay Gandhi	Joint Manager- Electrical Engineering
Mr. Priyaranjan Singh	Joint Manager (Instrument)
Mr. Dharmesh Dhimar	Deputy Manager- Electrical
Mr. Ankit Desai	Trainer- Instrumentation
Mr. Jiten Patel	Manager-Instrumentation
Mr. Shailesh Patel	Manager- Mechanical Engineering
Mr. Hardik Bhavsar	Manager- Mechanical Dept.
Ms. Shweta Patel	Deputy manager – store and purchase department
Mr. Parimal Shah	EHS Training Manager
Mr. Tarkesh patel	Manager- Plant Operation
Mr. Dixit Tandel	Manager – Maintenance department

List of Key Informant Interviews (KII) with HR Department

Name	Designation	Company
Mr. Haresh Bodar	Manager- HR	Atul Ltd.
Ms. Roma Intwala	Manager- HR	Atul Ltd
Mr. Mukesh Das	Manager HR	United Phosphorous Ltd.
Mr. Gaurang Raval	Sr. Manager- HR	Huber Group, Vapi

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