National Institute of Urban Affairs

SCBP
Sanitation Capacity Building Platform

THREE PILLARS OF CAPACITY BUILDING

Training Needs Assessment, Competency Mapping, and Delivery of Effective Training Programmes

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Three Pillars of Capacity Building- Training Needs Assessment,
Competency Mapping, and Delivery of Effective Training Programmes

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Preface

The Sanitation Capacity Building Platform (SCBP), established in 2016 at the National Institute of Urban Affairs (NIUA), has been working to advance urban sanitation practices in India. This document serves as a vital resource on three key aspects of capacity building: Training Needs Assessment (TNA), competency mapping of trainees, and the effective delivery of capacity-building training programmes. It will be maintained as a living document, targeting training institutes involved in capacity-building initiatives.

Supported by the Gates Foundation, SCBP was created to address the urgent need for local capacity in managing non-sewered sanitation systems, including Faecal Sludge and Septage Management (FSSM) and Integrated Used Water and Septage Management (IUWSM) by developing knowledge modules, imparting capacity building trainings, and providing technical and advisory support to state and city officials across India.

SCBP has been actively disseminating specialised modules through the Training Module Review Committee (TMRC) of the National Faecal Sludge and Septage Management (NFSSM) Alliance. These modules, covering various aspects of FSSM and IUWSM, have equipped over 10,000 government officials across 20 states with crucial knowledge and skills. These knowledge products employ innovative approaches, including interactive e-learning courses and gamified learning tools, such as board-based games and mobile applications, which have been integrated into major national e-learning platforms such as Integrated Government Online Training (iGOT) and National Urban Learning Platform (NULP). The modules developed by the platform have been endorsed by numerous stakeholders, including the Ministry of Housing and Urban Affairs (MoHUA), USAID, and national nodal training institutes.

In addition to developing high-quality training content, SCBP has been recognised nationally for its efforts in capacity development through the India Sanitation Coalition (ISC)-Federation of Indian Chambers of Commerce & Industry (FICCI) Sanitation Award in 2021.

This document reflects SCBP's ongoing commitment towards evolving training practices and addressing emerging challenges in urban sanitation in India. To bridge the gap between 'theory' and 'practice', it outlines practical insights and systematic approaches for conducting TNAs, mapping competencies, and delivering effective training programmes, thereby equipping Training Institutes with the tools necessary for conducting impactful training for sustainable urban sanitation.

Executive Summary

Addressing water and sanitation challenges, particularly in urban India, is imperative for safeguarding public health, promoting social equity, and fostering sustainable development. Access to clean water and sanitation facilities remains a pressing issue, affecting millions of people nationwide. It is estimated that, compared to the 377.1 million urban population in 2011, 590 million people will live in Indian cities by 2030, which is twice the entire current population of the USA. Therefore, to meet the needs of the growing population, focusing on the water and sanitation sector is crucial to ensure public health, mitigate environmental degradation, and promote sustainable urban development. In this context, the Union Budget for the Financial Year 2025–26 has announced a `1 lakh crore Urban Challenge Fund' aimed at transforming cities into growth hubs, supporting creative redevelopment, and enhancing water and sanitation infrastructure. This fund will finance up to 25% of the cost of bankable projects, with the stipulation that at least 50% of the funding comes from bonds, bank loans, or public-private partnerships (PPPs). An initial allocation of 10,000 crore has been proposed for the fiscal year 2025–26 to kick-start the initiative (Ministry of Finance, 2025).

Decision-makers and practitioners from multidisciplinary fields play a key role in addressing water and sanitation challenges by formulating and implementing policies, allocating financial resources, facilitating coordination and fostering partnerships at the national, state and local levels. However, to address these challenges comprehensively, there is a strong need for the convergence of knowledge from best available practices, success stories, and innovative technologies, ensuring that decision makers and practitioners are equipped with both technical solutions and strategic planning frameworks to address the multifaceted challenges of the Water, Sanitation, and Hygiene (WASH) sector.

Every year in India, numerous workshops and training sessions are conducted at different levels of the WASH sector by various government agencies, non-governmental organisations (NGOs), and the private sector. However, the majority of such training programmes adopt a generic approach with fixed goals and fail to cater to the specific needs of the diverse community of stakeholders. As a result, the need-based approach is lacking, and interest in learning and co-learning between trainees and trainers gradually fades away.

To address this issue, the Capacity Building Commission (CBC) and Mission Karmayogi, under the aegis of the Government of India, launched a pioneering initiative to conduct detailed TNAs and competency mapping of select government officials to understand institutional demand and impart necessary skills for sanitation. Similarly, various NGOs and, bilateral and multilateral organisations have undertaken efforts to prepare TNAs for different target groups. While each of these exercises has been a significant milestone in its respective field, the pathways to bridge the skill gaps are often missing.

Therefore, a comprehensive stepwise methodology is crucial for trainers, decision-makers and WASH practitioners to identify gaps in knowledge, skills, and competencies. The following document will help answer some of the fundamental questions that are often overlooked, such as *'why is the training needed'*, *'what should be the contents of the training'*, *'how will the training be conducted'*, and, most importantly, *'whether the training is needed or not'*.

This living document breaks down the complex journey into three distinct pillars addressing specific needs, namely:

Pillars of Capacity Building	Questions Addressed
Training Needs Assessment	How to identify the training demands and needs of a sector?
Competency Mapping	How can an organisation match a role's required functions, responsibilities, and skills with an individual's abilities and proficiency to assess their competency?
Delivery of Effective Training Programmes	How can capacity-building training be delivered more effectively by the trainer?

With these three chapters, coupled with simplified examples, this document aims to provide a clear understanding of addressing skill gaps and enhancing overall capacity building for government officials, professionals and consultants from various NGOs, bilateral, and multinational corporations. Although the document is primarily designed to address knowledge gaps in the water and sanitation sector, its inherent flexibility allows it to be adapted for use in other sectors as well.

Abbreviations

ADB	:	Asian Development Bank
AMRUT	:	Atal Mission for Rejuvenation and Urban Transformation
BOD	:	Biochemical Oxygen Demand
CAPEX	:	Capital Expenditure
CAWST	:	Centre for Affordable Water and Sanitation Technology
CBC	:	Capacity Building Commission
CBT	:	Computer-Based Training
CPCB	:	Central Pollution Control Board
CPHEEO	:	Central Public Health and Environmental Engineering Organisation
CSAP	:	City Sanitation Action Plan
CSP	:	Certified Service Provider
DFT	:	Departmental Fracing Team
DIY	:	Do It Yourself
DPR	:	Detailed Project Report
FICCI	:	Federation of Indian Chambers of Commerce and Industry
FRACing	:	Functions, Roles, Activities and Competencies
FSM	:	Faecal Sludge Management
FSSM	:	Faecal Sludge and Septage Management
FSTP	:	Faecal Sludge Treatment Plant
GIS	:	Geographic Information System
GIZ	:	Deutsche Gesellschaft für Internationale Zusammenarbeit
HRT	:	Hydraulic Retention Time
IEC	:	Information, Education & Communication
IFU	:	Internal Fracing Unit
iGOT	:	Integrated Government Online Training
ISC	:	India Sanitation Coalition
IUWSM	:	Integrated Used Water and Septage Management
KPI	:	Key Performance Indicator
LCCA	:	Life Cycle Cost Analysis
MBBR	:	Moving Bed Biofilm Reactor
MDO	:	Ministries, Departments and Organisations
MIS	:	Management Information System
MoHUA	:	Ministry of Housing and Urban Affairs

NFSSM	:	National Faecal Sludge and Septage Management
NGO	:	Non-Governmental Organisation
NIUA	:	National Institute of Urban Affairs
NMCG	:	National Mission for Clean Ganga
NSDC	:	National Skill Development Corporation
NULP	:	National Urban Learning Platform
ODF	:	Open Defecation Free
OPEX	:	Operational Expenditure
PHED	:	Public Health Engineering Department
PMKVY	:	Pradhan Mantri Kaushal Vikas Yojana
PPP	:	Public-Private Partnership
SBM	:	Swachh Bharat Mission
SBR	:	Sequencing Batch Reactor
SCADA	:	Supervisory Control and Data Acquisition
SCBP	:	Sanitation Capacity Building Platform
SPSS	:	Statistical Package for the Social Sciences
SRT	:	Sludge Retention Time
STP	:	Sewage Treatment Plant
TMRC	:	Training Module Review Committee
TNA	:	Training Needs Assessment
UKPCB	:	Uttarakhand Pollution Control Board
ULB	:	Urban Local Body
UNDP	:	United Nations Development Programme
UNICEF	:	United Nations International Children's Emergency Fund
USAID	:	United States Agency for International Development
UWM	:	Urban Water Management
WASH	:	Water, Sanitation and Hygiene

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Training Needs Assessment

Introduction

The absence of demand-based training development can often lead to ineffective capacity building, either due to low interest, high saturation, or a mismatch between the content covered and expectations of participants, leading to misidentification of actual demand. A Training Needs Assessment (TNA) is the first step in identifying actual demand and understanding ways to address that demand through training (NIUA, 2020). Conducting a planned TNA by following the order of steps can ensure that targeted capacity-building needs are identified. Figure 1 illustrates the training needs assessment framework for Ministries, Departments, and Organisations (MDOs) and Training Providers, showing the role of pre-assessment (to identify baseline knowledge and needs) and post-assessment (to evaluate training efficacy and identify scope for improvement through feedback loops).

For effective capacity building, TNA should not be viewed as a one-time activity or a stopgap solution; rather, it should be regarded as a continuous process that regularly enables learning and development.

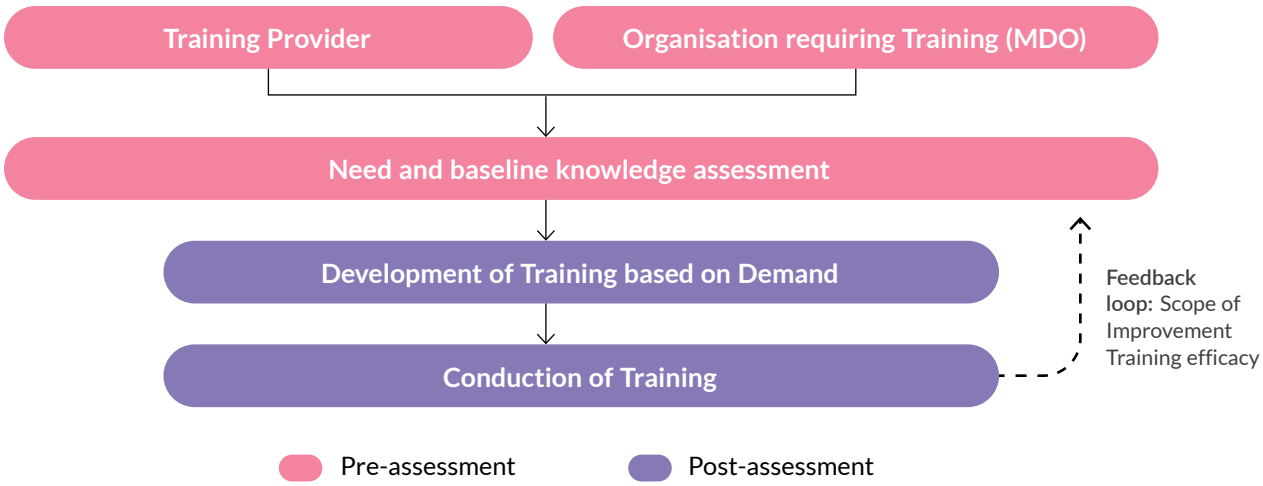


Figure 1: Training needs assessment framework

In Figure 1, the presence of a training provider or trainer enables the organisation to collaborate in identifying the training needs of its employees through a pre-assessment, followed by the development of suitable training and its deployment. A feedback loop (dotted line in Figure 1) ensures that any measures for improvements to the deployed training can be re-integrated for continuous improvement through a post-assessment. Lastly, the Pink and Violet blocks in Figure 1 are used to demarcate activities in this process that can be categorised within the pre- and post-assessment phases.

Definition of Training Needs Assessment

TNA is the process of identifying the training and development needs of employees in an organisation. It considers the strategic objectives of the organisation, as well as the individual, to determine training needs.

Alternately, as defined by the Capacity Building Commission (CBC), **'Training Needs Assessment (TNA) is an examination of an organisation's present and expected operations and the workforce necessary to carry them out, to identify the numbers and categories of employees needing to be trained or re-trained'.** Also as defined in the internationally renowned publication **'A practical guide to needs assessment'** (Sleezer et al., 2014), it is a **'process of identifying how to close a learning or achievement gap by identifying what the most important needs are and how to address them.'**

Role of Training Needs Assessment

TNA can be carried out through mapping individual trainee demand across multiple stakeholder groups or through a targeted needs assessment with senior representatives of institutions (government, academia, thinktanks and NGOs) who have a strong understanding of the sectoral demand for training as per state or urban local bodies (ULB) requirements. These needs assessments may make use of digital tools (Mentimeter, SurveyMonkey, Google form, video conferencing tools, etc.) or pen and paper-based surveys, interviews, and questionnaires to identify demand for training. The training programme assessment can be subdivided into two parts, namely, pre-assessment, and post-assessment.

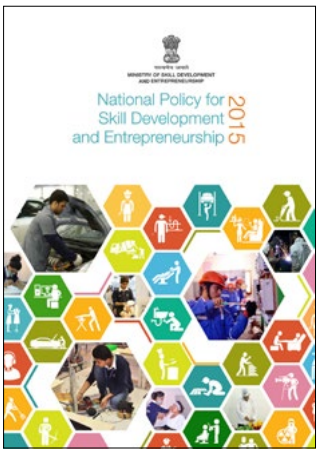
Pre-Assessment
While pre-assessment, involves gathering information and data before the training programme begins, it aims to assess the baseline knowledge, skills, and competencies of the participants.

Post-Assessment
The post-assessment helps determine the impact of the training and whether the identified knowledge gaps have been addressed successfully and the scope for improvement (feedback) for subsequent training.

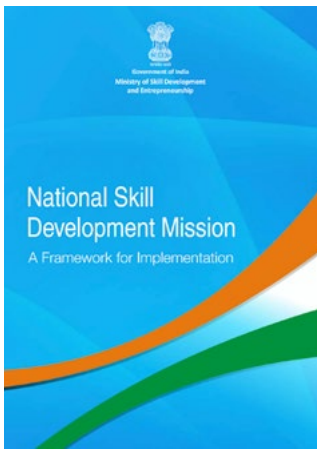
These assessments help trainers to allocate resources efficiently, prioritise training programmes, and ensure that stakeholders are equipped with the necessary tools to address complex WASH challenges effectively. They also help in developing specialised, tailored training content to meet the diverse needs and contexts of different stakeholders, maximising the impact of capacity-building efforts and ultimately contributing to improved WASH outcomes.

Pre-assessment and post-assessment are two important parts that complement TNA. They help in identifying training effectiveness, tailoring training programmes, and evaluating outcomes, thereby suggesting improvements required in the content and its delivery. However, before diving into details, readers need to understand the scope of this section. It covers initial steps to conduct TNA, such as identifying stakeholders, demand, and assessing the baseline skills. Detailed discussions on technical steps to conduct TNA will follow in subsequent chapters.

At the institutional level, few policies and central government organisations in India incorporate TNA or similar forms of skill assessments:



National Policy on Skill Development and Entrepreneurship, first introduced in 2009 and updated in 2015, emphasises the importance of training needs assessment to align training programmes with the actual needs of industry and the labour market. It outlines a structured approach to identifying skills gaps and designing relevant training programmes (Ministry of Skill Development and Entrepreneurship, 2015a).



National Skill Development Mission, 2015, a mission that includes various schemes and programmes that focus on assessing the training needs of different sectors. For example, the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) aims to enhance the employability of youth by providing industry-relevant training. The mission includes mechanisms for assessing skill needs and evaluating the effectiveness of training programmes (Ministry of Skill Development and Entrepreneurship, 2015b).

N·S·D·C
RE IMAGINE FUTURE

National Skill Development Corporation (NSDC) plays a crucial role in identifying skill gaps and assessing training needs across various sectors. It collaborates with industry bodies and training providers to ensure that training programmes are aligned with market demands. Sector Skill Councils are councils responsible for identifying skill requirements and conducting training needs assessments for specific industries. They work to ensure that training programmes are relevant and meet the needs of employers.

CAPACITY
BUILDING
COMMISSION

Capacity Building Commission (CBC), is a government body established to enhance the effectiveness of capacity building efforts across various government departments and institutions.

The establishment of these policies and institutions reflect the Indian government's commitment to improving the efficiency and effectiveness of its workforce. By focusing on systematic and strategic capacity building, these measures help in enhancing the overall performance of institutions and its employees across all sectors.

According to the mandate outlined in the National Training Policy (Government of India, 2012), across all government MDOs, irrespective of the hierarchy of the officials, there is a critical need to address the disparity between existing competencies and those required, while also providing employees with opportunities to enhance their skills.

Over the last decade, there has been a notable increase in both the number and diversity of training programmes to meet the mandate. A few initiatives have prioritised identifying gaps and demands before developing new programmes or updating existing ones. To bridge these two pillars effectively, initiatives such as the 'Training Need Assessment (TNA) of Panchayat Raj Institutions for WASH and Other Service Provision in India' and the 'Framework of Roles, Activities, and Competencies (FRACing) exercise' under 'Mission Karmayogi' have played a crucial role.

From experiences in India and across the globe, it is evident that successful TNAs always involve well-designed pre- and post-assessments, as shown below.

Pre-Assessment

Identification of demand requires identifying the stakeholders to whom the training will be imparted and pinpointing the specific training needs of individuals performing the role, aligning them with the demands of the assigned position. Training programmes often focus more on demands from the latter, ignoring the needs from the former, which can lead to disengagement from participants. Hence, when undertaking demand identification, it is imperative to ascertain the specific requirements of the job role. Once the framework of the job role is delineated, engaging individuals to articulate their training needs from the trainers becomes essential.

Demand can be broadly categorised into two types. Figure 2 illustrates the types of demand that can originate from individuals or organisations. Once the demand is identified, the next step is to pinpoint the niche area within that broad demand.

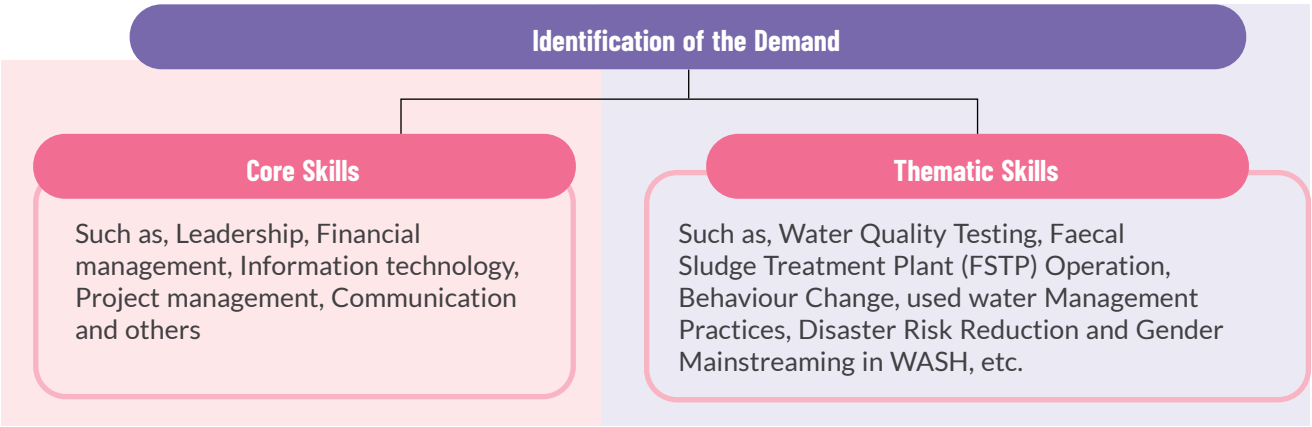


Figure 2: The two broad categories of skills an individual/organisation can require from its employees.

» Example

For instance, consider the case of Ms Supriya, who recently transitioned from the health department to the WASH sector. While she requires training within the broad thematic framework of 'Integrated Used Water and Septage Management (IUWSM)', she may not need training on 'Used Water-based Epidemiology for Disease Surveillance'. Instead, Supriya requires intensive training on 'Innovative Treatment Technologies of IUWSM' (e.g., membrane bioreactors, constructed wetlands). Therefore, identifying niche areas of demand is crucial for tailoring effective capacity-building programmes.

As part of Mission Karmayogi, the Government of India conducts a FRACing exercise. This exercise involves the collection and management of extensive data on the academic, professional, and interest areas relevant to each position across all government MDOs at the national, state, and local levels. This data is gathered and managed through the Integrated Government Online Training (iGOT) platform. This exercise aims to identify the sources of demand and determine effective ways to address them.

iGOT
Integrated Government Online Training

Finally, the demand from either party (individual, organisation) is ever-evolving, capturing new competency needs as they arise. However, simultaneously, it is not advisable to modify a particular course every single month or year, considering the efficiency of the training programme. Therefore, before conducting a training programme, trainers and the MDO should align their goals on the tentative validity of the course, subject to change due to unforeseen circumstances such as a pandemic. This regular review helps ensure that the training remains demand-responsive and up-to-date.

Post-Assessment

Post-assessment is an important part of TNA because it ensures the training's effectiveness and facilitates continuous improvement through a feedback loop. The feedback loop consists of the following:

Taking Feedback

Post-assessment feedback is crucial for evaluating the effectiveness of the training. For online Capacity Building Training (CBT) courses, feedback can be taken through multiple choice questions, rating scales, reviews, etc. For the in-person courses, along with online techniques, focus group discussions, and one-on-one interviews can help gather additional in-depth information and address specific concerns or suggestions. Feedback can help align future training sessions, whether modifying the training delivery or course content, with the needs of participants.

Scope of Improvement

Identifying the scope of improvement involves analysing the feedback and assessment results to pinpoint specific areas where the training can be enhanced. A few of the techniques for assessing the scope of enhancements include gap analysis, Key Performance Indicators (KPIs), regular check-ins, follow-up surveys, and periodic reviews.

Designing a Training Needs Assessment

Once the need for training has been established, a 'competency' analysis must be carried out to identify the specific topic of interest in a subject area on which the training for the trainees would be developed (discussed in Chapter 2: Competency Mapping). The topic of interest is identified through a training needs analysis conducted with the trainees to address specific training needs. After identifying the problems and needs, an overall set of learning objectives for a training course should be formulated, keeping in mind the requirements of the trainees.

» Example

For instance, if a particular training focuses on FSSM, the objectives should be to impart knowledge and skills that enable an understanding of the importance of FSSM, followed by theoretical and practical skill-building exercises. Furthermore, the training should be designed such that the developed skills can be applied to on-the-ground situations.

DESIGNING A NEEDS ANALYSIS

The next step in designing a TNA is to design the needs analysis steps. To do so, one needs to determine the following, as presented in Figure 3 below. Adopting a stepwise approach to conduct surveys to assess the need for a TNA requires systematic planning to ensure its effectiveness.

For instance, if the identified target group is a total of 25-30 trainees, all of whom should be undergoing the needs analysis using a specific survey method. However, conducting a TNA for each one of them might prove to be a challenge. This is where sampling techniques come in to identify a minimum sample size that would be required to be assessed, thereby reducing the total number of interviews while not compromising heavily on the information acquired through the TNA. Post the sample size selection, the TNA questionnaire should be developed and deployed only to the interviewees/ respondents identified through sample selection. The stepwise approach towards the identification of training demand and need is provided in Figure 3.

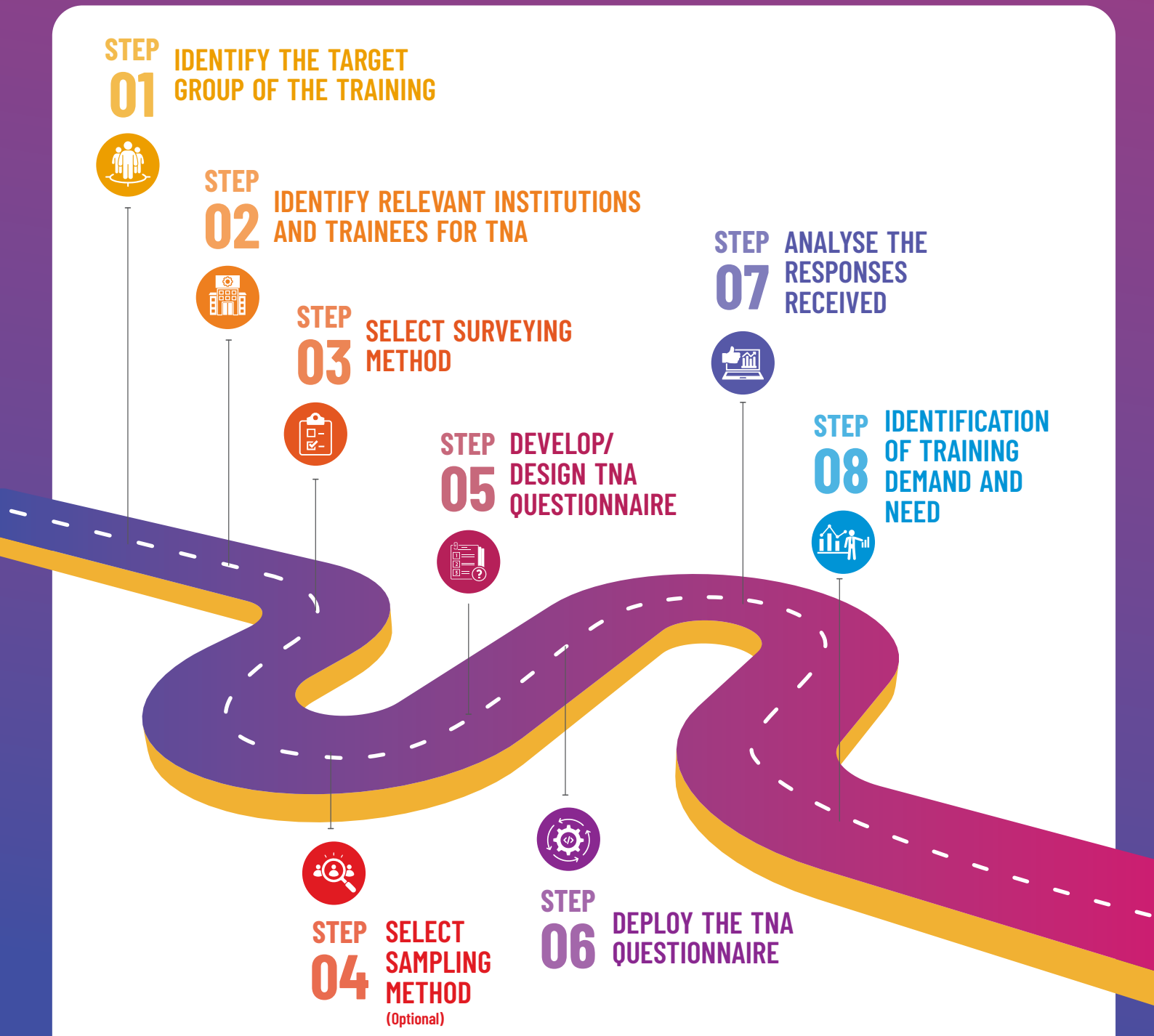


Figure 3: Stepwise approach towards training demand and needs identification.

STEP 01

IDENTIFY THE TARGET GROUP OF THE TRAINING

Before developing any training material, it is imperative for training providers to identify the target group based on the type, design and content of training. For instance, the target group may include senior officials from the government, or perhaps on-ground workforce like sanitation workers, masons and operators. For both target groups, the imparted training would differ. For the former, a training on FSSM coupled with exposure visits to a FSTP might have much more emphasis on the management and financial aspects of FSSM, while the latter group might have more focus on worker's safety, day-to-day workings of the treatment plant and operational guidelines.

STEP 02 IDENTIFY RELEVANT INSTITUTIONS AND TRAINEES FOR TNA

The selected institutions and respondents (for the sample) play a decisive role in understanding the broader demand for training topics. In the water and sanitation sector in India, relevant institutions include Central and State Water Resource Departments, which provide insights into policy-driven training needs and emerging regulations, and ULBs, which handle ground-level implementation of water supply and sanitation programmes and can highlight practical skill gaps. Public Health Engineering Departments (PHEDs) understand infrastructure challenges and the need for capacity building in sanitation and water supply management, while NGOs work closely with communities to identify training needs related to behavioural change and community engagement. Research Institutions and Universities contribute expertise on emerging technologies and innovative solutions in water and sanitation. Additionally, Development Agencies and International Organisations such as the World Bank, United Nations Children's Fund (UNICEF), and United Nations Development Programme (UNDP) can highlight global best practices and capacity-building programme needs.

STEP 03 SELECT SURVEYING METHOD

Primary data is collected directly from the respondent source itself and does not undergo analysis before reaching the analytical phase of the needs assessment. Systematic observation and consultation of the target participants is undertaken during primary data collection to elicit the respondents' knowledge and perceptions. Assessment teams ask questions directly to the target participants through interviews, group discussions, and observation (Sleezer et al., 2014).

The structure of conducting surveys can be distinguished into various categories as presented to the right side.

QUESTIONNAIRE SURVEY

A set of structured questions to collect information for analysis. They are often designed for comparison of the responses between respondents.

Strength

- Simple
- Quick
- Easy
- Data can be collated

Weakness

- May miss key information
- Low return rate
- Unclear answers

When to use

When topic is well understood

INTERVIEWS

Structured Interviews: Each interviewee is presented with the same questions asked in same order for reliable comparisons.

Semi-Structured Interviews Similar to structured interviews but allows both the interviewer and the respondent the flexibility to probe for details or discuss issues, allowing for open discussion.

Strength

- Consistent data
- Easy comparison
- In-depth insights
- Adaptable conversation

Weakness

- Rigid
- Limited depth
- Time-consuming
- Harder to organise

When to use

- When consistency is important
- When exploring a new or complex topic

FOCUS GROUP DISCUSSION

Qualitative method to gather in-depth group insights through guided discussion. Participants share ideas freely under a facilitator's direction

A relatively small group (generally six to ten participants) convened for a specific purpose under the direction of a facilitator, during which group members talk freely and spontaneously about a certain topic.

Strength

- Quick and interactive
- Better understanding of group perspectives

Weakness

- Group dynamics may hinder honesty
- Dominant voices may skew input

When to use

Useful when teamwork influences results or when time is limited

OBSERVATION

Type of survey that collects insights through observing group behaviour and interaction.

Strength

- Quick
- Natural responses

Weakness

- Group bias
- Dominant voices may skew data

When to use

- When teamwork influences data
- When time availability is low

WORKSHOP

An educational seminar or series of meetings emphasising interaction and exchange of information among a usually mid-sized number of participants (generally more than ten participants). Participants share ideas freely under a facilitator's direction.

Strength

- Engaging
- Good for validation

Weakness

- Requires time and facilitation

When to use

When verifying responses

STEP 04 (Optional) SELECT SAMPLING METHOD

Along with the selection of interviewees, survey methods are also selected considering availability of time and human resources. The following are sampling methods to be used. However, to simplify the process, it is recommended that random sampling and stratified sampling methods be used for TNA.

Sampling methods used in TNAs are of the following categories:

1. Random Sampling:

Each participant has an equal and known chance of being selected. When the number of participants is greater than 50 participants, it is often difficult or impossible to identify every member of the participant group, so the pool of available subjects becomes biased.

2. Systematic Sampling:

It is also called an N^{th} name selection technique. After the required sample size has been calculated, every N^{th} record is selected from a list of the target participants. As long as the list does not contain any hidden order, this sampling method is as good as the random sampling method. The only advantage of this technique over random sampling is its simplicity.

3. Stratified Sampling:

A commonly used method that is superior to random sampling because it reduces sampling error. A stratum is a subset of the target participant group that shares at least one common characteristic. The trainers identify the relevant stratums and their actual representation in the participant group.

STEP 05 DEVELOP/DESIGN A TNA QUESTIONNAIRE

When creating questionnaires, it is important to consider the type, content, wording, and order of the questions being asked. When developing survey questions, it is crucial to follow a few basic guidelines which can be used as a checklist.

☑ **Avoid complexity:** Use simple and straightforward questions. Avoid asking questions that require extensive calculations. For example, "**How many times do you empty the sludge from your sewage treatment plant (STP)?**" requires respondents to compute an annual figure based on their weekly or monthly totals. Similar information could be elicited by a more straightforward question, **"How many times do you empty the sludge from your STP per week/month?"**

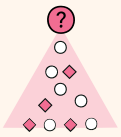
☑ **Word questions carefully:** Questions must be clear and easy to understand.

- ☑ Use simple words. Avoid the use of slang or jargon. Words should be relevant and contextual.
- ☑ Avoid leading questions, such as, "**Do you feel that offering this well-tested FSSM training programme will improve your skills on understanding faecal sludge and its management?"**
- ☑ Avoid negatively phrased questions, such as "**Did you not receive the SCADA monitoring training?**"

☑ **Sequencing questions:** The order in which questions appear is important. Begin a survey with a few simple and interesting questions to ease the respondent. Potentially sensitive questions should be presented later. Topics can easily be placed into "sets" of questions. In most cases, place demographic questions at the end of the survey. Try not to put the most important questions last. Respondents may become bored or tired before they get to the end of the survey.

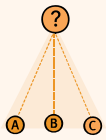
☑ **Limit the amount of information gathered in one question:** For example, "**Is this task challenging and rewarding?**" asks for two pieces of information. In many cases, respondents will overlook the second portion of the question entirely. A more effective way to gather the same information is to ask two questions: "**Is this task challenging?**" and "**Is this task rewarding?**"

☑ **Determine the type of questions**, to be selected from the below mentioned categories:



Open-Ended

- Obtain qualitative information
- Capture respondents' own words
- Probe for more information
- Seek more information as a follow-up to a closed-ended question



Closed-Ended

- Obtain quantitative information

Two-Choice

- Obtain opposite or mutually exclusive answers

Multiple Choice

- Obtain one response from a list of choices (with instruction to "check only one")
- Obtain multiple responses from a list of choices (with instruction to "check as many as apply")
- Obtain responses with no rank order
- Obtain certain demographic data

Likert Scale

- Obtain ratings (possibly leading to a rank order)

Interval Scale

- Obtain interval-level data
- Obtain certain demographic data

☑ **Wording of the Questions:**

- **Does your choice of open or close-ended questions lead to the types of answers you would like to get from your respondents?**
- **Is every question in your survey integral to your intent? Superfluous questions that have already been addressed or are not relevant to your study will waste the time of both the respondents and the researcher.**
- **Does one topic warrant more than one question?**
- **Do you give enough prior information/context for each set of questions? Sometimes lead-in questions are useful to help the respondent become familiar and comfortable with the topic.**
- **Are the questions both general enough (they are both standardised and relevant to your entire sample), and specific enough (avoid vague generalisations and ambiguity)?**
- **Is each question as succinct as it can be without leaving out essential information?**
- **Finally, and most importantly, write a survey that you would be willing to answer yourself, and be polite, courteous, and sensitive. Thank the responder for participating both at the beginning and the end of the survey.**

STEP 06 DEPLOY THE TNA QUESTIONNAIRE

The deployment of the developed questionnaire can be carried out in-person or through virtual means. It is essential to schedule time for interactions with relevant institutional respondents. Depending on the stature, proximity, and availability of the respondent, the conducting style may vary.

Virtual Deployment

If the respondent is located in a different city or country, a virtual survey may be necessary. For instance, if a senior official from the Ministry of Jal Shakti is unavailable for an in-person meeting, the questionnaire can be administered via email or an online survey platform such as Google Forms, SurveyMonkey, or Microsoft Forms.

In-Person Pen-and-Paper-Based Deployment

When surveying field-level staff, such as municipal sanitation workers or Junior Engineers in areas where internet access is limited, a printed questionnaire can be administered face-to-face to ensure participation and accurate data collection.

In-Person Conversational Style Deployment

In cases where detailed qualitative insights are needed, such as engaging with senior engineers of PHEDs to understand infrastructure challenges, an in-depth, in-person conversational interview may be the most effective approach.

STEP 07 ANALYSE THE RESPONSES RECEIVED

Analysing the results of the questionnaire is critical to identifying training demands effectively. The responses should be categorised and examined using both qualitative and quantitative methods.

1. **Quantitative Analysis:** If the questionnaire includes numerical or multiple-choice responses, data can be statistically analysed using tools like Microsoft Excel, Statistical Package for Social Sciences (SPSS), or R. (Programming Language) Responses can be summarised into percentages, averages, or trend patterns to highlight common training gaps. For example, if 70 per cent of respondents indicate a lack of knowledge in used water treatment technologies, this would signal a strong demand for training in this area.
2. **Qualitative Analysis:** Open-ended responses should be analysed using thematic coding techniques. Patterns in responses can be identified to understand deeper concerns and training preferences. For example, if multiple respondents' express difficulties in using Geographic Information Systems (GIS) for water management, this could indicate a need for specialised GIS training.
3. **Comparative Analysis:** Comparing responses from different institutional groups (e.g., government officials vs. field staff) can help prioritise training needs for different stakeholders. Senior policy-makers may emphasise regulatory training, whereas field engineers may highlight technical skill gaps.
4. **Gap Analysis:** Cross-referencing the institutional training needs identified in the survey with existing skill sets and job requirements of individual employees can pinpoint the most critical areas that require intervention. This ensures that the training programmes are tailored to address actual competency deficits rather than perceived ones. This is further discussed in Chapter 2: Competency Mapping.

STEP 08 IDENTIFICATION OF TRAINING DEMAND AND NEED

Identifying knowledge gaps and training demands is the final and crucial step of the TNA.

1. **Prioritisation of Training Needs:** Not all gaps are of equal urgency. Training needs should be categorised based on factors like frequency of occurrence, criticality to job performance, skill gaps identified and alignment with institutional goals. For instance, if regulatory compliance training is identified as a pressing need for multiple agencies, it should be prioritised over specialised technical training for a smaller subset of staff.
2. **Segmentation of Training Groups:** Different categories of employees may have varying training needs. For example, senior policy-makers may need workshops on policy frameworks and decision-making, while field engineers may require hands-on technical training.
3. **Training Format Recommendations:** Based on the analysis, recommendations should be made for the most effective training format, such as in-person workshops, e-learning modules, or hybrid learning approaches. For example, technical training on GIS tools may be best delivered through an interactive online course, while sanitation workers may benefit more from on-site demonstrations.

Mock TNA Questionnaire

A TNA Questionnaire with case-study-based questions, aligned with SBM (Urban) and tailored for Administrative Officers. The questionnaire has been designed to map demands linked to pre-existing training modules, need for new training modules for the scale of a department/institution and individual.

Topic:

Used Water and Faecal Sludge Management (UWM and FSM) under SBM (Urban)

Stakeholder Group:

Administrative Officers, Executive Officers

Form filling duration: 15 minutes

Individual and Role Details

Name: |

Designation & Department: |

City/District: |

Years of experience in UWM and FSM: | ☐ < 2 ☐ 2–5 ☐ 5–10 ☐ > 10

Identification of Training Areas

(based on existing NIUA training modules)

Mark the following in order of ranks of training needs

(Rank 1 being the most important)

Area	Code	Topic	Rank
Integrated Used Water and Septage management	IUWSM1	Planning Integrated Used Water and Septage Management	
	IUWSM 2	Designing Integrated Used Water and Septage Management	
	IUWSM3	Advanced Training on Integrated Used Water and Septage Management	
FSSM	FSSM 1	Orientation to Faecal Sludge and Septage Management	
	FSSM 2	Planning Faecal Sludge and Septage Management	
	FSSM 3	Designing Faecal Sludge and Septage Management	
	FSSM 4	Advanced Training on Faecal Sludge and Septage Management	
	FSSM 5	Technology and Financing Faecal Sludge and Septage Management	
DPR	D1	Preparation of DPR	
Co-treatment	CO 1	Designing of Co-treatment of Faecal Sludge and Septage with Sewage in STP	
Finance	FIN 1	Finance, Contracting, and Business Models in Water and Sanitation	
Public Health	OSH 1	Occupational Health and Safety Along the Sanitation Service Chain	

Area	Code	Topic	Rank
Inclusivity	GEDSI 1	Gender, Equity, Persons with Disabilities and Social Inclusion in Sanitation	
Climate	CLI 1	Climate and, Water and Sanitation	

Identification of Additional Training needs

What are other areas you would like yourself/_____department to get trained on:

(Write top 5 areas)

Area	Topic	Benefit/use

Policy & SBM Compliance

Are you familiar with the following for your jurisdiction? (Check all that apply)

- ☐ SBM-U 2.0 Guidelines (MoHUA)
- ☐ CPHEEO Manual on Sewerage and Sewage Treatment Systems (2013)
- ☐ ODF+/ODF++ Protocols
- ☐ City Sanitation Action Plan (CSAP): for toilets, used water management

What are the top 3 barriers to UWM and FSM implementation in your area?
(E.g., Lack of enforcement, insufficient treatment plants, poor contractor accountability)

UWM Barriers:

1. .....
2. .....
3. .....

FSSM Barriers:

1. .....
2. .....
3. .....

Case-Study-Based Questions

(Select one scenario and describe your approach)

Case Study 1: Illegal Sludge Dumping

A private desludging operator dumps untreated faecal sludge into a stormwater drain, violating SBM-U guidelines. Residents complain, but the operator claims no treatment facility exists nearby.

Your Action Plan

Policy Lever	Infrastructure Gap	Stakeholder Coordination
How would you enforce compliance?	What short/long-term solutions would you propose?	Who would you involve?
(E.g., penalties, permit revocation) answer)	*(E.g., mobile FSTPs, PPP for new facilities)*	*(ULBs, pollution control board, community leaders)*

Case Study 2: Low Household Compliance

Despite ODF+ status, 40% of households in your ward neglect septic tank maintenance. Sludge overflows into streets during monsoons.

Your Action Plan

Awareness	Enforcement	Data Use
How would you improve household engagement?	What punitive/encouragement measures would you use?	How would you track progress?
(E.g., IEC drives, incentives)	*(E.g., fines, subsidies for safe disposal)*	*(SBM-U MIS, ward-level audits)*

Self-Assessment Rubric

(Score your response 1-5 per criterion)

Criterion	1 (Weak)	3 (Adequate)	5 (Strong)	Score
Policy Alignment	Misses key SBM guidelines	Partially complies	Fully aligns with MoHUA/ CPHEEO	.....
Innovation	Conventional solution	Moderate creativity	Context-specific breakthrough	.....
Stakeholder Inclusion	Overlooks key actors	Basic coordination	Multi-departmental synergy	.....
Feasibility	Unrealistic budget/timeline	Moderate resources needed	Leverages existing SBM funds	.....
Impact Measurement	No monitoring plan	Basic indicators	Tracks via SBM-U MIS	.....

Total Score: ____ /25
Interpretation:

- 5-10: Needs foundational training
- 11-20: Intermediate capacity (targeted upskilling)
- 21-25: Ready for advanced roles (e.g., SBM trainer)

Training Priorities

- FSM Policy Deep Dive (SBM-U/MoHUA)
- Contract Management for PPP FSTPs
- GIS-Based Sludge Flow Mapping
- Community Engagement Strategies

Training Needs & Gaps

(to be filled by trainee)

Which skills would help you/your _____ department address the demand for training?
(Rank 1–5, 1 being most important)

☐ SBM 2.0 Guidelines
☐ FSSM Policy Interpretation & Enforcement
☐ Contract Management for Desludging Services
☐ Technology Options (e.g., nature based systems)
☐ Data-Driven Monitoring (SBM-U MIS, GIS mapping)
☐ Community Mobilisation Techniques

Preferred Training Format

☐ SBM-U Workshops with Case Studies
☐ Online Modules (e.g., iGOT-Karmayogi)
☐ Peer Learning with ODF++ Cities

Name of Interviewer |

Assessment date |

Assessment conduction

☐ Pen and Paper based (Synchronous)
☐ Pen and Paper based (Asynchronous)
☐ Online (Synchronous)
☐ Online (Asynchronous)

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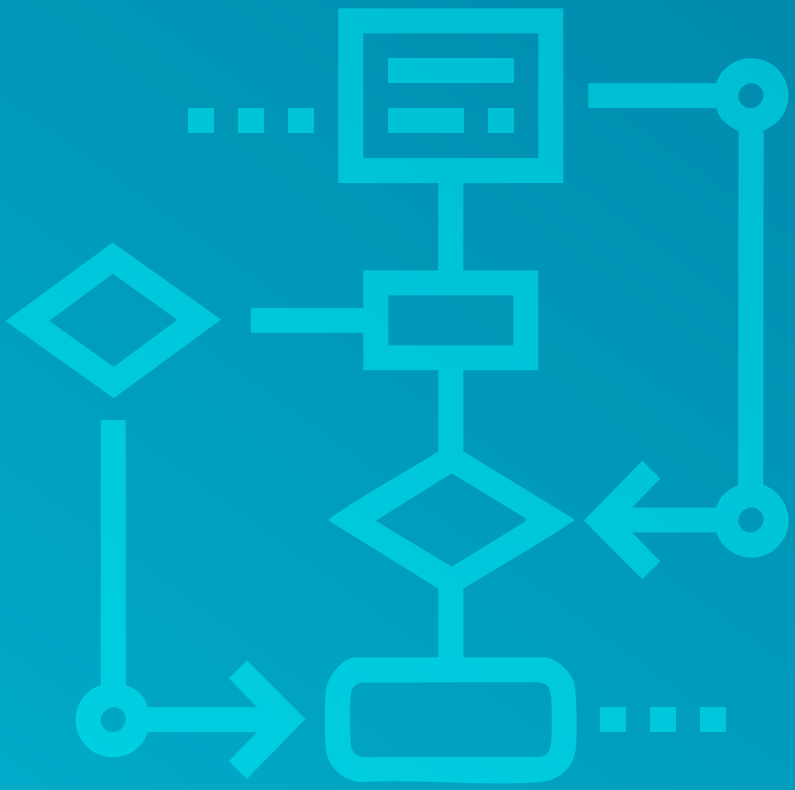
Competency Mapping



Introduction

Training Needs Assessment and Competency Mapping are two interrelated yet distinct processes that play a critical role in capacity building and organisational development (International Labour Office, 2010). While both aim to enhance individual and institutional performance, they serve different purposes and operate at different levels.

While TNA focuses on identifying training needs, Competency Mapping is a more comprehensive process that delves into identifying and assessing the specific competencies (knowledge, skills, attitudes, and behaviours) required for a particular role or position. It provides a detailed understanding of the baseline skills and competencies of individuals (Priyadarshini & Dave, 2012).

» Example

Competency Mapping answers the question, "What are the existing strengths and weaknesses of the workforce?" and serves as a foundation for targeted training interventions. Together, they create a robust framework for capacity building and organisational development.

The relationship between these processes can be visualised through Figure 4, where institutional demand from a particular position and competency mapping of the individual assigned to the position are represented as interconnected bars. The overlapping area of these bars (like circles in a venn diagram) signifies TNA. Ultimately, this solution results in effective capacity building, ensuring that training efforts are aligned with both institutional goals and individual development needs (UNDP, 2009).

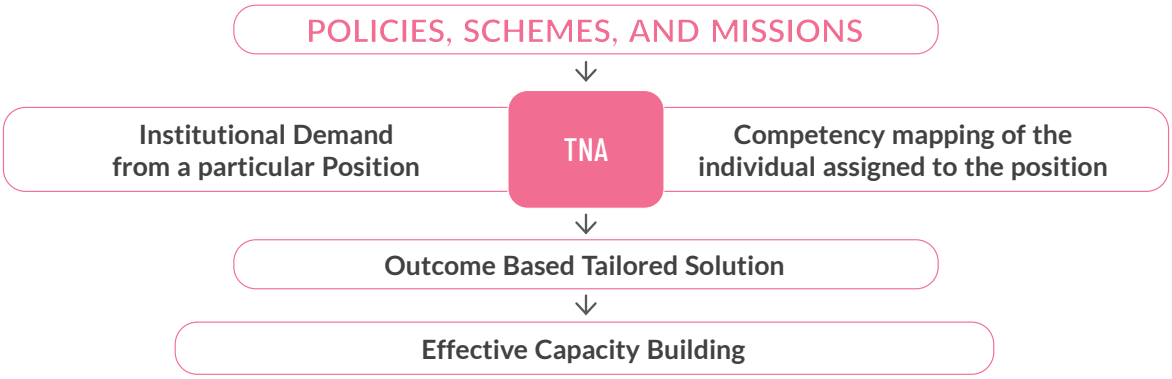


Figure 4: Driving Effective Capacity Building: Relation Between Institutional Demand, TNA, and Competency Mapping

Furthermore, competency mapping provides a clear benchmark against which the impact of training can be measured, allowing organisations to track progress, evaluate effectiveness, and adjust strategies as needed (Organisation for Economic Co-operation and Development, 2020). The objective of the competency mapping can be categorised as follows:

Align Individual Competencies with Organisational Goals
Ensure employee skills align with the Organisation's strategic objectives.

Facilitate Targeted Training and Development
Identify scope of improvement to design focused training programs.

Support in Future Recruitment and Selection Processes
Hire the right talent by matching job requirements with candidate competencies.

Enable Career Development and Succession Planning
Prepare employees for advancement and leadership roles.

Create a Benchmark for Performance Evaluation
Establish clear criteria for objective performance assessments.

Promote a Culture of Continuous Improvement
Adapt to industry changes and encourage ongoing learning.

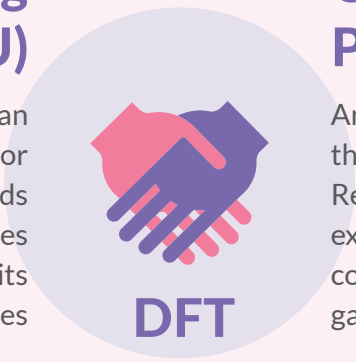
Drive Organisational Effectiveness
Build a skilled workforce to achieve organisational goals and maintain competitiveness.

Before diving into the mapping exercise, it is essential to determine who will conduct the process and ensure it is carried out effectively. This is where the Departmental FRACing Team (DFT) comes into play (Institute of Secretariat Training and Management, 2021).

The first step in competency mapping is to establish the DFT, which leads the entire process. The DFT consists of two key components:

Internal FRACing Unit (IFU)

An internal team (within an institution) responsible for understanding institutional demands and identifying the competencies required for each function, its associated role and responsibilities



Certified Service Provider (CSP)

An external team of experts that brings specialised Human Resources (HR) and domain expertise to assist in mapping competencies and identifying gaps.

» Example

In a sanitation department, the IFU might identify needs like waste management, water treatment, and community hygiene practices, while the CSP ensures the competency framework is robust and aligned with organisational goals. Together, the IFU and CSP form the DFT, which ensures institutional demands are clearly defined and aligned with individual competencies, enabling targeted training and development of programmes. Additionally, the DFT decides whether CBT facilitators should be sourced internally or outsourced, enabling targeted training and development programmes that meet the organisation's specific needs associated with competencies relevant to an individual's functions, roles and responsibilities.

Conducting competency mapping is an intensive, data-driven exercise. While the term "competency mapping" inherently focuses on the baseline skills of individual trainees, the exercise also encompasses the demands of the parent institution (MDO) and the competencies of resource persons and trainers (Institute of Secretariat Training and Management, 2021). Therefore, data is collected from three distinct verticals:

Institutional Demand

Based on the mid- to long-term goals of the MDO. Goals that are driven by Policies, Missions and Schemes.

Individual Trainee Competency

Derived from areas of improvement identified through past academic and professional expertise.

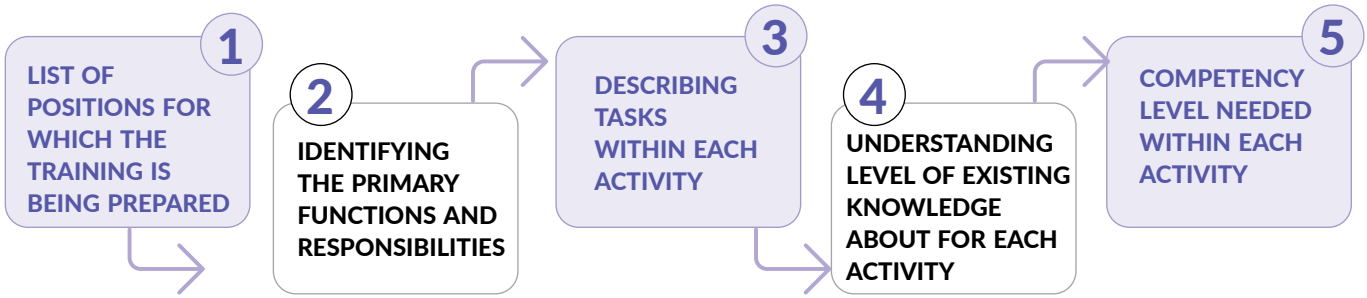
Trainers Competency

Focused on meeting the demands of individual trainees within the framework of the MDO's designated roles.

The goals of these three verticals differ, making their alignment crucial. The following section discusses how these three verticals can be aligned to facilitate effective capacity building.

A. Identification of Institutional demand (MDO):

The foundation of effective competency mapping lies in understanding the institutional demand — the specific roles, activities, and competencies required to achieve the organisation's goals (CLOP, 2021).



The first step involves identifying and listing all the positions within the institution that require competency-based training for better allocate resources and design training modules

For example, imagine that the Capacity Building Facilitator is tasked with creating a training module for the positions of Chief Engineer, Executive Engineer and Junior Engineer in the Pay Jal Nigam Department of Uttarakhand. Each of the positions could include one or many roles. However, for understanding, we will start with just one example - Competency mapping for the 'Executive Engineer'.

This involves detailing the primary functions and responsibilities that each role entails.

For example, for an Executive Engineer, the primary role is 'Head of a division within the department' and primary responsibility is 'Approval of Projects'.

In this step, the institution outlines the specific tasks and activities that individuals in each role will perform.

For example, for an Executive Engineer in used-water the three main activities are:

- Approval of the financial proposals
- Approval of the Detailed Project Report (DPR) of STPs or FSTPs
- Project Management

Once the activities are described, the next step is to identify and compile the core or thematic knowledge required for each activity.

For example, activity of the approval of the financial proposals (upto certain ceiling), the Executive Engineer should know thematic skills such as:

- Budgeting CAPEX and OPEX
- Risk Management
- Business Development

Similarly, under Project Management, the Executive Engineer should know core skills such as:

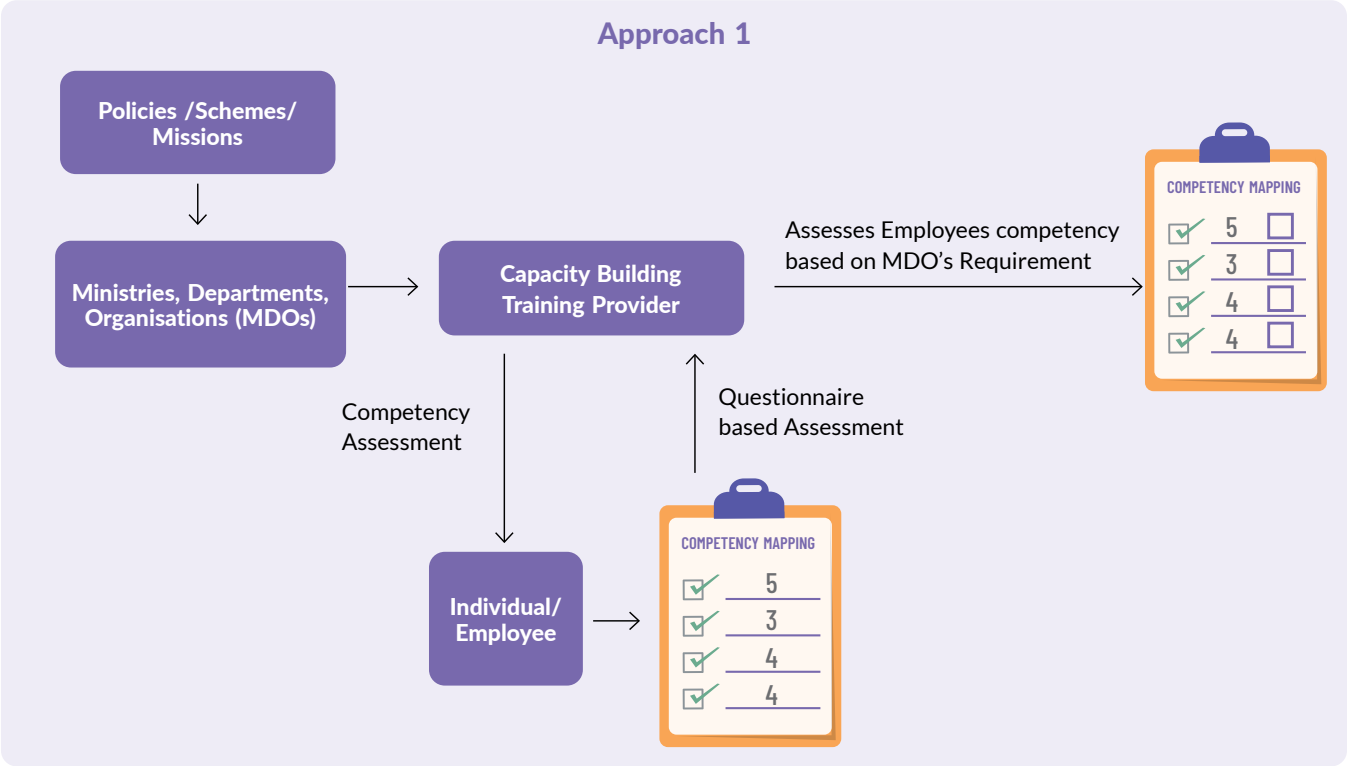
- Leadership
- Stakeholder Management
- Communication

The final step involves determining the competency levels needed for each activity. This requires establishing benchmarks or standards that define the proficiency required to perform each task effectively.

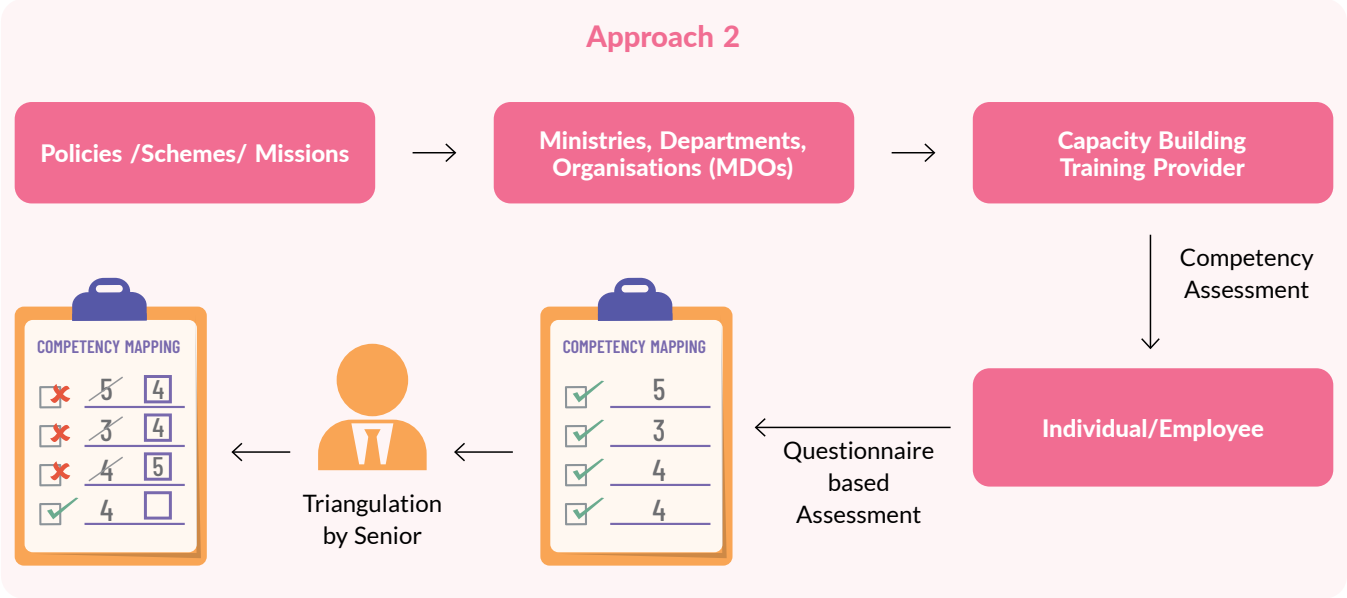
These competency levels can be based on a Likert scale ranging from 1 to 5 (1 for Basic, 2 for Intermediate, 3 for Proficient, 4 for Advanced, and 5 for Expert), depending on the complexity of the activity.

Now the question is how the assessment could be done? There are two approaches to conducting the mapping exercise.

The **first approach (Approach 1)** involves the Ministries, Departments, and Organisation (MDO) can inform the CBT Provider of the expected level of competency for the particular role or prepare a questionnaire with the support of CBT facilitator to assess the existing competency of the individual government officials. Based on this, a traditional assessment can be conducted within a scheduled timeframe, and the evaluation will be done by the CBT facilitators.



While the **second approach (Approach 2)** sharing the questionnaire with individual trainees to be filled out and submitted by them to the CBT facilitator, per their feasibility. Once the submission is completed, the answer sheet will be triangulated by the trainee's reporting officer to identify areas of training needs.



Both approaches enables trainees to identify their competency gaps and areas for improvement. The CBT facilitator can then offer targeted feedback (training course) to address common challenges or clarify misunderstood concepts. Both approaches ensure that the assessment process is flexible, inclusive, and tailored to the needs of the individual trainees while maintaining a focus on enhancing overall competency.

Here, as an example, the expected competency for Budgeting CAPEX, OPEX is 5, while for leadership, the expected level is 4. Based on this level, the responsible MDO with the support of CBT facilitators shall prepare a questionnaire for the individual government official assigned for the role to perform.

Institution (MDO)

↓

List the Position for which the CBT is being prepared.

Example: Executive Engineer Pay Jal Nigam

↓

List of Roles

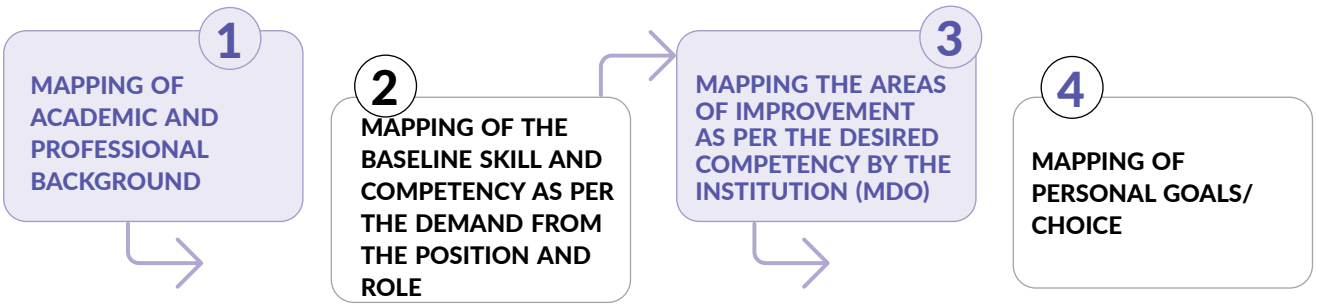
Example: Head of the particular division, Approval of the DPR

↓

List of Responsibilities

Knowledge and skill possessed with each responsibility	Knowledge and skill Level Needed within each of the responsibility (e.g. within a scale of 1 to 5)	
Approval of financial proposals (Up to certain celling)	*Required Skill*	*Mr. Rawat's Current Competency*
Budgeting CAPEX, OPEX	●●●●●	●●○○○
Risk Management	●●●●●	●●●○○
Business Development	●●●○○	●●○○○
Approval of the DPR of STP or FSTP		
Site Selection	●●●●●	●●●●●
Hydraulic & Process Design	●●●●○	●●●●●
Mechanical and Electrical Design	●●●●○	●●●●●
Project Management		
Leadership	●●●●○	●●○○○
Stakeholder Management	●●●○○	●●○○○
Communication	●●●●○	●●●○○

B. Competency mapping of the Individuals:



The first step involves collecting and analysing the academic and professional backgrounds of government officials. This includes documenting their educational qualifications, professional certifications, previous job experiences, and any other relevant training they have undergone.

For example, suppose Mr. Rawat has been assigned to perform the role of as an Executive Engineer of Pay Jal Nigam, Kashipur Division. His academic background says he is a B. Tech in Civil Engineering and professional background shows he was Junior Engineer for 3 years, and Assistant Engineer for 2 years in the same department.

In this step, the existing skills and competencies of the individuals are assessed against the requirements of their current positions and roles.

This can be done in two ways, first CBT facilitators can rely on the personal judgement of the individual government officials and ask them to note down their skills for a particular activity on a scale of 1-5 and then triangulate the score with the senior to finalise the score as a benchmark.

Another way of doing this could be providing the questionnaire prepared jointly by the MDO and CBT facilitators. For example, level 5 the competency is required for "Budgeting CAPEX, OPEX" for an Executive Engineer at Pay Jal Nigam. A level-5 questionnaire is prepared accordingly, by the DFT but in the assessment, Mr. Rawat scored only 2 out of 5, highlighting a clear skill gap to address.

After assessing the baseline competencies, the next step is to identify areas for improvement. This involves comparing the desired competencies outlined by the institution (MDO) with the current competencies of the individual.

Here, Mr. Rawat scored lowest, 2 for both, Budgeting CAPEX, OPEX and leadership activity. However, the expected competency for Budgeting and leadership are 5 and 4, respectively. Therefore, Mr. Rawat has greater room for budget-related improvement.

The final step includes documenting their individual preferences, career objectives, and any specific areas of interest they wish to pursue.

Here, although technically Mr. Rawat has greater room for budget-related improvement, he chooses to be trained on leadership qualities to manage the project.

Prepare an exercise

The questionnaire can be designed to map either core skills or thematic skills. Samples of both types of questionnaires will be provided (a link will be shared once the document is developed). Additionally, a sample consent letter addressing data accessibility and privacy is included (to be shared).

When preparing the questionnaire, several key considerations from the perspective of the CBT facilitator and institutions should be taken into account. These considerations are outlined in the list below.

Checklist and list of questions while conducting the FRACing:

- ☑ Write your objective for the Mapping (examples of the objectives)
- ☑ Decide what will be done with the results of the mapping
- ☑ Decide who will interpret the data, report data, and so forth
- ☑ Decide whom to survey (level or levels of employees, customers, etc.)
- ☑ Gather preliminary information
- ☑ Identify issues to assess and sequence issues
- ☑ Decide the focus of the assessment.
  - Skill test
  - Attitude survey, values clarification
  - Problem identification
  - Preference, interest, opinion
  - Self-perception, perception of others
- ☑ Decide on question format that ensures ease of answering the survey
  - Multiple choice
  - Continuum
  - Rating
  - Ranking
- ☑ Write clear and simple instructions for completing the survey.
- ☑ Write and sequence questions.
- ☑ Check the reliability of a questionnaire by administering it at various times under the same conditions. If you obtain the same results from multiple administrations, the questions are reliable.
- ☑ Check validity of the content. Do your questions measure conditions that meet the objectives of the assessment?
- ☑ Write a cover letter from an executive.
- ☑ In scoring, look for trends and patterns in behaviour, attitudes, or values. Exact measures and percentages are rarely meaningful.

C. Competency of Trainers/CBT facilitators:

Finally, the assessment of baseline skills or competency mapping is not a work that can be done independently by the CBT facilitators, rather it is collaborative in nature that needs active participation from all the stakeholders.

Here, both topics discussed in the previous two sections are relevant. However, with the approval of the MDO, the CBT facilitators can also independently prepare competency mapping techniques (e.g., questionnaires).

In this step, clear learning objectives are established for the training programme. These objectives outline what participants should know or be able to do after completing the course. Here the learning objectives under the leadership course may be related to,

- Enhancing decision making
- Foster teamwork
- Improve time management

After identifying the competency areas, levels, and learning objectives, the next step is to select and assign trainers for the course. Trainers should possess the necessary expertise and experience in the identified competency areas.

For example, for a leadership CBT, someone who has held a leadership position for a significant period, preferably from the same or a related department, should oversee the entire preparation process of the CBT.

The final step involves customising the course content to align with the identified competencies, competency levels, and learning objectives. This includes developing, organising, and preparing the training materials.

Once the course is tailored, it is then circulated to the relevant participants. Ensuring that the content is tailored and well-prepared maximises the relevance and impact of the training programme.

Mock Questionnaire on Competencies and Skill needs

DATA PROTECTION NOTICES AND INFORMED CONSENT

Purpose of the Study

The following questionnaire has been developed under the **Sanitation Capacity Building Platform (SCBP)**, an initiative by the **National Institute of Urban Affairs (NIUA)**. The SCBP aims to advance urban sanitation practices across India by strengthening the capacity of government employees and other stakeholders. This competency mapping exercise is crucial to identifying training needs, assessing existing competencies, and improving the delivery of capacity-building programs. The insights gained will guide the development of tailored training programs, ultimately enhancing the effectiveness of sanitation initiatives.

Procedures, Confidentiality and Duration

In the course of this study, you will be asked to complete the survey, expressing your competencies and training needs as a government employee involved in sanitation practices. Your responses will be kept completely confidential and anonymous. The data you provide will be stored securely by NIUA and any other related institutions used exclusively for the purposes outlined in this study. The data will be used for analysis purposes in the future.

Potential Risks/Discomforts

No risks or discomforts are anticipated from taking part in this study. If you decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded.

Potential Benefits and Use of Results

The results of this competency mapping will contribute to the development of targeted training programs under the SCBP, enhancing the skills and effectiveness of government employees in managing urban sanitation. By participating, you will directly influence the design and delivery of capacity-building initiatives that align with the specific needs of your role and responsibilities.

Data Handling, Processing and Uses

Your responses will be identified by specific codes to ensure confidentiality. Only authorised personnel involved in the SCBP will have access to the data. Separate files will be maintained to ensure that your responses cannot be linked to your personal information. All data will be kept securely within the SCBP framework until 2027, after which it may be archived or deleted as per the project›s data management policies.

Right to Refuse and to Withdraw

Participation in this study is entirely voluntary. You have the right to refuse to participate or withdraw your consent at any time, without any consequences. If you choose to withdraw, you may contact the project team to have your data removed from the study records.

Individuals to contact

If you have any questions about your participation in this study, please contact:

Project Coordinator: [Coordinator's Name]
Email: [Coordinator's Email]
Phone: [Coordinator's Phone Number]

SCBP Team, National Institute of Urban Affairs (NIUA)
Address: [NIUA Address]
Email: [SCBP Contact Email]
Phone: [SCBP Contact Phone Number]

I have read all the information above and I understand them completely. All my questions regarding this study have been answered to my complete satisfaction.

I agree to participate in this research.

YES ☐ NO ☐

FUNCTIONS, ROLES AND RESPONSIBILITIES OF THE RESPONDENT

Position/Function - Executive Engineer - Used Water Management
Role: Head of the Particular Division, Approval of the DPR

List of Primary Responsibilities:

- Approval of the financial Proposal up to a certain ceiling
- Review and Approval of the DPR of STP/FSTP
- Oversee project management, ensuring timely and compliant execution.

Required Knowledge/Skills on each responsibility (with examples):

- **Budgeting CAPEX, OPEX** - Expertise in managing CAPEX & OPEX,
- **Risk Management** - Identifies and mitigates financial risks
- **Business development** - Identify PPP opportunities for used water reuse.

- **Site Selection** - GIS-based land evaluation (avoid flood zones, hilly terrain challenges)
- **Hydraulic & Process Design** - Proficiency in government-regulated standards
- **Mechanical and Electrical Design** - Knowledge of pump systems

- **Leadership** - Team mentorship and conflict resolution.
- **Stakeholder Management** - Multilingual communication
- **Communication** - Report drafting and IEC campaigns.

Competency Mapping Questionnaire for Executive Engineer (FSTP) - Budgeting, CAPEX, and OPEX

Section 1: Personal and Organisational Information

(Common for both Self-Reflection Questionnaire & External Assessment Questionnaire)

Contact Information (Optional):

First Name: |

Surname: |

Organisation/Company: |

Position: |

Email: |

Professional Experience:

Years of Experience in the Current Role:

Years of Experience in the Used Water Management Sector:

Educational Background:

Highest Degree Obtained:

Relevant Certifications or Training in Financial Management, Budgeting, or Used Water Treatment:

Self-reflection questionnaire

Section 2: Strategic Financial Leadership

Rate your competence:

- How would you rate your knowledge in the following areas?
  (Please select a level of competence: Expert, Proficient, Basic, None)

	Expert	Proficient	Basic	None
Strategic allocation of CAPEX for multi-year used water infrastructure projects.	☐	☐	☐	☐
Designing OPEX optimisation frameworks for large-scale STP/FSTP networks.	☐	☐	☐	☐
Evaluating financial viability of PPP models and hybrid annuity projects.	☐	☐	☐	☐
Balancing cost-control with compliance to CPCB/UKPCB effluent standards.	☐	☐	☐	☐

Confidence in applying (Very Confident/Confident/Somewhat/Not Confident):

- How confident are you in applying the following in your daily role?
  (Rate: Very Confident, Confident, Somewhat Confident, Not Confident)

	Very Confident	Confident	Somewhat Confident	Not Confident
Presenting budget proposals to state/funding agencies (AMRUT, NMCG).	☐	☐	☐	☐
Negotiating high-value contracts with firms for cost efficiency.	☐	☐	☐	☐
Implementing AI-based predictive maintenance to reduce OPEX.	☐	☐	☐	☐

Section 3: Financial and Budgeting Skills

Budget Planning and Management:

- Rate the importance of the following competencies in your role:
  (Rate: Very Important, Moderately Important, Low Importance, Not Applicable)

	Very Important	Moderately Important	Low Importance	Not Applicable
Integrating climate resilience costs into CAPEX (e.g., flood-proofing STPs).	☐	☐	☐	☐
Competence in analysing financial reports to optimise spending.	☐	☐	☐	☐
Life-cycle cost analysis (LCCA) for technology selection.	☐	☐	☐	☐

Cost Estimation and Analysis:

- How would you evaluate your ability to: *(Rate: Expert, Proficient, Basic, None)*

	Expert	Proficient	Basic	None
Estimate cost-benefit trade-offs (e.g., MBBR vs. SBR technologies).	☐	☐	☐	☐
Audit readiness for funds from multilateral agencies (World Bank, ADB).	☐	☐	☐	☐
Implement strategies to minimise operational costs without compromising service quality.	☐	☐	☐	☐

Section 4: Managerial and Reporting Competencies

Project Management:

- How crucial are the following skills in managing FSTP budgets?
  (Rate: Very Important, Moderately Important, Low Importance, Not Applicable)

	Very Important	Moderately Important	Low Importance	Not Applicable
Time management in executing project milestones within budget.	☐	☐	☐	☐
Leadership in driving cost-saving initiatives.	☐	☐	☐	☐
Communication with stakeholders regarding budgetary constraints and expenditure	☐	☐	☐	☐

Reporting and Documentation:

- How proficient are you in: *(Rate: Expert, Proficient, Basic, None)*

	Expert	Proficient	Basic	None
Preparing and presenting financial reports to management.	☐	☐	☐	☐
Documenting expenditure and cost-saving measures.	☐	☐	☐	☐
Using software tools for budgeting and financial analysis.	☐	☐	☐	☐

Section 5: Challenges and Continuous Improvement

Challenges Faced:

- What are the main challenges you could face in managing CAPEX and OPEX at the FSTP? (Open-ended)

_____

Training Needs:

- What additional training or resources would help you improve your budgeting and financial management skills? (Open-ended)

_____

Suggestions for Improvement:

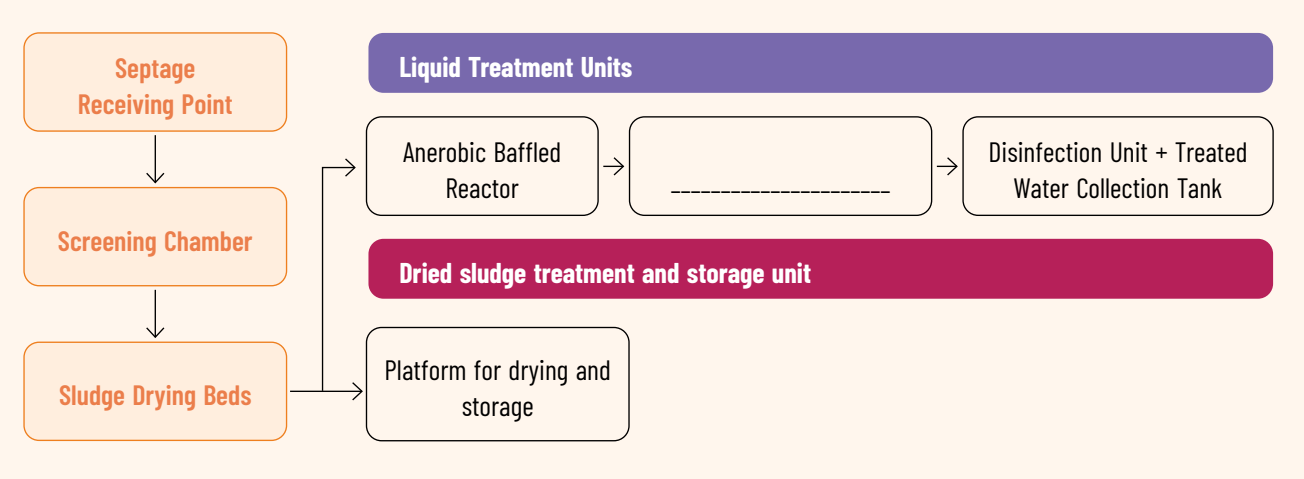
- Please provide any suggestions for improving the financial management practices at FSTP. (Open-ended)

_____

External Assessment Questionnaire

Section 6: Technical Competencies

- Which of the following is the most crucial competency for managing technical operations in an FSTP?
  - ☐ Strategic planning for CAPEX allocation across a statewide used water network
  - ☐ Hands-on troubleshooting of mechanical failures in treatment units
  - ☐ Daily monitoring of effluent pH and BOD levels
  - ☐ Drafting technical specifications for individual pumps
- What is the primary role of an Executive Engineer in the context of an FSTP?
  - ☐ Directly supervising operators at treatment plants
  - ☐ Conducting lab tests for sludge dewatering efficiency
  - ☐ Designing posters for public awareness campaigns
  - ☐ Approving high-value tenders and ensuring compliance with national missions (e.g., Namami Gange)
- Which of the following technologies is typically used in an FSTP to treat faecal sludge?
  - ☐ Membrane bioreactor
  - ☐ Anaerobic digester
  - ☐ Electrocoagulation
  - ☐ Lactification
- How often should routine maintenance be performed on key treatment equipment to ensure optimal operation?
  - ☐ Daily
  - ☐ Weekly
  - ☐ Monthly
  - ☐ Annually
- The image below shows the Process flow diagram of FSTP technology. Fill the blank with the suitable option:



  - ☐ Membrane bioreactor
  - ☐ Chlorination tank
  - ☐ Engine Oil Filter
  - ☐ Planted Gravel Filter

- In a co-treatment setup at a Sewage Treatment Plant (STP), which of the following parameters is most critical for optimising the treatment process and ensuring regulatory compliance when integrating faecal sludge into the existing sewage stream?
  - ☐ Biochemical Oxygen Demand (BOD) concentration of the influent
  - ☐ Hydraulic retention time (HRT) in the primary clarifier
  - ☐ Solids Retention Time (SRT) in the aeration tank
  - ☐ Uranium and Thorium concentration in the final effluent

Section 7: Financial and Budgeting Skills

- When preparing a budget for an FSTP, which of the following should be prioritised?
  - ☐ Reducing staff to lower costs
  - ☐ Ensuring all necessary resources for smooth operation
  - ☐ Allocating more funds to administrative expenses
  - ☐ Minimising expenditures on operational supplies
- Which financial document is essential for tracking both CAPEX and OPEX in an FSTP?
  - ☐ Balance sheet
  - ☐ Income statement
  - ☐ Cash flow statement
  - ☐ Budget forecast
- What is the main objective of conducting a cost-benefit analysis for new technology in an FSTP?
  - ☐ To reduce the initial cost of investment
  - ☐ To compare the long-term benefits against the upfront costs
  - ☐ To avoid unnecessary expenses
  - ☐ To speed up project approval
- In financial terms, what does OPEX typically cover in an FSTP?
  - ☐ Initial construction costs
  - ☐ Daily operating expenses like utilities and maintenance
  - ☐ Long-term capital investments
  - ☐ Land acquisition costs
- Which one of the following costs is not a part of Maintenance of the Plant
  a. Unforeseen
  b. Energy
  c. Laboratory analysis
  d. Landscape Planning Cost
  e. Repairs, renewals and minor replacement of infrastructures
  f. Depreciation
  g. Plot acquisition cost
  h. Plot rental cost
  i. Debt servicing
    - ☐ a, b, and h
    - ☐ d and g
    - ☐ All of the above
    - ☐ None of the above

Section 8: Managerial and Reporting Competencies

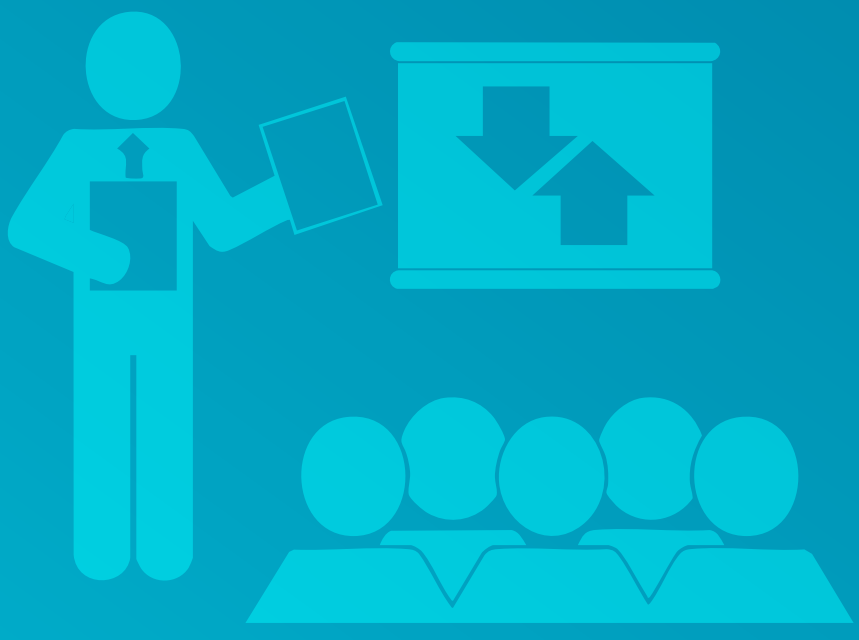
- What is the primary purpose of regular financial reporting in an FSTP?
  - ☐ To identify and address cost overruns
  - ☐ To increase the revenue of the facility
  - ☐ To reduce the need for staff training
  - ☐ To decrease operational efficiency
- Which of the following software tools is commonly used for budgeting and financial analysis in FSTPs?
  - ☐ Microsoft Excel
  - ☐ AutoCAD
  - ☐ MATLAB
  - ☐ Google Analytics
- In project management, which approach is most effective in ensuring a project is completed within budget?
  - ☐ Increasing staff to accelerate work
  - ☐ Phased implementation with periodic reviews
  - ☐ Delaying purchases until the end of the project
  - ☐ Reducing the scope of the project

Section 9: Challenges and Continuous Improvement

- What is a common challenge faced by FSTPs in maintaining low OPEX?
  - ☐ High initial capital investment
  - ☐ Fluctuating operational costs due to variable sludge quality
  - ☐ Lack of skilled labor
  - ☐ Overlactification
- Which strategy is most effective for continuous improvement in managing an FSTP?
  - ☐ Conducting regular training sessions for staff
  - ☐ Reducing maintenance to lower costs
  - ☐ Relying on external consultants
  - ☐ Minimising communication with stakeholders
- What is the best way to identify training needs for FSTP staff?
  - ☐ Reviewing past performance and feedback
  - ☐ Reducing operational hours
  - ☐ Increasing operational tasks without training
  - ☐ Outsourcing training programs
- How can FSTP staff contribute to cost-saving measures?
  - ☐ Suggesting process improvements based on daily operations
  - ☐ Ignoring minor equipment issues to save on repairs
  - ☐ Reducing the quality of treated sludge
  - ☐ Focusing solely on their assigned tasks without questioning processes

3

Effective Delivery of Training Programmes



Introduction

Competency Mapping serves as a critical bridge for effective capacity building by identifying the skills, knowledge, and behaviours necessary for successful job performance (UNDP, 2009). Once these competencies are mapped, they provide a clear framework for developing targeted capacity-building initiatives that address both individual and organisational gaps (Dash & Kapur, 2021).

Effective capacity building is primarily based on the principles of adult learning, as they ensure that training is relevant, engaging, and applicable. Adults learn best when they can draw on their own experiences, are motivated by practical outcomes, and are actively involved in the learning process. This leads to deeper understanding and better retention of new skills, thereby not only enhancing individual performance but also strengthening overall organisational capacity (Organisation for Economic Co-operation and Development, 2019).

Figure 5 depicts various components for ensuring effective delivery of capacity building programmes from the perspective of the trainer. Each element serves as a cornerstone for trainers to keep in mind prior to, during and post.

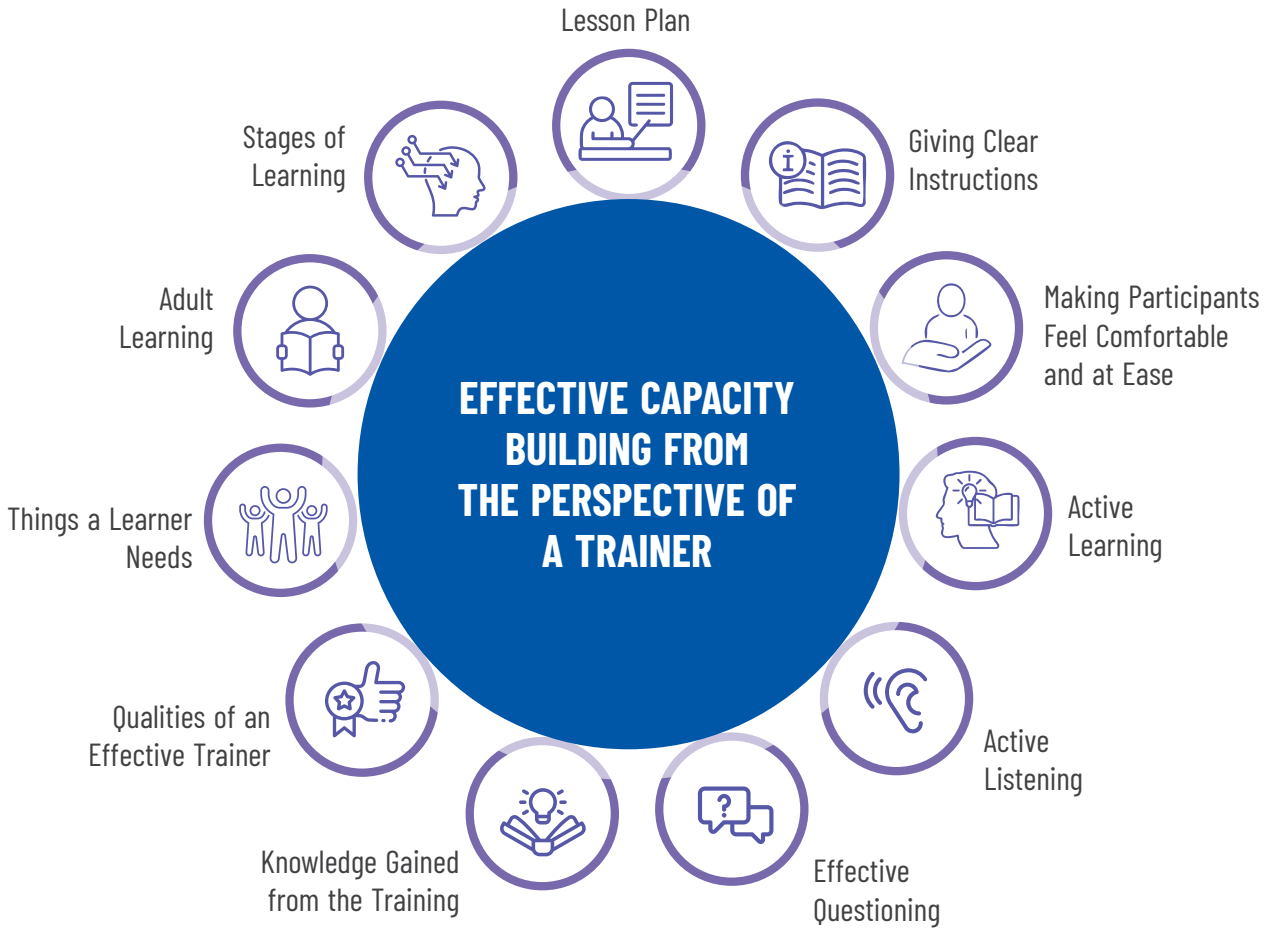


Figure 5: The different elements (from a trainer's perspective) that contribute towards effective capacity building.

The methodology of qualitative training, rooted in practice-oriented and interactive learning, aligns seamlessly with adult learning principles. This approach emphasises hands-on activities, allowing trainees to learn through experience, making the content more relevant and memorable. Typically facilitated by two or more trainers, these sessions cater to small groups of 15 to 25 participants, ensuring personalised attention and active engagement (CAWST, 2015).

Most of the sessions of the training programme follow the identical sequences, the session elements displayed through power point presentation having minimal words per slide with a preference towards the use of graphics and icons. Documentaries, case studies, and action learning exercises complement this.

- An introductory lecture given by the trainer provides the necessary theoretical background and introduces participants to their task in the case work or activity.
- The case work and activity provide participants with the opportunity to work in groups through various aspects related to the subject of the training.
- The wrap-up discussion provides an opportunity for learning from one another, sharing experiences, and reflecting on what has been learnt. Trainers lead through questions, providing options and adjustments as needed. In a final reflection, the participants reassume their real-life position to make connections between the learnt insights and their personal experiences (GIZ, 2021).

The following sections shall discuss the elements presented in Figure 5.

Trainer's Perspective

From the trainer's perspective, effective capacity building involves not just the transfer of knowledge but also the creation of an environment conducive for trainees to learn. Trainers must be aware of the diverse needs of learners, the stages of learning they go through during the learning process, and the principles of adult learning that can make the training more effective. Here are the key elements of developing effective capacity building from a trainer's perspective:

Qualities of an Effective Trainer

A trainer is a professional who provides instruction, guidance, and support to individuals or groups to develop specific skills or knowledge, often in a practical, hands-on environment. Trainers are different from teachers as they focus more on practical skills and professional development in non-academic settings. Broadly the qualities of an effective trainer can be divided into three categories: knowledge, skills and attitude.

KNOWLEDGE

Subject Matter Expertise
Educational Methods

SKILLS

Communication Skills
Effective Questioning

ATTITUDE

Empathy and Patience
Adaptability and Flexibility

Additionally, the trainer must have a solid grasp of the subject knowledge, i.e., fundamentals from both planning and technical perspectives. However, in addition to subject knowledge, soft skills and attitudes are equally important for effectively conveying concepts to participants.

Apart from the qualities mentioned above, a trainer should also focus on self-reflection, authenticity, and staying updated with current development and knowledge in their field. They must regularly evaluate their training sessions

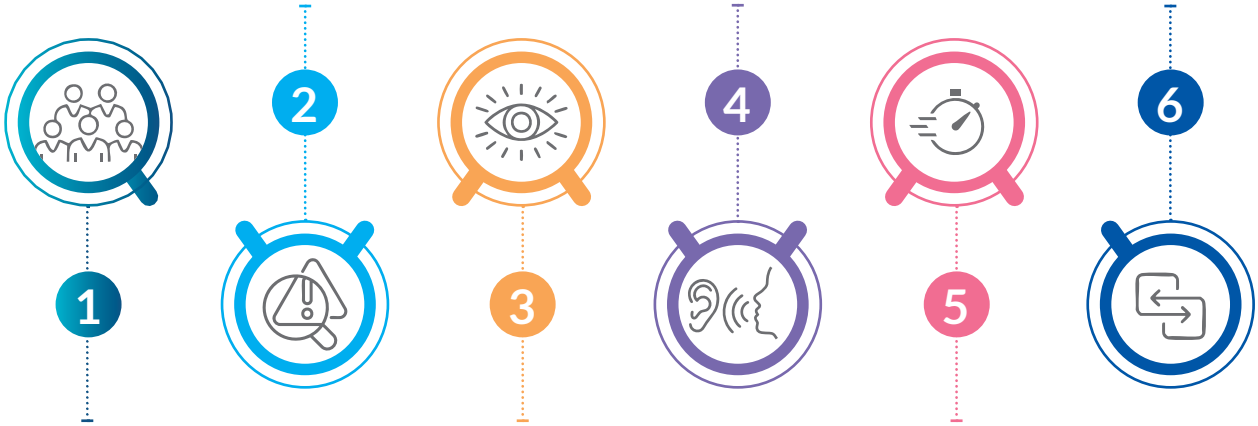
to identify strengths and areas for improvement, ensuring that participants can integrate the information into their daily practices. Embrace one's unique style, balancing comfort with trying new methods, and ensure authenticity as it develops trust and connection with the participants. This ongoing process of improvement ensures high-quality training that positively impacts participants and their communities.

Tips for becoming a effective trainer:

Encourage dialogues to exchange information and problems
Adults can gain valuable insights from peer interactions and should be encouraged.

Listen before you talk
Prior to responding, make an effort to comprehend the participant's question. Take into account the participants' professional and sociocultural backgrounds as well as their current work environment when responding.

Recap & Summary
It is a good idea to give a summary of the previous lessons at the start of each day and to anticipate what will be covered in the upcoming programme.



Sharing Experiences
Adult participants can enhance the quality of the training by sharing their perspectives with others and drawing on their experience.

Visualise questions
Before beginning a group exercise, write your expectations clearly on a board or flip-chart and ask if any additional clarification is required.

Allocate time with precision
When planning a session, try to include a little extra time. Make sure if any training has working groups, they have enough time and space to present and debate their findings during a plenary session. If time is of the essence, ask the groups to deliver a summary of their conclusions.

Things a Learner needs:

Broadly, a learner's needs can be divided into four categories represented as quadrants below.

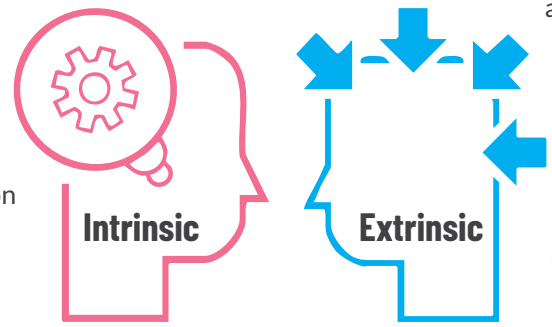
Safe Learning Environment:

A safe learning environment is one where participants experience a sense of belonging and acceptance, feel comfortable sharing their views and perspectives, and feel respected. In such an environment, participants feel physically, emotionally, and psychologically secure. To create this type of environment, we can broadly divide the need into two categories, namely physical needs (such as Comfortable Seating, Adequate Lighting, Accessibility, Breaks and Refreshments), and, psychological needs (such as Respect and Inclusion, Safety and Trust, Support and Encouragement, Clear Communication etc.).

Motivation:

A study by the Stanford Centre for Teaching and Learning in 1998 found that motivated individuals tend to learn better and faster. This research highlights the importance of fostering motivation in learners, as it significantly enhances their ability to absorb and retain information. Motivation can be divided into two categories:

Intrinsic motivation refers to the internal drive to engage in an activity for its own sake, due to the inherent enjoyment, interest, or satisfaction derived from the activity itself (for example, learning a new skill because it is interesting and enjoyable).



Extrinsic motivation involves engaging in an activity to achieve an external reward or to avoid a punishment (studying to achieve high grades or academic recognition). It is ideal for all participants to be intrinsically motivated; however, this is not always feasible. Individuals may not develop an interest in a topic until they are exposed to it or understand its relevance to their lives. Various forms of extrinsic motivation, such as competition, rewards, and appreciation, can be utilised to initially attract one's interest in a topic and ignite their intrinsic motivation.

Make Connection

Making connections between what you are learning and what you already know helps one to remember and use the new information better. It is like when you give someone directions using landmarks they know—it is easier for them to understand and remember. For example, in a WASH training session, professionals can illustrate water purification methods by using a portable water filter during camping trips, aiding participants' understanding of practical applications.

Practice, Practice and Practice

The adage "Practice makes perfect" holds true in training, where providing participants with meaningful opportunities to practice what they are learning is crucial. Meaningful practice not only connects new knowledge and skills to what learners already know but also aids in retention. Various activities such as group discussions, participant presentations, and hands-on simulations can facilitate this practice, regardless of the topic.

Androgogy

To ensure a robust training is imparted, given that the target group for the training is adults in the professional or working age group, understanding the concept of adult learning becomes crucial for the trainer. Research indicates that adults tend to remember most of the things they do on their own, but they remember very little of what they read or hear (see Figure 6).

Adults can benefit from the experience they draw from, are inherently motivated, prepared to learn, self-directed learners, and problem solvers. A training program for adults should be created with consideration for each of these guidelines.

However, without an effective delivery of a need-based training, the efficacy of the training can be impacted. The following sections will address how a need-based training can be effectively delivered to trainees to optimise learning. Furthermore, emphasis will be laid to ensure that the course content is highly absorbable to the participants.

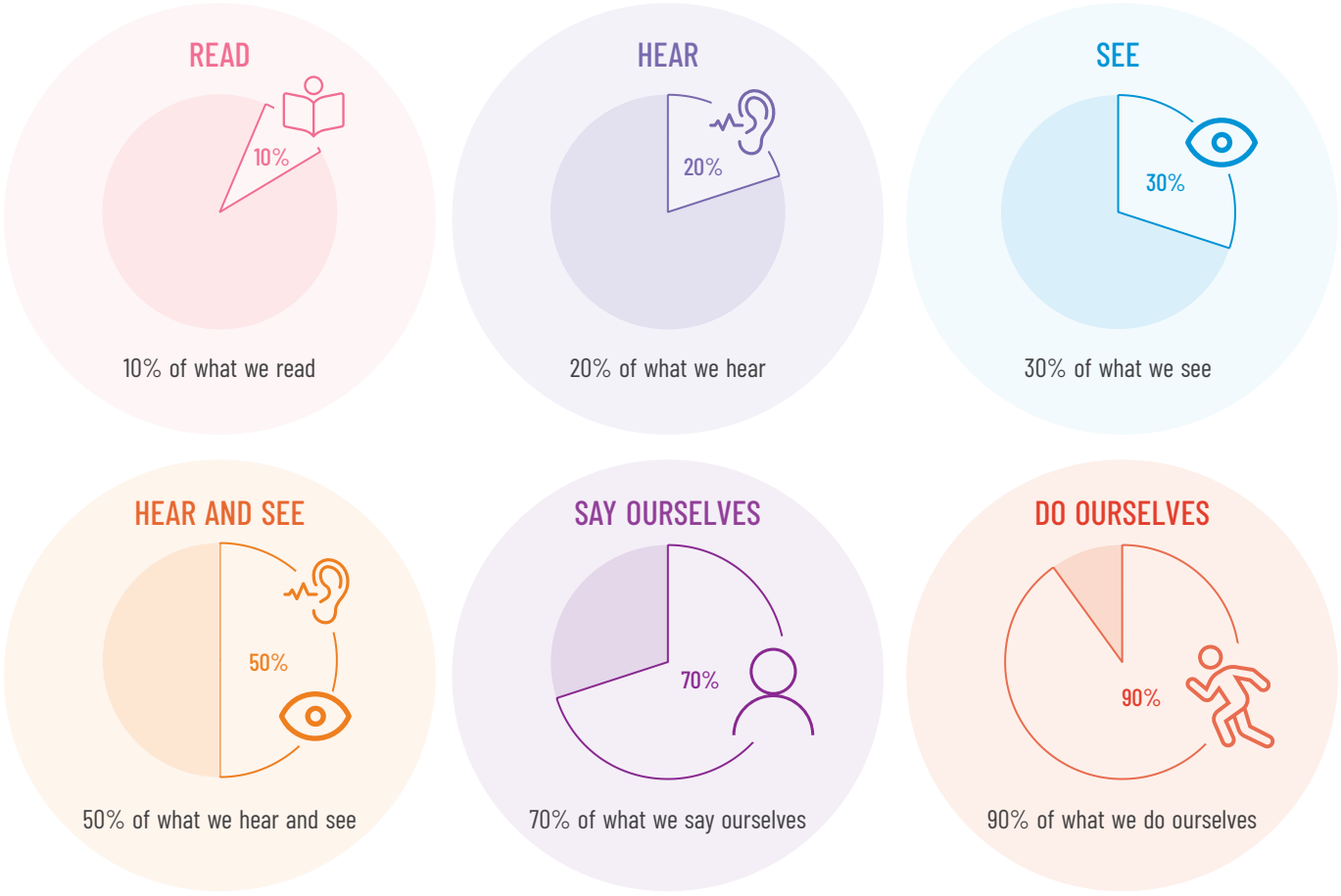
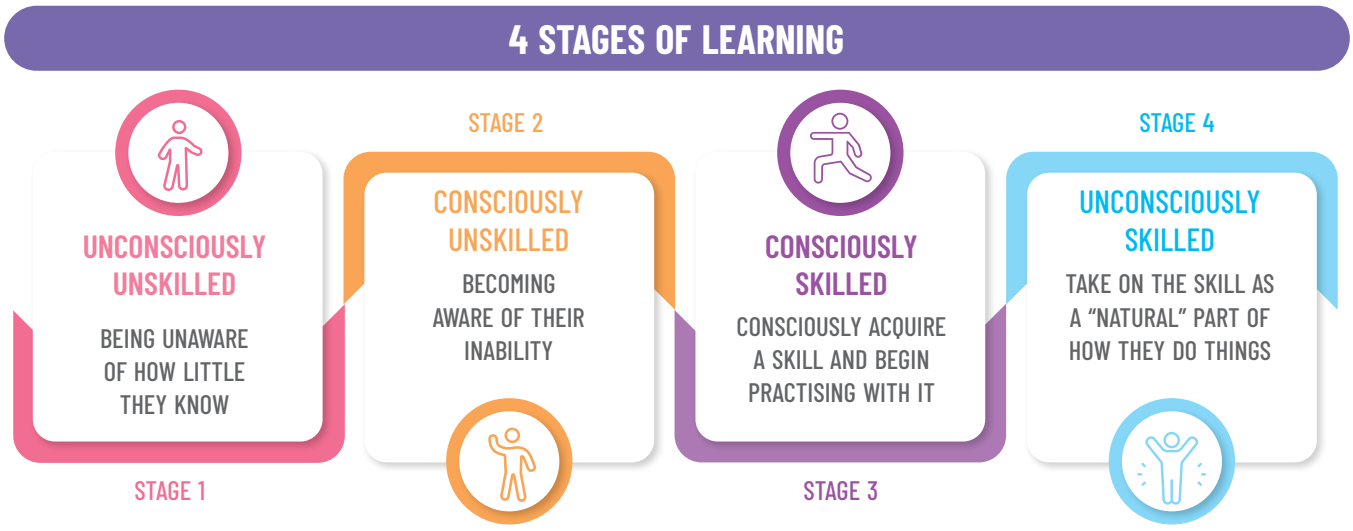


Figure 6: Different ways through which an individual learns

Stages of Learning

The stages of learning can be divided into four categories, depicted below.



» Example

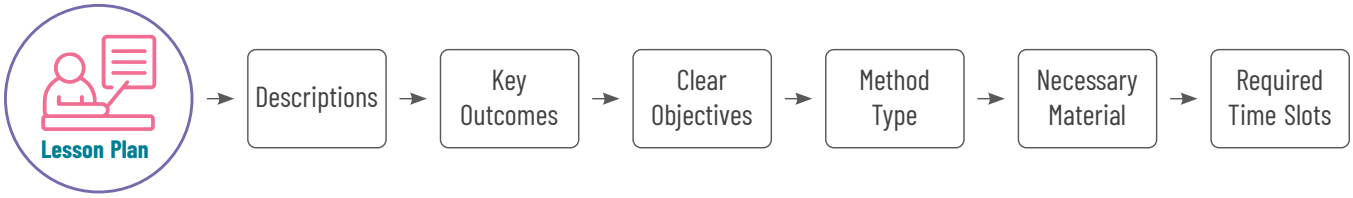
Initially (Stage 1), a community might not be aware of the risks associated with unsafe sanitation practices. Upon experiencing frequent waterborne illnesses (Stage 2), they become aware of the consequences of their sanitation practices. In the next stage (Stage 3), with guidance from WASH professionals, the community consciously learns about safe sanitation techniques, such as building latrines and handwashing stations, and begins implementing them. And on the final stage over time (Stage 4), maintaining proper sanitation practices becomes ingrained in the community's daily routines, ensuring improved health and well-being as a natural part of their lifestyle.

Lesson Plan

The following section focuses on aspects of the CBT course that should be conveyed to the trainees ensuring the trainees are aware of what to expect from the training. Before conducting the training, the trainer should clearly know the answers to the following questions:

- **How will you connect the content of the lesson to participants' existing knowledge?**
- **How will you make your lesson engaging and convey the lesson in different ways to the learners?**
- **How will you give participants an opportunity to practice their new knowledge and skills?**
- **How will you assess what the participants learned during the lesson?**

A tailored lesson plan should consist of key lesson descriptions, expected outcomes, clear lesson objectives, method type, necessary materials, required time slots, and other relevant information. The trainer should prepare lesson plan before delivering the training based on the expectations of the participants.

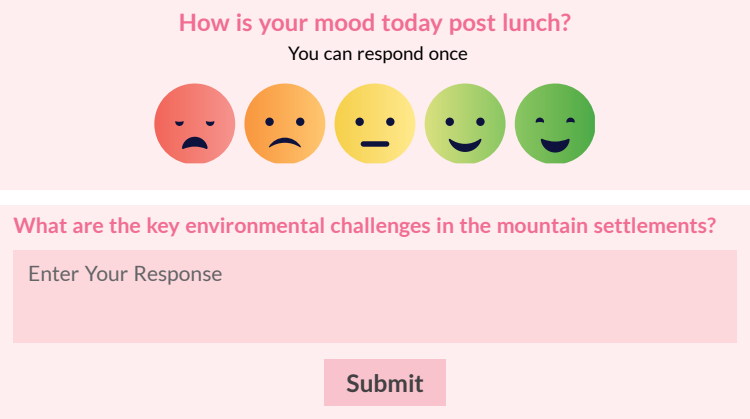


Giving Clear Instructions

Clear instructions are imperative for effective capacity building training because they provide participants with the necessary guidance to understand and execute tasks efficiently, thereby maximising learning outcomes. Unclear instructions can lead to confusion, frustration, and ultimately hinder the learning process. Techniques for delivering clear instructions include breaking down complex tasks into smaller steps, using simple and concise language, providing examples or demonstrations, encouraging questions for clarification, and confirming understanding through feedback loops. Additionally, incorporating visual aids, such as diagrams or charts, can enhance comprehension, ensuring participants grasp the material effectively.

Making participants feel comfortable and at ease

Ice-breaking sessions help participants feel comfortable and connected, fostering open communication and collaboration. Energisers are vital for revitalising participants, particularly during lengthy training sessions, by integrating brief, interactive activities to alleviate monotony and bolster enthusiasm. Various activities, such as asking participants to note down their hobbies on a folded paper and sharing them randomly with everyone, or engaging in role-playing, serve as effective ways to initiate icebreakers, energisers, and practice sessions. If time does not permit or the discussion becomes open-ended, the query can be parked aside and be resolved later post session.



Active Learning

Active learning involves engaging participants in the learning process through hands-on activities, discussions, problem- solving, and other interactive methods, rather than passively receiving information.

» Example

For example, in the WASH sector, active learning could involve conducting a demonstration of proper handwashing techniques followed by a group discussion on the importance of hand hygiene in preventing the spread of diseases. Participants could then engage in a role-play activity where they act out different scenarios to practise when and how to wash their hands effectively in various situations. This interactive approach encourages active participation, enhances understanding, and promotes retention of key concepts related to hand hygiene in WASH.

Active Listening

Active listening involves the active pursuit of understanding both the words and emotions conveyed by the speaker. It encompasses five essential non-verbal elements from the trainers perspectives:

Within a training setting where participants learn from both their peers and the trainer, active listening is fundamental to the learning process. Its significance lies not only in the listener comprehending the speaker's message entirely, including its content and emotional nuances, but also in the speaker feeling respected and trusted due to the attentive and focused engagement of the listeners.

Effective Questioning

Effective questioning functions as a potent instrument for fostering active learning, evaluating comprehension, and enhancing engagement among participants. Proficient trainers utilise questions to gauge understanding, spark curiosity, stimulate critical thinking, and inspire participants. Quality questions extend beyond mere phrasing; they are also well-timed and posed in a manner that cultivates interest and fosters accountability.

Questions can be broadly categorised as open or closed. Closed questions serve as icebreakers and enable broad participation, while open-ended questions are valuable for assessing participants' depth of knowledge. In addition to posing questions, trainers should ensure ample time for reflection.

Knowledge gained from the training

For any capacity-building programme, it is crucial to know if the participants can understand and apply the knowledge they acquire through the training. The participants are assessed at various stages of the training programme through different ways of pre- and post-session assessment, which include reflection sessions, brainstorming exercises, do-it-yourself, role plays and group presentations. Each session could have short activities for hands-on practice. Each session begins with a reflection session, which is a recap of the previous day's learnings. These activities assess the extent to which participants can critically engage with the concepts introduced to them.

Reflection

This session helps to look back over participants' learning journey to identify how much the trainees have learnt and flag up areas where the trainees still need to develop. By 'putting it all together', the participants can be assessed on a daily basis. Following questions can be asked for this session:

Work in three/four groups (15 minutes) and list down the following:

- **What are some things we did yesterday (in training)?**
- **What most challenging / provoking issue was in yesterday's session?**
- **What was inspiring? Most exciting?**

One person in the group makes a presentation (in 3-4 minutes)

Brainstorming

Brainstorming is a technique used to generate as many ideas as possible to address an issue or problem, and involves a particular process where participants refrain from judging ideas (at least initially) to remove the barriers to creativity that come from judging.

When brainstorming is used in training, it is often used differently than where the goal is to solve a specific problem. In training, the purpose of brainstorming shifts to fostering both creative and critical thinking among learners, ultimately contributing to the overarching goal of learning. It can be assessed in following ways:

- **During idea generation, focus on the quantity of ideas, not quality.**
- **Ideas should be recorded as they are generated to capture the spontaneity and originality of thoughts.**
- **If the ideas generated are important for use throughout a longer training session, consider having the ideas re-written on paper for distribution to the participants, or to be used as a training takeaway.**

Group Exercise

Group presentation would be conducted by trainers, to assess the extent of their understanding of the concepts and due feedback will be given to each group. Each participant would be given a chance on a rolling basis and the participants would be evaluated based on the peer ratings. The final output results can be measured by drawing produced to explain, presentation, logic/concepts discussed in training used to maximum. These sessions will focus on imparting hands-on skills for urban wetland management. Participants can be asked to work in different groups with given data and case examples as reference.

Continuum Walk

Continuum Walk is a form of role-play exercise used for stakeholder review training. Role play is a commonly used tool to assess participants in the role which he/she plays. It helps to understand how one can deal with difficult situations and awkward encounters. Typical competencies assessed for the role-play exercise are:

ACHIEVING GOALS

ASSERTIVENESS

INTERPERSONAL EFFECTIVENESS

WORKING UNDER PRESSURE

Do-it-Yourself (DIY)

These sessions will focus on imparting hands-on skills for planning, designing and making strategies or decisions. Participants can be asked to work in different groups with given data and case example as references. The knowledge or skill that someone gets from doing something rather than just reading about it or seeing it being done. The participants would be given an introduction to DIY. It will be followed by participants working in groups using the material given. Group presentations will be conducted by trainers, to assess the extent of their understanding of the concepts and due feedback will be given to each group.

Pre- and Post-assessment

To ensure the training is truly effective and aligned with the specific needs identified during the TNA discussed earlier, implementing pre- and post-assessments is essential. These assessments not only measure the "value-added" by the programme but also provide critical data that informs future training activities and validates the achievement of assumed prerequisites.

Pre-tests serve several purposes: knowledge of the current status of a group may provide guidance for future activities as well as the basis of comparison for a post-test results; administering a test of entry behaviour can determine whether assumed prerequisites have been achieved. Key steps for pre and post assessment quiz:

- **Decide what to measure**
- **Select or develop the assessment tool you want to use to collect data (Socrative, or any other tool)**
- **Establish the pre-post assessment period in programme schedule**
- **Analyse and interpret the data using graph or progress in percentage**

Reflections

A capacity-building journey framework serves as a critical guide for State/ULB functionaries and sector professionals, helping them navigate structured learning pathways that foster systematic and progressive skill development. The success of training initiatives in the water and sanitation sector hinges on a holistic and integrated approach—one that recognises the evolving needs of learners, the facilitative role of trainers, and the real-world applicability of the skills being imparted.

This document brings together three interlinked pillars—**Training Needs Assessment, Competency Mapping, and Effective Training Delivery—**to present a comprehensive understanding towards developing targeted and impactful capacity building. Together, these components form a cycle of continuous improvement that is data-driven, demand-responsive, and grounded in evidence. Training needs assessments help identify critical knowledge and skill gaps; competency mapping ensures that these gaps are aligned with specific functions, roles and responsibilities; and effective training delivery mechanisms translate insights and actionable learning experiences into the conduction of a training. When applied collectively, this approach enhances training relevance and ensures that capacity building contributes meaningfully to sectoral outcomes.

While this document focuses on the overall process of delivering effective training programmes, it intentionally does not delve into the content or format of the modules themselves—such as the use of digital platforms, byte-sized learning, or hybrid learning models. These aspects, though important, are considered separate areas of exploration that can be tailored once the foundational training framework is in place.

With these three distinct yet interconnected chapters, supported by simplified illustrations and practical examples, this document aims to provide a clear pathway for bridging skill gaps and strengthening insititutional capacity. It is intended for a diverse audience – government officials, sector professionals, and consultants working with NGOs, bilateral agencies and multinational organisations.

Ultimately, capacity building stands at the core of effective sanitation governance. It is not just about individual skill enhancement but also institutional transformation. Embedding structured, strategic, and continuous learning into the lifecycle of capacity-building programmes acts as a driver of governance resilience, ensuring that cities are not only equipped to meet current challenges but are also future-ready.

Although primarily designed for application in the water and sanitation sector, this guiding document can be employed across multiple domains, making it relevant to other sectors as well. The flexible design of the document allows stakeholders to contextualise and customise the approach to meet the needs of varied thematic areas and institutional settings.

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